MONTHLY OPERATIONS REPORT
February 1985

At the beginning of the report period, Oyster Creek Station was in the process of shutting down to correct a potential design deficiency in the core spray booster pump logic. Subsequent to completion of the logic modification to the core spray systems, four (4) different startups and four (4) additional shutdowns have occurred. Three (3) startups/shutdowns were due to Electromatic Relief Valve (EMRV) problems, and one (1) was caused by an automatic reactor scram.

As previously reported, Technical Functions Division identified a potential design deficiency with respect to inputs to the core spray booster pump logic. Pressure sensors (RV-40s) located at the discharge of the core spray booster pumps (CSBPs) are provided to insure sufficient discharge pressure is established. If sufficient discharge pressure (230 psig) is not established within five seconds after a CSBP start signal is received, the start signal to the primary CSBP (NZ03A/NZ03B) is automatically terminated and a start signal to the backup CSBP (NZ03C/NZ03D) is initiated. Tech Functions calculated that during an event with rapid depressurization (A.D.S. initiation), CSBP discharge pressure degrades to the point that a logic trip occurs. In order to resolve the concern, new differential pressure switches were installed across the core spray booster pumps. The modification required a reactor shutdown.

Power reduction commenced at 9:42 p.m. on February 1 and the generator was taken off line at 4:17 a.m. on February 2. During shutdown, stroke testing of the Main Steam Isolation Valves (MSIVs) was performed. Valve NS03A closure time did not meet acceptance criteria and was declared inoperable. Subsequently, the decision was made to isolate the main steam line and manually scram the reactor. A manual scram was initiated at 8:00 a.m. inserting all control rods. The reactor was cooled to below 212°F by 2:51 p.m. on February 2.

During the process of shutting down, "B" feedwater regulating valve was observed to be not tracking with the power decrease. The valve was pinned so that it could be manually operated. With the valve pinned, a step decrease in flow occurred. Following shutdown, an inspection of "B" feedwater regulating valve (FRV) revealed that the upper and lower poppets were split. Replacement parts were installed. The problem was attributed to material failure. Inspection of "A" & "C" FRVs was not performed.

Initial drywell inspection, performed at pressure, identified a leak on feedwater isolation valve (V-2-36) as the major contributor to drywell unidentified leak rate. Misalignment of the valve bonnet was the cause of the leak. Repairs included bonnet alignment and sealant injection.

Another contributor to the unidentified drywell leak rate was "D" EMRV (flange gasket leak).

During plant shutdown, a Fire Protection System leak developed as a result of a valve body crack on post indicating valve V-9-13. This valve was replaced after both Core Spray Systems were returned to operable status. The fire system is required to be operable as part of the core spray reduced availability criteria.

IE24
1/1

A number of cleanup system valve problems were encountered during the plant shutdown. While in the process of unbackseating V-16-1 (system inlet valve), the Cleanup System tripped. Additionally, valve V-16-14 (auxiliary pump bypass) did not fully close electrically and had to be closed manually. Valve V-16-2 (auxiliary pump suction) and V-16-60 (letdown valve to the Condensate System) both tripped a number of times while attempting to open to restart the Cleanup System. Tests and inspections performed on the cleanup system valves revealed no problems, with the exception of V-16-14. Inspection of V-16-14 revealed slight scoring on the stem resulting from inadequate stem-lantern ring clearance. Conditions were corrected by filing the lantern ring to achieve adequate clearance; the stem was "stoned" smooth. Additionally, tests were performed to ensure that closure thrust was equal to or better than that recorded at the time of the last Appendix J leak rate test. Thrust criteria was satisfied, negating a need for a leak rate test.

During plant shutdown, problems were experienced with two (2) IRMs. IRM 18 was giving a downscale alarm in all ranges. IRM 14 experienced drive problems. Both IRMs were repaired.

In addition to the problems identified during plant shutdown, a large number of other work activities were completed. Major jobs/tasks completed while shutdown include:

1. Repairs to steam system leaks identified since the plant has been running (i.e., flash tank manway, steam traps, valves, etc.)

2. Repairs to feedwater string "B" minimum flow valve and outlet isolation valve V-2-11 (flange leaks).

3. Accumulator and valve repairs to nine (9) CRD hydraulic control units.

4. Thermocouple repairs on recirculation loops "A" and "C".

5. Checks for nitrogen inerting/makeup system leaks. A number of leaks were identified and repaired.

6. Repair to torus/drywell vacuum breaker V-26-5. Repairs were completed and the valve tested satisfactorily.

7. Environmental qualification inspections and repairs were performed as required.

8. Various instrumentation (recorder) related repairs for problems determined to be in the drywell.

9. Reactor Protection System No. 1 motor generator set was returned to service after bearing replacement.

10. A position switch problem on No. 4 circulating water pump discharge valve was resolved.

11. The brushes on all the reactor recirculation pump motor generator sets were replaced. The collector rings on "B" motor generator set were burnished.

12. Position indication probe problems with CRD 30-23 and 30-15 identified during shutdown, were also repaired.

13. All MSIVs were adjusted to proper stroke times. A logic relay for MSIV NS03B was also replaced after failure.

14. Condensate return line high flow isolation switch on "B" isolation condenser was replaced after the system failed surveillance testing.

15. Emergency Service Water (ESW) pump 52A failed its operability test on low discharge pressure. After blowing down the suction side, the pump passed the surveillance test.

16. The seal on "B" fuel pool cooling pump was replaced after it failed.

17. Coating and cleaning of 1-2 TBCCW heat exchanger water box was completed.

An operability problem occurred with isolation condenser valve V-14-35. MOVATS testing did not reveal any problems with the valve at this time. Thermal expansion caused the valve disk and seat to bind in the closed position. The valve was satisfactorily retested and declared operable. It should be noted, however, that later in the report period, additional problems were encountered with this valve.

Standby Gas Treatment System (SGTS) No. 2 was temporarily declared inoperable on February 10 after the system flow switch stuck causing the purge valve to remain open. I&C technicians exercised the switch a number of times and checked the calibration, which was found to be within specifications. No. 2 SGTS retested satisfactorily.

While surveillance testing IRM 15 (half scram in) on February 13, 1985, a spike in IRM 14 caused a full scram. As a result, the scram discharge volume surveillance test had to be performed again.

All required maintenance activities and testing were completed and a reactor startup was commenced at 6:21 a.m. on February 14. The reactor was critical at 9:50 a.m. During startup, and after placing a feedwater pump in service, drywell unidentified leak rate increased to 2 gpm. The reactor was brought subcritical to facilitate drywell inspection (reactor pressure approximately 475 psig). Drywell inspection identified significant leakage from V-2-36 and "A" EMRV inlet flange. Additional sealant injection at pressure significantly reduced the leakage from V-2-36. Plant startup was terminated on the morning of February 15, and the plant was again shut down to facilitate repairs to items identified during startup and shutdown. All control rods were inserted by 5:19 a.m. and the reactor was in cold shutdown (less than 212° F) by 7:00 a.m.

Prior to shutting down, repairs due to spiking problems were completed on IRM 18. During shutdown, IRM 16 was drifting and had to be bypassed.

Position indication problems on CRDs 30-23 and 30-15 were identified during startup on February 14 and repaired after shutdown on February 15.

An oil leak on "C" reactor feedwater pump (RFP) was identified and repaired.

While the plant was shutdown, the torus water level was lowered to ensure the level would remain within the allowable operating band during EMRV testing after maintenance.

Due to the leakage from V-2-36, four snubbers in the area of the valve required testing. Two of the snubbers required replacement.

During startup and subsequent shutdown, the mechanical vacuum pump tripped numerous times. This presents a continuing operational problem and is being investigated by Plant Engineering. The plant also experienced spiking problems with IRM 13 and IRM 16. Troubleshooting continued at the end of the report period.

The solenoid for air-operated valve V-24-35 (1-7 sump isolation valve) was replaced after the valve failed its associated operability test.

The XA relay (panel 11R) for the Reactor Building ventilation isolation logic failed and had to be replaced. This necessitated operation of Standby Gas Treatment System (SGTS) while repairs were being effected.

Repairs to "A" EMRV and IRM 16 were completed, and reactor startup commenced on February 17 at 12:23 p.m. The reactor was critical at 2:35 p.m. and reactor heatup commenced. With pressure at 500 psig, the reactor was brought subcritical as required to inspect the drywell. The inspection revealed that "C" EMRV was leaking significantly at the flange. Feedwater valve V-2-36 was still leaking slightly. Due to "C" EMRV leak, the reactor was shutdown again commencing at 9:15 p.m. on February 17. All control rods were inserted by 11:00 p.m. and the reactor was in a cold shutdown condition by 1:40 a.m. on February 18.

A decision was made to replace the gaskets on all five (5) EMRVs. The EMRV leakage problem was caused by a combination of the following:

1. the amount of compression or crush being put on the gasket.
2. pitting of the steam line flange.

To correct the pitting problem, a sealant was used on the flange seating surfaces. In addition, 0.175" thick gaskets were used instead of the existing 0.125" gaskets and provided increased compression on the gasket when torqued. Due to stackup problems encountered during reassembly, a 0.125" gasket had to be installed on "D" and "E" EMRVs. The seating surface on "B" EMRV required machining due to excessive pitting. All EMRVs were subsequently reassembled, however, "B" EMRV solenoid would not stroke. Troubleshooting identified a broken shorting bar which was subsequently replaced. Acoustic monitors in the area of "B" EMRV were installed and tested after its solenoid was repaired.

During startup and subsequent shutdown on February 17, the plant experienced spiking problems with IRM 13 and IRM 16. Troubleshooting of IRM 13 and IRM 16 did not identify any problems. The spiking problem mainly occurred when the IRMs were ranged from 6 to 7; therefore, the IRMs were considered operable. This problem has also been identified at other nuclear facilities. Engineering and M&C are evaluating.

During the shutdown, vibration data were taken on two drywell recirculation fans. The data revealed vibration had increased significantly since the fans were balanced in July, 1984. This prompted an inspection of all drywell fans. All of the fans required rebalancing. The bearing support assemblies on fans No. 2 and 3 required extensive repairs. All repairs and testing were completed on February 22.

Deepwell pump "A", which supplies the domestic water system, failed on February 18, 1985 and has been replaced with a new pump.

Air compressor No. 2 unloading solenoid was replaced; however, upon testing a relief valve problem developed. Air compressor No. 2 remained out of service for relief valve repairs at the end of the report period.

Environmental Qualification repairs (Raychem-splices) are in progress on the Core Spray System suction valves and two Containment Spray System valves.

The collector rings on reactor recirculation pump MG set "C" were burnished and the unit returned to service.

All repairs and surveillances required for plant startup were completed on February 23. Reactor startup commenced at 12:45 p.m. The reactor was critical at 2:15 p.m. and heatup continued. An initial drywell inspection was completed late in the day on February 23 at a reactor pressure of approximately 500 psig. Minor leakage from feedwater valve V-2-36 and three CRD flanges was noted. The drywell was closed and reactor pressure was increased for the 1000 psig inspection. While increasing pressure, calibration problems with IRMs 11 and 15 were encountered; the IRMs were bypassed. Prior to drywell inspection at 1000 psig, all EMRVs were tested.

"A" and "E" EMRVs were tested and reseated properly. "B" EMRV had to be recycled to get it to reseat. "C" EMRV did not reseat after seven recycles. "D" EMRV reseated after three recycles . During the second attempt to reseat "D" EMRV, the valve remained open enough to cause the associated acoustic monitor to go to full scale.

A drywell inspection was performed at a reactor pressure of approximately 1000 psig at which time "C" EMRV was verified to be leaking (through the seat). "C" EMRV was recycled following the inspection and reseated. No flange leaks were observed at that time.

After the first drywell inspection at pressure, reactor power was increased to approximately 23% to calibrate the feedwater regulating valves (FRVs) and to scram test a number of CRDs. Power was being reduced after CRD testing to inject sealant into feedwater valve V-2-36, if required, when a reactor low level scram occurred.

Reactor feed pump (RFP) "C" was in service with level being controlled by "C" string feedwater regulating valve (FRV) in the "AUTO" mode. The FRV position indicator and the total feedwater flow recorder in the Control Room were not indicating properly. When #1 turbine bypass valve was halfway closed, the operator took manual control of the FRV. Due to high rodworth of the control rods being used to lower power, a high cooldown rate resulted. Rods were withdrawn again in order to stop the cooldown and to try and maintain reactor pressure at approximately 1000 psig. It should be noted that steam seals and the SJAEs were in service adding to the cooldown rate. Due to the collapse of voids from the closure of the bypass valves, introduction of more cold feedwater, and group control rod movement, control room operators were not able to stabilize reactor water level and power. Because of the effects on reactivity by cold feed water addition, the CRO became over cautious in manually feeding and allowed the low level scram setpoint to be reached and a reactor scram occurred. Water level and control of cool down were subsequently restored and the transient terminated. A post trip critique was completed.

Mechanical vacuum pump trips were encountered again as during the previous startup. Additionally, a significant seal leak developed. The vacuum pump is being repaired and the tripping problem being evaluated.

FRV position indication and total feedwater flow recorder (calibration) were repaired in preparation for startup. "C" FRV stroke time has been adjusted. The minimum flow valves on all three feedwater strings were calibrated to open at proper flow rates.

Reactor startup commenced at 3:45 a.m. on February 25. The reactor was critical at 9:34 a.m. At approximately 1000 psig, the reactor was brought subcritical for drywell inspection.

Inspection revealed that the "A" and "C" EMRV flanges were leaking significantly. A reactor shutdown commenced at 8:25 p.m. the same day. The shutdown process was secured for approximately three hours to accommodate sealant injection on feedwater valve V-2-36. Reactor shutdown (all rods inserted) was completed at 2:15 a.m. on February 26. Cold shutdown was achieved at 3:44 a.m. A decision was made to remove the "A", "C", "D" and "E" EMRVs to machine the steam line pipe flanges. Seats on "C" and "D" EMRVs were also scheduled to be inspected and repaired as necessary.

In parallel with EMRV repairs, a containment device was installed for valve V-2-36. The containment is designed to divert any leakage from the valve to the DWEDT (identified leakage).

During startup on February 25, IRMs 16 and 17 were again spiking. IRM 13 experienced range correlation problems. As previously noted, these concerns are being addressed by M&C and Plant Engineering.

Another problem noted while the reactor was at pressure, was the increasing shell temperature of "B" isolation condenser. A problem was suspected with the condensate return valve V-14-35. On February 27, while checking the stroke/current characteristics (MOVATS) of V-14-35, the valve motor failed. The cause has not yet been determined. A new valve motor was installed prior to startup.

A seal on No. 1 Reactor Building Closed Cooling Water (RBCCW) pump failed and was subsequently repaired.

Collector rings on No's. 2 and 3 circulating water pumps required machining/burnishing prior to startup. The work was performed after "C" and "D" EMRV flanges were machined.

Environmental Qualification work on various containment spray system motor operated valves continued after the shutdown on February 25 and 26.

Substation power line J6931 tripped on February 26, due to two seagulls landing on two different phase lines. Lighting in various parts of the plant, including the drywell, was temporarily lost. This prompted the installation of DC lights in the drywell.

Repairs to building heating systems continued during the report period, as conditions and manpower permitted. The package boiler was secured for a few days to permit repairs to equipment that can't be isolated with the boiler in service.

The chlorine dioxide modification started during the report period.

Subsequent to the report period (March 4, 1985) a reactor startup was completed and successful test of EMRVs "A", "C", "D", and "E" conducted.

The following Licensee Event Reports were submitted during the month of February 1985:

Licensee Event Report 50-219/85-001 - During the monthly test of the Reactor Low-Low-Low Water Level sensors, one of the sensors remained out of service for a period greater than 1 hour (approximately 1 hour 7 minutes). This exceeds the 1 hour limit requirement in the Technical Specifications. The cause was attributed to personnel error, and this limit was not identified in the surveillance procedure. The requirement was re-emphasized to responsible personnel and the applicable administrative controls will be revised as appropriate.

Licensee Event Report 50-219/85-003 - On 1/29/85, a design deficiency was discovered in the Core Spray System booster pump failure logic. Two events were identified which can cause this instrumentation to misinterpret Core Spray System status and result in the system not performing according to its original design intent. The cause of this occurrence is a deficiency in the original plant design. Corrective action consisted of performing a modification to replace the pressure switches on the booster pump discharge with differential pressure switches.

OPERATING DATA REPORT
OPERATING STATUS

1. DOCKET: 50-219

2. REPORTING PERIOD: February 1985

3. UTILITY CONTACT: JOSEPH R. MOLNAR 609-971-4699

4. LICENSED THERMAL POWER (MWt): 1930

5. NAMEPLATE RATING (GROSS MWe): 687.5 X 0.8 = 550

6. DESIGN ELECTRICAL RATING (NET MWe): 650

7. MAXIMUM DEPENDABLE CAPACITY (GROSS MWe): 650

8. MAXIMUM DEPENDABLE CAPACITY (NET MWe): 620

9. IF CHANGES OCCUR ABOVE SINCE LAST REPORT, GIVE REASONS: NONE

10. POWER LEVEL TO WHICH RESTRICTED, IF ANY (NET MWe): N/A

11. REASON FOR RESTRICTION, IF ANY: NONE

		MONTH	YEAR	CUMULATIVE
12.	REPORT PERIOD HRS	672.0	1416.0	133129.0
13.	HOURS RX CRITICAL	98.8	842.8	86470.7
14.	RX RESERVE SHTDWN HRS	289.8	289.8	759.5
15.	HRS GENERATOR ON-LINE	28.3	772.3	84309.0
16.	UT RESERVE SHTDWN HRS	552.8	552.8	555.5
17.	GROSS THERM ENER (MWH)	61440	1444440	138706769
18.	GROSS ELEC ENER (MWH)	16340	501310	46884305
19.	NET ELEC ENER (MWH)	11152	478805	45041370
20.	UT SERVICE FACTOR	4.2	54.5	63.3
21.	UT AVAIL FACTOR	86.5	93.6	63.7
22.	UT CAP FACTOR (MDC NET)	2.7	54.5	54.6
23.	UT CAP FACTOR (DER NET)	2.6	52.0	52.1
24.	UT FORCED OUTAGE RATE	39.5	2.3	9.6
25.	FORCED OUTAGE HRS	18.5	18.5	8969.6

26. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, DURATION): N/A

27. IF CURRENTLY SHUTDOWN ESTIMATED STARTUP TIME: N/A

AVERAGE DAILY POWER LEVEL
NET MWe

DOCKET #. 50-219
UNIT. . . . . .Oyster Creek #1
REPORT DATE . . . . . .MARCH 08, 1985
COMPILED BY . . . . . .THOMAS J. MCKINNEY
TELEPHONE # 609-971-4456

MONTH FEBRUARY, 1985

DAY	MW	DAY	MW
1.	612	16.	0
2.	37	17.	0
3.	0	18.	0
4.	0	19.	0
5.	0	20.	0
6.	0	21.	0
7.	0	22.	0
8.	0	23.	0
9.	0	24.	0
10.	0	25.	0
11.	0	26.	0
12.	0	27.	0
13.	0	28.	0
14.	0		
15.	0		

Oyster Creek Station #1
Docket No. 50-219

REFUELING INFORMATION - February, 1985

Name of Facility: Oyster Creek Station #1

Scheduled date for next refueling shutdown: November 30, 1985

Scheduled date for restart following refueling: June 1, 1986

Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment?

Yes

Scheduled date(s) for submitting proposed licensing action and supporting information:

June, 1985

Important licensing considerations associated with refueling, e.g., new or different fuel design or supplier, unreviewed design or performance analysis methods, significant changes in fuel design, new operating procedures:

1. General Electric Fuel Assemblies - fuel design and performance analysis methods have been approved by the NRC. New operating procedures, if necessary, will be submitted at a later date.

2. Exxon Fuel Assemblies - no major changes have been made nor are there any anticipated.

The number of fuel assemblies (a) in the core = 560
(b) in the spent fuel storage pool = 1029

The present licensed spent fuel pool storage capacity and the size of any increase in licensed storage capacity that has been requested or is planned, in number of fuel assemblies:

Present licensed capacity: 2,600

The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity:

Reracking of the fuel pool is in progress. Four out of ten (10) racks have been installed to date.

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH February 1985

DOCKET NO. 50-219
UNIT NAME Oyster Creek
DATE 3-8-85
COMPLETED BY R. Baran
TELEPHONE 971-4640

No.	Date	Type[1]	Duration (Hours)	Reason[2]	Method of Shutting Down Reactor[3]	Licensee Event Report #	System Code[4]	Component Code[5]	Cause & Corrective Action to Prevent Recurrence
36	2-2-85	F	643.7	A	Z	N/A	ZZ	ZZZZZZ	Unit shutdown to correct a potential design deficiency with the Core Spray System booster pump logic.

1
F: Forced
S: Scheduled

2
Reason:
A-Equipment Failure (Explain)
B-Maintenance of Test
C-Refueling
D-Regulatory Restriction
E-Operator Training & License Examination
F-Administrative
G-Operational Error (Explain)
H-Other (Explain)

3
Method:
1-Manual
2-Manual Scram.
3-Automatic Scram.
4-Other (Explain)

4
Exhibit G - Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File (NUREG-0161)

5
Exhibit I - Same Source

(9/77)

GPU Nuclear

GPU Nuclear Corporation
Post Office Box 388
Route 9 South
Forked River, New Jersey 08731-0388
609 971-4000
Writer's Direct Dial Number:

March 18, 1985

Director
Office of Management Information
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Sir:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Monthly Operating Report

In accordance with the Oyster Creek Nuclear Generating Station Operating License No. DPR-16, Appendix A, Section 6.9.1.C, enclosed are two (2) copies of the Monthly Operating Data (gray book information) for the Oyster Creek Nuclear Generating Station.

If you should have any questions, please contact Mr. Drew Holland at (609) 971-4643.

Very truly yours,

Peter B. Fiedler
Vice President and Director
Oyster Creek

PBF:KB:dam(0170A)
Enclosures

cc: Director (10)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dr. Thomas E. Murley, Administrator
Region I
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631 Park Avenue
King of Prussia, PA 19406

NRC Resident Inspector
Oyster Creek Nuclear Generating Station
Forked River, NJ 08731

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