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Writer's Direct Dial Number:

December 15, 1989
C311-89-2140

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Dear Sir:

Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Monthly Operating Report
November 1989

Enclosed are two copies of the November 1989 Monthly Operating Report for Three Mile Island Nuclear Station, Unit 1.

Sincerely,

H. D. Hukill
Vice President & Director, TMI-1

HDH/WGH:spb

cc: W. Russell, USNRC
F. Young, USNRC

Attachments

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11

GPU Nuclear Corporation is a subsidiary of the General Public Utilities Corporation

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PDR ADOCK 05000289
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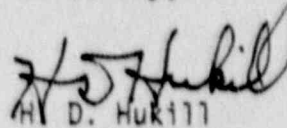
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OPERATIONS SUMMARY
NOVEMBER 1989

The unit entered the month operating at 100% power producing approximately 870 MWe. It continued at 100% power operation until November 29, 1989. On this day a Reactor Trip on high RCS pressure occurred. The trip was the result of a main turbine EHC (Electro Hydraulic Control) malfunction causing turbine valve closure and upsetting the balance of primary to secondary heat transfer. Post trip plant response was normal with expected equipment and operating crew response. The reactor trip ended a continuous operating period of 335 days at 100% power. As the month closed, TMI-1 was preparing for restart with generator breakers closing at 0600 on December 1, 1989.

MAJOR SAFETY RELATED MAINTENANCE

During November, the following major maintenance activities were performed on safety-related equipment:

Waste Transfer Pump WDL-P-7B

Repairs to Waste Transfer Pump WDL-P-7B which were begun in October were completed during the month of November. A new pump cradle was obtained to replace the original cracked cradle. An oil leak was identified while returning the pump to service and the necessary oil seal replacement was completed. The pump was retested and returned to service.

Emergency Diesel Generator EG-Y-1A

Emergency Diesel Generator EG-Y-1A repairs were completed in November. During Diesel operations in preparation for "ES" testing, the radiator fan angle drive clutch drum overheated. Initial inspection identified that frozen angle drive bearings caused the overheating of the clutch. An excessive buildup of sediment and carbonized lubricating oil was found in the sump, a stuck open check valve and a clogged strainer were also identified. Lack of oil to the upper bearing caused it to seize.

Repairs to the diesel included the following actions. A complete replacement clutch assembly was obtained from Florida Power Corp's Crystal River Plant because the drum flange broke during disassembly of the clutch. The clutch was reassembled using only the drum and drum flange from the Crystal River supplied clutch since the original clutch shoes were found in satisfactory condition. The angle drive, the strainer and check valve were cleaned, rebuilt and reinstalled. After reassembly, the diesel was test run with satisfactory results and EG-Y-1A was returned to service.

Emergency Diesel Generator EG-Y-1B

Emergency Diesel Generator EG-Y-1B was removed from service in November to perform the annual overhaul and inspection. Because of the "A" diesel radiator angle drive unit problems experienced, work on the diesel included inspection of the radiator fan angle drive unit. The drive unit oil pump check valve was found stuck in the open position which caused the oil pump to lose prime and fail to supply oil to the vertical shaft upper bearing. The check valve was cleaned, tested and reinstalled. The strainer was cleaned, reassembled and reinstalled. Both vertical shaft bearings and the upper oil seal were replaced. The sump was cleaned and the drive unit reassembled and filled with oil.

Several modifications to the "B" diesel generator unit were completed during the annual overhaul/inspection. The lube oil level switch and the three 'up to frequency' relays were replaced. The high crank case pressure trip circuit logic was modified to allow resetting the trip with the engine reset push button. The generator breaker circuitry was modified to eliminate an indicating light sneak circuit that existed when the breaker is closed in the "test" position. An air start solenoid valve test switch and an "ES" test light for the stop push button were also installed.

All other inspections were completed with no deficiencies identified. The diesel was test run per the test sequence and an exhaust leak and recurrent clogging of the radiator angle drive unit lube oil strainer and check valve were identified. The angle drive unit components were cleaned and the unit refilled with oil. The diesel test run was resumed and completed satisfactorily. EG-Y-1B was returned to service.

Waste Gas Compressor WDG-P-1B

Repairs to waste gas compressor WDG-P-1B were completed in November. The compressor was disassembled and inspected. The inspections revealed that there were two eroded areas on the face of the Air Head Bracket. The areas were repaired with Belzona compound and contoured to the original configuration. The rotor cone was replaced because of excessive wear. Upon reassembly, the compressor was tested satisfactorily and returned to service.

Plant Off-line Maintenance

Due to the plant trip on November 29, maintenance was performed during the off-line period. Trouble shooting determined the cause of the trip to be a loose wire in the EHC system. The wire connection was tightened and five of the six EHC power supplies were replaced. Other work completed with the plant off-line included:

1. balanced the "D" Reactor Coolant Pump, RC-P-1D
2. recovered three Pressurizer Heaters
3. installed a new switch in ICS Cabinet 12 breaker

Plant Off-line Maintenance (Cont'd.)

4. repaired a fitting leak on FW-V-1112
5. cleaned connectors on NI-2 (was reading low)
6. replaced ICS RC-15 Relay
7. replaced zone 7/8 Fire Service Detectors
8. replaced a fuse on the low level switch in the lower bearing of RC-P-1D
9. adjusted the packing on RC-V-7D
10. Furmanited a bonnet leak on MS-V-70D

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH NOVEMBER 1989

DOCKET NO. 50-289
 UNIT NAME THT-Y
 DATE 11-30-89
 COMPLETED BY C.W. Smyth
 TELEPHONE (717) 948-8551

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴ & 6	Component Code ⁵ & 6	Cause & Corrective Action to Prevent Recurrence
89-01	11/29/89	F	39.9	A	3				Unit trip was attributed to an EHC malfunction. Testing revealed a loose shield wire on the input from the primary speed sensor at TB150-3. The wire was tightened and no other loose connections were found.

¹
 F - Forced
 S - Scheduled

²
 Reason
 A Equipment Failure (Explain)
 B Maintenance or 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

⁶
 Actually used Exhibits
 F & H NUREG 0161

OPERATING DATA REPORT

DOCKET NO. 50-289
 DATE 11-30-89
 COMPLETED BY C.W. Smyth
 TELEPHONE (717) 948-8551

OPERATING STATUS

		NOTES
1. UNIT NAME:	THREE MILE ISLAND UNIT 1	
2. REPORTING PERIOD:	NOVEMBER, 1989.	
3. LICENSED THERMAL POWER (MWT):	2568.	
4. NAMEPLATE RATING (GROSS MWE):	871.	
5. DESIGN ELECTRICAL RATING (NET MWE):	819.	
6. MAXIMUM DEPENDABLE CAPACITY (GROSS MWE):	856.	
7. MAXIMUM DEPENDABLE CAPACITY (NET MWE):	808.	

8. IF CHANGES OCCUR IN (ITEMS 3-7) SINCE LAST REPORT, GIVE REASONS:

9. POWER LEVEL TO WHICH RESTRICTED, IF ANY (NET MWE):
 10. REASONS FOR RESTRICTIONS, IF ANY:

	THIS MONTH	YR-TO-DATE	CUMMULATIVE
11. HOURS IN REPORTING PERIOD	720.	8016.	133657.
12. NUMBER OF HOURS REACTOR WAS CRITICAL	680.1	7976.1	61257.5
13. REACTOR RESERVE SHUTDOWN HOURS	39.9	39.9	1999.9
14. HOURS GENERATOR ON-LINE	680.1	7976.1	60258.1
15. UNIT RESERVE SHUTDOWN HOURS	0.0	0.0	0.0
16. GROSS THERMAL ENERGY GENERATED (MWH)	1744186.	20443334.	147802440.
17. GROSS ELECTRICAL ENERGY GENERATED (MWH)	603651.	7018062.	49692447.
18. NET ELECTRICAL ENERGY GENERATED (MWH)	569573.	6638518.	46608228.
19. UNIT SERVICE FACTOR	94.5	99.5	45.1
20. UNIT AVAILABILITY FACTOR	94.5	99.5	45.1
21. UNIT CAPACITY FACTOR (USING MDC NET)	97.9	102.5	44.5
22. UNIT CAPACITY FACTOR (USING DER NET)	96.6	101.1	42.6
23. UNIT FORCED OUTAGE RATE	5.5	0.5	50.0

24. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH
 BR Refueling Outage 1/5/90 - 3/5/90

25. IF SHUT DOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP:

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO.	50-289
UNIT	TMI-1
DATE	11-30-89
COMPLETED BY	C.W. Smyth
TELEPHONE	(717) 948-8551

MONTH: NOVEMBER

DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)
1	836.
2	840.
3	840.
4	844.
5	841.
6	835.
7	838.
8	833.
9	833.
10	840.
11	841.
12	839.
13	840.
14	833.
15	826.
16	833.

DAY	AVERAGE DAILY POWER LEVEL (MWE-NET)
17	844.
18	844.
19	847.
20	839.
21	843.
22	847.
23	846.
24	846.
25	845.
26	841.
27	842.
28	835.
29	260.
30	-38.
31	N/A

REFUELING INFORMATION REQUEST

1. Name of Facility: Three Mile Island Nuclear Station, Unit 1
2. Scheduled date for next refueling shutdown: January 5, 1990 (8R)
3. Scheduled date for restart following refueling: March 5, 1990 (8R)
4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment? No

If answer is yes, in general, what will these be?

If answer is no, has the reload fuel design and core configuration been reviewed by your Plant Safety Review Committee to determine whether any unreviewed safety questions are associated with the core reload (Ref. 10 CFR Section 50.56)? No

If no such review has taken place, when is it scheduled?
January 15, 1990

5. Scheduled date(s) for submitting proposed licensing action and supporting information: December 1, 1989 (Submitted)
6. 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: None
7. The number of fuel assemblies (a) in the core, and (b) in the spent fuel storage pool: (a) 177 (b) 360
8. 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:

The present licensed capacity is 752. Planning to increase licensed capacity through fuel pool reracking is in process.

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

1991 is the last refueling discharge which allows full core off-load capacity (177 fuel assemblies).