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November 8, 1994  
C311-94-2302

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

Gentlemen:

Subject: Three Mile Island Nuclear Station, Unit I (TMI-1)  
Operating License No. DPR-50  
Docket No. 50-289  
Monthly Operating Report for October 1994

Enclosed are two copies of the October 1994 Monthly Operating Report for Three Mile Island Nuclear Station, Unit 1.

Sincerely,

T. G. Broughton  
Vice President and Director, TMI

WGH

Attachments

cc: Administrator, Region I  
TMI Senior Resident Inspector  
T94001

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OPERATIONS SUMMARY  
October 1994

The plant entered the month operating at 100% power and remained at that level throughout the duration of the month. Unit electrical output averaged approximately 811 MWe during October.

MAJOR SAFETY RELATED MAINTENANCE

The following is a summary of major safety related maintenance items accomplished during the month.

Make-Up Pump MU-P-1B

Make-Up Pump MU-P-1B was removed from service to repair an outboard mechanical seal leak. Because a new type seal was being installed, a manufacturer's technical representative was on-site to oversee the seal installation. Additional tasks performed included installation of balancing rings on the inboard and outboard shafts to improve vibration levels and the repair/replacement of oil tubing and piping on the pump and the speed increaser. Post maintenance test results were satisfactory and the pump was returned to service.

Containment Monitoring Valve CM-V-2

Containment Monitoring System valve CM-V-2 was removed from service to replace the valve actuator spring. During bench testing of the reassembled actuator, an air leak from the actuator was observed. As a result, the shaft seat o-ring and the torque plug o-ring were replaced. The actuator was retested and operated satisfactorily. It was reinstalled on the valve, tested, and returned to service.

Nuclear Service Closed Cooling Water Pump NS-P-1C

Nuclear Service Closed Cooling Water Pump NS-P-1C was removed from service because of noisy motor bearings. The pump and motor were uncoupled and the motor end bells were removed to replace the bearings. During reassembly of the motor, a Machinist rotated the pump by hand and felt continued movement in the pump after the pump shaft had stopped. As a result, the pump was disassembled and inspected. The impeller was loose on the shaft and the condition was caused by a loose impeller bolt and installation of a slightly undersized impeller key. A new key was installed and the impeller bolt torqued to the specified value. Following the maintenance, NS-P-1C was reassembled, tested, and returned to service.

#### Diesel Driven Fire Service Pump FS-P-3

Diesel Driven Fire Service Pump FS-P-3 was removed from service for trouble-shooting after the pump failed to start on a loss of A/C power. Trouble-shooting revealed that Agastat relay R9 was not working. The relay was replaced and following a satisfactory test of FS-P-3, the pump was returned to service.

#### Miscellaneous Waste Evaporator Pump WDL-P-20

Miscellaneous Waste Evaporator Pump, WDL-P-20, was removed from service due to low output. Investigation revealed that the pump shaft has broken and that the impeller was damaged. The wet end of the pump was replaced and WDL-P-20 was tested and returned to service. The pump manufacturer and Plant Engineering are in the process of determining the cause of failure.

# OPERATING DATA REPORT

## OPERATING STATUS

DOCKET NO. 50-289  
 DATE November 8, 1994  
 COMPLETED BY W G HEYSEK  
 TELEPHONE (717) 948-8191

1. UNIT NAME: THREE MILE ISLAND UNIT 1
2. REPORTING PERIOD: OCTOBER 1994
3. LICENSED THERMAL POWER: 2568
4. NAMEPLATE RATING (GROSS MWe): 871
5. DESIGN ELECTRICAL RATING (NET MWe): 819
6. MAXIMUM DEPENDABLE CAPACITY (GROSS MWe): 834
7. MAXIMUM DEPENDABLE CAPACITY (NET MWe): 786

### NOTES:

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	(HRS)	745.0	7296.0	176761.0
12. NUMBER OF HOURS REACTOR WAS CRITICAL	(HRS)	745.0	6898.7	100124.7
13. REACTOR RESERVE SHUTDOWN HOURS	(HRS)	0.0	-0.0	2284.0
14. HOURS GENERATOR ON-LINE	(HRS)	745.0	6886.4	98991.1
15. UNIT RESERVE SHUTDOWN HOURS	(HRS)	0.0	0.0	0.0
16. GROSS THERMAL ENERGY GENERATED	(MWH)	1912441	17354955	242222049
17. GROSS ELECTRICAL ENERGY GENERATED	(MWH)	638803	5755431	81442214
18. NET ELECTRICAL ENERGY GENERATED	(MWH)	603962	5418796	76483315
19. UNIT SERVICE FACTOR	(%)	100.0	94.4	56.0
20. UNIT AVAILABILITY FACTOR	(%)	100.0	94.4	56.0
21. UNIT CAPACITY FACTOR (USING MDC NET)		103.1	94.5	55.1
22. UNIT CAPACITY FACTOR (USING DER NET)		99.0	90.7	52.8
23. UNIT FORCED OUTAGE RATE	(%)	0.0	0.0	38.0
UNIT FORCED OUTAGE HOURS	(HRS)	0.0	1.8	60761.2
24. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE AND DURATION OF EACH):				

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 November 8, 1994  
 COMPLETED BY W G HEYSEK  
 TELEPHONE (717) 948-8191

MONTH: OCTOBER

DAY AVERAGE DAILY POWER LEVEL  
 (MWe-NET)

1	808
2	808
3	814
4	813
5	813
6	815
7	812
8	810
9	805
10	813
11	816
12	815
13	814
14	811
15	812
16	814

DAY AVERAGE DAILY POWER LEVEL  
 (MWe-NET)

17	814
18	811
19	807
20	801
21	805
22	807
23	806
24	808
25	810
26	812
27	811
28	814
29	812
30	811
31	807

# UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH October 1994

DOCKET NO. 50-289  
 UNIT NAME TMI-1  
 DATE November 8, 1994  
 COMPLETED BY W. G. Heysek  
 TELEPHONE (717) 948-8191

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	Licensee Event Report#	System Code  <sup>4</sup> & <sup>4</sup>	Component Code  <sup>4</sup> & <sup>4</sup>	Cause & Corrective Action to Prevent Recurrence
						None			

1  
 F Forced  
 S Scheduled

2  
 Reason  
 A-Equipment Failure (Explain)  
 B-Maintenance or Test  
 C-Refueling  
 D-Regulatory Restriction  
 E-Operator Training & Licensing 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 1 same source

6 Actually used exhibits F & II NUREG 0161

### REFUELING INFORMATION REQUEST

1. Name of Facility: Three Mile Island Nuclear Station, Unit 1
2. Scheduled date for next refueling shutdown: September 8, 1995
3. Scheduled date for restart following current refueling: NA
4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment? NO
5. Scheduled date(s) for submitting proposed licensing action and supporting information: NA
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:
  - a) TMI will use the new Mark B10 fuel assembly in the Cycle 11 reload batch which is an upgraded design of the Mark B9 assembly used in Cycle 10. The Mark B10 provides a leaf-type cruciform assembly holddown spring to replace the previous coil spring design which has experienced random failures during operation and requires visual inspection each outage. The Mark B10 design meets all current BWFC fuel design criteria and is in use at other B&W 177 FA plants.
  - b) TMI also will use four new Westinghouse Lead Test Assemblies (LTA) in the Cycle 11 reload batch. Their planned operation is for three consecutive cycles with discharge at end-of-Cycle 13.

The four W LTAs inserted in Cycle 9 were discharged at EOC-9 due to detection of fuel rod failures caused by grid-to-rod fretting similar to that seen in W Vantage 5H fuel designs. The Cycle 11 LTAs will use the generic W recommended design fix of rotated intermediate spacer grids to minimize flow-induced fuel vibrations and thus eliminate fretting. A prototype LTA will be flow-tested to demonstrate the effectiveness of the fix. The production LTA will use ZIRLO fuel rod cladding, guide tubes and instrumentation tube in place of Zircaloy 4 materials used for the Cycle 9 LTAs. Otherwise, the Cycle 11 LTA design is basically the same as the Cycle 9 design.

The LTAs will meet current W fuel design criteria while operating within TMI core operating limits. LTA enrichment and core location will ensure that an LTA will not be the lead (hot) assembly at any time during the cycle and will not set any safety or operating limits. The LTAs will remain bounded by existing UFSAR safety analyses results.

7. The number of fuel assemblies (a) in the core, and (b) in the spent fuel storage pool: (a) 177 (b) 601

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 1990. Phase 1 of the reracking project to increase spent fuel pool storage capacity permits storage of 1342 assemblies. Upon completion of Phase II of the reracking project, the full licensed capacity will be attained.

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

Completion of Phase I of the reracking project permits full core off-load (177 fuel assemblies) through the end of Cycle 14 and on completion of the rerack project full core off-load is assured through the end of the current operating license and beyond.