

# AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-289  
 UNIT TMI-1  
 DATE 12/1/77  
 COMPLETED BY W. E. Potts

TEL. NO. 215-929-3601, Ext. 114

MONTH November

DAY	AVERAGE DAILY POWER LEVEL(MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL(MWe-Net)
1	<u>795</u>	21	<u>798</u>
2	<u>790</u>	22	<u>802</u>
3	<u>785</u>	23	<u>801</u>
4	<u>781</u>	24	<u>799</u>
5	<u>781</u>	25	<u>803</u>
6	<u>792</u>	26	<u>804</u>
7	<u>788</u>	27	<u>805</u>
8	<u>793</u>	28	<u>803</u>
9	<u>793</u>	29	<u>802</u>
10	<u>791</u>	30	<u>803</u>
11	<u>803</u>	31	<u>      </u>
12	<u>804</u>		
13	<u>804</u>		
14	<u>338</u>		
15	<u>705</u>		
16	<u>797</u>		
17	<u>786</u>		
18	<u>799</u>		
19	<u>801</u>		
20	<u>802</u>		

1589 081

7910810683

## OPERATING SUMMARY

The unit operated at essentially 100% power for the entire month except for the two brief unplanned forced reductions of November 14, 1977 and November 17, 1977.

Monthly inspections of the Decay Heat Removal Pump shafts continue. In addition, the recirculation orifice on both Decay Heat Removal Pumps was removed in order to increase the minimum recirculation flow.

The unit tripped from 100% power at 0757 on November 14, 1977, due to a module failure within the Integrated Control System (ICS). The actual generated megawatt signal feedback to the ICS failed low causing the ICS to increase reactor power, steam, and feedflow to correct for the seemingly large error between the megawatt demand and actual generated megawatts. The Reactor Protection System tripped the reactor approximately one minute after the ICS module failure. The module was repaired and the unit was brought back on line by 1620 hours, November 14, and the unit attained full power by 2320 hours, November 15, 1977.

While operating at 100% power, the unit experienced an ICS runback to 55% power due to an erroneous Group One "in-limit" indication. The runback occurred at 1413 hours on November 17, 1977. The erroneous Group One in-limit indication cleared by itself and the unit returned to full power by 1448 hours, November 17, 1977. Subsequent trouble shooting revealed excessive moisture on the affected control rod position cable trays due to a leaking roof.

### MAJOR SAFETY RELATED MAINTENANCE

Decay Heat Pumps "A" and "B" were inspected during this month for possible shaft defects. The following work/inspection was performed on each pump:

1. IRD readings were taken
2. Pump to motor coupling removed
3. Ultrasonic test of pump shaft
4. Analysis of UT results
5. Coupling of pump to motor
6. Testing of pump and declaring pump operable
7. Return pump to service

Each pump was taken out of service separately to perform the above work. Results of UT and IRD readings were satisfactory for both pumps. All work performed on each pump was completed within the time limits set forth in the technical specifications.

DR-P-1A end bell was replaced after discovering a slight crack in the end bell. Work included:

1. Testing of redundant component
2. Disassembly of pump to motor coupling
3. Disassembly of motor end bell
4. Replacement of end bell
5. IRD readings
6. Testing of pump and declaring pump operable
7. Returning pump to service

Work was completed within time specifications set forth in technical specifications. Test results were satisfactory.

1587 082

## SUMMARY:

## UNIT SHUTDOWNS AND POWER REDUCTIONS

The unit ran at essentially 100% power for the entire month except between 0757 and 1615 on 11/14/77 during which the unit was shutdown due to a flux/flow imbalance reactor trip. The trip was caused by the ICS Signal-Converter "L" module failing to the zero volt position. The module was replaced and the unit returned to service. The unit also experienced a run back to 55% power at 1413 on 11/17/77 due to a faulty in limit indication on group 1 control rods. The unit was returned to essentially 100% power by 1442 on 11/17/77.

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REPORT MONTH November

TEL. NO. 215-929-3601, Ext. 114

NO.	DATE	TYPE F-FORCED S-SCHEDULED	DURATION (HOURS)	REASON (1)	METHOD OF SHUTTING DOWN THE REACTOR OR REDUCING POWER (2)	COMMENTS
5	11/14/77	F	8.3	A	3	<p>Failure of ICS Module Signal Converter "L" (ICS #2-2-3,3) caused reactor power to increase above 103% F.P. Thus causing a flux/flow imbalance trip.</p> <div> <div> <p>(1) REASON:</p> <p>A-EQUIPMENT FAILURE (EXPLAIN)</p> <p>B-MAINT. OR TEST</p> <p>C-REFUELING</p> <p>D-REGULATORY RESTRICTION</p> <p>E-OPERATOR TRAINING AND LICENSE EXAMINATION</p> <p>F-ADMINISTRATIVE</p> <p>G-OPERATIONAL ERROR (EXPLAIN)</p> <p>H-OTHER (EXPLAIN)</p> </div> <div> <p>(2) METHOD:</p> <p>1-MANUAL</p> <p>2-MANUAL SCRAM</p> <p>3-AUTOMATIC SCRAM</p> <p>4-OTHER (EXPLAIN)</p> </div> </div>

1589 083

# OPERATING DATA REPORT

DOCKET NO. 50-289  
UNIT NAME TMI-1  
DATE 12/1/77  
COMPLETED BY W. E. Potts  
TEL. NO. 215-929-3601, Ext. 114

1. REPORTING PERIOD: 0001, 77, 1101 THROUGH 2400, 77, 1130  
GROSS HOURS IN REPORTING PERIOD: 720
2. CURRENTLY AUTHORIZED POWER LEVEL Mwt 2535 MAX. DEPEND. CAPACITY (MWe-Net) 792
3. DESIGN ELECTRICAL RATING (MWe-net) 810
4. POWER LEVEL TO WHICH RESTRICTED (IF ANY): \_\_\_\_\_
5. REASONS FOR RESTRICTIONS (IF ANY): \_\_\_\_\_

	THIS MONTH	YR-TO-DATE	CUMULATIVE TO DATE
5. NUMBER OF HOURS REACTOR WAS CRITICAL . . .	<u>715</u>	<u>6462.5</u>	<u>22314.3</u>
6. REACTOR RESERVE SHUTDOWN HOURS . . . . .	<u>0</u>	<u>230</u>	<u>838.5</u>
7. HOURS GENERATOR ON-LINE . . . . .	<u>711.7</u>	<u>6245.1</u>	<u>21853.5</u>
8. UNIT RESERVE SHUTDOWN HOURS . . . . .	<u>0</u>	<u>0</u>	<u>0</u>
9. GROSS THERMAL ENERGY GENERATED (MWH) . . .	<u>1768910</u>	<u>15766685</u>	<u>53024560</u>
10. GROSS ELECTRICAL ENERGY GENERATED (MWH) . .	<u>504590</u>	<u>5189108</u>	<u>17861805</u>
11. NET ELECTRICAL ENERGY GENERAGED (MWH) . . .	<u>560246</u>	<u>4867650</u>	<u>16722610</u>
12. REACTOR SERVICE FACTOR . . . . .	<u>99.3%</u>	<u>80.6%</u>	<u>78.4%</u>
13. REACTOR AVAILABILITY FACTOR . . . . .	<u>99.3%</u>	<u>83.5%</u>	<u>81.3%</u>
14. UNIT SERVICE FACTOR . . . . .	<u>98.8%</u>	<u>79.2%</u>	<u>76.8%</u>
15. UNIT AVAILABILITY FACTOR . . . . .	<u>98.8%</u>	<u>79.2%</u>	<u>76.8%</u>
16. UNIT CAPACITY FACTOR (USING MDC) . . . . .	<u>98.2%</u>	<u>76.7%</u>	<u>74.2%</u>
17. UNIT CAPACITY FACTOR (USING DESIGN MWe-net)	<u>95.0%</u>	<u>74.1%</u>	<u>71.7%</u>
18. FORCED OUTAGE RATE . . . . .	<u>1.2%</u>	<u>1.1%</u>	<u>5.8%</u>
19. SHUTDOWNS SCHEDULED TO BEGIN IN NEXT 6 MONTHS (STATE TYPE, DATE AND DURATION OF EACH):	Refueling March 18, 1978 6 weeks		

20. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP: \_\_\_\_\_
21. UNITS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION): NOT APPLICABLE

1502.084

# OPERATING DATA REPORT

DOCKET NO. 50-289  
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COMPLETED BY W. E. Potts  
TEL. NO. 215-929-3601, Ext. 114

1. REPORTING PERIOD: 0001, 77, 1101 THROUGH 2400, 77, 1130  
GROSS HOURS IN REPORTING PERIOD: 720
2. CURRENTLY AUTHORIZED POWER LEVEL MWe 2535 MAX. DEPEND. CAPACITY(MWe-Net) 792
3. DESIGN ELECTRICAL RATING (MWe-net) 819
4. POWER LEVEL TO WHICH RESTRICTED (IF ANY): \_\_\_\_\_
5. REASONS FOR RESTRICTIONS (IF ANY): \_\_\_\_\_

	THIS MONTH	YR-TO-DATE	CUMULATIVE TO DATE
5. NUMBER OF HOURS REACTOR WAS CRITICAL . . .	<u>715</u>	<u>6462.5</u>	<u>22314.3</u>
6. REACTOR RESERVE SHUTDOWN HOURS . . . . .	<u>0</u>	<u>230</u>	<u>838.5</u>
7. HOURS GENERATOR ON-LINE . . . . .	<u>711.7</u>	<u>6345.1</u>	<u>21853.5</u>
8. UNIT RESERVE SHUTDOWN HOURS . . . . .	<u>0</u>	<u>0</u>	<u>0</u>
9. GROSS THERMAL ENERGY GENERATED (MWH) . . .	<u>1768010</u>	<u>15766685</u>	<u>53524560</u>
10. GROSS ELECTRICAL ENERGY GENERATED (MWH) . .	<u>504520</u>	<u>5189108</u>	<u>17861895</u>
11. NET ELECTRICAL ENERGY GENERAGED (MWH) . . .	<u>560246</u>	<u>4861650</u>	<u>16722610</u>
12. REACTOR SERVICE FACTOR . . . . .	<u>99.3%</u>	<u>80.6%</u>	<u>78.4%</u>
13. REACTOR AVAILABILITY FACTOR . . . . .	<u>99.3%</u>	<u>83.5%</u>	<u>81.3%</u>
14. UNIT SERVICE FACTOR . . . . .	<u>98.8%</u>	<u>79.2%</u>	<u>76.8%</u>
15. UNIT AVAILABILITY FACTOR . . . . .	<u>98.8%</u>	<u>79.2%</u>	<u>76.8%</u>
16. UNIT CAPACITY FACTOR (USING MDC) . . . . .	<u>98.2%</u>	<u>76.7%</u>	<u>74.2%</u>
17. UNIT CAPACITY FACTOR (USING DESIGN MWe-net)	<u>95.0%</u>	<u>74.1%</u>	<u>71.7%</u>
18. FORCED OUTAGE RATE . . . . .	<u>1.2%</u>	<u>4.1%</u>	<u>5.8%</u>
19. SHUTDOWNS SCHEDULED TO BEGIN IN NEXT 6 MONTHS (STATE TYPE, DATE AND DURATION OF EACH):	Refueling March 18, 1978 6 weeks		

20. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP: \_\_\_\_\_
21. UNITS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION): NOT APPLICABLE

1589 085



## SUMMARY:

## UNIT SHUTDOWNS AND POWER REDUCTIONS

The unit ran at essentially 100% power for the entire month except between 0757 and 1615 on 11/14/77 during which the unit was shutdown due to a flux/flow imbalance reactor trip. The trip was caused by the ICS Signal-Converter "L" module failing to the zero volt position. The module was replaced and the unit returned to service. The unit also experienced a run back to 55% power at 1413 on 11/17/77 due to a faulty in limit indication on group 1 control rods. The unit was returned to essentially 100% power by 1442 on 11/17/77.

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1589 086