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July 13, 1993
C311-93-2099

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 June 1993

Enclosed are two copies of the June 1993 Monthly Operating Report for Three Mile Island Nuclear Station, Unit 1.

Sincerely,

T. G. Broughton
Vice President and Director, TMI-1

WGH

Attachments
cc: Administrator, Region I
TMI Senior Resident Inspector

IE24

OPERATIONS SUMMARY
June 1993

The plant entered and ended the month operating at 100% power. At the beginning of the month, the plant was producing approximately 850 MWe. Gross power production dropped to approximately 835 MWe at month's end as a result of seasonal air and heat sink ambient temperature rises.

MAJOR SAFETY RELATED MAINTENANCE

During June the following major safety related maintenance was performed:

Radiation Monitor RM-A-13

Radiation Monitoring system monitor RM-A-13 was removed from service and preparations were being completed to send it to Ohio State University for isotopic calibration.

Emergency Diesel Generators EG-Y-1A/B

Emergency Diesel Generators EG-Y-1A and B were removed from service one at a time, to perform the scheduled Annual overhaul (reduced scope). Work performed included the diesel overhaul, inspection of the turbocharger, instrument calibration, breaker testing, motor inspection, and check and relief valve testing.

Corrective Maintenance work items accomplished included replacement of standby recirculating lube oil pump EG-P-3A, the replacement of EG-Y-1B crankcase ejector flexmaster coupling and the repair of air start compressor EG-P-1A unloader valves. Upon completion of the scheduled work, post maintenance testing of the engines was satisfactorily completed and they were returned to service.

Spent Fuel Bridge FH-A-3

Along with routine preventative maintenance tasks scheduled for the Spent Fuel Bridge FH-A-3, the following additional work was completed prior to returning the bridge to service: removal and inspection of one bridge wheel, in place visual inspection of the remaining wheels, adjustment of the bridge guide rollers, replacement of the cable reel and cable on the rod mast and re-potting the electrical junction box. Limit switch LS-24 cam was replaced and a new switch installed.

1B Radwaste Motor Control Center

A failure in the 1B Radwaste Motor Control Center resulted in the need to replace the A/B phase bus bars in the one vertical breaker section of the MCC and associated insulating blocks. A roll-up door breaker and hoist breaker were required to be reconditioned before being returned to service. Work to be accomplished includes repair and reinstallation of Waste Gas Compressor WDG-P-1B breaker and the repair/replacement of Neutralizer Pump WDL-P-9B breaker. The control power transformer located in the WDL-P-9B breaker is thought to be the cause of the failure. Repair work and root cause analysis will continue into July.

Make-up Pump MU-P-1A

Makeup Pump MU-P-1A was removed from service to repair a leaking motor bearing oil fitting. Upon replacement of the fitting and associated tubing, MU-P-1A was returned to service.

OPERATING DATA REPORT

DOCKET NO. 50-289
DATE July 13, 1993
COMPLETED BY W G HEYSEK
TELEPHONE (717) 948-8191

OPERATING STATUS

1. UNIT NAME: THREE MILE ISLAND UNIT 1
2. REPORTING PERIOD: JUNE 1993
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)	720.0	4343.0	165048.0
12.	NUMBER OF HOURS REACTOR WAS CRITICAL	(HRS)	720.0	4277.3	89754.0
13.	REACTOR RESERVE SHUTDOWN HOURS	(HRS)	0.0	0.0	2283.8
14.	HOURS GENERATOR ON-LINE	(HRS)	720.0	4273.3	88673.4
15.	UNIT RESERVE SHUTDOWN HOURS	(HRS)	0.0	0.0	0.0
16.	GROSS THERMAL ENERGY GENERATED	(MWH)	1848344	10608100	216654804
17.	GROSS ELECTRICAL ENERGY GENERATED	(MWH)	604208	3631197	72976271
18.	NET ELECTRICAL ENERGY GENERATED	(MWH)	570469	3424870	68527177
19.	UNIT SERVICE FACTOR	(%)	100.0	98.4	53.7
20.	UNIT AVAILABILITY FACTOR	(%)	100.0	98.4	53.7
21.	UNIT CAPACITY FACTOR	(USING MDC NET)	100.8	100.3	52.8
22.	UNIT CAPACITY FACTOR	(USING DER NET)	96.7	96.3	50.7
23.	UNIT FORCED OUTAGE RATE	(%)	0.0	1.6	40.7
	UNIT FORCED OUTAGE HOURS	(HRS)	0.0	69.7	60759.4

24. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE AND DURATION OF EACH):
Refueling Shutdown, September 10, 1993, 40 Days

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 July 13, 1993
COMPLETED BY W G HEYSEK
TELEPHONE (717) 948-8191

MONTH: JUNE

DAY	AVERAGE DAILY POWER LEVEL (MWe-NET)	DAY	AVERAGE DAILY POWER LEVEL (MWe-NET)
1	803	17	793
2	805	18	784
3	802	19	782
4	800	20	784
5	799	21	786
6	799	22	786
7	799	23	796
8	794	24	797
9	786	25	791
10	783	26	788
11	789	27	788
12	795	28	786
13	797	29	787
14	797	30	788
15	791	31	NA
16	794		

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH June 1993

DOCKET NO. 50-289
UNIT NAME TMI-1
DATE July 13, 1993
COMPLETED BY W. G. Heysek
TELEPHONE (717) 948-8191

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
						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 & H NUREG 0161

REFUELING INFORMATION REQUEST

1. Name of Facility: Three Mile Island Nuclear Station, Unit 1

2. Scheduled date for next refueling shutdown: September 10, 1993 (10R)

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? YES

   In general, these will be:

   a) Use of urania-gadolinia fuel in Cycle 10 and B&W Fuel Corporation (BWFC) changes in core physics methods will require change to T.S. 6.9.5.2 which lists approved analytical methods references to support the Core Operating Limits Report cycle-specific limit values. Based on recent NRC SER approval of BAW 10179, "Safety Criteria and Methodology for Acceptable Cycle Reload Analyses", which includes the new physics methodology BAW-10180, Rev. 1, NEMO by reference, BAW 10179 will replace the current list of approved methods in T. S. 6.9.5.2. Use of the gadolinium integral burnable poison will also require changes to the Reactor Core fuel descriptions in T.S. 5.3.1.

   b) Based on higher fuel loadings planned for Cycle 10 and beyond, the borated water storage requirements of T.S. 3.3.1.1 need to be increased. BWFC final boron results have confirmed that an increased boron concentration (to about 2500 ppm) is necessary for the BWST as part of the ECCS. (Note: these results have also confirmed the current Core Flood Tank minimum boron concentration requirement of 2270 ppm (T. S. 3.3.1.2).

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

   a) Per 4a and 4b above, a GPUN TSCR for the changes to T.S. 6.9.5.2, T.S. 5.3.1 and 3.3.1.1 was submitted on June 7, 1993.

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) BWFC and GPUN have completed the fuel cycle design for cycle 10, which is scheduled for startup in October 1993. As stated in 4a above, this design incorporates reload fuel that contains urania-gadolinia. The NRC SERs approving GDTACO and NEMO Rev1 support the TMI-1 reload schedule.

   b) TMI-1 will use the new Mark B9 fuel assembly in the Cycle 10 reload batch. This design is an upgrade of the Mark B8 assembly used in Cycles 8 and 9. The Mark B9 provides improved fuel thermal limits (LOCA, DNBR,

CFM) and repair capabilities. The Mark B9 design meets current BWFC fuel design criteria and has been used previously at other B&W 177 FA plants. Since the Mark B9 was designed to meet the BWFC design criteria approved in BAW 10179, "Safety Criteria and Methodology for Acceptable Cycle Reload Analyses", it is expected to be implemented in Cycle 10 under 10 CFR 50.59 guidelines.

c) The B&W Model B container is restricted to one fuel assembly per container when enrichment exceeds 4.6 wt/o U^{235}. To preserve TMI-1 shipments with two fuel assemblies per container, BWFC submitted a criticality analysis in May demonstrating the applicability of the B&W Model B container for two-FA shipments of fuel up to 4.8 wt/o U^{235} for a one-time-only special approval. This has been approved by the NRC with a limited duration authorization which expires on September 30, 1993. Cycle 10 fuel shipments started in June 1993.

d) GPUN will continue to improve the review process by submittal of a Technical Specification change concerning the reload-related areas of fuel assembly reconstitution and removal of cycle-dependent core limits to the Core Operating Limits Report (COLR). A TSCR review completion date consistent with the next TMI-1 refueling outage in September 1993 will be requested.

1) GPUN has withdrawn TSCR No. 200 to modify the TMI-1 Technical Specifications to permit the substitution of Zr-4 or stainless steel replacement rods for failed fuel rods, in accordance with USNRC Generic Letter 90-02, dated February 1, 1990. Generic Letter 90-02, Supplement 1 was issued on July 31, 1992, to clarify limitations on the application of currently-approved analytical methods and withdraw and replace the model TS recommended by Generic Letter 90-02. The B&W Owners Group Topical Report BAW-2149, "Evaluation of Replacement Rods in BWFC Fuel Assemblies", December 1991, was approved in April 1993. This report justifies the use of up to ten replacement stainless steel rods located anywhere in a single fuel assembly based on currently-approved methodology. BAW-2149 provides the basis for reconstitution repairs of BWFC Mark B assemblies to be done under the provisions of 10 CFR 50.59 (i.e., the repair does not represent an unreviewed safety question). A new TSCR will be submitted in July 1993 in response to Generic Letter 90-02, Supplement 1 referencing BAW-2149.

2) B&W Owners Group Topical Report BAW-10179P, "Safety Criteria and Methodology for Acceptable Cycle Reload Analyses", February 1991, was approved in March 1993. This topical provides a basis for changes to cycle-specific limits and to the Mark B fuel design to be under the provisions of 10 CFR 50.59. Per NRC Generic Letter (GL) 88-16, BAW-10179P also provides the basis for removal of additional cycle-specific limits from the T. S. to the COLR. A TSCR will be submitted consistent with GL 88-16 and the BAW-10179P Safety Evaluation (March 16, 1993) for the removal of cycle-specific protective and maximum allowable setpoint limits for axial power imbalance and other applicable cycle-dependent limits.

7. The number of fuel assemblies (a) in the core, and (b) in the spent fuel storage pool: (a) 177 (b) 521

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.