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November 2, 1993
C312-93-2069
C000-93-2260

US Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Three Mile Island Nuclear Station Unit 2 (TMI-2)
Operating Licensing DPR-73
Docket No. 50-320
Completed PDMS Requirements and Commitments

Dear Sir:

The NRC letter, "Review of the May 28, 1993 Request to Revise the TMI-2 PDMS Requirements and Commitments," dated August 5, 1993, provided a revised list of Post-Defueling Monitored Storage (PDMS) Requirements and Commitments. This list was further revised via GPU Nuclear letter C312-93-2061, dated October 24, 1993, which also submitted Amendment 18 to the PDMS Safety Analysis Report (SAR). To date, two groups of completed Requirements and Commitments have been submitted to NRC, via GPU Nuclear letters C312-93-2023 and C312-93-2062, dated June 1, 1993 and September 15, 1993, respectively. The purpose of this letter is to provide a third group of completed PDMS Requirements and Commitments. Enclosure 1 includes a table of all PDMS Requirements and Commitments, along with the GPU Nuclear letter number that provides closeout documentation and the NRC correspondence that provides NRC approval of each closed-out requirement. Enclosure 2 provides a reference to the documentation for each requirement in this third group which has been closed-out. The close-out documentation is available for your review in the TMI-2 Licensing office in the TMI South Office Building.

Sincerely,

R. L. Long
Director, Services Division/TMI-2

EDS/dlb
Enclosures
cc: See Page 2

A001

cc: M. Evans - Senior Resident Inspector
T. T. Martin - Regional Administrator, Region I
M. T. Masnik - Project Manager, PDNP Directorate
L. H. Thonus - Project Manager, TMI

ENCLOSURE 1

PDMS ENTRY REQUIREMENTS

License Conditions	GPU Nuclear Letter Documenting Closure	Date	TAC # or IR # Signifying NRC Approval
2.D. Special AFHB Ventilation Study			
2.E. Unfiltered Leak Rate Test	C312-93-2001	1/18/93	
2.F. Additional Submittals			
a. Site Flood Protection Plan	C312-92-2091	1/4/93	N/A
b. Site Radiation Protection Plan	C312-92-2091	1/4/93	N/A
c. Offsite Dose Calculation Manual			N/A
d. Fire Protection Program Evaluation	C312-93-2064	10/14/93	N/A
e. Radiological Environmental Monitoring Plan	C312-92-2091	1/4/93	N/A
f. Plant Radiation and Contamination Surveys			N/A
Additional Requirements/Licensee Commitments			
A. Removal of Water from Reactor Coolant System and Fuel Transfer Canal			
1. Remove water to the extent reasonably achievable.			
- Reactor Vessel; drained to less than 10 gallons (38 liters) of water. (SAR 6.2.27.2; TER 5-9)	C312-93-2023	6/1/93	
- Reactor Building Fuel Transfer Canal. (TER 5-9)	C312-93-2023	6/1/93	
2. Isolate the fuel transfer tubes. (SAR 1.1.2.1).	C312-93-2023	6/1/93	
3. Drill holes in canal seal plate to prevent refueling canal from filling. (TER 5-9)	C312-93-2023	6/1/93	
4. Cover the Reactor Vessel to minimize water entry. (SAR 6.2.27.2)	C312-93-2023	6/1/93	
5. Drain the Submerged Demineralizer System to the extent reasonably achievable. (SAR 6.2.36.2)	C312-92-2023	6/1/93	

PDMS ENTRY REQUIREMENTS

Additional Requirements/Licensee Commitments	GPU Nuclear Letter Documenting Closure	Date	TAC # or IR # Signifying NRC Approval
6. Drain and cover the "B" spent fuel pool to the extent reasonably achievable. (SAR 6.2.36.2)	C312-93-2062	9/15/93	
7. Drain and cover the "A" spent fuel pool to the extent reasonably achievable. (SAR 6.2.3.2)	C312-93-2062	9/15/93	
B. Radiation Safety & Reduction of Potential for Releases			
1. Ship offsite or package and stage for shipment remaining radioactive waste from the major TMI decontamination activities. (SAR 1.1.2.1; TER xiv)	C312-93-2069	11/2/93	
2. Reduce radiation levels within the facility, to the extent reasonably achievable and consistent with ALARA, to allow plant monitoring, maintenance, and inspection. (SAR 1.1.2.1; TER xiv)			
3. Apply shielding in critical locations after reactor vessel draindown to reduce dose rates. (TER 5-23)	C312-93-2023	6/1/93	
4. Define and establish an overall surveillance program plan for PDMS environmental protection systems to ensure public health and safety. (TER xiv)			
C. Ventilation			
1. Verify that a surveillance program exists to ensure AFHB ventilation and filtration operability, maintenance and testing. (SAR 7.1.2 and 7.1.3; TER 6-26)	C312-93-2023	6/1/93	
2. Verify that the licensee has procedures in place to continue to operate the AFHB ventilation system until the Accident Generated Water is no longer being processed or transferred in the AFHB. (TER 6-28)	C312-93-2062	9/15/93	

Additional Requirements/Licensee Commitments	GPU Nuclear Letter Documenting Closure	Date	TAC # or IR # Signifying NRC Approval
3. Ensure that penetration R-626 has been upgraded to 5 psi. (SAR Supp. 3, Item B.2; TER 6-17)	C312-93-2062	9/15/93	
4. Ensure that the reactor building breather system is the predominant pathway for effluent and influent to the building during those times that the reactor building ventilation system is not being operated; and that the effluent is filtered and monitored. (SAR 7.2.1.2; TER 6-25).	C312-93-2062	9/15/93	
5. DOP test the HEPA filter in breather prior to entry into PDMS. (SAR 7.2.1.2.2 and Supp. 3, Item B.3; TER 6-25)	C312-93-2062	9/15/93	
6. Ensure installation, actuation setting, and routine surveillance testing of the isolation valve between containment and HEPA filter in the reactor building breather (to automatically close upon receipt of a containment pressure increase of 0.25 psi). (SAR 7.2.1.2; TER 5-10, 5-11, and 6-24)	C312-93-2069	11/2/93	
7. Develop and implement a reactor building entry procedure that requires an evaluation of the reactor building atmospheric conditions prior to personnel entry. (SAR 7.2.1.3)	C312-93-2023	6/1/93	
8. Develop and implement procedures for maintaining HEPA filter banks for the Reactor Building Purge System.(SAR 7.2.1.3)	C312-93-2023	6/1/93	
9. Develop and implement procedures for monitoring the Reactor Building vent during reactor building purge. (SAR 7.2.1.3)	C312-93-2023	6/1/93	
D. Plant Contamination Survey			
1. Licensee will meet established contamination level goals for entrance into PDMS for each area of the AFHB. If the decontamination goals cannot be met because of the unique situation at TMI-2 or ALARA considerations,			

Additional Requirements/Licensee Commitments	GPU Nuclear Letter Documenting Closure	Date	TAC # or IR # Signifying NRC Approval
the licensee will provide an evaluation of the specific situation to the NRC. (SAR 5.3.1 and Supp. 3, Item A.11; TER p. 4-2)			
2. Update information in the following tables from the SAR as final decontamination results become available. (SAR 5.3.2) - Table 5.3-2 (SAR) "PDMS Radiological Conditions - AFHB" - Table 5.3-4 "Surface Contamination - Reactor Building" - Table 5.3-5 "Surface Contamination - AFHB" - Table 5.3-6 "Surface Contamination - Other Buildings"			
3. Perform survey of the service building, elevation 305 ft.; the turbine building, elevation 281 ft. and the containment air control envelope building and provide information in the PDMS SAR before entry into PDMS in order to establish a radiological baseline for the facility. (SAR 5.3.2; TER 4-2)			
4. Ensure that a program exists for periodic measurement of radiation and contamination levels to verify radiological conditions. (SAR 7.2.4.1 and 7.2.4.2; TER 6-42 and 6-43).			
E. Physical Maintenance in Reactor Building and Vessel			
1. Have the capability of inserting a video camera into the reactor vessel to verify fuel location if it is determined at a later time that such an examination is required. (TER 6-3)	C312-93-2062	9/15/93	
2. Create a program plan to perform monthly entries into the reactor building for at least 6 months after placing it into its PDMS condition. (PDMS SAR 7.2.4; TER 5-23)	C312-93-2062	9/15/93	

PDMS ENTRY REQUIREMENTS

Additional Requirements/Licensee Commitments	GPU Nuclear Letter Documenting Closure	Date	TAC # or IR # Signifying NRC Approval
F. Physical Maintenance in AFHB			
1. Create a program plan to perform monthly entries into the AFHB for at least 6 months after placing it into its PDMS condition. (SAR 7.2.4; TER 5-23)			
2. Ensure that both fuel pool structures remain intact (SAR 7.1.3.2)	C312-93-2062	9/15/93	
G. Physical Maintenance in other Buildings			
1. Ensure that the Control Room Ventilation Systems (i.e., Control Room HVAC and Cable Room HVAC) and the Service Building Ventilation System are maintained in an operational condition and will be operated as required. (SAR 7.2.6.8,9,10)	C312-93-2069	11/2/93	
2. Maintain the capability to process potentially contaminated liquids. (SAR 7.2.3.1; TER 5-14)	C312-93-2023	6/1/93	
H. Electrical Related			
1. In reactor containment, reactor building electric power circuits will be deenergized except those necessary for PDMS monitoring, inspection, and surveillance equipment and other PDMS support requirements. (SAR 7.1.1.4; Supp. 1, Item 17; TER 6-34 and 6-38)	C312-93-2023	6/1/93	
2. In the auxiliary building, the power to lighting, fire detectors, and sump level indication circuits will be energized and will remain operational. The auxiliary sump, auxiliary sump tank and associated level indication will also remain operational. (SAR 7.1.2.2; TER 6-37)	C312-93-2062	9/15/93	
3. In the fuel-handling building, low voltage circuits to lighting and fire detection will be energized. (SAR 7.1.3.2; TER 6-37)	C312-93-2062	9/15/93	

PDMS ENTRY REQUIREMENTS

Additional Requirements/Licensee Commitments	GPU Nuclear Letter Documenting Closure	Date	TAC # or IR # Signifying NRC Approval
4. In the Control and Service Buildings, verify that the electrical distribution will remain configured to power low voltage lighting loads and fire detectors. (SAR 7.1.7.2)	C312-93-2062	9/15/93	
5. Portions of the TMI-2 electrical distribution system will be operational and energized to provide power for the PDMS support systems and their associated controls and instrumentation. Power will be available for area lighting, receptacles, heating, and ventilation to support PDMS activities. (SAR 7.2.5.1.1; TER 6-37)	C312-93-2062	9/15/93	
6. Emergency lighting (8-hr portable emergency lights) is staged with emergency response crew equipment. (SAR 7.2.5.2.1; TER 6-37)	C312-93-2069	11/2/93	
7. Verify that exit signs are powered from the normal lighting system. (SAR 7.2.5.2.2)	C312-93-2069	11/2/93	
8. DC power during PDMS will be available. Loads have been consolidated where practicable to reduce the number of energized circuits. (SAR 7.2.5.1.3; TER 6-38)	C312-93-2069	11/2/93	
9. Deleted	N/A	N/A	N/A
I. Fire Protection			
1. Have procedures in place to ensure that the fire mains within the reactor building will be closed with valves drained to the extent reasonably achievable within 30 days following entry into PDMS to minimize the potential for introduction of water into the reactor vessel. (SAR 7.2.2.2i.; TER 6-2)	C312-93-2062	9/15/93	

PDMS ENTRY REQUIREMENTS

Additional Requirements/Licensee Commitments	GPU Nuclear Letter Documenting Closure	Date	TAC # or IR # Signifying NRC Approval
2. Deleted.	N/A	N/A	N/A
3. Ensure that either the TMI-2 control room or some other location is continuously manned with a fully qualified person or that remote monitoring capabilities are available in TMI-1 control room to identify the specific zone panel which indicates the location of the fire in the TMI-2 facility. Ensure that procedural control exists to delineate the location of the monitoring activity. (TER 6-29; SAR 7.2.2.2b.)	C312-93-2069	11/2/93	
4. Demonstrate that TMI-1 Operations has accepted responsibility for maintaining the fire service system in operable areas of the plant as required to support operations in the waste-handling and packaging facility, the respirator cleaning facility and the administration building. (TER 6-29)	C312-93-2069	11/2/93	
5. Deactivate deluge systems in the auxiliary building and the control building. (SAR 7.2.2.3; TER 6-29)	C312-93-2062	9/15/93	
6. Ensure that all Halon systems have been deactivated by disconnecting the cylinders and either emptying or removing them. (SAR 7.2.2.2d.)			
7. Verify that portable fire extinguishers are staged with emergency response crew equipment. (SAR 7.2.2.2e.)			
8. Verify that self-contained breathing apparatus are staged with emergency response crew equipment. (SAR 7.2.2.2e.)	C312-93-2069	11/2/93	

PDMS ENTRY REQUIREMENTS

Additional Requirements/Licensee Commitments	GPU Nuclear Letter Documenting Closure	Date	TAC # or IR # Signifying NRC Approval
9. Ensure that the fire detection system remains operational in the Air Intake Tunnel and the relay room. (SAR 7.2.2.2d.)	C312-93-2023	6/1/93	
10. Deleted	N/A	N/A	N/A
11. To the extent that fire protection is not required in work or storage areas, ensure isolation of the 12-inch fire service loop, which runs through the AFHB, the control building area and the turbine building (east and west). (SAR 7.2.2.2i.; TER 6-32)			
12. Ensure that the fire system line is cut and blanked off at the fuel-handling building, where the fire system line runs from the diesel generator building. (SAR 7.2.2.2i.; TER 6-32)	C312-93-2023	6/1/93	
13. Deactivate river water pump house. (SAR 6.1.10; TER 6-33)			
14. Deactivate the fire pump house. (SAR 6.1.10 and Supp. 1, Item 14; TER 6-33)			
15. Ensure that transient combustibles have been removed from inside the containment and the AFHB to the extent practicable. (SAR 7.2.2.2f.; TER 6-33) This includes most plant items installed after the accident. Fire loading must be less than a 1-hour loading of 80,000 BTU/square foot. (SAR Supp. 1, Item 17)			
16. Drain oil to the extent reasonably achievable from the main turbine, feedwater pump turbines, emergency feedwater pump turbine, main feedwater pumps, emergency feedwater pumps, condensate pumps, condensate booster pumps, and hydrogen seal oil unit. (SAR 7.2.2.2g.; TER 6-34)	C312-93-2062	9/15/93	

Additional Requirements/Licensee Commitments	GPU Nuclear Letter Documenting Closure	Date	TAC # or IR # Signifying NRC Approval
17. Taken as an aggregate, demonstrate that no more than 57 percent of the original total volume of reactor coolant pump lubricating oil remains in the upper and lower reservoirs of the four reactor coolant pump reservoirs. (SAR Supp. 1, Item 33; TER 6-34)	C312-93-2023	6/1/93	
18. Charcoal filters have been removed from all HVAC systems in TMI-2. (SAR 7.2.2.2h.; TER 6-34)	C312-93-2062	9/15/93	
19. Train and familiarize station fire brigade with the TMI-2 system configurations, plant layout and procedures for TMI-2. (SAR 7.2.2.2k.; TER 6-35)	C312-93-2069	11/2/93	
20. Procedure in place for reactivation of the deactivated portions of the fire protection system if necessary. (SAR 7.2.2.2j.; TER 6-29)			
21. Verify that the procedure for inspection of the fire loop drain valves during freezing weather is in place. (SAR 7.2.2.2i.; TER 6-32)			
22. Verify that the procedures and system are in place for testing of the operable portion of the fire detection and alarm system. (SAR 7.2.2.2b.; TER 6-34)	C312-93-2023	6/1/93	
23. Verify that procedures for manual suppression of fire by the fire brigade are provided as stated in the FPPE. (TER 6-35)	C312-93-2062	9/15/93	
J. Flood Protection			
1. Ensure that flood panels are provided for all entrances to the control building, and to the entrance of the auxiliary building (TER 6-36) Doors and entrances to the Control Building Area that are not flood-protected are either watertight or are provided with flood panels. All openings that are potential leak paths (i.e., ducts, pipes, conduits, cable trays) are sealed. (SAR 7.1.4)	C312-93-2023	6/1/93	

PDMS ENTRY REQUIREMENTS

Additional Requirements/Licensee Commitments	GPU Nuclear Letter Documenting Closure	Date	TAC # or IR # Signifying NRC Approval
2. Verify that the containment basement and auxiliary building sumps level indications will be maintained. (SAR 7.2.3.1.2)	C312-93-2023	6/1/93	
3. Verify that the auxiliary building sump pumps are maintained operational and placed in a manual control mode. (SAR 7.2.3.1.2)	C312-93-2023	6/1/93	
4. Verify that the Miscellaneous Waste Holdup Tank and the Auxiliary Building Sump Tank (ABST) have been isolated from the Radwaste Disposal Gas System and vented via HEPA filters to protect against airborne releases from these tanks. (SAR 7.2.3.1.2)	C312-93-2062	9/15/93	
5. Ensure that a flow path exists to drain down the reactor building basement floor. (SAR 7.2.3.1.2)	C312-93-2023	6/1/93	
6. Deleted	N/A	N/A	N/A
7. Deleted	N/A	N/A	N/A
8. Ensure that the active sumps have a high level alarm that annunciates in the control room and the PDMS Alarm Monitoring System. (SAR 7.2.3.2.2)	C312-93-2069	11/2/93	
K. Procedures and Programs			
1. Include a surveillance program under which a limited number of rodent carcasses will be analyzed for gamma-emitting isotopes as part of the non-routine Radiological Environmental Monitoring Program. (SAR Supplement 3, A.16)	C312-93-2023	6/1/93	

ENCLOSURE 2

CLOSEOUT DOCUMENTATION
PDMS Requirements and Commitments

Additional Requirements/Licensee Commitments	Closeout Documents[1]
B. Radiation Safety & Reduction of Potential for Releases	
1. Ship offsite or package and stage for shipment remaining radioactive waste from the major TMI decontamination activities. (SAR 1.1.2.1; TER xiv)	GPU Nuclear memorandum 4230-93-096, dated October 13, 1993.
C. Ventilation	
6. Ensure installation, actuation s[illegible]g and reoutine surveillance testi[illegible] the isolation valve between conta[illegible]nd HEPA filter in the reactor bu[illegible] breather (to automatically cl[illegible]on receipt of a containment pres[illegible] increase of 0.25 psi). (SAR 7.[illegible].1.2; TER 5-10, 5-11, and 6-24)	MMA 3824-92-0225; UWIs 4210-3824-92-104 and 4220-3824-92-J155; Surveillance Procedure 4210-SUR-3824.05
G. Physical Maintenance in other Buildings	
1. Ensure that the Control Room Vent[illegible]ation Systems (i.e., Control Room HVAC [illegible]nd Cable Room HVAC) and the Servi[illegible]uilding Ventilation System are main[illegible] in an operational condition and w[illegible] operated as required. (SAR [illegible].8,9,10)	PDMS Operational System Plans for the Control Building Heating and Ventilation System and the Service Building Heating and Ventilation System.
H. Electrical Related	
6. Emergency lighting (8-hr por[illegible]able emergency lights) is stated with emergency response crew equipment (SAR 7.2.5.2.1; TER 6-37)	Operating Procedures 1104-45L and 1104-45R; Operations Surveillance OPS-S152.
7. Verify that exit signs are powered from the normal lighting system. (SAR 7.2.5.2.2)	GPU Nuclear memorandum 5525-93-040, dated October 12, 1993; Operational System Plan for Normal and Emergency Lighting Systems.
8. DC power during PDMS will be available. Loads have been consolidated where practicable to reduce the number of energized circuits. (SAR 7.2.5.1.3; TER 6-38)	GPU Nuclear memorandum 5525-93-038, dated September 21, 1993; Drawings GAI 201-267 and 201-281.

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[1] UWI - Unit Work Instruction
MMA/B - Mini-mod category "A" or "B"

Additional Requirements/Licensee Commitments	Closeout Documents[1]
I. Fire Protection	
3. Ensure that either the TMI-2 control room or some other location is continuously manned with a fully qualified person or that remote monitoring capabilities are available in TMI-1 control room to identify the specific zone panel which indicates the location of the fire in the TMI-2 facility. Ensure that procedural control exists to delineate the location of the monitoring activity. (TER 6-29; SAR 7.2.2.2b.)	CPUNC Corporate Emergency Plan 1000-PLN-1300.01; Operating Procedure 1105-22; As-Built Modification Design Description for the TMI-2 PDMS Alarm Monitoring System.
4. Demonstrate that TMI-1 Operations has accepted responsibility for maintaining the fire service system in operable areas of the plant as required to support operations in the waste-handling and packaging facility, the respirator cleaning facility and the administration building. (TER 6-29)	MMA 3504-89-0178
8. Verify that self-contained breathing apparatus are staged with emergency response crew equipment. (SAR 7.2.2.2f.)	Operating Procedure 1104-45L
19. Train and familiarize station fire brigade with the TMI-2 system configurations, plant layout and procedures for TMI-2. (SAR 7.2.2.2m; TER 6-25)	Administrative Procedure 1038; TMI Fire Protection Training Program procedure, 6212-PGD-2680; Fire Brigade Training Content Records; Fire Brigade Eligibility Roster.
J. Flood Protection	
8. Ensure that the active sumps have a high level alarm that annunciates in the control room and the PDMS Alarm Monitoring System. (SAR 7.2.3.2.2)	As-Built Modification Design Description for the TMI-2 PDMS Alarm Monitoring System.