



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION I  
2100 RENAISSANCE BLVD., SUITE 100  
KING OF PRUSSIA, PA 19406-2713

June 22, 2021

Docket No. 05000320

License No. DPR-73

Mr. John Sauger  
President and Chief Nuclear Officer  
TMI-2 Solutions, LLC  
121 West Trade Street, Suite 2700  
Charlotte, NC 28202

SUBJECT: TMI-2 SOLUTIONS, LLC, THREE MILE ISLAND NUCLEAR STATION, UNIT 2 –  
NRC INSPECTION REPORT 05000320/2021003

Dear Mr. Sauger:

On June 3, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection of the Three Mile Island Nuclear Station Unit 2 (TMI-2). An on-site inspection was performed May 11, 2021. Additional inspection activities (in office reviews) were conducted remotely as a consequence of the COVID-19 public health emergency (PHE) during the inspection period. The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations, and the conditions of your license. The inspection consisted of plant walk-downs by the inspector, interviews with personnel, and a review of procedures and records. The results of the inspection were discussed with Mr. Gerry van Noordennen, Sr. Vice President, Energy Solutions, and Trevor Orth, Site Decommissioning Director, Exelon Generating Company (Exelon), and other members of Exelon management and staff on June 3, 2021, at the conclusion of the inspection and are described in the enclosed report. No findings of safety significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response, if any, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC document system (ADAMS), accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response, if any, should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Current NRC regulations and guidance are included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select Radioactive Waste; Decommissioning of Nuclear Facilities; then Regulations, Guidance and Communications. The current Enforcement Policy is included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select About NRC, Organizations & Functions; Office of Enforcement; Enforcement documents; then Enforcement Policy (Under 'Related Information'). You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-866-512-1800. The GPO is open from 8:00 a.m. to 5:30 p.m. EST, Monday through Friday (except Federal holidays).

J. Sauger

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No reply to this letter is required. Please contact Steve Hammann (610-337-5399) if you have any questions regarding this matter.

Sincerely,

Anthony Dimitriadis, Chief  
Decommissioning, ISFSI, and Reactor Health  
Physics Branch  
Division of Radiological Safety and Security

Enclosure: Inspection Report No. 05000320/2021003

cc w/encl: Distribution via ListServ

NRC INSPECTION REPORT NO. 05000320/2021003, TMI-2 SOLUTIONS, LLC, THREE MILE ISLAND NUCLEAR STATION, UNIT 2, MIDDLETOWN, PENNSYLVANIA DATED JUNE 22, 2021

DOCUMENT NAME: <https://usnrc.sharepoint.com/teams/Region-I-Decommissioning-Branch/Inspection Reports/Inspection Reports - Draft/RDPR-73 2021003.docx>

**SUNSI Review Complete:** SHammann

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NAME	SHammann/sh		A.Dimitriadis/ad					
DATE	06/10/2021		06/22/2021					

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U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

INSPECTION REPORT

Inspection No. 05000320/2021003

Docket No. 05000320

License No. DPR-73

Licensee: TMI-2 Solutions, LLC (TMI-2 Solutions)

Facility: Three Mile Island Nuclear Station, Unit 2 (TMI-2)

Address: Middletown, PA

Inspection Dates: May 11 – June 3, 2021

Inspectors: Steve Hammann  
Senior Health Physicist  
Decommissioning, ISFSI, and Reactor Health Physics Branch  
Division of Radiological Safety and Security

Approved By: Anthony Dimitriadis, Chief  
Decommissioning, ISFSI, and Reactor Health Physics Branch  
Division of Radiological Safety and Security

Enclosure

## **EXECUTIVE SUMMARY**

TMI-2 Solutions, LLC  
Three Mile Island Station, Unit 2 (TMI-2)  
NRC Inspection Report No. 05000320/2021003

An announced routine decommissioning inspection of TMI-2 was completed on June 3, 2021. An on-site inspection was performed May 11, 2021. Additional inspection activities were conducted remotely between May 11, 2021 and June 3, 2021 as a consequence of the COVID-19 public health emergency (PHE). The inspection included a review of radiological controls programs, maintenance, plant support activities, fire protection, management oversight, and the corrective action program (CAP) while in Post-Defueling Monitored Storage (PDMS) status. The inspection consisted of interviews with TMI-2 Solutions and Exelon personnel, a review of procedures and records, and plant walk-downs. There were no decommissioning activities conducted at TMI-2 since the last inspection in 2020. The NRC's program for overseeing the safe operation of a shut-down nuclear power reactor is described in Inspection Manual Chapter (IMC) 2561, "Decommissioning Power Reactor Inspection Program."

Based on the results of this inspection, no findings of safety significance were identified.

## **REPORT DETAILS**

### **1.0 Background**

In December 1993, TMI-2 received a possession-only license from the NRC to enter PDMS. Currently, TMI-2 is in long-term monitored storage. On December 18, 2020, the license for TMI-2 was transferred from GPU Nuclear, Inc. to TMI-2 Solutions. An agreement is in place between TMI-2 Solutions and Exelon regarding TMI-2. Under this agreement, Exelon provides all services, materials, and equipment required to maintain TMI-2 in PDMS status. Services provided by Exelon include maintenance, surveillance testing, and implementation of the activities required in the Safety Analysis Report (SAR), Technical Specification (TS), and the Quality Assurance Program. On March 17, 2021, TMI-2 Solutions submitted Revision 4 of the Post-Shutdown Decommissioning Activities Report (PSDAR) (ADAMS No. ML21084A229).

The NRC's program for overseeing the safe operation of a shut-down nuclear power reactor is described in IMC 2561.

### **2.0 Post-Defueling Monitored Storage Performance and Status Review**

- a. Inspection Scope [Inspection Procedures (IPs) 37801, 40801, 64704, 71801, 83750, 84750, 86750]

An announced routine announced safety inspection was conducted from May 11 – June 3, 2021 of TMI-2. The inspection consisted of interviews with TMI-2 Solutions and Exelon personnel, a review of procedures and records, and plant walk-downs. The inspector reviewed the PDMS program as outlined in the PDMS SAR, TS, and PSDAR. The inspection included a review of radiological programs, maintenance, plant support activities, fire protection, management oversight, and the CAP while in PDMS status. The inspector also assessed the material condition of TMI-2 facilities during plant tours of the auxiliary building, fuel handling building, turbine building, and the control building.

The inspector reviewed activities, components, and documentation associated with the following PDMS programs: occupational exposure, radioactive effluent control, and site radiological environmental monitoring program (REMP). The inspector reviewed the offsite dose calculation manual, the annual REMP report, the groundwater monitoring program, and the annual effluent release report, which included a summary of the radioactive waste management and transportation programs.

The inspector reviewed surveillances of containment isolation, unfiltered leak rate from containment, and containment air locks as required by the TS. The inspector reviewed documents and interviewed personnel associated with TMI-2 to determine if issues were being appropriately identified and corrected in accordance with the site's CAP.

b. Observations and Findings

The inspector confirmed that there were no design changes since the last inspection requiring 50.59 evaluations. The inspector confirmed that no dismantlement or decommissioning activities were performed since the previous inspection and confirmed that all required reporting submittals were completed in accordance with regulatory requirements. The inspector also verified that the maintenance and surveillance program for systems and components had been conducted in accordance with the established site procedures.

Additionally, the inspector reviewed the annual radiological effluent release and REMP reports and supporting analyses and determined that all calculated doses were well below regulatory dose criteria of 10 CFR 50, Appendix I. The inspector noted that there were no radioactive waste shipments from TMI-2 during calendar year 2020.

The inspector determined that issues were being identified and entered into the CAP in a timely manner and the issues were effectively screened, prioritized, and evaluated commensurate with their safety significance.

c. Conclusions

Based on the results of this inspection, no findings of safety significance were identified.

**3.0 Exit Meeting Summary**

On June 3, 2021, the inspector presented the inspection results to Mr. Gerry van Noordennen, Sr. Vice President, Regulatory Affairs, Energy Solutions, and Mr. Trevor Orth, Site Decommissioning Director, Exelon, and other members of Exelon management and staff. No proprietary information was retained by the inspector or documented in this report.

**PARTIAL LIST OF PERSONS CONTACTED**

Licensee

Gerry van Noordennen, Sr. Vice President  
K. Wilson, Manager, Nuclear Licensing  
R. Newmaster, Sr. Project Manager

Exelon

T. Orth, Site Decommissioning Director  
R. Holmes, Manager Site Radiation Protection  
C. Smith, Manager, Regulatory Affairs  
W. Price, PDMS Manager

State of PA

S. Acker, Director Nuclear Safety Division  
S. Martin, Nuclear Safety Specialist

**ITEMS OPEN, CLOSED, AND DISCUSSED**

None

**LIST OF DOCUMENTS REVIEWED**

2104-29, Rev. 11, TMI-2 Miscellaneous Liquid Radwaste Disposal in PDMS  
2104-1A, Rev. 11, Reactor Building Entry  
2104-45Q, Rev. 5, TMI-2 Fire Protection System  
2301-1, Rev. 23, PDMS Daily Checks  
2301.4.3, Rev. 6, TMI-2 Reactor Building PDMS Radiological Surveys  
2303-6.1, Rev. 8, TMI-2 Reactor Building Unfiltered Leak Rate Test  
2303-11.20A, Rev. 8, Operability Check of the TMI-2 Equipment Hatch Personnel Airlock Doors  
2303-11.20B, Rev. 8, Operability Check of the TMI-2 Ante Room Personnel Airlock Doors  
990-3017, Rev. 13, Three Mile Island Unit 2 Fire Protection Program Evaluation  
AR 04310564, 043211393, 04365042, 04366084, 04414421, 04421636  
Decommissioning Nuclear Safety Review Board Meeting Minutes, February 9, 2021  
ES-TMI-CR-2021-0001, 0004, 0005, 0006, 0008  
OP-2TM-2244-201, Rev. 1, Verification of TMI-2 Containment Isolation  
OP-2TM-2602-000, Rev 1, Unit 2 PDMS Alarm Monitoring System  
OP-TM-122-951, Rev. 1, Unit 2 Flood Protection Actions  
PDMS Monthly Update Report December 2020, January 2021, February 2021, March 2021  
PDMS Total Work Order Backlog, Open as of the End of March 2021  
Post-Defueling Monitored Storage Quality Assurance Plan for TMI Unit 2  
Post-Defueling Monitored Storage Safety Analysis Report, Update 13  
RWPs – TM-2-21-00201, 00203, 00204, 00208  
Survey # 2021-088204  
Three Mile Island 2020 Annual Radioactive Effluent Release Report  
Three Mile Island Nuclear Station Units 1 and 2, 2020 Annual Radiological Environmental  
Operating Report  
Work Order 04664360-01, U-2 Equipment Hatch Airlock Door Check  
Work Order 04664364-01, U-2 Personnel Hatch Airlock Door Check



**LIST OF DOCUMENTS REVIEWED (Cont'd)**

Work Order 04935228, U2 RB Unfiltered Leak Rate Test  
 Work Order 05089569, Unit-2 Containment Isolation Verification  
 Work Order 05149799-01, 2301-1 U2 PDMS Shift and Daily Checks – Monday, 5/10/21  
 Work Order 04919217, Inspect/Test Unit 2 DC Emergency Lighting  
 Work Order 04955841, Inspect/Test Unit 2 Emergency Egress Doors  
 Work Order 05032030-01, Unit 2 Inspect/Test Exit Signs  
 Work Order 05043436-01, Unit 2 Fire Detection Functional Test (Unit 2)

**LIST OF ACRONYMS USED**

CAP	Corrective Action Program
CFR	Code of Federal Regulations
Exelon	Exelon Generating Company
IMC	Inspection Manual Chapter
IP	Inspection Procedure
NRC	Nuclear Regulatory Commission
PDMS	Post-Defueling Monitored Storage
PSDAR	Post-Shutdown Decommissioning Activities Report
PHE	Public Health Emergency
REMP	Radiological Environmental Monitoring Program
SAR	Safety Analysis Report
TMI-2	Three Mile Island Station, Unit 2
TMI-2 Solutions	TMI-2 Solutions, LLC
TS	Technical Specifications