



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

May 23, 2018

Docket No. 05000320

License No. DPR-73

Mr. Gregory H. Halnon  
President & CNO, GPU Nuclear, Inc.,  
VP Nuclear Regulatory Affairs, FirstEnergy  
Services  
FirstEnergy Corporation  
Mail Stop: A-WAC-B1  
341 White Pond Drive  
Akron, OH 44320

**SUBJECT: GPU NUCLEAR, INC., THREE MILE ISLAND STATION, UNIT 2 – NRC  
INSPECTION REPORT 05000320/2018011**

Dear Mr. Halnon:

On March 26-29, 2018, the U.S. Nuclear Regulatory Commission (NRC) conducted an onsite inspection at the Three Mile Island Station Unit 2 (TMI-2). 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 observations by the inspectors, interviews with personnel, and a review of procedures and records. The results of the inspection were discussed with M. Casey, TMI-2 Project Manager, GPU Nuclear Inc., and E. Callan, Site Vice President, Exelon Generating Company (Exelon), and other members of Exelon management and staff on March 29, 2018, at the conclusion of the onsite 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 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 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).

G. Halnon

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No reply to this letter is required. Please contact Katherine Warner (610-337-5389) if you have any questions regarding this matter.

Sincerely,

*/RA/*

Raymond Powell, Chief  
Decommissioning, ISFSI, and Reactor Health  
Physics Branch  
Division of Nuclear Materials Safety

Enclosure: Inspection Report No. 05000320/2018011

cc w/encl: Distribution via ListServ

G. Halnon

2

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U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

## INSPECTION REPORT

Inspection No. 05000320/2018011

Docket No. 05000320

License No. DPR-73

Licensee: GPU Nuclear, Inc. (GPUN)

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

Address: 341 White Pond Drive  
Akron, OH 44320

Inspection Dates: March 26-29, 2018

Inspectors: Harry Anagnostopoulos  
Senior Health Physicist  
Decommissioning, ISFSI, and Reactor Health Physics Branch  
Division of Nuclear Materials Safety

Kimberly Conway  
Project Manager  
Reactor Decommissioning Branch  
Division of Decommissioning, Uranium Recovery, and Waste  
Programs

Katherine Warner  
Health Physicist  
Decommissioning, ISFSI, and Reactor Health Physics Branch  
Division of Nuclear Materials Safety

Approved By: Raymond Powell, Chief  
Decommissioning, ISFSI, and Reactor Health Physics Branch  
Division of Nuclear Materials Safety

Enclosure

**EXECUTIVE SUMMARY**

GPU Nuclear, Inc. (GPUN)  
Three Mile Island Station, Unit 2 (TMI-2)  
NRC Inspection Report No. 05000320/2018011

A routine announced safety inspection was conducted on March 26-29, 2018 at TMI-2. The inspectors reviewed TMI-2's Post-Defueling Monitored Storage (PDMS) activities related to the safe storage of radioactive material, including site operations, engineering, maintenance, plant support activities, management oversight, and corrective action program (CAP) implementation. The inspection consisted of observations by the inspectors, interviews with the FirstEnergy Corporation/GPUN (FirstEnergy/GPUN) and Exelon personnel, a review of procedures and records, and plant walk-downs. There are currently no ongoing decommissioning activities being conducted at TMI-2. 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**

GPUN retains the license for TMI-2 and maintains the facility. GPUN is a wholly-owned subsidiary of FirstEnergy. As part of the sale of TMI-2, GPUN entered into an agreement with AmerGen (now Exelon) to conduct services for 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 GPUN PDMS Quality Assurance (QA) Plan.

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. In June 2013, GPUN submitted to the NRC a Post-Shutdown Decommissioning Activities Report (PSDAR) (ADAMS No. ML13190A366) pursuant to 10 Code of Federal Regulations (CFR) 50.82(a)(4). GPUN submitted Revision 1 of their PSDAR in November 2013 (ADAMS No. ML13323A497) and Revision 2 in December 2015 (ML15338A222).

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) 36801, 37801, 40801, 62801, 64704, 71801, 83750, 84750, 86750]

A routine announced safety inspection was conducted on March 26-29, 2018 at TMI-2. The inspection consisted of observations by the inspectors, interviews with FirstEnergy/GPUN and Exelon personnel, a review of procedures and records, and plant walk-downs. The inspectors reviewed the PDMS program as outlined in the PDMS SAR, TS, and PSDAR. The inspectors reviewed PDMS activities related to the safe storage of radioactive material, including site operations, engineering, maintenance, plant support activities, management oversight, material control and accountability, and CAP implementation. The inspectors also assessed the material condition of TMI-2 facilities during plant tours of the reactor building, auxiliary building, radioactive waste building, and fuel handling building.

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

The inspectors reviewed QA audit documents and CAP reports associated with TMI-2 to determine if issues were being appropriately identified, assessed, and reviewed and that corrective actions were being appropriately implemented.

b. Observations and Findings

The inspectors confirmed that no design changes or plant modifications, as well as no dismantlement or decommissioning activities were performed since the previous inspection. The next reactor building survey will be in 2019. The inspectors confirmed that all required reporting submittals were completed in accordance with TS requirements. The inspectors verified that the maintenance and surveillance program for systems and components had been conducted in accordance with the TS requirements and established procedures. During plant walk-downs the inspectors did not observe any significant water intrusion into buildings and noted that the material condition of structures and components appeared unchanged since the previous inspection.

The annual radiological effluent and REMP reports and supporting analyses demonstrated that all calculated doses were well below regulatory dose criteria of 10 CFR 50, Appendix I. The inspectors noted that one radioactive waste shipment from TMI-2 was shipped offsite during calendar year 2017.

The inspectors determined that scheduled QA audits and self-assessments were conducted timely, and findings or issues identified by these reviews were entered into the station's CAP as Action Reports (AR). Based on the review of ARs, the inspectors noted that required corrective actions were being appropriately and timely implemented.

c. Conclusions

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

### **3.0 Exit Meeting Summary**

On March 29, 2018, the inspectors debriefed the inspection results to M. Casey, TMI-2 Project Manager, GPU Nuclear Inc., and E. Callan, Site Vice President, Exelon and other members of Exelon management and staff. During that discussion your staff requested to provide additional information for consideration. In-office review of the additional information continued by the NRC, and a telephonic exit meeting was conducted on May 15, 2018, with M. Casey, TMI-2 Project Manager, GPU Nuclear Inc., and E. Callan, Site Vice President, Exelon and other members of your staff. The inspectors confirmed that no proprietary information was retained by the inspectors or documented in this report.

**PARTIAL LIST OF PERSONS CONTACTED**

Licensee

J. Boyd, TMI-2 Consultant, FirstEnergy  
D. Brookhart, OCDM Chemist, Exelon  
E. Callan, Site Vice President, Exelon  
M. Casey, GPUN TMI-2 Project Manager, FirstEnergy  
M. Fitzwater, Regulatory Assurance, Exelon  
J. Goldman, Regulatory Assurance Manager, Exelon  
E. Hertkorn, PDMS Supervisor, Exelon Generation Company, LLC  
G. McCarty, Radiation Protection Manager, Exelon  
R. Myers, Fire Marshal, Exelon  
J. Shrum, Radiation Protection Supervisor, Exelon  
J. Sinopoli, Fire Protection Program Engineer, Exelon  
G. Wright, PDMS Manager, Work Manager, Exelon

**ITEMS OPEN, CLOSED, AND DISCUSSED**

None

**LIST OF DOCUMENTS REVIEWED**

ARs

04034986	04072921	0403032
04070262	04072962	04072947
04072958	04069518	04097965
04072952	04018629	04087083
04035877	04023509	04060047
04027955	04065562	04123534
02444987	04027138	04125083
04082433	04019448	
04072059	04072911	
04070624	04072530	
2301-4.7D, "TMI-2 Sampling and Analysis of the Reactor Building Breather System", Revision 10		
2303-11.20A, "Operability Check of the TMI-2 Equipment Hatch Personnel Airlock Doors", Revision 5		
2303-11.20B, "Operability Check of the TMI-2 Ante Room Personnel Airlock Doors", Revision 5		
2303-11.20A, "Operability Check of the TMI-2 Equipment Hatch Personnel Airlock Doors", Revision 6		
2303-11.20B, "Operability Check of the TMI-2 Ante Room Personnel Airlock Doors", Revision 6		
2303-11.20A, "Operability Check of the TMI-2 Equipment Hatch Personnel Airlock Doors", Revision 6A		
2303-11.20B, "Operability Check of the TMI-2 Ante Room Personnel Airlock Doors", Revision 6A		
990-3017, "Three Mile Island Unit No. 2 Fire Protection Program Evaluation", Revision 11		



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

AP-1038, "TMI – Unit 1 Administrative Procedure", Revision 84 (Administrative Controls – Fire Protection Program)  
Combined 2016 Annual Radioactive Effluent Release Report, dated April 28, 2017  
NOSA-TMI-17-12, TMI-2 Post Defueling Monitored Storage (PDMS) Audit Report, dated November 17, 2017  
Nuclear Electric Insurance Limited Property Loss Control Comprehensive Evaluation Report, dated March 2017  
OP-AA-201-001, "Fire Marshal Tours", Revision 6  
Post-Defueling Monitored Storage Safety Analysis Report, dated August 24, 2017  
Post-Shutdown Decommissioning Activities Report, Revision 2, dated December 2015  
Radiation Work Permit TM-2-18-00201, Revision 01  
Radiation Work Permit TM-2-18-00202, Revision 01  
Radiation Work Permit TM-2-18-00203, Revision 00  
Radiation Work Permit TM-2-18-00204, Revision 00  
Radiation Work Permit TM-2-18-00205, Revision 00  
Radiation Work Permit TM-2-18-00209, Revision 00  
RP-AA-401, Operational ALARA Planning and Controls, Revision 22  
RS-17-060-II, Uniform Low-Level Radioactive Waste Manifest, dated July 6, 2017  
RS-17-165-II, Uniform Low-Level Radioactive Waste Manifest, dated December 4, 2017  
Survey TMI-M-20180119-6  
Survey TMI-M-20180126-5  
Survey TMI-M-20180126-8  
Survey TMI-M-20180126-11  
Technical Specifications for PDMS - Amendment 63 for License 50-320 issued May 1, 2009  
TMI-17-040, 2016 Annual Radiological Environmental Operating Report, dated April 28, 2017  
TMI-C-17-04-28, TMI-2 Post-Defueling Monitored Storage (PDMS) QA Activity Audit, dated April 2017  
TMI-17-S-0053  
TMI-17-S-0030  
TMI-17-S-0013  
TMI-15-S-0147  
TMI-17-S-0101  
TMI-17-S-0097  
TMI-17-S-0042  
TMI-17-S-0117  
Work Orders  
R2244705 R2231910 R2209213  
R2242156 R2240495 R2235926  
R2257601 R2088105 R2209213  
R2231909 R2235927  
R2242561 R2088104

**LIST OF ACRONYMS USED**

AR	Action Report
CAP	Corrective Action Program
CFR	Code of Federal Regulations
Exelon	Exelon Generating Company
FirstEnergy	FirstEnergy Corp.
GPUN	GPU Nuclear, Inc.
IMC	Inspection Manual Chapter
IP	Inspection Procedure
NRC	Nuclear Regulatory Commission
PDMS	Post-Defueling Monitored Storage
PSDAR	Post-Shutdown Decommissioning Activities Report
QA	Quality Assurance
REMP	Radiological Environmental Monitoring Program
SAR	Safety Analysis Report
TMI-2	Three Mile Island Station, Unit 2
TS	Technical Specifications