



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

August 11, 2008

Joseph J. Hagan
President and Chief Nuclear Officer
GPU Nuclear, Inc.
76 South Main Street
Akron, OH 44308

SUBJECT: THREE MILE ISLAND STATION UNIT 2 – SAFSTOR INSPECTION REPORT
05000320/2008008

Dear Mr. Hagan:

On July 3, 2008, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Three Mile Island Station, Unit 2. The enclosed inspection report documents the inspection results, which were discussed on June 5, 2008, with Mr. D. Petro and other members of your staff and the Exelon/AmerGen staff. In addition, on July 3, 2008, Mr. Miller and Mr. Curry of the AmerGen staff were contacted via telephone and a final exit was conducted.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations, and with the conditions of your license. The inspector reviewed selected procedures and records, observed activities, and interviewed personnel.

On August 1, 2008, a report of this inspection was issued (ML082140299), however, the report was incorrectly directed to the Unit 1 distribution list due to an administrative error. This report replaces the report issued on August 1, 2008.

In accordance with 10 CFR Part 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS).

ADAMS is accessible from the NRC Web Site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Raymond K. Lorson, Chief
Decommissioning Branch
Division of Nuclear Materials Safety

Enclosure: Inspection Report No. 05000320/2008008
w/Attachment: Supplemental Information

cc w/encl:

J. Rinckel, Vice President, GPU Nuclear Oversight
D. Petro, Responsible Engineer, TMI-2, GPU Nuclear, Inc.
G. Gillespie, Responsible Engineer, TMI-2, GPU Nuclear, Inc.

cc:

J. Rinckel, Vice President, GPU Nuclear Oversight
D. Petro, Responsible Engineer, TMI-2, GPU Nuclear, Inc.
G. Gillespie, Responsible Engineer, TMI-2, GPU Nuclear, Inc.
C. Pardee, Chief Nuclear Officer (CNO) and Senior Vice President, Exelon
C. Crane, Executive Vice President and Chief Operating Officer, Exelon
W. Noll, Site Vice President - TMI Unit 1, AmerGen
T. Dougherty, Plant Manager - TMI, Unit 1, AmerGen
Manager, Regulatory Assurance - TMI, Unit 1, AmerGen
Senior Vice President - Nuclear Services, AmerGen
Senior Vice President - Mid-Atlantic Operations, AmerGen
Senior Vice President - Operations Support, AmerGen
Vice President - Licensing and Regulatory Affairs, AmerGen
Director, Licensing - AmerGen
Manager, Licensing - TMI, AmerGen
J. Fewell, Esq., Associate General Counsel, Exelon
Correspondence Control Desk - AmerGen
Chairman, Board of County Commissioners of Dauphin County
Chairman, Board of Supervisors of Londonderry Township
R. Janati, Director, Bureau of Radiation Protection, State of PA
D. Allard, Director, PA DEP
J. Johnsrud, National Energy Committee
E. Epstein, TMI-Alert (TMIA)
J. Powers, Director, PA Office of Homeland Security
R. French, Director, PA Emergency Management Agency

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(the Public Electronic Reading Room).

Sincerely,
/RA/
Raymond K. Lorson, Chief
Decommissioning Branch
Division of Nuclear Materials Safety

Docket No. 50-320
License No. DPR-73

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-320

License No.: DPR-73

Report No.: 05000320/2008008

Licensee: GPU Nuclear, Inc.

Facility: Three Mile Island Station, Unit 2

Location: P. O Box 480
Middletown, PA 17057-0191

Dates: June 3 – 5, 2008 (on-site)
June 27 – July 3, 2008 (in-office)

Inspectors: Laurie Kauffman, Health Physicist
Division of Nuclear Materials Safety

Kristina Banovac, Project Manager
Decommissioning and Uranium Recovery Licensing Directorate
Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental Management
Programs

Approved by: Raymond Lorson, Chief
Decommissioning Branch
Division of Nuclear Materials Safety

SUMMARY OF FINDINGS

IR 05000320/2008-008; 06/03/2008 – 07/03/2008; GPU Nuclear, Inc.; Three Mile Island, Unit 2;
Other Activities – SAFSTOR Inspection

The inspection was performed by one region-based inspector and one project manager from headquarters. The NRC's program for overseeing the safe operation of a shut-down nuclear power reactor is described in Manual Chapter (MC) 2561, "Decommissioning Power Reactor Inspection Program."

A. NRC-Identified and Self-Revealing Findings

None

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status

The Three Mile Island Station, Unit 2 (TMI-2) has been permanently shutdown since March 1979 and has been in Post-Defueling Monitored Storage (PDMS) since December 1993. Final decommissioning is expected to begin following the permanent shutdown of Three Mile Island, Unit 1.

4. OTHER ACTIVITIES

4OA5 Other Activities

.1 Corrective Action Program (40801)

a. Inspection Scope

The inspector reviewed the licensee's program for identifying, resolving, and preventing issues that could impact safety or the quality of decommissioning activities. The inspector reviewed the procedures describing the corrective action program (CAP) and reviewed two assignment reports (ARs). The ARs were reviewed to evaluate the licensee's effectiveness at identifying issues that could impact the safe storage of radioactive material and implementing appropriate corrective actions. The inspector discussed with cognizant personnel the tracking, current status, and closure of the selected ARs.

b. Findings

No findings of significance were identified.

The inspector noted that the priority for addressing ARs and implementing corrective actions was adequate and based upon safety significance. The threshold for identifying issues entered into the CAP was adequate. Responsible personnel were knowledgeable of the status of corrective actions and established measures to monitor completion of corrective actions. No adverse trends or safety concerns were identified.

.2 Maintenance and Surveillance (62801)

a. Inspection Scope

The inspector reviewed the licensee's preventive maintenance (PM) and surveillance test program for structures, systems, and components (SSCs) important for maintaining the safe storage of radioactive material. The inspector reviewed selected surveillance tests (STs) including the high efficiency particulate air (HEPA) filter Di-Octyl Phthalate (DOP) tests for the reactor building breather, reactor building purge, fuel handling building, auxiliary building, and service building; the ventilation heater; the containment isolation airlocks; and the quarterly containment isolation valves. The inspector toured plant areas and discussed aspects of the STs with individuals cognizant of the performance of the above systems and components.

b. Findings

No findings of significance were identified.

The inspector verified that the maintenance for selected systems and components had been conducted in accordance with established procedures and met the requirements of the associated technical specifications (TS). The inspector noted that the individuals performing the annual STs were knowledgeable of motors, pumps, valves, HEPA filter DOP tests, and implemented good industrial and radiological safety practices during the ST.

.3 Occupational Radiation Safety and Effluent Monitoring (83750 and 84750)

a. Inspection Scope

The inspector reviewed implementation of the occupational exposure control program associated with the TMI-2 PDMS activities and the implementation of primary containment isolation requirements, TS 3/4.1, *Containment Systems*. The inspection consisted of interviews with responsible individuals, and review of the as low as reasonably achievable (ALARA) plan, and of the post-job review for the reactor building entry. The inspector reviewed the controls for high radiation areas (HRA), locked high radiation areas (LHRA) and very high radiation areas (VHRA), and conducted field observations of radiological postings and signs, and the annual reactor building entry ST. The reactor building ST included activities such as: conducting radiological surveys including obtaining grab air samples, smears and area dose rates at locations identified in the radiological survey procedure. The ST also included performing a visual inspection to assess the material condition of the containment interior, including checking for rust, cracks, and water intrusion. The inspector observed the licensee implement access controls to the VHRA.

The inspector evaluated aspects of the radioactive effluent monitoring program. The inspector reviewed the radioactive liquid and gaseous effluent release permits and data from June 2007 through April 2008. The inspector also reviewed the sampling and the analysis procedures.

b. Findings

No findings of significance were identified.

The inspector noted that the radiation workers were knowledgeable of the tasks and demonstrated a questioning attitude during the job. The radiation protection team maintained control of the locked high radiation area key in accordance with the procedure. The associated radiation work permit was commensurate with the radiological significance of the task and included the appropriate exposure control measures for the safe implementation of the activity.

The LHRAs and VHRAs were appropriately posted for dose rates and radioactive material. Radiological postings were readily visible, well-maintained, and reflected radiological conditions. The ALARA report contained a summary of the estimated doses, a comparison of the estimated doses to the actual doses, and a detailed evaluation of the entry.

The licensee conducted the effluent control program according to the Offsite Dose Calculation Manual and the implementing procedures.

4OA6 Meetings, including Exit

Exit Meeting Summary

On June 5, 2008, the inspector presented the preliminary inspection results to Mr. Petro, and members of the GPU Nuclear, Inc. and the AmerGen staff. The inspector confirmed that proprietary information was not provided or examined during the inspection. In addition, on July 3, 2008, the licensee was contacted via telephone and a final summary exit was conducted.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

GPU Nuclear, Inc. (Three Mile Island, Unit 2) and Exelon/AmerGen (Three Mile Island, Unit 1) Personnel

- D. Atherholt, Regulatory Assurance Manager, Exelon
- E. A. Curry, PDMS Supervisor, AmerGen
- G. Darling, Regulatory Assurance Specialist, AmerGen
- D. Divittore, Radiation Protection Manager, Exelon
- D. Ethridge, Radiation Protection Manager (Acting), AmerGen
- G. Gillespie, TMI-2 Engineer, GPU Nuclear, Inc.
- D. Knaby, Radiation Engineer, Exelon
- P. Handy, Radiation Engineer, Exelon
- R. McDonald, Radiation Protection Supervisor, Exelon
- D. Petro, Responsible Engineer, TMI-2, GPU Nuclear, Inc.
- D. Smith, PDMS Manager, AmerGen
- R. Taylor, Radiation Engineer, Exelon
- L. Weber, Environmental Chemist, Exelon
- L. Weir, Manager, Nuclear Oversight, Exelon
- H. Yeldell, Work Management Director, Exelon

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

None

LIST OF DOCUMENTS REVIEWED

Post-Defueling Monitored Storage Safety Analysis Report (PDMS SAR) for TMI-2, Update 7, dated, August 22, 2007.

GPU Nuclear Post-Defueling Monitored Storage Quality Assurance Plan (PDMS QA Plan) for Three Mile Island Unit 2, Revision 11, dated May 15, 2008

Possession Only License No. DPR-73 License Amendment No. 62 and Technical Specifications

Action Reports (ARs)

AR Number 00688884

AR Number 00675139

Work Orders

WO R2088079, Unit 2 Reactor Building Entry, May 31, 2007
 WO R2121543, Unit 2 Reactor Building Entry, June 3, 2008
 WO 2114837 and WO 212708, Unit 2 Vent Monthly Composite
 WO R2113692, Unit 2 Vent Weekly Composite
 WO R2116589, Auxiliary and Fuel Handling Building Surveys 2008
 WO R2104191, Reactor Building Breather Sample Filters
 WO R2087558, Reactor Building (Containment) Radiological Surveys

Procedures

2104-1A, Reactor Building Entry, Revision 005
 2104-1B, TMI-2 Reactor Building Purge, Revision 012
 2104-1C, TMI-2 Reactor Building Breather Shutdown, Revision 007
 2104-1F, Reactor Building Air Sampling Operations, Revision 007
 2104-40C, TMI-2 Turbine Building Sump Transfer to IWTS, Revision 1
 2104-40D, TMI-2 Control Building Area Sump Transfer to IWTS, Revision 0
 2104-40E, TMI-2 Control and Service Building Sump Transfer to IWTS, Revision 0
 2104-40F, TMI-2 Tendon Access Gallery Sump Transfer to IWTS, Revision 2
 2104-40G, TMI-2 Air Intake Tunnel Sump Transfer to IWTS, Revision 1
 2107-2, Operation of TMI-2 Reactor Building Lighting, Revision 005
 2301-4.2 Auxiliary and Fuel Handling Building PDMS Radiological Surveys, Revision 8
 2301-4.3 TMI-2 Reactor Building (Containment) PDMS Radiological Surveys, Revision 005
 2301-4.7, TMI-2 Vent Sampling, Revision 18
 2301-4.7D, Sampling and Analysis of the Reactor Building Breather System, Revision 007
 2301-9.10, TMI-2 Containment Isolation Verification, Revision 13
 2303-5.10, Reactor Building Purge Exhaust Filter Ops Check, Revision 006
 2303-11.25, Containment Isolation Air Locks, Revision 006
 6610-ADM-4250.14, Releasing Radioactive Gaseous Effluents – TMI-2 Reactor Building Purges, Revision 004
 2OPS-S021, PDMS – Ventilation Heater Verification, Revision 1
 MA-AA-796-024, Scaffold Installation, Inspection and Removal, Revision 007
 RP-AA-460, Controls for High and Very High Radiation Areas, Revision 11
 RP-AA-401, ALARA Plan, Revision 9
 RP-TM-220-1002, Special Bioassay Program for Transuranic Areas of TMI-2, Revision 1

Documents

Unit 2 Vent Sample Analysis for Weekly Composites December 2007 to May 2008
 Unit 2 Vent Sample Analysis for Monthly Composites July 2007 to January 2008
 Containment Isolation Verifications July 2007 to June 2008
 Auxiliary and Fuel Handling Building Surveys
 Reactor Building Breather Sample Filters
 Reactor Building (Containment) Radiological Surveys
 Turbine Building Sump Transfer to IWTS (Release Permit WO710028)
 Control and Service Building Sump Transfer to IWTS (Release Permit WO803005)
 Tendon Access Gallery Sump Transfer to IWTS (Release Permit WO804009)
 Air Intake Tunnel Sump Transfer to IWTS (Release Permit WO804008)
 Reactor Building Breather HEPA DOP test (WO R2071872)

Reactor Building Purge HEPA DOP test (WO R2074772)
Fuel Handling Building HEPA DOP test (WO R2071842)
Auxiliary Building HEPA DOP test (WO R2078493)
Soiled Exhaust HEPA DOP test (WO R2105902)

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ALARA	as low as reasonably achievable
AR	action report
CFR	Code of Federal Regulations
CAP	corrective action program
DOP	Di-Octyl Phthalate
HEPA	high efficiency particulate air
HRA	high radiation area
LHRA	locked high radiation area
MC	manual chapter
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records System
PDMS	Post-Defueling Monitored Storage
PM	preventive maintenance
RCA	radiologically controlled area
SSC	structure, systems and components
ST	surveillance test
TMI-2	Three Mile Island Station, Unit 2
TS	technical specification
VHRA	very high radiation area
WO	work order