

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-289/94-18 and 50-320/94-05
Docket Nos. 50-289 and 50-320
License Nos. DPR-50 and DPR-73
Licensee: GPU Nuclear Corporation
P. O. Box 480
Middletown, Pennsylvania 17057-0191
Facility Name: Three Mile Island Nuclear Station, Units 1 and 2
Inspection At: Middletown, Pennsylvania
Inspection Conducted: August 8 - 17, 1994

Inspectors: Stephen W. Holmes
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8 SEP 94
Date

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09/07/94
Date

Approved by: Jason C. Jang
Jason C. Jang, Chief, ERPS, FRSSB, DRSS

9-8-94
Date

Areas Inspected: Radiological environmental monitoring program (REMP) including: management controls, Quality Assurance audits, meteorological monitoring program, and the quality control program for analytical measurements.

Results: Implementation of the radiological environmental monitoring program continued to be excellent. Enhancements of the environmental laboratory including quality assurance and quality control were noteworthy. No safety concerns or violations of regulatory requirements were identified.

DETAILS

1.0 Individuals Contacted

1.1 Licensee Personnel

- * M. Benson, Systems Engineer
- * T. Bradley, Senior Environmental Scientist
- * T. Broughton, V.P. & Director TMI
- B. DeArmond, Instrument Technician
- * R. DeSantis, Licensing Engineer
- * P. Donnachie, Manager, Environmental Radioactivity Laboratory
- * D. Ethridge, Manager, Radiological Engineering
- * J. Hayden, Electrical Engineer
- * D. Jenkins, Senior Mechanical Engineer
- * E. Lawrence, Assistant Senior Engineer
- * W. Marshall, Senior Nuclear Engineer
- * A. Miller, Licensing Engineer
- * B. Parfitt, Senior Radcon Engineer
- * W. Ressler, Manager, Environmental Control
- * J. Schork, Licensing Engineer
- * J. Wetmore, Licensing Manager
- * S. Williams, Senior Radiological Engineer

1.2 NRC Personnel

- * M. Evans, Senior Resident Inspector
- * T. Walker, Project Engineer

* Denotes those present at the exit interview on August 17, 1994. Other licensee employees were contacted and interviewed during this inspection.

2.0 Purpose

The purpose of this inspection was to review the licensee's ability to implement the Radiological Environmental Monitoring Program (REMP) and maintain the Meteorological Monitoring Program (MMP) according to Technical Specifications (TS) and Offsite Dose Calculation Manual (ODCM) requirements.

3.0 Management Controls

3.1 Organizational Changes/Responsibilities

The inspector reviewed the licensee's organization and administration of the REMP and MMP and discussed with the licensee any changes made to the programs since the last inspection. There were no significant changes since the previous inspection.

3.2 Quality Assurance (QA) Audits

The inspector reviewed two GPUN QA Audit Reports (Audit Numbers, S-TMI-92-15 and S-TMI-93-13) as part of the evaluation of the implementation of the TS requirements. The QA audits covered the REMP, the MMP, and administrative and non-radiological environmental requirements. The audits were performed by technical specialists and were of sufficient depth to assess the above programs. The 1992 audit identified one administrative finding and recommendation, both pertaining to the radiological programs. The 1993 audit noted that these items had been closed out. One administrative finding was also identified by the 1993 audit.

3.3 Annual Radiological Environmental Operating Report

The inspector reviewed the annual radiological environmental operating reports for 1992 and 1993, as well as the available analytical data through the second quarter of 1994 and the results for the REMP Land Use Census. The reports provided a comprehensive summary of the analytical results of the REMP around the TMI site and met TS reporting requirements. Records of the analytical results indicated that samples were collected as required and the lower limits of detection specified in the TS were met. Sampling and analytical exceptions were documented with appropriate explanations. The inspector determined that these exceptions had no impact on the licensee's ability to implement the REMP and MMP in accordance with the TS and the ODCM.

4.0 Radiological Environmental Monitoring Program (REMP)

4.1 Direct observations

The inspector examined selected environmental sampling stations to determine if they conformed to the requirements of the TS, the ODCM, and appropriate procedures. The sampling stations included samplers for airborne iodines, tritium, and particulates, rain water collection, and thermoluminescent dosimeters (TLD). The inspector also examined two licensee's vegetable gardens, several milk sampling stations, and a composite river water sampling station. All selected sampling equipment was operable at the time of the inspection. Vegetable and milk samples appeared to be available at the locations visited. TLD stations and rain water collection samplers were in place at the designated locations. The inspector observed the weekly collection and exchange of filters (for air iodines and particulates) including the required equipment operational checks at several monitoring stations.

Sample collection and operational checks were performed according to the appropriate procedures and at the frequency delineated in the ODCM and pertinent procedures.

The inspector interviewed I&C personnel who were responsible for maintenance and repair of the sampling equipment, observed work in progress on one of the air samplers, and reviewed records and logs pertaining to the above sampling equipment. The I&C staff were very knowledgeable regarding the maintenance of the sampling station equipment and were very persistent in ensuring timely exchange or repair of failed equipment.

4.2 Implementation of the REMP

The inspector reviewed the following procedures as part of the examination of the implementation of the REMP as described in the TS.

- 6510-SUR-4523.02, Radiological Environmental Monitoring Program (REMP) Surveillance Procedure
- 6510-PLN-4520.01, Radiological Environmental Monitoring Program-Plan
- 6615-IMP-4522.01, REMP Sample Collection Procedure: Milk
- 6615-IMP-4522.09, Land Use Census

The above procedures provided appropriate guidance for sample collection, preparation, and analysis according to current industry practices. The inspector reviewed selected calibration results of the environmental air samplers. The calibration results were within the licensee's acceptance criteria.

5.0 Environmental Radioactivity Laboratory (ERL)

5.1 Responsibility

The inspector discussed with the ERL staff the responsibility to analyze environmental samples. The ERL has the responsibility to analyze all environmental samples from TMI, Oyster Creek, and Saxton except I-131 in milk and all Sr-89/90 analyses. The analysis of I-131 and Sr-89/90 are performed by the contractor laboratory, Teledyne Isotopes. The licensee, however, will perform these analyses at the ERL in the future.

5.2 Quality Assurance and Quality Control for Analytical Measurements

The inspector toured the ERL, interviewed staff, and reviewed the licensee's program for Quality Assurance (QA) and Quality Control (QC) to determine whether the licensee had adequate controls with respect to sampling, analyzing samples, and evaluating data for implementing the REMP.

The inspector reviewed QC data of EPA cross-checks, duplicates, spikes, interlaboratory comparison samples. The licensee's results were in excellent agreement with the EPA. The licensee aggressively investigated and identified any discrepancies and had made appropriate corrections. The inspector also reviewed QC charts and trending data. These reviewed results were within the licensee's acceptance criteria.

Based on the above reviews and discussions with the licensee, the inspector determined that the licensee continued to implement very good QA/QC programs.

6.0 Meteorological Monitoring Program

The inspector reviewed the licensee's most recent calibration results of the meteorological monitoring instrumentation and replacement/repairs of a wind speed transmitter, wind cups, a delta temperature processor, a wind direction and wind speed recorder, to determine whether the equipment was operable, calibrated, and maintained as required. The calibrations had been performed as scheduled and the results were within the licensee's acceptance criteria. The repairs to the equipment were well documented and included the initial factory calibration.

Based on the above review, the inspector determined that the licensee implemented and maintained an excellent Meteorological Monitoring Program.

7.0 Exit Interview

The inspector met with the licensee representatives denoted in Section 1.1 of this inspection report at the conclusion of the inspection on August 17, 1994. The inspector summarized the purpose, scope, and findings of the inspection. The licensee acknowledged the inspection findings.