

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-220/91-05
50-410/91-05

Docket Nos. 50-220
50-410

License Nos. DPR-63
NPF-69

Licensee: Niagra Mohawk Power Corporation
301 Plainfield Road
Syracuse, New York 13212

Facility Name: Nine Mile Point, Units 1&2

Inspection At: Scriba, New York

Inspection Conducted: February 11-15, 1991

Inspectors: Laurie Peluso 3/6/91
L. Peluso, Radiation Specialist, Effluents
Radiation Protection Section (ERPS) date

J. Jang for 3/7/91
J. Jang, Senior Radiation Specialist, ERPS date

Approved By: R. B. Botes 3-7-91
R. Botes, Chief, ERPS, Facilities Radiological
Safety and Safeguards Branch, Division of
Radiation Safety and Safeguards date

Inspection Summary: Inspection on February 11-15, 1991 (Combined Inspection Report Nos. 50-220/91-05; 50-410/91-05)

Areas Inspected: Routine, announced inspection of the radioactive liquid and gaseous effluents monitoring and radiological environmental monitoring programs including: management controls, audits, quality assurance, and implementation of the above programs.

Results: Within the scope of this inspection, no violations were identified. The licensee was implementing an excellent radiological environmental monitoring program. With regard to the effluent control program, the recent management commitment and initiatives to improve the operability of liquid and gaseous effluent monitors were noteworthy.



DETAILS

1.0 Individuals Contacted

1.1 Licensee Personnel

- *W. Allen, MATS Radiation Assessment Manager
- J. Blasiak, Chemistry Manager, Unit 2
- J. Burton, Supervisor, Quality Assurance Audits
- *M. Carson, Regulatory Compliance
- *J. Conway, Manager, Technical Support, Unit 2
- *G. Corell, Manager, Chemistry, Unit 1
- M. Cummins, I&C Supervisor, Unit 2
- *K. Dahlberg, Plant Manager, Unit 1
- *H. Flanagan, Supervisor, Environmental Protection
- *T. Galletta, Environmental Protection Coordinator-Meteorological
- T. Kurtz, Supervisor, Chemistry, Unit 2
- B. Langille, Radiological Engineering Supervisor, Unit 2
- *E. Leach, Sr. General Specialist-Chemistry
- *M. McCormick, Plant Manager, Unit 2
- *J. Pavel, Licensing Engineering
- *J. Ryan, Site Engineering
- *C. Senska, Supervisor Chemistry, Unit 1
- *R. Smith, Manager, Training
- *P. Swafford, Radiation Protection Manager, Unit 2
- *E. Thomas, Associate Health Physicist
- *K. Thomas, Supervisor, Site Licensing
- *B. Thomson, Radiation Protection Manager, Unit 1
- *D. White, Site Licensing
- *C. Widay, Supervisor, QA Surveillance
- *S. Wilczek, Jr., Vice President, Nuclear Support
- *B. Zacharek, Environmental Protection Coordinator-Radiological

1.2 New York Power Authority (NYPA)

B. Gorman, Environmental Supervisor

1.3 NRC Personnel

- *W. Cook, Senior Resident Inspector
- *J. Linville, Chief, Projects Branch No.1
- *R. Temps, Resident Inspector

*Denotes those present at the exit interview on February 15, 1991. Other licensee employees were contacted and interviewed during this inspection.



2.0 Purpose

The purpose of this routine inspection was to review the licensee's programs in the following areas.

- o The licensee's ability to conduct the Radiological Environmental Monitoring Program (REMP) and the Meteorological Monitoring Program.
- o The licensee's ability to implement liquid and gaseous radioactive effluent control programs during normal and emergency operations.

3.0 Audits

The inspector reviewed the following licensee's QA audit reports to determine the scope and depth of the licensee's self-assessment of the implementation of the REMP and radioactive effluent control programs.

- o QA/SRAB Audit 90016 RG/IN, "Radiological and Chemistry Controls", November 26-December 17, 1990
- o QA/SRAB Audit 89023 RG/IN, "Chemistry and Radiation Management", January 11-25, 1990
- o 1989 SRAB Audit K, "Offsite Dose Calculation Manual (ODCM)"

These audits were conducted by the licensee's Quality Assurance Department in the areas of REMP, ODCM, and radioactive liquid and gaseous effluent control programs. All audits appeared to cover the stated objectives and to be of excellent technical depth to assess the licensee's radioactive effluent control programs and the REMP. There were no audit findings but there were 27 observations (recommendations), none of which had any safety significance. The appropriate department responded to these observations in a timely manner. No violations were identified.

4.0 Radiological Environmental Monitoring Program

4.1 Organizational Changes

The inspector reviewed the licensee's organization for the management of the REMP and discussed any changes made since the last inspection of this area. The inspector determined that there were no significant changes in the REMP since the inspection conducted on December 11-15, 1989.



4.2 Direct Observations

The inspector examined selected environmental sampling stations. These stations included all the air particulate and iodine monitoring stations, a milk sampling location and a number of thermoluminescent dosimetry (TLD) stations for direct ambient radiation measurements. All the air monitoring equipment was operable and was in calibration at the time of the inspection. TLDs were placed at their designated locations, and the milk sampling station was also at the location designated by the Offsite Dose Calculation Manual.

4.3 Review of Annual Report

The inspector reviewed the Annual Radiological Environmental Report for 1989 as well as the available 1990 analytical data for the REMP. The report provided a comprehensive summary of the analytical results of the REMP around the Nine Mile Point and FitzPatrick site and met Technical Specification requirements. Records of the analytical results for 1990 indicated that all samples were taken as required and the lower limits of detection (LLDs) specified in the licensee's Technical Specifications were met. No anomalous data were noted.

4.4 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 Technical Specifications.

- o S-ENVSP-4 1989 "Environmental Air Station Inspection and Sample Collection"
- o S-ENVSP-5 1988 "Analysis of Environmental Samples"
- o S-ENVSP-7 1987 "Calibration of Environmental Monitors"

The above procedures included requirements for sampling techniques for various environmental sample media, sampling frequency, maintenance and calibration records of air samplers, and the land use census. Based on the above reviews and discussions with the licensee's representatives, the inspector determined that the licensee implemented the REMP effectively.

The Nine Mile Point station conducts the REMP program in cooperation with the New York Power Authority's (NYPA) James A. FitzPatrick (JAF) Generating Station. The environmental samples collected by the licensee and the contractor, Ecological Analysts Science and Technology were sent to JAF Environmental Radiation Laboratory (JAF-ERL) for analyses. The TLDs and milk samples for strontium 89/90 analyses were sent to Teledyne



Isotopes for analyses. The licensee stated however, that JAF-ERL will assume responsibility for analyzing the environmental TLDs in the near future.

The inspector toured the JAF-ERL where the environmental samples were analyzed. The laboratory was equipped with five germanium counting systems, two low-level alpha/beta counters and a liquid scintillation counter. The inspector reviewed quality control (QC) charts including those for efficiency and resolution checks. Calibration records for the counting equipment and the QA schedule for 1990 and 1991 were also examined. The QA control charts and calibration of the counting equipment appeared to be within the JAF-ERL's set criteria and sampling appeared to be performed according to the QA schedule.

The results for the interlaboratory and intralaboratory comparisons were compiled in the Annual JAF/Nine Mile Point Plant Environmental Laboratory QA Report, which had been provided to Nine Mile Point for review. The results examined by the inspector were determined to be within the licensee's acceptance criteria. The JAF-ERL also participates in the Environmental Protection Agency's cross-check program. Upon review of the results, the inspector determined that the JAF-ERL results were in good agreement with the EPA.

Based on the above reviews, the inspector determined that the licensee was implementing an excellent program for the REMP. No violations were identified in this area.

5.0 Meteorological Monitoring Program

The inspector reviewed the licensee's meteorological monitoring program to determine whether the instrumentation and equipment were operable, calibrated, and maintained. Calibrations were performed semiannually as required by the Technical Specifications and the system checks were performed on a weekly basis. The inspector reviewed the most recent calibration results for wind speed, wind direction, temperature, and delta temperature. All calibration results were within the licensee's acceptance criteria. The licensee also performed comparisons of indicated monitoring results for various parameters between the meteorological equipment room and the control rooms. The inspector reviewed the analog chart recorders and computer data in the meteorological equipment room, as well as those in control rooms, Units 1 and 2, and determined that the comparisons were in good agreement. Based on the above reviews, the inspector determined that the licensee implemented an effective meteorological monitoring program. No violations were identified.



6.0 Radioactive Liquid and Gaseous Effluent Control Programs

6.1 Program Changes

Due to a recent reorganization effective in September 1990, the inspector reviewed the site organization chart to determine the effectiveness for administration of the radioactive liquid and gaseous effluent control programs. The major change of the reorganization was to divide the responsibility between Units 1 and 2. Each unit now had responsibility to perform the effluent control program at its respective unit, including chemistry, radiation protection, maintenance (I&C), and radwaste operations. Calibrations of effluent/process radiation monitors were performed by chemistry, maintenance, and radiation protection staff at each unit. Radioactive liquid and gaseous releases were performed by chemistry and radwaste operations. Preparation of the radioisotope standards for the calibration, effluent sample analyses, and semiannual effluent reports were performed by the Chemistry Department. Managers of Chemistry, Operations, Radiation Protection, and Maintenance of each unit reported to the Vice President, Nuclear Generation through the Unit Plant Manager.

Based on the review of the new organization, the inspector determined that the reorganization did not reduce responsibility to conduct the effluent control programs. In fact, it appeared to enhance the performance relative to the management of the effluent control programs.

6.2 Review of Semiannual Effluent Reports

The inspector reviewed the Semiannual Effluent Reports for the second half of 1989 and the first half of 1990 for both units. These reports provided total released radioactivity for liquid and gaseous effluents, including projected radiation dose to the public as required. The inspector also noted that the licensee reported inoperable effluent monitors in the Semiannual Effluent Reports as required by the Technical Specifications. No violations were identified.

6.3 Radioactive Liquid and Gaseous Effluent Controls

The inspector reviewed the licensee's procedures as part of the determination of the implementation of the following Technical Specification (TS) requirements for both units.

- o Unit 1, TS 3/4.6.15, "Radioactive Effluents (Liquid and Gaseous)"
- o Unit 2, TS 3/4.11.1, "Liquid Effluents"
TS 3/4.11.2, "Gaseous Effluents"



o Units 1 & 2, "Offsite Dose Calculation Manual (ODCM)"

The inspector also reviewed selected liquid and gaseous discharge permits including sampling frequencies, analytical data, dose assessment results, and appropriate procedures for both units. The inspector noted that the licensee followed procedures to comply with the above Technical Specification requirements.

During this inspection, the inspector performed dose calculations using the ODCM while the licensee used separate procedures at each unit to perform the calculations. The licensee's procedures were established to comply with the ODCM requirements. Total body doses for liquid effluents and gamma air dose for gaseous effluents were calculated and results were compared. The results for both units indicated an excellent agreement with the inspectors calculations.

Based on the above reviews including dose calculation comparisons, the inspector determined that the licensee conducted a very good liquid and gaseous effluent control programs. No violations were identified.

6.4 Calibration of Effluent/Process Radiation Monitors

The inspector reviewed the most recent calibration results for both units as part of the determination of the implementation of the Technical Specification requirements for the following monitors.

Unit 1:

- o Liquid Radwaste Effluent Monitor
- o Service Water Effluent Monitor
- o Stack Gaseous Effluent Monitor
- o Main Steam Line Monitors
- o Emergency Condenser Vent Monitor
- o Offgas Radiation Monitor
- o Radwaste Discharge to Tunnel Radiation Monitor

Unit 2:

- o Liquid Radwaste Effluent Line Monitor
- o Cooling Tower Blowdown Line Monitor
- o Service Water Effluent Line Liquid Monitor
- o Main Steam Line Monitors
- o Radwaste/Reactor Building Vent Monitor
- o Main Stack Gaseous Effluent Monitor
- o RHR Heat Exchange Service Water Monitor

During the review of calibration results of the above effluent and process monitors, the inspector noted that the calibrations were performed at the frequency required and the results were within the licensee's acceptance criteria. The inspector also reviewed quarterly



channel function tests for the Radwaste and Reactor Building Vent, and Main Stack Gaseous Effluent Monitors, and source checks for several monitors for Unit 2. Quarterly channel function tests and source checks were found to meet or exceed the Technical Specification requirements.

Based on the above review, the inspector determined that the licensee conducted an excellent monitor calibration program. No violations were identified in this area.

6.5 Operability of Effluent Monitors

During the previous inspection (Combined Inspection Nos. 50-220/89-34 and 50-410/89-23) conducted in December 1989, the inspector evaluated the status of inoperable effluent monitors for both units. The inspector concluded that the lead times for repairs seemed indicative of inadequate management attention to this important area. The licensee had many inoperable effluent monitors prior to the inspection.

During this inspection, the inspector reviewed the operability of liquid and gaseous effluent monitors for both units, as well as the Special Report (Unit 2) submitted to the NRC on February 4, 1991. This Special Report contained information regarding inoperability of the Unit 2 Gaseous Effluent Monitoring System (GEMS). The cause for the recent inoperability of the GEMS instrumentation was determined to be a lightning strike to the Main Stack, which led to multiple component failures within the GEMS. This GEMS was repaired and operable at the time of this inspection. The inspector examined the GEMS to verify the corrective actions, including grounding modifications to prevent lightning strike and operability. The inspector noted that all liquid and gaseous effluent monitors for both units were operable at the time of inspection, with exception of the Unit 2 Service Water Effluent Monitor, which was out of service for modification.

Based on the reviews, the inspector determined that the licensee had initiated a good program to ensure the operability for effluent monitors. The inspector also noted that the licensee had recently assigned personnel who had good technical knowledge and were now using tools (trending analysis) to better maintain the operability of effluent monitors. The recent management commitments and initiatives to maintain the operability of effluent monitors were noteworthy and should be continued.

7.0 Air Cleaning Systems

The inspector reviewed the licensee's most recent inspection and test results in examining the implementation of the following Technical



Specification (TS) requirements for both units.

- Unit 1: TS 3/4.4.4, "Emergency Ventilation Systems"
TS 3/4.4.5, "Control Room Air Treatment System"
- Unit 2: TS 3/4.6.5.3, "Standby Gas Treatment System"
TS 3/4.7.3, "Control Room Outdoor Air Special Filter
Train System"

The inspector determined that these systems were being maintained in accordance with the requirements.

The inspector also reviewed the following inspection and test results.

- o Visual Inspections
- o In-Place Leak Tests for HEPA
- o In-Place Leak Tests for Charcoal
- o Pressure Drop Tests
- o Air Capacity Tests
- o Laboratory Tests for the Iodine Collection Efficiency

The above test results reviewed by the inspector were within the Technical Specification requirements. No violations were identified.

8.0 Exit Interview

The inspector met with licensee representatives (denoted in Section 1.1) at the conclusion of the inspection on February 15, 1991. The inspector summarized the purpose, scope, and findings of the inspection.

