U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-220/94-17 and 50-410/94-19

Docket Nos. 50-220 and 50-410

License Nos. DPR-63 and NPF-69

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

Facility Name: Nine Mile Point Units 1 and 2

Inspection At: Scriba, New York

Inspection Conducted: August 29 - September 2, 1994

Inspector: Laurie Peluso 09/20/94
Laurie Peluso, Radiation Specialist Date
Effluents Radiation Protection Section (ERPS)
Facilities Radiological Safety and
Safeguards Branch (FRSSB)

Approved by: for J. J. Kottan 9-20-94
Jason C. Jang, Chief, ERPS, FRSSB, Date
Division of Radiation Safety
and Safeguards (DRSS)

Areas Inspected: Announced safety inspection of the Radioactive Effluent Control Programs including: management controls, quality assurance audits, control of liquid and gaseous effluents, calibration of radiation monitoring systems, air cleaning systems, and implementation of the above programs and the Offsite Dose Calculation Manual (ODCM).

Results: Within the areas inspected, the licensee continued to effectively maintain and implement very good effluent control programs. The responsible individuals had excellent knowledge with respect to implementation of the above programs. No safety concerns or violations of NRC requirements were identified.

DETAILS

1.0 Individuals Contacted

1.1 Niagara Mohawk Power Corporation

* R. Abbott, Plant Manager, Unit 1
* W. Baker, Licensing Program Director
* J. Blasiak, Chemistry Manager, Unit 2
* R. Carlson, Radiation Protection Manager, Unit 2
  G. Corell, Chemistry Manager, Unit 1
  K. Dahlberg, Plant Manager, Unit 2
  E. Frank, Chemistry Technician, Unit 2
* T. Hogan, Radiation Protection Manager, Unit 1
* E. Leach, Chemistry-Senior General Specialist, Unit 2
* D. MacDonald, Radiation Protection, Calibrations Supervisor, U1
* M. McCormick, Jr., Vice President, Nuclear Safety Assessment & Support
* G. Montgomery, Supervisor Radiation Protection Instrumentation, U2
* P. O'Brien, ISEG
* C. Senska, Chemistry Supervisor, Unit 1
  V. Shuman, Radiation Protection Supervisor, Unit 1
* A. Zallnick, Jr., Licensing

1.2 Nuclear Regulatory Commission (NRC) Personnel

* W. Mattingly, Resident Inspector
  B. Norris, Senior Resident Inspector

* Denotes those individuals present at exit interview held on September 2, 1994.
  Other licensee personnel were also interviewed during this inspection.

2.0 Purpose

The purpose of this inspection was to review the licensee's capability for measuring and quantifying radioactive liquid and gaseous effluents during normal and emergency operations.

3.0 Management Controls

3.1 Organization and Program Changes

The inspector reviewed the licensee's organization and discussed with the licensee any changes since the last inspection conducted in July 1993. There had been one program change regarding the surveillance tests of the air cleaning systems. In April 1994, the responsibility for the tests had been shifted from the Radiation Protection Department (Unit 1) to the System Engineering Department from each unit.

3.2 Quality Assurance (QA) Audits

The inspector reviewed QA Audit report 93006 (Unit 2 Chemistry Procedures, dated June 7, 1993) for the radioactive liquid and gaseous effluent control procedures to determine implementation of Technical Specification (TS) requirements. The QA Department conducted the audit during April 26-May 10, 1993. The audit was of sufficient technical depth to assess the selected chemistry procedures. An audit of the ODCM and the effluent control program has been scheduled for November 1994.

3.3 Semiannual Effluent Release Reports

The inspector reviewed the semiannual effluent release reports for the second half of 1992, all of 1993, and the first half of 1994 for Units 1 and 2 (submitted separately by each unit). The semiannual effluent release reports reflected offsite releases and projected doses to public and environment. The inspector determined that the licensee met the TS reporting requirements. There were no obvious anomalous measurements, omissions, or trends noted in these reports.

4.0 Radioactive Liquid and Gaseous Effluent Control Programs

4.1 Effluent Control Programs

The inspector reviewed the following radioactive liquid and gaseous effluent control procedures and selected radioactive liquid discharge permits and gaseous effluent release documents for Units 1 and 2 to determine implementation of TS requirements.

Unit 1

- N1-CSP-311, Offgas Sampling
- N1-CSP-M350, Noble Gas Dose Calculations
- N1-CSP-M351, Particulate, Iodine, and Tritium Dose Calculations
- N1-CSP-V371, Emergency Condenser Vent Release Rate Determination

Unit 2

- N2-CSP-CMS-@342, Effluent Sampling During Containment Purge and/or Standby Gas Treatment System Operation
- N2-CSP-LWS-@201, Radioactive Liquid Release Analysis and Documentation
- N2-CSP-OFG-@331, Offgas Sampling
- N2-CSP-OFG-M333, Offgas Monthly Surveillance
- N2-CSP-RMS-@301, Noble Gas Sampling and Analysis

The procedures for both Units 1 and 2 provided effective control of radioactive liquid and gaseous effluent releases and the

release documents were completed as required. The inspector determined that the reviewed discharge documents were complete and met the requirements for sampling and analysis at the frequencies and lower limits of detection established in the TS. There were no liquid releases from Unit 1 during 1994.

Members of the Unit 1 Chemistry Department had the responsibility to calculate doses to the public from effluent releases. The licensee previously overestimated gaseous effluent release rates from the emergency condenser. The licensee had reviewed procedures, researched a better method to determine the release rates from the emergency condenser, utilized partition coefficients of each isotope (using NUREG 0016, Revision 1), and made the appropriate corrections. The licensee currently calculates the release rates using the above methodology. The inspector had no further questions in this area.

During the inspection, the inspector reviewed the chronology of the failed fuel event at Unit 1. The licensee identified elevated offgas activity in August 1994. During a flux tilt on August 21-22, 1994 performed by Operations, the licensee isolated the affected rod. The Chemistry Department increased sampling frequency at the main stack and offgas before and during the flux tilt. All samples were analyzed and dose projections to the public were calculated. The inspector reviewed the dose results and determined them to be calculated according to the requirements of the ODCM. The total body dose to the maximally exposed member of the public due to noble gas releases from Unit 1 during the month of August was of negligible safety consequences, 2.05E-3 mrem.

Based on the above review and discussions with licensee personnel, the inspector determined that the licensee continued to implement excellent effluent control programs.

5.0 Effluent/Process Radiation Monitoring Systems (RMS)

5.1 Calibration of Effluent RMS

The inspector reviewed the calibration procedures and the most recent calibration results for the following effluent/process RMS to determine the implementation of the TS requirements for Units 1 and 2.

Unit 1

- Liquid Radwaste Effluent Radiation Monitor
- Service Water Effluent Radiation Monitor
- Main Steam Line Radiation Monitors
- Stack Gaseous Effluent Monitors (Low and High Ranges)
- Emergency Condenser Vent Monitor

Unit 2

- Liquid Radwaste Effluent Radiation Monitor
- Service Water Effluent Radiation Monitor
- Cooling Tower Blowdown Line Monitor
- Main Steam Line Radiation Monitors
- Radwaste/Reactor Building Vent Monitors (Low and High Range)
- Main Stack Gaseous Effluent Monitors (Low and High Range)

All reviewed calibration results for the above effluent radiation monitors, including the quarterly channel functional tests, were within the licensee's acceptance criteria. The RMS calibration techniques continued to be excellent.

Members of Unit 1 Chemistry performed radiological calibrations on the stack radiation monitors, and the Radiation Calibrations Technicians, Radiation Protection, performed the radiological calibrations on the remaining monitors and verified linearity using a statistical method. The Instrument & Controls Department performed the electronic calibrations on the monitors. By January 1995, I&C will assume responsibility to perform the radiological calibrations and a member of system engineering will verify linearity. Progress with respect to this change will be reviewed during a subsequent inspection.

Members of Unit 2 Chemistry were responsible for the radiological calibrations on the stack and vent gaseous effluent monitoring system (GEMS). Radiation Protection (RP) personnel performed the radiological calibrations, and the Instrument and Controls technicians had performed the electronic calibrations for the above monitors. The licensee stated that linearity will be verified by Radiation Protection personnel. The inspector stated that progress regarding this matter will be reviewed during a subsequent inspection.

Based on the above review, the inspector determined that the licensee conducted an excellent radiation monitor calibration program at each unit.

5.2 Operability of Effluent RMS

During the inspection of Unit 1, the inspector noted that all the effluent RMS were operable, including the two subsystems of the Stack Effluent Monitoring System, the old General Electric Stack Monitoring System (OGESMS) and the Radioactive Gaseous Effluent Monitoring System (RAGEMS). REGEMS had been designed to activate for high range monitoring and OGESMS had been designed for normal operation to monitor station noble gas effluents and collect particulates and iodine samples in compliance with TS requirements.

During the inspection of Unit 2, the inspector noted that all the effluent RMS were operable with two exceptions. On August 26, the stack had been struck by lightning and the licensee declared GEMS out of service, however, only a certain part of the electronics had been affected. The GEMS had been placed in service during this inspection. Also, by August 26, the licensee had completed work to ground the stack which should significantly decrease damage to the electronics by lightning strikes. The Service Water RMS had been declared out-of-service because the flow monitor was inoperable, however, the flow meter will be in service in the near future. The inspector discussed these issues with several individuals and determined that appropriate compensatory actions were being performed at the time of the inspection. There were no other questions in this area.

6.0 Air Cleaning Systems

The inspector reviewed the licensee's most recent surveillance test procedures and test results to determine implementation of TS requirements for the following systems.

Unit 1

- Emergency Ventilation Systems
- Control Room Air Treatment System

Unit 2

- Standby Gas Treatment System
- Control Room Outdoor Air Special Filter Train System

The following surveillance results were reviewed. All reviewed test results were within the licensee's TS acceptance criteria.

- Visual Inspections
- In-Place HEPA Tests
- In-Place Charcoal Tests
- Air Capacity Tests
- Pressure Drop Tests
- Laboratory Tests for the Iodine Collection Efficiencies.

All reviewed test results were found to be within the licensee's acceptance criteria.

In April 1994, the responsibility for the tests had been shifted from the Radiation Protection Department (Unit 1) to the System Engineering Departments at each unit. Progress of the surveillance tests as a result of the change will be reviewed during a subsequent inspection.

Based on the above review, the inspector determined that the licensee had effectively implemented this surveillance 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 September 2, 1994. The inspector summarized the purpose, scope, and findings of the inspection. The licensee acknowledged the inspection findings.