

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report/License Nos.: 50-220/95-22 and 50-410/95-22; DPR-63 and NPF-69

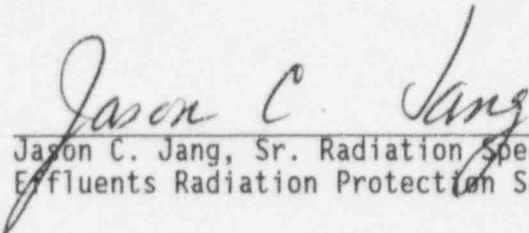
Licensee: Niagara Mohawk Power Corporation  
301 Plainfield Road  
Syracuse, New York 13212

Facility Name: Nine Mile Point, Units 1 and 2

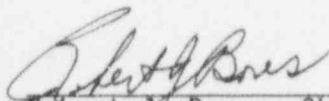
Inspection At: Scriba, New York

Inspection Conducted: August 29-September 1, 1995

Inspector:

  
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Jason C. Jang, Sr. Radiation Specialist  
Effluents Radiation Protection Section (ERPS)

Approved by:

  
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Robert J. Bores, Chief, ERPS, Facilities  
Radiological Safety and Safeguards Branch

Areas Inspected: Announced safety inspection of the radioactive liquid and gaseous effluent control programs including: management controls, audits, calibration of effluent and process radiation monitoring systems, air cleaning systems, and implementation of the Offsite Dose Calculation Manual (ODCM) and the above programs.

Results: Within the areas inspected, the licensee implemented very effective programs. The management commitment to maintaining the operability of effluent radiation monitoring systems was excellent. Responsible individuals in the Chemistry Departments had excellent knowledge to implement the above programs. No safety concerns or violations of NRC requirements were identified.

## DETAILS

### 1.0 INDIVIDUALS CONTACTED

#### 1.1 LICENSEE PERSONNEL

- \* R. Abbott, Vice President-Nuclear Generation
- \* C. Beckham, Quality Assurance Manager
- \* R. Cazzolli, Health Physicist
- P. Chalone, Chief Chemistry Technician, Unit 2
- \* G. Corell, Chemistry Manager, Unit 1
- \* J. Lawton, Radiation Protection Technician, Unit 1
- \* R. Magnant, Licensing
- \* M. McCormick, Vice President - Safety Assessment and Support
- G. Montgomery, Supervisor (Instrument), Radiation Protection, Unit 2
- J. Moser, Chemistry Supervisor, Unit 1
- \* N. Rademacher, Unit 1 Plant Manager
- \* L. Rayle, Chemistry Supervisor, Unit 1
- \* V. Schuman, Acting Radiation Protection Manager, Unit 1
- C. Senska, Chemistry Supervisor, Unit 2
- \* C. Ware, Chemistry Manager, Unit 2
- \* D. Wolniak, Licensing Manager
- \* J. Woods, Chemistry Technician C, Unit 1
- \* A. Zallnick, Supervisor, Site Licensing

#### 1.2 NRC PERSONNEL

- B. Norris, Senior Resident Inspector
  - \* R. Skokowski, Resident Inspector
  - \* K. Cotton, NRR, Project Manager
- \* Denotes those present at the exit interview on September 1, 1995. Other licensee employees were contacted and 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 QUALITY ASSURANCE AUDITS

The inspector reviewed the following 1993 and 1994 audit reports for the radioactive liquid and gaseous effluent control programs to determine the implementation of the Technical Specification requirements.

- o 93-10046, Unit 1 Stack Noble Gas Sampling
- o 93-006, Unit 2 Chemistry Procedure Review
- o 93-20200, Unit 2 Stack GEMS Noble Gas Channel Test
- o 93-20209, Unit 2 Chemistry DER Assessment
- o 94-031, Radioactive Effluents/ODCM
- o 94-10270, Unit 1, Flux Tilting/ODCM Compliance

During the review of 1993 audits, the inspector noted that these audits covered not only the radioactive liquid and gaseous effluent control programs but also the chemistry program review, including procedure reviews. These 1993 audits did not identify any findings; however, several weaknesses were identified, which were not safety related. One deviation (administrative rather than technical) was identified in the 1994 audit. Corrective actions were completed by the Chemistry Department. The licensee did not perform the 1995 QA Audit as of September 1, 1995. The inspector stated that the 1995 QA Audit will be reviewed during a subsequent inspection.

Based on the review, the inspector determined that the licensee conducted very good audits (scope and technical depth of the audits) to assess the radioactive liquid and gaseous effluent control programs.

#### 4.0 RADIOACTIVE LIQUID AND GASEOUS EFFLUENT CONTROL PROGRAMS

##### 4.1 PROGRAM CHANGES

The inspector reviewed the licensee's organization and administrative control for the radioactive liquid and gaseous effluent control programs. The inspector also discussed with the licensee changes made since the last inspection of both units conducted on July 26-30, 1993. The inspector determined that there were no significant changes to the radioactive liquid and gaseous effluent control programs.

The Chemistry Departments still have primary responsibilities for conducting the radioactive liquid and gaseous effluent control programs. The Operations, Radiation Protection, System Engineering, and I&C departments also have responsibilities for supporting the effluent control programs, such as performing radwaste discharges, radiation monitoring system calibration, and conducting surveillance tests for air cleaning systems.

##### 4.2 REVIEW OF SEMIANNUAL EFFLUENT REPORTS

The inspector reviewed the 1993, 1994, and the first half of 1995 semiannual radioactive effluent release reports for Units 1 and 2 (submitted separately by each unit), and determined that the licensee met the Technical Specification (TS) reporting requirements.

The semiannual effluent reports provided the total released radioactivity in liquid and gaseous effluents. The second half semiannual effluent reports not only provided the total released radioactivity but also provided the projected radiation dose to the public, as required. The projected radiation doses to the total body and organs of the public were well below regulatory limits specified in the licensee's TS. It should be emphasized that the projected doses to the public due to gaseous effluents were based on three units, Nine Mile Point Units 1 and 2 and the neighboring New York Power Authority Fitzpatrick Plant. The inspector also reviewed available 1995 effluent release records and determined that these records did not contain

anomalous measurements or omissions. The inspector had no further questions in this area.

#### 4.3 RADIOACTIVE LIQUID AND GASEOUS EFFLUENT CONTROLS

The inspector reviewed the following licensee's procedures and radioactive liquid discharge permits and gaseous effluent release documents to determine the implementation of the TS and the Offsite Dose Calculation Manual (ODCM) requirements for Units 1 and 2.

##### Unit 1:

- o N1-CSP-M204, Liquid Release Dose Calculation
- o N1-CSP-V371, Emergency Condenser Vent Release Rate Determination
- o N1-CSP-M350, Noble Gas Dose Calculation
- o N1-CSP-M35, Particulate, Iodine, & Tritium Dose Calculation
- o N1-CSP-0215, Service Water Set Point Determination

##### Unit 2:

- o N2-CSP-LWS-@201, Radioactive Liquid Release Analysis and Documentation
- o N2-RSP-RMS-P001, Source Check of the Liquid Radwaste Effluent Radiation Monitor
- o N2-CSP-LWS-M203, Monthly Liquid Release Dose Calculation
- o N2-CSP-RMS-M351, Particulate, Iodine, & Tritium Dose Calculation
- o N2-CSP-RMS-M312, GEMS Tritium Sampling and Analysis

During the review of the above radioactive liquid and gaseous effluent control procedures for both units, the inspector noted that the licensee's procedures were detailed and all necessary steps were easy to follow to implement the TS and ODCM requirements.

The inspector also determined that the reviewed discharge permits were completed and met the TS requirements for sampling and analyses at the frequencies and lower limits of detection (LLD) established in the TS. The inspector also noted that the licensee last discharged radioactive liquid to the environment on July 24, 1990 for Unit 1.

The inspector reviewed selected monthly gaseous effluent monitoring system (GEMS) results for Unit 2. The GEMS has the capability to perform isotopic analysis for gaseous effluent streams at any time because the GEMS uses a gamma spectrometry system with an intrinsic Ge detector. The licensee set the monitoring frequency at four times a day for the reactor building vent and twice a day for the stack vent. The GEMS has the capability of quantifying actual amounts of isotopic releases in real time monitoring. The licensee, therefore, is able to project the dose to the public accurately and realistically.

During discussion with the Chemistry Department staff, the inspector noted that the responsible individuals had maintained and continually enhanced their excellent knowledge in the areas of:



- (1) ALARA for radioactive liquid and gaseous effluent controls,
- (2) effluent/process Radiation Monitoring Systems (RMS),
- (3) the Offsite Dose Calculation Manual requirements, and
- (4) protection of the public health and safety and the environment.

Based on the above reviews, the inspector determined that the licensee had conducted excellent radioactive liquid and gaseous effluent control programs. The inspector also noted that the licensee reviewed its effluent control programs vigorously with a view toward improvement.

#### 4.4 CALIBRATION OF EFFLUENT/PROCESS RADIATION MONITORING SYSTEMS

The inspector reviewed the licensee's most recent calibration results for the following effluent/process RMS to determine the implementation of the Technical Specification requirements for Units 1 and 2.

Unit 1:

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

Unit 2:

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

The I&C, Chemistry, and Radiation Protection departments had the responsibility to perform electronic and radiological calibrations for the above effluent/process radiation monitors for Unit 1. The Chemistry and Radiation Protection departments had the responsibility to perform electronic and radiological calibrations for the above effluent/process radiation monitors for Unit 2. The inspector also reviewed several quarterly channel function tests for the above effluent radiation monitors. All reviewed calibration results were within the licensee's acceptance criteria.

The inspector determined that the RMS calibration techniques appeared to be excellent. The inspector noted that the licensee performed a data reduction technique using statistical analyses to obtain conversion factors and linearity. The licensee also performed a trending analysis for the effluent RMS, which was excellent.

Based on the above review, the inspector determined that the licensee conducted excellent radiation monitor calibration programs for both units.

#### 4.5 OPERABILITY AND RELIABILITY OF EFFLUENT RMS

Previously, the licensee had many inoperable effluent RMS experiences. (See Inspection Reports 50-220/89-24; 50-410/89-23, and 50-220/91-05;

50-410/91-05 for details.) Licensee management commitment to maintaining the operability of the effluent RMS was noted during the previous inspections conducted in 1992 and 1993.

During this inspection, the inspector examined the effluent RMS and noted that all effluent RMS were operable at the time of this inspection. The inspector reviewed the licensee's QC data for the GEMS for Unit 2 at the GEMS control room. The licensee performed daily background checks and verified the FWHM (full-width-half-maximum) at 778.9 keV using a Eu-152 source. The inspector had no further questions in this area.

Based on the above reviews, the inspector concluded that the licensee's commitment to maintain the operability and reliability for all effluent RMS was demonstrated since the last two inspections conducted in 1992 and 1993. The inspector was informed by the licensee that management support will be continued to maintain the operability for all RMS.

## 6.0 AIR CLEANING SYSTEMS

The inspector reviewed the licensee's most recent surveillance test results to determine the implementation of the following air cleaning systems for Units 1 and 2. The surveillance tests for these air cleaning systems were required by the Technical Specifications.

- Unit 1:
  - o Reactor Building Emergency Ventilation Systems
  - o Control Room Air Treatment System
- Unit 2:
  - o Standby Gas Treatment System
  - o Control Room Outdoor Air Special Filter Train System

The inspector reviewed the following surveillance test results.

- o Visual Inspection
- o In-Place HEPA and Charcoal Leak Tests
- o Air Capacity Tests
- o Pressure Drop Tests
- o Laboratory Tests for the Iodine Collection Efficiencies

All reviewed test results were within the licensee's Technical Specification acceptance criteria. Based on the above reviews, the inspector determined that the licensee met all requirements. The inspector had no further questions in this area.

## 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 of September 1, 1995. The inspector summarized the purpose, scope, and findings of the inspection. The licensee acknowledged the inspection findings.