NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-220/89-34
50-410/89-23

Docket Nos. 50-220
50-410

License Nos. DPR-63
NPF-33

Licensee: Niagara 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: December 11-15, 1989

Inspector: _____ 12/21/89
J. Furia, Radiation Specialist, Effluents Radiation Protection Section (ERPS) date

Approved By: _____ 1-2-90
for R. Bores, Chief, ERPS, Facilities Radiological Safety and Safeguards Branch date

Inspection Summary: Inspection on December 11-15, 1989 (Combined Inspection Report Nos. 50-220/89-34; 50-420/89-23)

Areas Inspected: Routine unannounced 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 areas inspected, no violations or deviations were noted. Continuing problems with the radiological effluent monitors at both units, long lead times for repairs, and lack of timely permanent resolution appear to indicate inadequate management attention to this area (paragraph 3.3).

DETAILS

1.0 Personnel Contacted

1.1 Licensee Personnel

* R. Abbott, Station Superintendent, Unit 2
* J. Blasiak, Chemistry and Radiochemistry Supervisor
* G. Brownell, Nuclear Regulatory Compliance Engineer
* J. Burton, Supervisor, Nuclear Quality Assurance Operations (NQAO) - Surveillance
  R. Carlson, Respiratory Protection Coordinator
* M. Colomb, Director, Nuclear Regulatory Compliance
* K. Dahlberg, Station Superintendent, Unit 1
  R. Dean, General Engineer, Unit 2
  J. Dillon, Supervisor, Quality Assurance (QA) Auditing
* W. Drews, Site Maintenance Superintendent
* H. Flanagan, Manager, Environmental Protection
* T. Galletta, Environmental Protection Coordinator - Meteorological
* E. Gordon, Supervisor, Radiation Support
  B. Gorman, Manager, Environmental Radiation Laboratory, New York Power Authority
  K. Krivin, Engineer, NQAO - Surveillance
  E. Leach, Radiation Protection Engineer
* R. Remus, Superintendent, Chemistry and Radiation Management
  A. Ross, Chemistry/Radiochemistry, Unit 2
  J. Stone, Chief Technician, Chemistry/Radiochemistry
* P. Volza, Radiation Protection Manager
* B. Zacharek, Environmental Protection Coordinator - Radiological

1.2 NRC Personnel

* W. Cook, Senior Resident Inspector
* R. Laura, Resident Inspector
  R. Temps, Resident Inspector

* Denotes those present at the exit meeting on December 15, 1989.

2.0 Purpose

The purpose of this routine inspection was to review the licensee's programs for:

. Radioactive liquid and gaseous effluent monitoring and

. Radiological environmental monitoring

3.0 Radioactive Effluents Monitoring

The program for the control and measurement of radioactive liquid and

gaseous effluents was divided by the licensee along the lines of the two units, with some services combined within a site organization. Each unit maintained its own release records and utilized separate release paths. Common operations included the chemistry laboratory (although Unit 2 was in the process of establishing its own laboratory) and the calibration of effluent monitors by the Radiation Protection Department.

3.1 Monitor Calibration

The Chemistry and Radiation Management Department, through its Instrument Calibration Section, was responsible for the calibration of all liquid and gaseous effluent monitors on site. Differences between the two units arise from different requirements contained in their respective Technical Specifications, the most common difference being frequency of calibration. The Unit 1 monitors were calibrated on an annual basis, while those for Unit 2 were calibrated on a once-per-fuel cycle basis. With the exception of monitors at Unit 1 which had been declared out-of-service for an extended period of time, all calibrations were performed at the frequency required, and utilized appropriate source standards, traceable to the National Institute of Standards and Technology (NIST).

In addition to the requirement for calibration of the effluent monitors, each unit had requirements for periodic source checks as set forth in their respective Technical Specifications. The inspector reviewed the source check records for the following monitors: for the Unit 1 Liquid Radwaste, Service Water Discharge and Stack Monitors, and for the Unit 2 Standby Gas Treatment System, Residual Heat Removal (RHR) Heat Exchanger Service Water, Drywell Atmosphere Offline Gas and Particulate, Cooling Tower Blowdown, Service Water Effluent, and Liquid Radwaste Effluent Monitor. Source checks of the above monitors were found to meet or exceed the Technical Specification requirements.

As part of this inspection, the following procedures utilized in the calibration of effluent monitors were reviewed.

N2-RSP-RMS-R103, Rev 1, "Channel Calibration Test of the Standby Gas Treatment System Exhaust Process Radiation Monitor"

N2-RSP-RMS-R105, Rev 2, "Channel Calibration Test of the RHR Heat Exchanger Service Water Liquid Process Radiation Monitors"

N2-RSP-RMS-R111, Rev 1, "Channel Calibration Test of the Drywell Atmosphere Offline Gas and Particulate Process Radiation Monitors"

N2-RSP-RMS-R112, Rev 1, "Channel Calibration Test of the Cooling Tower Blowdown Line Liquid Process Radiation Monitor"

N2-RSP-RMS-R116, Rev 1, "Channel Calibration Test of the Liquid Radwaste Effluent Line Liquid Process Radiation Monitor"

N2-RSP-RMS-M003, Rev 1, "Monthly Source Check of DRMS Tech Spec Radiation Monitors"

N1-RSP-11A, Rev 3, "Calibration of the Service Water Discharge Monitors"

These procedures were determined to be complete and to accurately reflect operations conducted by the licensee.

3.2 Release Permits

Releases at Unit 1 have been minimal since the shutdown in 1987. No batch releases from either the liquid or gaseous effluent system have occurred during 1989. Unit 2 has made both liquid and gaseous discharges, and the analyses of the samples taken during each release were done with the same equipment, utilizing the same procedure as for Unit 1. Both units have been utilizing grab sample analyses, due to the inoperability of many of the effluent monitors. This item is discussed further in Section 3.3.

A total of eight release permits from the liquid radwaste effluent tanks, four weekly offgas surveillances, and 20 shift offgas surveillances for Unit 2 were examined during the inspection. These permits were found to be complete, but in all instances, the sections on effluent monitoring were marked "inoperable".

Sampling of the effluent streams was performed by the respective unit's Chemistry Section. At the time of the inspection, Unit 2 was in the process of establishing its own chemistry laboratory, which included the systems necessary to analyze radioactive effluent samples. The systems and procedures utilized will be the same as at Unit 1. Procedure S-CRIP-1, Rev 0, "Operation, Calibration and Maintenance of Canberra's Jupiter Gamma Spectroscopy System", describes the operation of the licensee's system, and includes procedures and quality control checks to be followed. This procedure was found to be comprehensive and to accurately reflect operations conducted by the Chemistry Section.

3.3 Inoperability of Effluent Monitors

At the time of this inspection, Unit 1 was involved in five Limiting Conditions of Operation (LCO) due to inoperable effluent monitors. At Unit 2 the Gaseous Effluent Monitoring System (GEMS) and three liquid effluent monitoring systems were inoperable.

At Unit 1, the stack monitoring system was inoperable due to a planned overhaul of this system. Upon completion (scheduled before the restart of Unit 1), this system will allow for the isolation of either the Radioactive Gaseous Effluent Monitoring System (RAGEMS) or

Old General Electric Stack Monitoring System (OGESMS), while continuing to permit operation on the other system. In addition, improved control room monitoring of the effluent releases was expected. The Service Water Effluents Radiation Monitor was inoperable as declared in a Licensee Event Report (LER), Number 89-010, dated June 30, 1989, and involved the licensee's inability to determine if the system was operational from the control room. As of this inspection, the modification of the annunciator system, as noted in the LER, was not put on the schedule until December 5, 1989.

At Unit 2, the GEMS system was inoperable due to a shortage of spare parts and difficulty in properly calibrating the flow sensors. Flow calibration for the Reactor and Radwaste Building Vents was expected to be completed within 30 days, which would allow the system to be declared operable. The spare parts problem was being resolved through the purchase of some modification equipment. The Liquid Radwaste Effluent Monitors were inoperable due to increasing background counts during releases. A modification of the sampling lines around the detectors was to have placed these monitors back in operation, however, another problem, related to the strength of the check sources used with these monitors, continued to prevent utilization of these monitors. The Cooling Tower Blowdown Monitor was inoperable due to a shorted signal transmitter, which prevented the control room from being able to determine when this system was operating. The Service Water A Radiation Monitor was inoperable due to a burned out pump motor caused by a failure to properly filter the cooling water used for these pumps. A replacement motor was back-ordered, and repairs to all the service water pumps to ensure proper filtration of the pump cooling water was expected during the 1990 refueling outage.

In general, these continuing problems with the effluent monitors at both units, in conjunction with the long lead times for repairs seem indicative of inadequate management attention to this important area. Identification of systematic equipment problems and timely resolution of these and other effluent monitoring equipment problems were not evident during this inspection.

3.4 Quality Assurance

The licensee's quality assurance program in the radioactive effluent area consisted of periodic surveillances conducted by the Nuclear Quality Assurance - Operations (NQAO) Department and an annual audit by the QA - Audit Department. Seven NQAO Surveillance Reports have been issued in 1989, based upon surveillances of monitor calibration, LCO sampling, source checks and channel checks. Findings addressed in these reports were promptly addressed, and none of the findings involved items of major safety significance.

Audit report 89001-RG/IN, dated March 1989, was conducted to evaluate

the Chemistry and Radiation Management program, and included evaluations of the radioactive effluents and radiological environmental monitoring programs (REMP). Within the areas of chemistry and radiation protection, the scope and technical depth of the audit was excellent. The audit failed to address the issue of inoperable radioactive effluent monitors at both units, however. Discussion with the licensee's audit staff indicated that this area would be examined extensively during the upcoming audit of this area.

4.0 Radiological Environmental Monitoring Program (REMP)

The REMP was conducted in cooperation with the New York Power Authority's (NYPA) James A. FitzPatrick Generating Station, which is located immediately east of the licensee's site. The licensee was responsible for the collection of all environmental samples and maintenance of the meteorological tower, while NYPA was responsible for the operation of the NYPA Environmental Radiation Laboratory (ERL).

4.1 REMP Sampling

Samples of air particulates and iodine, surface water and direct radiation monitoring were collected by the licensee's Environmental Programs Group. All other environmental samples were collected by a contractor, EA Science and Technology. Records of analytical results indicated that for 1989, all samples were taken as required, and Lower Limits of Detection (LLD) specified in the licensee's Technical Specifications were being met. Preliminary analysis by the licensee indicated that levels of radioisotopes in the environment measured during 1989 were consistent with those of previous years.

All environmental samples were sent to the NYPA-ERL except for Thermoluminescent Dosimeters (TLDs), milk samples, and any samples requiring strontium analyses. These other samples were sent to a contract laboratory, Teledyne Isotopes, for analysis.

4.2 Sample Analyses

Environmental samples sent to the NYPA-ERL were stored as appropriate to await analyses. Review of the sample holding areas indicated that there was no significant backlog of samples awaiting analyses. The NYPA-ERL maintains five germanium counting systems, two low level alpha/beta counters and a liquid scintillation counter. The NYPA-ERL participates in the Environmental Protection Agency (EPA) Cross-Check program, and a review of samples analyzed for 1989 indicated good agreement between the EPA and NYPA-ERL results. One of the iodine sample analyses scheduled for 1989 was not performed due to a failure of the EPA to provide the sample. The NYPA-ERL publishes an annual quality assurance report, which was provided to the licensee. A review of the data to be included in the 1989 report was conducted as part of this inspection. All outlying data points were promptly investigated and resolved. The inspector had no further questions in this area.

4.3 Meteorological Monitoring

Calibration of the meteorological monitoring instrumentation was accomplished semiannually in accordance with Technical Specifications. In addition the licensee had developed a weekly surveillance system to verify system operability between calibrations. Three meteorological towers were available to the licensee, a primary to the west of the site, a secondary to the east of the site, and an inland located at the Oswego County Airport. Meteorological information was available to both units' control rooms through both a direct link and via a computer system. As part of the inspection, the following procedures were reviewed by the inspector.

S-IDP-W-MET-001, Rev 2, "Site Weather Station Weekly Instrument Surveillance"
S-IPM-H-MET-401, Rev 1, "Precipitation Gauge Calibration"
S-IPM-H-MET-501, Rev 0, "Main, Backup and Inland Meteorological Tower Wind Speed Instrument Calibration"
S-IPM-H-MET-301, Rev 0, "Barometric Pressure Calibration"
S-IPM-H-MET-611, Rev 0, "Backup Tower Wind Direction Calibration"

These procedures were found to be complete and to accurately reflect the existing meteorological program.

4.4 Quality Assurance

The quality assurance program for the REMP was similar to that established for the radioactive effluents program. Sixteen NQAO Surveillance Reports for 1989 were reviewed and found to be of a broad scope, with all findings promptly addressed. The only exception to this was an issue involving calibration stickers on the meteorological monitoring instruments, which was still being resolved at the time of this inspection. The audit report for the REMP was included as part of Audit 89001-RG/IN, which was discussed in paragraph 3.4. The scope and technical depth in this area was excellent.

Audit 664, dated May 30, 1989, was conducted at Teledyne Isotopes under the direction of NYPA, and included licensee participation. Three Adverse Quality Condition Reports (AQCRs) were issued as a result of this report, none of which were safety significant.

5.0 Exit Interview

The inspector met the licensee representatives (denoted in Section 1) at the conclusion of the inspection on December 15, 1989. The inspector summarized the purpose, scope, and findings of the inspection.