

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-220/78-12

Docket No. 50-220

License No. DPR-63 Priority --- Category C

Licensee: Niagara Mohawk Power Corporation
300 Erie Boulevard, West
Syracuse, New York 13202

Facility Name: Nine Mile Point Nuclear Station, Unit 1

Inspection at: Scriba, New York

Inspection conducted: August 28-31, 1978

Inspectors: Karl E. Plumlee
Karl E. Plumlee, Radiation Specialist

9/22/78
date signed

Percy E. Clemons
Percy E. Clemons, Radiation Specialist

9/22/78
date signed

Approved by: Peter J. Knapp
Peter J. Knapp, Chief, Radiation Support
Section, FF&MS Branch

date signed
9-22-78
date signed

Inspection Summary:

Inspection on August 28-31, 1978 (Report No. 50-220/78-12)

Areas Inspected: Routine, unannounced inspection by regional based inspectors of radiation protection during operation: qualifications of personnel; training; radiation protection procedures; instruments and equipment; exposure controls; surveys; and, posting, labeling and control of radiation areas; high radiation areas; and radioactive materials. The initial inspection and area examination was conducted during non-regular hours (August 28, 1978, 4:30 p.m. - 7:00 p.m.). This inspection involved fifty inspector-hours on site by two NRC regional based inspectors.

Results: Of the seven areas inspected, no items of noncompliance were identified in three areas. Four items of noncompliance were identified in four areas (In-fractions - four HP technicians experience short of requirements, paragraph 3; failures to perform dosimeter calibrations and alpha surveys required by pro-cedures, paragraph 4; inadequate leak test of a plutonium-beryllium sealed source, paragraph 5; and, one unlocked high radiation area gate, paragraph 6).



DETAILS

1. Persons Contacted

J. Aldrich, Training Supervisor
*J. Duell, Assistant Radiochemistry and Radiation Protection Supervisor
*E. Leach, Radiochemistry and Radiation Protection Supervisor
*T. Lempges, General Superintendent, Nuclear Generation
*J. Pavel, Assistant to the General Superintendent
*T. Perkins, Superintendent, Nine Mile Point, Unit 1
*M. Silliman, Results Supervisor

* denotes those present at the exit interview, 3:30 p.m., August 31, 1978.

2. Licensee Action on Previously Identified Items

(Closed) Noncompliance (220/77-26): Failure to lock a high radiation area gate. At this inspection a recurrent item of noncompliance was identified (220/78-12-04, Paragraph 6.a).

(Closed) Inspector Followup Item (220/77-26): Disabled and malfunctioning high radiation area door sensors. Review on this inspection did not identify any remaining problem (Paragraph 6.b).

(Closed) Inspector Followup Item (220/77-26): Overdue self-reader dosimeter calibrations. Review on this inspection identified two examples of noncompliance (220/78-12-02, Paragraph 4.a).

(Closed) Inspector Followup Item (220/77-19): Upkeep of radwaste building pumps and sumps. Review on this inspection did not identify any remaining problem.

(Open) IE Bulletin 78-07: Protection Afforded by Air-Line Respirators and Supplied-Air Hoods. Review of the licensee's reply, dated August 7, 1978, did not identify any problems. The respiratory protection program will be inspected on a subsequent inspection (Paragraph 7.a).

3. Changes Involving Radiation Protection Personnel

The Technical Specifications in Section 6.3.1, require that each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971, for comparable positions, and Section 4.5.2 of ANSI N18-1-1971, requires that technicians in responsible positions shall have a minimum of two years of working experience in their specialty.



The Radiochemistry and Radiation Protection (RRP) Technicians C appear to have responsible positions in that each is authorized to fill in and sign Radiation Work Permits (RWPs) without any further concurrence or evaluation of radiation and contamination hazards by another RRP representative, except when he determines that respiratory protection equipment is required.

Review of technician C qualifications identified two individuals who had commenced work in the RRP organization apparently without prior experience in their specialty, during March, 1977, and had been promoted to technician C during April, 1978. The inspector noted that these two individuals apparently would not have two years experience in their specialty until March, 1979. One individual has an AAS degree and both have college credits, military service, and five or more years employment with Niagara Mohawk Power Corporation.

Two other individuals had commenced work in the RRP organization apparently without prior experience in their specialty, during October, 1976, and were promoted to technician C during October, 1977. The inspector noted that these two individuals apparently would not have two years experience in their specialty until October, 1978. Both of these individuals have AAS degrees and five or more years employment with Niagara Mohawk Power Corporation.

The inspector informed the licensee representative by telephone, on September 5, 1978, that this constituted noncompliance with the above requirements (78-12-01).

4. Adherence to Procedures

a. Testing of Self-Reader Dosimeters

Technical Specification Section 6.11, "Radiation Protection Program," requires that procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

Regulatory Guide 8.4, "Direct-Reading and In-Direct-Reading Dosimeters," provides standards for pocket dosimeters used for personnel dose or dose rate measurements, and recommends no less than semiannual testing of such dosimeters for calibration/response and leak rate.



Licensee Procedure S-RTP-50, "Calibration of Self-Reading Pocket Dosimeters," developed pursuant to the above, states in Section 2.4.5, "a six month calibration interval shall be adhered to as much as possible."

Review of the calibration/response and leak rate records for a sample of ten self-reader dosimeters, held by ten individuals on August 31, 1978, showed that eight had been tested, typically during December, 1977, and again during July, 1978, but the remaining two apparently had not been tested within the twelve month period preceding this inspection. The serial numbers of these two dosimeters were 701088 and 250968.

The inspector identified these as examples of noncompliance with the above procedural requirements (78-12-02).

b. Counting of Smears for Alpha Activity

The station radiation protection procedures in Section III F, "Contamination Control" requires that some of the smears taken in the station will be periodically counted for alpha activity and that the alpha activity should be less than 10 dpm/100 cm² as determined by disc smears.

The inspector noted that although several service requests were made, the counting room equipment used for this determination was frequently out of service during recent months.

Review of survey records did not identify any example of an alpha count of any smear taken in the station other than shipping/receiving surveys during the period January 1 to August 28, 1978.

The inspector identified this as an example of noncompliance with the above procedural requirements (78-12-02).

5. Radioactive Sealed Source Leak Tests

Technical Specifications Sections 4.6.5 and 3.6.5 require that each radioactive sealed source shall be leak tested at intervals not to exceed six months, and that the tests be capable of detecting the presence of 0.005 microcuries of radioactive material in the test sample.



Review of the leak test records of five sealed sources showed that tests were performed during December, 1977, and July, 1978. The inspector noted that the July, 1978, smear of the (0.5 gram Pu) plutonium-beryllium sealed source had not been counted for alpha activity and the licensee had made no evaluation indicating that the beta-gamma activity count was capable of detecting 0.005 microcuries of plutonium in the test sample, and apparently had not complied with the above requirement.

The inspector identified this as an item of apparent noncompliance with the above requirement (78-12-03).

6. Posting and Control of Access to Radiation, High Radiation, and Contaminated Areas

Part of the inspection effort was to tour the facility for the purpose of observing compliance with the requirements of 10 CFR 20.203, "Caution signs, labels, signals, and controls," and with the applicable Technical Specifications and procedures for controlling access to high radiation areas.

a. Door Status

Technical Specification 6.13.1.b requires that locked doors shall be provided to prevent unauthorized entry into high radiation areas in which the intensity of radiation is greater than 1,000 mrem/hr.

When inspected at 6:00 p.m., on September 28, 1978, the gate on 261 foot elevation in the turbine building nearest to door No. 56 was found closed but unlocked and unattended. The licensee representative stated that the radiation level exceeded 1,000 mrem/hr in the area controlled by this gate.

The inspector stated that the unlocked door constituted an item of noncompliance with the above requirement. The licensee representative stated that each supervisor would again review this requirement with his workers (78-12-04).

The inspector noted that only one of the approximately 50 High Radiation Area gates and doors checked during the inspection was found unlocked, however, this item was recurrent in that a similar item was identified in Inspection No. 220/77-26, Paragraph 3.



b. Sensor Status

The FSAR indicates that selected High Radiation Area gates and doors of the above category are to signal locally and also on a control room panel when opened.

On previous inspections, the inspector found some of the door sensors out of adjustment, tied-off, or otherwise inoperable, defeating the local lights and audible alarms, as well as the control room panel lights.

The inspector noted that no such problems were identified on checking approximately 50 high radiation area gates and doors on this inspection.

c. Posting of Areas and Labeling of Radioactive Materials

Tours of the facility and confirmatory measurements by the inspector identified isolated instances where the posting and labeling appeared to be based on out-of-date survey information. No examples were identified of personnel entering such areas without an update of the survey information.

No items of noncompliance were identified in this area of the inspection.

7. Exposure Control

a. Exposure Records

The inspector observed the wearing of required equipment during tours of the facility, including badges and dosimeters.

The inspector reviewed the records of film badge, TLD, and self-reader dosimeter exposures. The inspector also reviewed exposure authorizations, selected forms NRC-4 and NRC-5, and selected copies of reports of exposures to individuals and to NRC. These records were for the period August 1, 1977 to July 31, 1978.

No items of noncompliance were identified.



b. Respiratory Protection

The licensee representative stated that half-face respirators are used for maintaining uptakes as low as is feasible but not where credit is taken for respiratory protection factors for such equipment.

The licensee representative stated that no airline supplied-air respirators are used in the demand mode at this station.

IE Bulletin 78-07

The licensee representative stated that supplied-air hoods are used which comply with the recommendations of IE Bulletin 78-07.

The licensee representative stated that an air-compressor is on order and is expected to be installed before the March, 1979, refueling outage. This compressor will supply breathing air lines independently of the present system that now supplies breathing air and equipment air lines.

The respiratory protection program will be reviewed in more detail on a subsequent routine inspection.

No items of noncompliance were identified.

c. Neutron Dosimetry

The licensee representative stated that typically 25 individuals were issued neutron film badges which were routinely changed every two weeks and evaluated by the badge service organization. He stated that none were reported to exceed the minimum detectible exposure to neutrons during 1977 or during 1978 up to July 31, which was the most recent badge period reported.

The inspector reviewed the licensee badge reports, neutron survey records, and survey instrument calibration records.

The inspector observed a confirmatory survey made outside of locked areas while the reactor was operating at about 82% power. No neutron dose rate was identified that exceeded one mrem/hr.

No items of noncompliance were identified.



8. Training

Technical Specification 6.4.1 states that "a retraining and replacement training program for the facility staff shall be maintained under the direction of the Training Supervisor and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and Appendix "A" of 10 CFR 55."

An inspector reviewed the licensee's training program, training staff, procedures, methods of determining effectiveness of material presented, content of material presented, and recordkeeping for the training given the technicians in the Radiation Protection Department in several training sessions held during 1978.

The inspector also reviewed records of the training provided four new employees added to the staff of Nine Mile Point I during 1978.

The inspector also reviewed records of the training and test results of personnel who are designated as "Self Monitors." These employees are not members of the Radiation Protection Department, but they are authorized to make radiation surveys.

No items of noncompliance were identified.

9. Instruments and Equipment

Procedure S-RTP-15, "Operation and Calibration of the Low Range Beta-Gamma Dose Rate Instruments" developed pursuant to Technical Specification 6.8 requires that the instruments be calibrated quarterly. The inspector selected eight portable survey instruments to determine if this requirement was observed during the period January through July, 1978.

No items of noncompliance were identified.

10. Procedures

Technical Specification 6.5.1.6 requires "The Site Operations Review Committee shall be responsible for review of all procedures required by Specification 6.8 and changes thereto . . ."

The inspector reviewed the following procedures to determine if this requirement was observed.

"Calibration of Self-Reading Dosimeters" Procedure No. F-RTP-46, Revision 0, dated April, 1977;



"Operation and Calibration of the Low Background Proportional Counter," Procedure V. A. 2(F), Revision 1, dated April, 1977; and,

"Training of Non-Licensed Personnel," Procedure No. APN-10C, Revision 0, dated September, 1977.

All of the procedures and changes thereto reviewed by the inspector for compliance with the Technical Specification requirements had been reviewed by the Site Operations Review Committee.

No items of noncompliance were identified.

11. Exit Interview

The inspector met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection.

The inspector described the scope and findings of the inspection.*

The licensee representative stated that operational limitations with the waste concentrator resulted in a restriction on the amount of water allowed in the drains, and this was delaying decontamination work in several areas.

*The licensee representative was informed by telephone on September 5, 1978, of the examples of noncompliance given in Paragraph 3.

