

U. S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-220/84-05  
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, Unit 1

Inspection At: Oswego, New York

Inspection Conducted: April 10-13, 1984

Inspector: R. L. Nimitz 5/4/84  
R. L. Nimitz, Senior Radiation Specialist date

Approved by: M. M. Shanbaky 5/8/84  
M. M. Shanbaky, Ph.D., Chief, Facilities date  
Radiation Protection Section

Inspection Summary: Inspection Conducted on April 10-13, 1984 (Inspection Report No. 50-220/84-05)

Areas Inspected: Routine, unannounced inspection of licensee Radiological Controls during the current outage including: outstanding items; training and qualification; external exposure control; internal exposure control; radioactive and contaminated material control; and ALARA. The inspection involved 33 inspector-hours onsite by one region-based inspector.

Results: One violation was identified (failure to adhere to radiation protection procedures; paragraph 5 and 6).

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## DETAILS

### 1. Persons Contacted

#### 1.1 Niagara Mohawk

- \* J. Aldrich, Operations Supervisor
- \* R. Gerbig, Assistant Supervisor, Radiation Protection and Chemistry
- \* D. Helms, Dosimetry Supervisor
- \* T. Irving, ALARA Engineer
- \* T. Perkins, General Superintendent
- \* T. Roman, Station Superintendent
- \* P. Volza, Emergency Coordinator

#### 1.2 NRC

- \* S. Hudson, Senior Resident Inspector

\*denotes those individuals who attended the Exit Interview on April 13, 1984.

The inspector also contacted other licensee employees during the inspection.

### 2. Purpose

The purpose of this inspection was to review adequacy, effectiveness and implementation of radiological controls during the refueling outage. The following elements were reviewed:

- outstanding items
- training and qualification
- external exposure control
- internal exposure control
- radioactive and contaminated material control
- ALARA

### 3. Outstanding Item

- 3.1 (Open) Follow-up Item (50-220/84-03-01) NRC to review vendor readout results of film badges used during diving operations and licensee evaluation of the results. The licensee was reviewing and summarizing the data at the time of the inspection. Preliminary review of the results did not identify any abnormal results. The licensee's summary report will be reviewed during a subsequent inspection.

- 3.2 (Open) Follow-up Item (50-220/84-03-02) NRC to review licensee bioassay results for diving personnel. The licensee had not received the results of the vendor analysis of bioassay samples. The results will be reviewed during a subsequent inspection.
- 3.3 (Closed) Follow-up Item (50-220/84-03-03) NRC to review radiation protection training records of personnel involved with fuel rack installation. The radiation protection training records of selected fuel rack installation personnel and radiation protection personnel were reviewed. The personnel were found to have received acceptable training in the radiological safety aspects of the fuel rack installation. The licensee's radiation protection personnel were trained in applicable procedures for the installation.

#### 4.0 Training/Qualifications

##### 4.1 Radiation Workers

The inspector reviewed the training of radiation workers with respect to the requirements of 10 CFR 19.12, "Instruction to Workers."

The licensee's performance in the area was based on inspector observations, review of documentation, and discussions with cognizant licensee representatives.

##### Finding

The licensee was found to have adequately trained radiation workers in accordance with the requirements of 10 CFR 19.12.

No violations were identified.

##### 4.2 Radiation Protection Personnel

The inspector reviewed the training and qualifications of selected radiation protection personnel with respect to the criteria contained in:

- Technical Specification 6.3, "Facility Staff Qualification"
- Technical Specification 6.4, "Training"

The evaluation of the licensee's performance in this area was based on: review of radiation protection personnel performance in the field, review of documentation, and discussion with cognizant licensee personnel.

##### Findings

The licensee was unable to provide contractor health physics technician training records. The personnel who had these records were unavailable at the time of the inspection.

The licensee was training personnel in new procedures and procedure changes.

No violations were identified.

The training records of contractor radiation protection technicians will be reviewed during a subsequent inspection (50-220/84-05-02).

#### 5. External Exposure Control

The following elements of the external exposure control program were reviewed:

- radiological surveys
- implementation of applicable administrative controls (e.g., radiation work permits, high radiation area controls)
- issuance and use of personnel dosimetry devices
- maintenance of records, exposure reporting, and notifications

The review was with respect to criteria contained in the following:

- Technical Specification 6.11, "Radiation Protection Program"
- Technical Specification 6.13, "High Radiation Area"
- 10 CFR 20, "Standards for Protection Against Radiation"
- RP-2, Revision 2, "Radiation Work Permit Procedure"
- NI - FHP-23, Revision 2, "LPRM Removal and Installation"
- RP-1, Revision 4, "Access and Radiological Control"
- RP-3, Revision 2, "Performance of Radiological Surveys"

The licensee's performances in this area was based on:

- observations by the inspector
- performance of independent radiation surveys by the inspector
- review of documentation
- discussions with cognizant licensee personnel.

#### Findings

Within the scope of the review, the following violation was identified:

Technical Specification 6.11 requires that procedures for personnel radiation protection be prepared and adhered to for all operations involving personnel radiation exposure. Radiation Protection Procedure RP-2, Revision 2 states, in Section 5.4 that the Leadman is responsible for insuring that the instructions on the radiation work permit (RWP) are strictly adhered to. Radiation Work Permit No. 4209, dated April 11, 1984 requires that radiation protection personnel survey all items prior to removal from the reactor vessel or spent fuel pool.

On April 11, 1984 at about 2:30 p.m., the Leadman for RWP No. 4209 did not insure that the instructions for this RWP were strictly adhered to. At that time a contaminated television camera, lighting cables and low power range monitor (LPRM) handling tool cables were removed from the reactor vessel and were not surveyed. These items were used to support removal of an LPRM.

The inspector discussed the above with licensee representatives and stated that failure to adhere to radiation protection procedures was a violation of Technical Specification 6.11 (50-220/84-05-01).

The licensee took immediate corrective action to preclude recurrence of this violation. Licensee radiation protection personnel discussed the event with reactor operations shift supervisor personnel. Operations shift supervisory personnel then discussed the incident with all personnel involved. The licensee issued a Nonconformance Event Report for the incident.

Excluding the above matter, the other aspects of the licensee's external exposure control program reviewed appeared to be adequately and effectively implemented.

#### 6. Internal Exposure Control

The following elements of the external exposure control program were reviewed:

- airborne radioactivity surveys
- implementation of applicable administrative controls (e.g., radiation work permit survey requirements)
- respiratory protection equipment selection and use
- maintenance of records, exposure reporting and notification

The review was with respect to criteria contained in the following:

- Technical Specification 6.11, "Radiation Protection Program"
- 10 CFR 20, "Standards for Protection Against Radiation"
- RP-2, Revision 2, "Radiation Work Permits"

- RP-3, Revision 2, "Performance of Radiological Surveys"
- RP-10, Revision 3, "Use of Respiratory Protective Equipment"
- S-RTP-60, Revision 0, "Respiratory Protection Quality Control/Quality Assurance Program"
- S-RTP-62, Revision 2, "Respiratory Equipment - Assembly, Test and Inspection, Storage"

The licensee's performance in the area was based on:

- observations by the inspector
- review of documentation
- discussions with cognizant licensee personnel.

#### Findings

Within the scope of this review, the following violation was identified:

Technical Specification 6.11 requires that procedures for personnel radiation protection be prepared and adhered to for all operations involving personnel radiation exposure. Radiation Protection Procedure RP-10, Revision 3, requires, in part, in Section 7.4 that the regulator for the Scott Full Face Respirator with airline be set at  $75 \pm 5$  psig.

On April 11, 1984, at about 3:30 p.m., two individuals, cleaning reactor stud bolts, were using Scott Full Face Respirators with airlines with the regulator set at 100 psig. The licensee was making allowance for use of the respirators.

The inspector discussed the matter with licensee representatives and stated that failure to adhere to radiation protection procedures was a violation of Technical Specification 6.11 (50-220/84-05-01).

Licensee radiation protection personnel initiated corrective action to preclude recurrence. This action included clarification of responsibility for equipment pressure setting.

Excluding the above matter, the other aspects of the licensee's internal exposure control program reviewed appeared to be adequately and effectively implemented.

Within the scope of this review, the following was noted:

- The licensee made extensive use of engineering controls to limit airborne radioactivity. This was particularly evident for valve repairs performed in the Turbine Building.
- Review of whole body count data covering the period July 1982 through June 1983 indicated the licensee limited the exposure of personnel to

airborne radioactivity during reactor recirculation system piping work. No intakes in excess of 40 MPC-hours were identified.

#### 7. Radioactive and Contaminated Material Control

The control of radioactive and contaminated material was reviewed with respect to criteria contained in the following:

- Technical Specification 6.11, "Radiation Protection Program"
- 10 CFR 20, "Standards for Protection Against Radiation"
- RP-3, Revision 2, "Performance of Radiological Surveys"

The licensee's performance in the area was based on:

- observations by the inspector
- performance of independent radiation surveys by the inspector
- review of documentation
- discussions with cognizant licensee personnel.

#### Findings

The licensee was adequately and effectively controlling radioactive and contaminated material.

No violations were identified.

#### 8. ALARA

The licensee's program for reducing personnel occupational radiation exposure to as low as reasonably achievable (ALARA) was reviewed. The review was with respect to criteria contained in the following:

- Regulatory Guide 8.8, Revision 3, "Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations Will be As Low As Is Reasonably Achievable"
- Regulatory Guide 8.10, Revision 1-R, "Operating Philosophy for Maintaining Occupational Radiation Exposures As Low As Reasonably Achievable"
- RP-7, Revision 0, "Incorporating ALARA Requirements Into Work Planning and Initiation"

The licensee's performance in the area was based on:

- review of on-going work

- review of documentation including:
  - Drywell In-service Inspection ALARA work packages
  - Control Rod Drive Stub Tube ALARA work packages
- discussions with cognizant licensee representatives including discussions of licensee plans for control rod drive rebuilding

#### Finding

The licensee was found to be providing adequate ALARA planning for maintenance outage tasks reviewed. The following was noted:

- the licensee was performing ALARA reviews in accordance with procedure RP-7
- the licensee was rescheduling tasks for which time and man-power did not allow for an ALARA review prior to task performance
- the licensee was shielding primary lines in the Drywell to reduce radiation exposure
- the licensee was performing on-going job review for the tasks selected for continuous review.

Within the scope of this review, the following item for improvement was identified:

- relocate or shield the 237 Drywell access control point. The control point was located in a 2-3 mR/hr radiation field which, assuming a 60 day outage, could result in an additional 8-10 man-rem of exposure.

Note: The licensee performed an ALARA Review of this control point on March 21, 1984. The review indicated the licensee's ALARA Group will investigate a shielding booth or another alternative at a later date.

#### 9. Exit Interview

The inspector met with licensee representatives (denoted in Section 1) at the conclusion of the inspection on April 13, 1984. The inspector summarized the purpose, scope and findings of the inspection. At no time during the inspection was written material provided to the licensee by the inspector.