

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-220/90-23
50-410/90-21

Docket No. 50-220
50-410

License No. DPR-63 Priority - Category C
NPF-54

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

Facility Name: Nine Mile Point Units 1 and 2

Inspection At: Lycoming, New York

Inspection Conducted: August 6-10, 1990

Inspector: *P. O'Connell* 8-22-90
P. O'Connell, Radiation Specialist date

Approved by: *W. Pasciak* 8/24/90
W. Pasciak, Chief, Facilities Radiation date
Protection Section

Inspection Summary: Inspection conducted on August 6-10, 1990 (Combined
Inspection Report No. 50-220/90-23; 50-410/90-21)

Areas Inspected: Routine, unannounced inspection of the radiation protection
program. Areas reviewed included: organization, external exposure controls, and
internal exposure controls.

Results: Within the scope of this review one non-cited violation was
identified.



DETAILS1.0 Individuals Contacted

* R. Abbott	Station Superintendent - Unit 2
* W. Allen	MATS, Co-tenant Group
* D. Barcomb	Radiation Protection Supervisor - Unit 2
W. Connelly	Quality Assurance
* K. Dahlberg	Operations
* J. Firlit	Vice President, Nuclear Generation
* E. Gordon	Radiation Protection Manager
* J. Gray	Radiation Protection Supervisor - Unit 1
* E. Langille	Instrumentation Supervisor
* C. Leon	Dosimetry Supervisor
W. Schmidt	Acting Senior NRC Resident Inspector, Nine Mile Point
* N. Spagnoletti	Corporate Health Physics
* D. Stein	Regulatory Compliance Department
* R. Temps	NRC Resident Inspector, Nine Mile Point
* W. Thomson	Supervisor, Radiological Support
* P. Volza	Superintendent, Chemistry and Radiation Protection
R. Zolliteck	Nuclear Generation

* Denotes attendance at the Exit Meeting on August 10, 1990.

2.0 Purpose and Scope of Inspection

This inspection was a routine, unannounced Radiological Controls inspection. The following areas were reviewed: Organization, External Exposure Controls, and Internal Exposure Controls.

3.0 Organization

The inspector reviewed the current organization of the Radiation Protection (RP) Department and noted that recently several personnel changes had been made. The personnel changes originated with the departure of the Superintendent-Chemistry and RP. The previous Manager-Radiation Protection (RPM) was then appointed to the position of Superintendent-Chemistry and RP and the Supervisor-Radiological Support was appointed to the position of RPM.

The licensee discussed with the inspector a proposed staffing reorganization of the station which included significant changes within the RP Department. The purpose of the reorganization is to differentiate between the responsibilities of the two units at the facility and thereby make each unit individually accountable for unit performance. Under the proposed reorganization, each unit would have a separate Plant Manager and a separate Health Physics Manager. Each unit Health Physics Manager would be responsible for supporting day to day operations and ALARA. A different group, called Site Services, would be created with a RP Manager with



responsibility over dosimetry, calibrations, respiratory protection, and oversight of both units RP programs. The licensee stated that they were still evaluating the scope of the RP Manager's oversight of the implementation of the RP programs. The staffing reorganization of the station will be reviewed during a future inspection.

The licensee stated that they plan on hiring 40 contractor Senior RP Technicians and 28 non-progression utility technicians, a position equivalent to Junior RP Technician, for the upcoming Unit 2 refueling outage which is scheduled to begin in mid September. In preparation for the outage, in March the licensee brought on-site 6 contractor ALARA Engineers. The licensee stated that these engineers have already completed the ALARA reviews for the scheduled job packages for the outage. The licensee is planning on temporarily upgrading, for the duration of the outage, 6 station RP Technicians to the position of Chief Technician. These Chief Technicians are to provide oversight, during each shift, for work in the drywell, on the refueling floor, and for the balance of the plant. The licensee stated that the planned staffing levels for the Unit 2 outage are similar to the staffing levels for previous Unit 1 outages. It appeared that the licensee was making adequate preparations for the upcoming outage.

4.0 External Exposure Controls

The inspector conducted several tours of the facility and determined that areas were properly posted, barricaded, and/or locked as required by 10 CFR Part 20 and plant Technical Specifications.

4.1 Instrument Calibration

The inspector reviewed the licensee's program for calibrating, source checking, and controlling the use of portable radiation survey instruments. The inspector toured the calibration facility, reviewed applicable calibration records and procedures and examined a selected number of survey instruments, which were in use, to verify that the calibration due date had not expired. The licensee calibrates portable radiation survey instruments on a quarterly basis and performs a functional test on all scales for each instrument on either a daily basis or immediately prior to use. The licensee had an effective program for calibrating and source checking the survey instruments.

On a daily basis, Radiation Records Personnel review Extended Radiation Work Permit (RWP) logs. These logs denote which survey instruments had been used during the day. The logs also list the name of the individual who used the survey instruments. Using training records, the Radiation Records personnel verify that only individuals with current training had used survey instruments. The inspector reviewed several records and no discrepancies were noted.



The licensee demonstrated their method for scheduling when the portable survey instruments are due for calibration. Weekly, the licensee generates a list of portable instruments, both radiation survey and air sampling instruments, with approaching calibration due dates. The inspector noted several instruments on the list had calibration due dates which had expired by several months. The Supervisor-Instrument Support stated that the instruments in question were unaccounted for and, at least weekly, she reviews the Extended RWP logs and other survey data to ensure that out-of-calibration survey instruments had not been used. The inspector reviewed several of the logs and did not note any instance of individuals using out-of-calibration instruments.

The inspector noted that procedure S-RPIP-3.1, "Control and Issue of Radiation Protection Instruments", states that the Supervisor-Instrument Support should initiate a "RP Instrument Use Retrace Record" for out-of-calibration instruments which had not been returned to the instrument issue point. The licensee stated, that while they had not been initiating the Retrace Record, they had taken other actions to ensure that out-of-calibration instruments had not been used. The licensee stated that they would clarify the procedure to reflect their method for ensuring that out-of-calibration instruments are not used in the plant.

While touring Unit 2, the inspector noted that several of the Area Radiation Monitors (ARMs) had stickers attached to the display meter which indicated the calibration due date had expired. The licensee reviewed this finding and determined that the calibration stickers had been placed on the ARMs when the Instrument and Control Department (I&C) completed a start-up calibration of the ARMs. This "loop" calibration was only required to be done at initial start-up. The inspector verified that the ARMs had been periodically calibrated by the Instrument Support Technicians as required by procedure. The licensee stated that, to avoid confusion, they would remove the I&C stickers from the ARMs.

4.2 Dosimetry

The licensee utilizes two types of personnel monitoring devices to measure personnel exposures at the facility. For routine activities, the licensee uses a thermoluminescent dosimeter (TLD) which the licensee processes on-site. The inspector reviewed the licensee's National Voluntary Laboratory Accreditation Program (NVLAP) certification and verified that the licensee held current NVLAP accreditation. Although the licensee's TLD processing is accredited in Category VIII, neutron measurement, the licensee issues a separate neutron dosimeter to individuals entering into areas where neutron radiation exists. The neutron dosimeter is sent off-site for processing. The inspector verified that the vendor who processes the neutron dosimeter held current NVLAP accreditation in Category VIII. The inspector discussed the use of the dosimetry algorithm with the Dosimetry Supervisor and a contractor dosimetry specialist and concluded that the licensee had an adequate program to differentiate and quantify the different types of radiation encountered at the facility.



The inspector reviewed the quality control records for the TLDs. On a monthly basis, the licensee conducts monthly quality control tests of the TLDs using a gamma radiation source. Quarterly the TLDs are quality control tested for response to beta and neutron radiation. With the exception of the June 1990 gamma "Quality Control Dosimetry Exposure Data Sheet", the results of which still had not been reviewed, all quality control records were noted to be satisfactorily completed. The licensee stated that the June 1990, gamma data sheet had inadvertently been left in the Radiation Records office and that, in the future, they would ensure that the data sheets are expeditiously reviewed.

The inspector reviewed the personnel exposure records of selected individuals who received occupational exposures in excess of 1.25 rem during a calendar quarter. The inspector verified that the licensee had determined the individuals' accumulated occupational dose to the whole body on NRC Form 4 prior to allowing the individuals exposures to exceed 1.25 rem per calendar quarter as required by 10 CFR 20.101(b)(3).

Procedure AP-3.3, "Radiation Protection Program", details the approval process for allowing individual exposures to exceed the administrative limit of 1 rem per calendar quarter. In order to exceed the administrative limit the approval of both the individual's supervisor and the Unit Supervisor-Radiation Protection or Supervisor-Dosimetry must be obtained. In order to exceed 1.5 rem per calendar quarter the additional approvals of the Manager-Radiation Protection or Supervisor-Radiological Support and the Station Superintendent must be obtained. These approvals are documented on Form S-RP-1, "Authorization to Exceed NMPC Radiation Exposure Guides". While reviewing personnel exposure records the inspector noted that Form S-RP-1 did not contain an approval block for either the Manager-Radiation Protection or Supervisor-Radiological Support. The inspector also noted that individual exposures had exceeded 1.5 rem per calendar quarter without the approval of either the Manager-Radiation Protection or Supervisor-Radiological Support as required by Procedure AP-3.3. The inspector identified this as a violation of Technical Specification 6.11, "Radiation Protection Program", which requires, in part, that procedures for personnel radiation protection shall be adhered to for all operations involving personnel radiation exposure.

The licensee stated that they were in the process of revising Procedure AP-3.3 and provided the inspector with a draft copy of a form entitled "Request for Increased Authorized Exposure Limit". This form correctly detailed the required approvals for allowing individual exposures to exceed 1.5 rem per calendar quarter. Prior to the end of the inspection the licensee issued Radiation Protection Standing Order S-90-04 which specified that the new "Request for Increased Authorized Exposure Limit" form was to be used until Procedure AP-3.3 was revised. The standing order also specified that appropriate personnel will be trained on the use of this form. The inspector determined that, due to the minor safety significance,



the Unit Supervisor-Radiation Protection and the Station Superintendent had authorized the exposure limits, and the prompt corrective actions taken by the licensee, this violation met the criteria, specified in 10 CFR 2, appendix C, V. G., for a non-cited violation. (50-220/90-23-01; 50-410/90-21-01)

5.0 Internal Exposure Controls

The inspector noted that the licensee does not currently have a program for tracking individual exposures to airborne radioactivity (MPC-hours). Rather, the licensee adopted a policy of limiting individual exposures to airborne radioactive material to less than those exposures which are required to be tracked in accordance with 10 CFR 20.103(a)(3), i.e. 2 MPC-hours in any one day or 10 MPC-hours in any one week. The inspector reviewed air sample records and the results of whole body counts and noted that, generally, the licensee has been successful in keeping internal exposures below the level which would require MPC-hour tracking. The inspector noted that two individuals, who recently had positive whole body counts, had been restricted from the radiation controlled area until the intake evaluation was completed. After the intake evaluation had been completed, the Internal Dosimetry Specialist forwarded a memo to the Dosimetry Supervisor requesting that the intake assessment be included with any other assessment of the individuals exposures to airborne radioactive material.

Discussions with several licensee personnel indicated that the licensee is able to keep internal exposures below the level which would require MPC-hour tracking through limitation of stay times for workers in Airborne Radioactivity Areas and the extensive use of respirators. The inspector noted that, in many instances, it was not keeping with the ALARA principal to employ an overly conservative respirator use policy. For example, it would not be ALARA to have workers wear respirators in High Radiation Areas (HRA) in order to keep intakes under two MPC-hours if the use of respirators would substantially increase the amount of time the workers had to remain in the HRA. The licensee stated that they had been reviewing their respirator use policy and provided the inspector with a draft procedure for MPC-hour tracking. The licensee stated that this procedure should be in effect prior to the Unit 2 outage in September 1990. The implementation of this procedure and its effect on the licensee's respirator use policy will be reviewed during future inspections.

6.0 Exit Meeting

The inspector met with licensee representatives (denoted in Section 1 of this report) on August 10, 1990. The inspector summarized the purpose, scope and findings of the inspection.

