

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-220/92-13
50-410/92-16

Docket Nos. 50-220
50-410

License Nos. DPR-63
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: April 27 - May 1, 1992

Inspector:



J. Furia, Senior Radiation Specialist,
Facilities Radiation Protection Section (FRPS),
Facilities Radiological Safety and Safeguards
Branch (FRSSB), Division of Radiation Safety
and Safeguards (DRSS)

5-4-92
date

Approved by:



W. Pasciak, Chief, FRPS, FRSSB, DRSS

5.6.92
date

Areas Inspected:

Unannounced inspection of the licensee's radiological protection programs during outage and normal operations including: management organization, ALARA, radiological controls, internal dosimetry, respiratory protection, external dosimetry and implementation of the above programs.

Results:

Significant improvement in ALARA performance at Unit 2, when compared to past performance during its first refueling outage was noted. Some radiological housekeeping problems were noted however. ALARA performance at Unit 1 remained strong.

9205190039 920512
PDR ADDCK 05000220
Q PDR



DETAILS

1. Personnel Contacted

1.1 Licensee Personnel

- * W. Allen, Radiological Assessment Manager, MATS
- * W. Baker, Licensing Program Director, Unit 2
- * D. Barcomb, General Supervisor, Radiation Protection Operations, Unit 2
- * R. Carlson, Supervisor, Respiratory Protection
- * K. Dahlberg, Plant Manager, Unit 1
- R. Gerbig, Associate Senior Generation Specialist - Dosimetry
- T. Hogan, Supervisor - ALARA, Unit 1
- * E. Langille, Supervisor, Radiological Engineering, Unit 2
- * C. Leon, Supervisor, External Dosimetry
- * M. McCormick, Plant Manager, Unit 2
- * A. Pinter, Site Licensing Engineer
- * K. Rowe, Supervisor - ALARA, Unit 2
- * P. Smalley, General Supervisor, Radiation Protection Operations, Unit 1
- * P. Swafford, Radiation Protection Manager, Unit 2
- * W. Thompson, Radiation Protection Manager, Unit 1
- C. Ware, General Supervisor, Technical Training

1.2 NRC Personnel

R. Laura, Resident Inspector
W. Mattingly, Resident Inspector
W. Schmidt, Senior Resident Inspector

* Denotes those present at the exit interview on May 1, 1992.

2. Purpose

The purpose of this safety inspection was to review: the licensee's radiological protection program for the second Unit 2 refueling outage and for Unit 1 restart operations; ALARA; and the respiratory protection and internal and external dosimetry programs.

3. Radiation Protection Programs

During the mid-cycle forced outage Unit 1 entered in February, 1992, the Radiation Protection Manager (RPM) was assigned responsibilities in the outage management area, and the General Supervisor, Radiation Protection Operations has acted as the RPM. The position of General Supervisor, Radiation Protection Operations has been filled on a rotating basis by the various Radiation Protection Supervisors. At the time of this inspection, the Supervisor - ALARA was acting as the General Supervisor.



The Radiation Protection Department at Unit 2 remained the same since the last inspection in this area, with existing plant staff being augmented by contractor technicians to support the refueling outage.

3.1 Unit 1 - ALARA

In spite of the 11 week forced outage, which was completed near the beginning of this inspection, Unit 1 was still within approximately 15% of its ALARA goal for the year-to-date. As of April 28, 1992, Unit 1 total exposure was at 46 Person-Rem, which included 37 Person-Rem for the forced outage. In preparing its ALARA goals for 1992, Unit 1 had assumed six weeks of unplanned outages, and thus some of the dose expended was taken into account for the yearly ALARA goal. Although the first quarter of 1992 finished at 39 Person-Rem, whereas the ALARA goal was 32 Person-Rem, during April, 1992, the licensee completed the forced outage at approximately 40% under the ALARA goal for that month.

The licensee continued to emphasize good ALARA performance by making each working Department within the plant have an ALARA goal, and by providing performance enhancements and rewards for those departments meeting their annual goal. The majority of the extra dose expended during the first quarter of 1992 was in the Maintenance Department, as could be expected in an outage situation. Instrumentation and Control, Electrical and Mechanical Maintenance were all above their year-to-date goals in the first quarter of 1992.

In spite of the outage and the accompanying greater number of entries to the Radiologically Controlled Area (RCA), the number of Contamination Occurrence Reports (CORs) continued to remain low. Through April 28, 1992, the number of CORs at Unit 1 stood at 26, with an annual goal of not more than 260. Although generally of little radiological safety significance, the number of CORs can be utilized as a trending parameter, to aid the licensee in monitoring worker actions in the RCA, radiological housekeeping and the success of plant actions to reduce the amount of contaminated areas.

During this inspection, the inspector observed the licensee handle a personnel clothing contamination. The licensee took appropriate action to identify the location of the contamination, remove the contamination, identify the contamination isotopically, and identify the area or areas within the RCA where the contamination might have come from. The licensee's actions during this event were commendable, and reflected a high degree of professionalism.

3.2 Unit 1 - Radiological Operations

As part of this inspection, several tours of the Unit 1 RCA were conducted. In general, plant radiological housekeeping appeared good, and no instances of



posting discrepancies or unlocked High Radiation Area doors were noted. Several instances of protective clothing or tools left on the floor inside posted contaminated areas were noted, however the licensee took prompt corrective action to correct these deficiencies.

The inspector noted two instances where clipboards holding a licensee form entitled "Lockable Barrier Door Log" were placed on entrances to High Radiation Areas in such a manner so as to obscure the radiological postings also located on the doors. The Unit 1 Health Physics (HP) Operations Section took prompt corrective action at the two locations identified to relocate the clipboards, and designed and implemented a corrective action which locks the clipboards into a position where they cannot block the radiological postings.

3.3 Unit 1 - Respiratory Protection/Internal Dosimetry

The licensee abolished the site radiological services group in 1991, and distributed its functions among the two radiation protection programs. The program for respiratory protection and internal dosimetry was transferred to Unit 1, although the staff in these areas continues to supply support to both Units. The incumbent supervisor now reports directly to the Unit 1 Radiation Protection Manager.

The licensee continued to stress engineering controls over the utilization of respirators throughout both Units. In general, the bulk of respirator usage occurred during outages, and a significant number of respirators were in use for non-radiological purposes, such as asbestos handling and removal. The licensee's qualification and training program for respirator usage included: (1) General Employee Training (GET); (2) Respirator Training given by the GET instructors as a separate course; (3) a medical evaluation; and (4) fit testing. Those personnel who successfully completed all four phases of the qualification and training process were then listed on a master record which was available for the use of technicians assigned respirator issue responsibility.

The licensee's principle method for determining internal uptakes of radioisotopes was a Helgeson Stand-Up Whole Body Counter. This system utilized four scintillation crystals in a vertical array, such that the general location within the body could be determined. Daily checks of this system utilizing a cobalt-60 source were conducted, and the results plotted on a quarterly control chart. The licensee utilized an acceptance criterion of ± 2 sigma, with an outlying data point requiring investigation and action to repair the system. Internal uptakes identified through this system were then sent to the appropriate unit's Radiological Engineering Section for analysis and assignment of dose.



3.4 Unit 2 - ALARA

The licensee had established an outage ALARA goal of not more than 300 Person-Rem, and a yearly goal of not more than 380 Person-Rem. As of April 30, 1992, the outage dose was at approximately 185 Person-Rem, with many of the dose intensive jobs in the drywell having been completed or nearing completion. At the present rate, the licensee appears fully able to complete the outage at less than 300 Person-Rem, which would be a significant improvement over the first refueling outage which was completed for 449 Person-Rem. The success of the second refueling outage from an ALARA perspective can be traced to : (1) better work coordination between the outage management team and crafts with the Radiation Protection Department; (2) a stronger ALARA emphasis placed on this outage by upper management, including the site Vice President; and (3) planning and implementation of ALARA activities by the ALARA Section staff and ALARA Supervisor.

The number of CORs at Unit 2 were at 381 as of May 1, 1992, with a goal of not more than 400 CORs for all of 1992. Some poor worker practices, together with occasional lax radiological housekeeping, as noted in Section 3.5 below, may be part of the cause for this higher than expected number.

3.5 Unit 2 - Radiological Operations

As part of this inspection, tours of various areas within the Unit 2 RCA, including the Auxiliary Boiler Area, Turbine Building, reactor Building and Drywell were conducted. Several instances of poor radiological housekeeping around posted contaminated areas in the Turbine and Reactor Buildings were noted, consisting of trash, hard hats, and tools left on the floor. In addition, a number of highly contaminated areas within the drywell were in need of general clean-up, trash and laundry removal. No instances of step off pads without laundry baskets were noted. (This was a recurrent previous concern at Unit 2.)

No instances of improper radiological posting were noted, however one area in the Reactor Building was noted to have a radiological caution posting noting "Stay Clear No Loitering" due to a localized hot spot, which was approximately 2-3 feet from the level telephone. At the time of the conclusion of this inspection, the licensee was examining ways to resolve this issue in a safe and reasonable manner.

One concern identified during this inspection involved a frisker (RM-14 with pancake probe) located in the Auxiliary Boiler Building. That frisker had not been source checked in two days as of April 29, 1992. Licensee procedures require that friskers be source checked daily, and that acknowledgement of this



source check be made by initialing a calendar located on the top of the frisker. The licensee took prompt corrective action when notified of this discrepancy. The safety significance of this event was low, since no work was performed in any contaminated areas in the Auxiliary Boiler Building during this time frame.

3.6 Unit 2 - External Dosimetry

As part of the reorganization previously discussed in Section 3.3 above, the external dosimetry program was made the responsibility of Unit 2, with the Supervisor, External Dosimetry reporting directly to the Unit 2 Radiation Protection Manager. This program included both the issuance of thermoluminescent dosimeters (TLDs) and pocket ion chambers, but also the reading and calibration of these devices.

The licensee was accredited in Categories I through VIII by the National Voluntary Laboratory Accreditation Program (NVLAP). The Supervisor, External Dosimetry was listed as the responsible individual for this program, with the alternate being the Associate Senior Generation Specialist - Dosimetry, who has been in this position for four months. At the time of this inspection, the licensee was in the process of renewing its NVLAP accreditation, having just completed its first round of TLDs. The results of this reaccreditation process will be reviewed during a future inspection.

The licensee conducted daily Quality Control (QC) checks on each of its three Panasonic TLD readers when in use, in addition to using QC test TLDs for every 300 personnel TLDs when reading them at the end of each month. The licensee had been having monthly spikes prepared by one of the unit Radiological Engineering Sections, using either a cobalt-60 well source or a cesium-137 irradiator. As part of its improvements in the external dosimetry area, the licensee had recently contracted with an independent laboratory to start supplying it with this spiked TLDs. On an annual basis, the licensee conducted a 100% visual inspection of its TLD chips.

4. Training

As part of this inspection, a review of the licensee's training program for contractor health physics technicians was conducted. The licensee's training was divided into two programs, one each for those technicians who perform job coverage, and the other for those technicians who perform limited specific tasks in the plant. Job coverage technicians were required to pass a written examination on radiological protection fundamentals before any additional training was provided. Technicians who failed this examination were deemed unacceptable, and were not permitted to work at the site. Once the examination was completed, contractor technicians were



given a self-study guide for reviewing critical plant procedures, and then were provided task training by a health physics supervisor. Each technician was given a personalized task training program. For technicians who would be performing limited specific tasks, a smaller program on plant procedures and more limited and specific task training was provided.

5. Exit Interview

The inspector met with the licensee representatives denoted in Section 1 at the conclusion of the inspection on May 1, 1992. The inspector summarized the purpose, scope and findings of the inspection:

