

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-220/91-16
50-410/91-16

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: August 12-16, 1991

Inspectors:  8/18/91
J. Furiá, Senior Radiation Specialist, date
Facilities Radiological Protection Section
(FRPS), Facilities Radiological Safety and
Safeguards Branch (FRSSB), Division of
Radiation safety and Safeguards (DRSS)

Approved by:  8.19.91
W. Pasciak, Chief, FRPS, FRSSB, DRSS date

Inspection Summary: Inspection on August 12-16, 1991 (Combined Inspection Report Nos. 50-220/91-16; 50-410/91-16)

Areas Inspected: Routine unannounced inspection of the transportation and radiation protection programs including: management organization, ALARA, radiological controls, and implementation of the above programs.

Results: Within the areas inspected, no violations or deviations were noted.



DETAILS

1. Personnel Contacted

1.1 Licensee Personnel

- * W. Allen, MATS
- * D. Barcomb, General Supervisor-Radiation Protection, Unit 2
- * R. Cole, Supervisor, radwaste Operations, Unit 2
- * K. Dahlberg, Unit 1 Superintendent
- * E. Gordon, Health Physics Support Supervisor
T. Hogan, ALARA Supervisor, Unit 1
- * M. Jaworsky, Site Licensing
J. Pavel, Licensing
- * K. Rowe, ALARA Supervisor, Unit 2
- * P. Smalley, General Supervisor-Radiation Protection, Unit 1
- * P. Swafford, Radiation Protection Manager, Unit 2
W. Schultens, Shipping Supervisor
- * C. Stroup, Spent Fuel Pool Project Manager
- * J. Torbitt, Supervisor, Radwaste Operations, Unit 1

1.2 NRC Personnel

- R. Temps, Resident Inspector
- R. Laura, Resident Inspector

* Denotes those present at the exit interview on August 16, 1991.

2. Purpose

The purpose of this routine inspection was to review the licensee's programs for radiological controls, ALARA, transport of radwaste in a rail cask, and health physics preparation for a plant maintenance mid-cycle outage.

3. Previously Identified Items

(Closed) Violation (50-220/91-10-01) Licensee shipment arrived at disposal site with excessive external contamination levels. The licensee has issued procedure N1-MMP-CAS-300T to incorporate changes in shipping the IF-300 rail cask. These changes included extensive testing for weepage rates on the external surface of the cask prior to shipping offsite. This item is closed.

4. Radiation Protection



Radiation protection program management for both units remained the same as during the previous inspection in this area. Each unit had a Radiation Protection Manager, who reported directly to their respective unit Superintendent. At Unit 2, the position of ALARA supervisor had been permanently filled.

4.1 Unit 1 Operations

The licensee had been running at or near full power since the latter part of July, 1991. The mid-cycle outage, completed in late March, 1991, was accomplished with a total dose of 56.6 Person-Rem, which was considerably less than the 100 Person-Rem goal established prior to the outage. This accomplishment was attributed to: good coordination between working groups during the outage; freezing the scope of work several weeks prior to the start of the outage; significant dose reductions obtained by flushing out several plant systems at the start of the outage; and good outage management support for ALARA. The Unit 1 ALARA supervisor published a Mid-Cycle Surveillance Outage Report in April, 1991, which included dose breakdowns by department and by Radiation Work Permit, and included discussions on lessons learned from several of the tasks performed during the outage. An unplanned outage in July, 1991, resulted in an 11 Person-Rem dose, which was slightly above the 10 Person-Rem goal established for the outage. As of July 31, 1991, the Unit 1 total dose was 128 Person-Rem, with the 1991 annual goal having been established at 236 Person-Rem.

As part of this inspection, tours of most of the licensee's accessible Radiologically Controlled Area (RCA), including the Reactor Building, Turbine Building, Old Radwaste and New Radwaste Buildings, were conducted. In general, the plant was found to be free of housekeeping problems, and appropriately posted and controlled for radiological safety purposes. Contaminated areas accounted for approximately 5.9% of the plant, as compared to a goal of 6% established by plant management. This represents a continuing downward trend of percentage of contaminated areas. The licensee was conducting maintenance and decon work on the lower elevations of the old radwaste building to further reduce the amount of contaminated areas within the plant at the time of this inspection.

4.2 Unit 2 - Operations

Unit 2 had been operating at or near full power for several weeks at the start of this inspection. Contaminated areas within the plant amounted to 2.3% of the total area, well below the Unit's 1991 goal of 5% contaminated areas. Total dose through July, 1991, was 59 Person-rem, with an established 1991 goal of 100 Person-Rem. Inspection of the plant indicated that in general it was free of significant housekeeping problems, and appropriately posted and



controlled for radiological safety purposes.

On August 13, 1991, the licensee had an event which resulted in the declaration of a Site Area Emergency. Subsequent to this, the licensee decided to enter a mid-cycle maintenance outage which had previously been scheduled to commence not later than the end of September, 1991. As part of this inspection, observations of the licensee's radiological control activities at the beginning of this outage were made. The licensee planned to conduct the outage using existing radcon personnel, augmented by Unit 1 radcon personnel, but not with contractor health physics technicians. Due to the expected short duration (approximately 15 days) and limited scope of this outage, principally the inspection and repair, as necessary, of the High Pressure Core Spray (HPCS) nozzle, this staffing appeared sufficient to support the outage. Initial outage activities involving significant radcon input included initial opening and surveys of the drywell and suppression pool. Early planned ALARA activities included flushing of high dose rate piping.

During a tour of the reactor building, an intermittent alarm was observed on the 215' elevation, coming from a RMS-3A area radiation monitor. Intermittent alarms had been experienced by the licensee during July, 1991, and were discussed with the NRC resident staff. The licensee had taken air samples that indicated that the airborne radiogas concentrations were not of a significant safety concern. Of concern, however, was the reaction of plant personnel to the alarm, which in general was one of ignoring it. Signs posted at the monitor indicated that the correct response was to leave the area and contact radiation protection. Additionally, licensee General Employee Training, included instructions to leave the area and contact radiation protection. The Unit 2 Radiation Protection Manager was advised of the inspector's concerns in this matter, and the inspector was advised that action would be taken.

ALARA planning for this outage was finalized on August 14, 1991, and a goal of 23 Person-Rem (26.5 Person-Rem if overwelding of the HPCS nozzle is required) was established. In addition to the HPCS nozzle work, work with significant dose consequence included engineering walkdowns of piping in the drywell, and an ALARA project to film the drywell for a surrogate tour. Outage management appeared to be more receptive to ALARA input in planning this outage than was previously observed prior to and during the first refueling outage.

As part of this inspection, a review of the licensee's ALARA analysis of the Unit 2 first refueling outage was conducted. An "ALARA Review of the First Refueling Outage", dated April 30, 1991, was prepared by the licensee to review successes and weaknesses observed during the outage. The licensee's



goal during the outage was 150 Person-Rem, with a final dose of 449 Person-Rem actually occurring. The licensee accounted for the increased dose as a result of: increased work scope and higher than anticipated drywell effective dose rate, 130 Person-Rem; added work scope, 100 Person-Rem; and job overruns, 70 Person-Rem. This report also included the results of post-job reviews, and presented an extensive list of recommendations for improvement of significant jobs performed during this outage. The success of the licensee's program to improve ALARA performance during an outage will be reviewed further during future inspections.

5. Transportation

Unit 1 continued to experience difficulties in preparing for transport a rail cask used in the transfer for disposal of irradiated hardware currently in storage in the spent fuel pool. A previous shipment made utilizing a NuPac IF-300 rail cask, owned by Pacific Nuclear Systems, Inc., experienced significant weepage of contamination during transit, and resulted in the licensee being temporarily suspended from disposing of materials at the Richland Low-Level Disposal Site, and being issued a Notice of Violation by the NRC (see Section 3). Subsequent to the cask being unloaded at Richland, its exterior was decontaminated, and the cask was sent to the Pacific Nuclear facilities in Washington for analysis and remedial action. In June, 1991, after various decontamination techniques, including electropolishing, were employed by Pacific Nuclear, the rail cask was sent to Unit 1 for use. Upon arrival at Unit 1 on June 14, 1991, the cask was determined to have removable contamination levels of up to 91,000 dpm per 100 centimeters square (dpm/100 cm²). Although this was slightly less than the maximum permissible levels set forth in 49 CFR, it was considerably higher than that deemed acceptable by the licensee. Of 132 smears taken on the cask and rail car surfaces, 30 were higher than 10,000 dpm/100 cm², and 96 were higher than 1000 dpm/100 cm². Subsequent licensee actions have included a request to the NRC to amend the Certificate of Compliance for the cask to allow the placement of an overwrap on the cask as an additional barrier. The licensee was awaiting disposition on this request prior to shipping the cask out empty to be serviced as required by the existing Certificate of Compliance.

6. Exit Interview

The inspector met with the licensee representatives denoted in Section 1 at the conclusion of the inspection on August 16, 1991. The inspector summarized the purpose, scope and findings of the inspection.

