

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-220/91-28
50-410/91-28

Docket Nos. 50-220
50-410

License Nos. DPR-63
NPF-69

Licensee: Niagara Mohawk Power Corporation
301 Plainfield Road
Syracuse, New York 13212

Facility Name: Nine Mile Point, Units 1 and 2

Inspection At: Scriba, New York

Inspection Conducted: December 2-5, 1991

Inspectors: F. Bower 12/27/91
F. Bower, Reactor Engineer, Performance Programs Section, Operations Branch, DRS date

A. Finkel 12/27/91
A. Finkel, Senior Reactor Engineer, Performance Programs Section, Operations Branch, DRS date

Approved by: N. Blumberg 12/27/91
N. Blumberg, Chief, Performance Programs Section Operations Branch, DRS date

Inspection Summary: Inspection on December 2-5, 1991 (Inspection Report Nos. 50-220/91-28 and 50-440/91-28)

Areas Inspected: Announced safety inspection of the Fire Protection Program and its implementation in the areas of Administrative Controls, Surveillance, Training, Audits, Combustible Material Controls, and Fire Drills.

Results: No violations involving safety-related areas or equipment were identified. Based on the results of this inspection, it was determined that the fire protection program was satisfactorily implemented for this site.



Details

1.0 Persons Contacted

Attachment 1 provides a listing of persons contacted during the inspection.

2.0 Fire Protection Program (64704)

2.1 Scope

An inspection was performed to evaluate the adequacy of the licensee fire protection program and associated implementing procedures. The inspection included verification of procedure implementation, technical adequacy of procedures and programs, inspection of plant facilities, fire department training and qualification and review of previous licensee audit findings. Surveillances, routine tests, administrative and other procedures related to fire protection were reviewed with respect to administrative requirements for an effective fire protection program. In addition, the inspectors performed a review of the previous and current staffing plans against the Technical Specifications and other regulatory requirements.

2.2 Fire Department

Through a review of the Fire Protection procedures and discussions with licensee personnel, the inspectors found that the licensee had instituted some fire department shift staffing reductions during November 1991.

The previous staffing plan provided for each Unit to have a Fire Department consisting of five (5) professional fire fighters, one chief, and four members per shift. This staffing arrangement provided ten (10) fire fighters for the site for each shift. Operations, radiation protection, and security personnel also responded to reported fires. Personnel from these departments advise and assist the fire chief, but did not perform any fire fighting duties.

The current staffing plan was found to provide each Unit with a Fire Department consisting of four (4) professional fire fighters, one chief, and three members per shift. This staffing arrangement has provided eight (8) fire fighters for the site for each shift. In the event of a fire, the four fire fighters from the affected unit as well as one fire fighter from the unaffected unit will respond to the fire alarm. Support personnel from departments listed above and their response to fires has not changed as a result of the staffing change. Operations, radiation protection, and security personnel respond to reported fires and advise and assist the fire chief, but do not perform any fire fighting duties.



The Unit 1 and Unit 2 Technical Specifications state that a fire brigade of five members shall be maintained on site at all times. The fire brigade shall not include the shift supervisor and the two other members of the minimum shift crew necessary for safe shutdown of the unit and any personnel required for other essential functions during a fire emergency. The site, as defined in Technical Specifications, includes both Nine Mile Point Unit 1 and Unit 2. The fire protection program documents, including AP-3.5 "Station Fire Protection Program," and the licensee's current staffing plan were in compliance with these requirements.

The licensee is developing further plans to reorganize the Unit 1 and 2 dedicated fire departments into a Unit 1 and 2 fire brigade organization. A draft plan of the proposed fire program changes is scheduled to be issued during the first quarter of 1992. Implementation of the revised fire program is proposed to be implemented during the last quarter of 1994. The revised fire program and organization will be evaluated during a future NRC inspection of the fire program. Overall, the current Nine Mile Point Unit 1 and Unit 2 fire protection program is being satisfactorily staffed and implemented.

2.3 Plant Tour

The inspectors walked down accessible vital and nonvital areas of the plant and visually inspected fire protection water systems, fire pumps, fire water piping and distribution systems, post-indicator valves, hydrants, and contents of fire houses. The inspection included area fire detection and alarm systems, automatic and manual fixed suppression systems, interior hose stations, fire barriers, penetration seals and fire doors. The inspector observed general housekeeping conditions and, on a sampling basis, checked inspection tags on portable fire extinguishers and hose reels to verify that the required monthly surveillance inspections were performed. Additionally, the inspectors interviewed licensee personnel.

The inspectors noted no deterioration of fire fighting equipment, tank gauges registered full, hoses had recently tested date stamps, battery powered lights were working and fire fighting clothes were in acceptable condition. Fire protection equipment, which was noted to be degraded or out of service such as fire doors and fire detectors, was properly identified and entered into a tracking system for correction. Appropriate compensatory measures such as fire watches were instituted where required. Good housekeeping was noted. The areas toured were clean with little potential fire hazard materials in them.



During the tour of Unit 2, the inspectors questioned the orientation of several sprinkler head spray shields. The inspector noted that the design of these spray shields did not ensure that they are firmly held in place. The licensee is taking action to perform an engineering review to determine the correct position for these spray shields and begin periodic inspections of these shields during the first quarter of 1992. This engineering review will also include the Unit 1 sprinkler systems. These shields are designed, installed and positioned to preclude the water spray from other heads affecting the fusible links of selected sprinkler heads. Discussions with the licensee revealed that the orientation of these spray shields is not currently inspected. Engineering will provide temporary criteria to the fire department for shield position inspection until the spray shield engineering review is completed.

While touring the plant, the inspectors questioned the sighting and orientation of the emergency lighting fixtures. The inspector also questioned what technical information was available for the fire department to use when periodically sighting the emergency lighting fixtures. Discussions with licensee personnel indicated that engineering has completed an evaluation of the sighting of the Unit 1 emergency lighting fixtures and Unit 1 emergency light sighting criteria have been developed and included in engineering drawings. These drawings are listed in Attachment 2. The licensee planned to use this sighting criteria to verify the proper sighting of the Unit 1 emergency lighting during the next performance of N1-FPM-LOG-A001 "Battery Emergency Light Test." Further discussions with the licensee revealed that a similar engineering evaluation for Unit 2 is ongoing and planned for completion by the end of 1992. Until this evaluation is completed, the Unit 2 emergency lighting test procedure will verify that the lights are sighted on egress paths.

Based on interviews and discussions with fire department personnel, the inspectors concluded that the fire fighters are knowledgeable, experienced, and dedicated to their jobs. During interviews with a sampling of personnel from outside the fire department (i.e., maintenance, operations, radiation protection, security and contractor personnel), the inspector concluded that licensee personnel were aware of the station policy and procedures for reporting and responding to fires.

3.0 Fire Program Procedure Review and Implementation

The fire protection procedures listed in Attachment 2 of this report were used by the inspectors in performing the inspection of the fire program implementation at this site.



The policy and procedure documentation reviewed were technically sound and properly implemented. The fire protection program described in procedure AP-3.5 "Station Fire Protection Program" is planned to be changed to describe the operation and function of a reduced Unit shift fire department staff. A planned document revision to the existing procedure is scheduled to be issued during the last quarter of 1991. A planned change to the fire training school schedule for 1992 is to have three two-day courses instead of the present two three-day courses. This change is to enhance the time the fire personnel have in fighting live fires. A review of the proposed changes by the inspector indicate that the "Station Fire Protection Program" still complies with the technical specification fire program requirements as written.

The proposed changes to procedure AP-3.5 also affect procedure S-EPP-2, "Fire Fighting." The inspectors reviewed this document to determine if it included instructions for: (1) assigning unaffected Unit fire fighters to respond to a fire at the affected plant, (2) notifying the unaffected Unit fire fighter of a fire in the opposite plant, (3) how and where the unaffected Unit fire fighter is required to respond to a fire at the affected Unit, and (4) verifying that the unaffected Unit fire fighter has responded to the fire in the opposite plant. The inspectors found that a checklist included in S-EPP-2 was revised to provide instructions for notifying the unaffected Unit fire fighter of a fire in the opposite plant and verifying that he responded. The fire chiefs have been given direction and training on action to be taken when fire fighters are required to support a fire response at the opposite Unit. This information is currently contained in a standing order to the fire chief, "Chief Nuclear Fighter Instructions," dated November 19, 1991. The licensee plans to incorporate this information into S-EPP-2 during the first quarter of 1992. The present training and direction appear adequate to ensure that fire fighters will respond to a site fire location when required. Cross training of both Unit fire departments personnel to familiarize them with the different Unit areas has been on going for the last few weeks. The inspectors noted during plant tours that fire department personnel were walking the units with a training instructor describing the unit layout.

4.0 Fire Drills

Fire drills are held quarterly for each shift with a requirement in (Procedure NTP-5) that each fire chief and fire fighter should participate in at least two drills per year. The inspectors verified during the training records review that the Unit's fire department personnel did meet the two drills per year requirement. The inspectors reviewed reports of eight fire drills which were unannounced and at least four occurred on the backshift, 12 o'clock midnight to 8 o'clock in the morning. Each completed fire drill report had a narrative summary of the drill scope, fire drill scenario, exercise comment sheet and a post drill critique. Results of the drills were reviewed by the training department supervisor with the fire department personnel and training changes, if required, were noted.



During this inspection, there was an unannounced drill at Unit 2 involving the activation of the Halon system in the Radwaste Control Room. The inspectors witnessed the drill response and the critique of drill at its conclusion.

The alarm came in at 4:30 p.m. on December 4, 1991, and site personnel responded immediately. The unaffected unit (Unit 1) fire fighter responded to the AP-261 cabinets located outside the Unit 2 Carbon Dioxide Room at 4:43 p.m. as required by fire department policy. However, the Unit 1 fire fighter was not required to dress in turnout gear and respond to the scene due to shift duties in progress at Unit 1. Operations, radiation protection, and security personnel were on the scene by 4:44 p.m. The four affected unit (Unit 2) fire fighters were on scene in full uniform by 4:45 p.m. Search and rescue of the Radwaste Control Room was performed, and the fire was identified as a short circuit in a cable located below the Radwaste Control Room flooring. The drill was completed by 4:53 p.m. The two trainers held a critique with the Unit 2 fire fighters before they returned to their normal duties.

The drill demonstrated that command and control of the site fire department was adequate. The affected unit brigade members responded immediately, in full dress, to perform in a professional manner. Actions taken were timely and decisive. The support personnel also responded in a timely manner and appropriately performed their designated functions. The critique was effective in reemphasizing the training that the drill scenario was developed to test. The inspectors also verified that a Unit 1 fire fighter supported the Unit 2 fire fighters as described in procedure S-EPP-2 and discussed in paragraph 3.0 of this report.

5.0 Surveillance Test (ST) Review

The inspectors reviewed the following surveillance test records to determine if associated technical specification requirements were being properly met.

- Fire System Operability test data, June - December 1991
- Annual Inspection of Testing of Hose Stations, June - August 1991
- Surveillance of Penetration Fire Barriers, November - December 1991
- Weekly Check of the Diesel Fire Pump Batteries, June - December 1991

The review of the above test results indicated that the data recorded was within the tolerances specified in the specific test procedure. Each unit fire protection supervisors reviews and signs each fire surveillance procedure data sheet indicating the status of the test. The latest surveillance test results and firing trending data indicates that there is no major degradation occurring within the system at this time. During the inspection, the inspectors witnessed a fire diesel surveillance test and diesel battery check. In both instances, the above equipment met the surveillance test procedure requirements.



6.0 Control of Combustible Materials

The inspector reviewed the procedures listed in Attachment 2 to verify that a program including the following attributes had been established for combustible material and ignition source control:

- Personnel are designated for implementing the program;
- Special authorization is required for the use of combustible, flammable or hazardous explosive material in safety-related areas;
- Prohibition on the storage of combustible materials in safety-related area is required unless they are an integral part of the area or are controlled in quantities to previously analyzed levels;
- All waste, debris, rags, oil spills or other combustible materials resulting from completed work activities have been removed;
- There are periodic inspections for the accumulation of combustibles;
- Transient combustibles are restricted and controlled in safety-related areas;
- Housekeeping is properly maintained in areas containing safety-related equipment and components;
- Smoking in safety-related area is prohibited, except where "smoking permitted" areas have been specifically designated by plant management;
- Requirements have been established for special authorization (permits) for activities involving welding, cutting, grinding, open flame or other ignition sources and that they are properly safeguarded in areas containing safety-related equipment and components.

The review of procedures and tours of the site did not identify any unacceptable conditions. Appropriate permit systems are in place to control ignitions sources such as cutting, grinding, and welding, and to control the storage of combustible materials. No hot work in progress was observed at either Unit. During an inspection of the material storage areas, the inspectors found the areas to be orderly and posted with the appropriate permits. The posted permits were annotated with the appropriate approvals based on radiological, chemistry, engineering, fire protection and management review. In general, good housekeeping was noted. The areas toured were clean with little potential fire hazard materials in them.



Licensee procedures NDD-FPP, AP-3.5, AP-7.2, AP-5.4.1, and S-FDP-1, in part, identify, document and track to resolution combustible material storage problems. The inspectors observed inspections conducted in accordance with procedures AP-5.4.1 "Housekeeping, Tours, and Inspections" and S-FDP-1 "Fire Department Inspection" and found them to be appropriately implemented. The assignment of zone managers from the plant management staff and weekly management tours appeared to be another factor with a positive affect on housekeeping.

7.0 Fire System Trending

A fire protection system trending program has been established under the direction of the Fire Protection Program Manager. The trending program includes the Units 1 and 2 diesel electric fire pump data generated from the performance tests of surveillance test procedures N1-ST-C16 and N2-FSP-FPW-R001. In addition to the present test data, the licensee has historical data on these pumps from 1965 to the present time. The trending data and report of September 1991 indicates that there is not any performance degradation of these components. The Site Fire Protection Engineer is developing a program for trending the site underground fire main system. The use of "Clam-Trol CT-1" to control the asiatic clam infestation in this system is another trending area that engineering has scheduled to be trended. The flow characteristics for this system have been baselined before the use of "Clam-Trol CT-1" so that the trending program data base can consider the before and after use of this chemical. The fire protection program manager plans to issue a report on this system during the first quarter of 1992.

8.0 Audits of the Fire Program

The inspectors reviewed the Quality Assurance/Safety Review Audit Board QA/SRAB biennial audit of the Fire Protection Program to ascertain that the audit was conducted in accordance with the Technical Specifications. The inspectors noted that the audit report findings and observations were comprehensive and were found to be adequate to meet the requirements specified in the Technical Specifications and the Final Safety Analysis Report. The inspectors also reviewed two American Nuclear Insurers (ANI) inspection reports. The inspectors found that the audit and inspection findings are being tracked and resolved in an satisfactory manner. Specific reports reviewed are listed in Attachment 2.

9.0 Exit Meeting

The inspectors met with licensee personnel (denoted in Attachment 2) at the conclusion of the inspection, on December 5, 1991, at the Nine Mile Units 1 and 2 Power Station. The inspectors summarized the scope of the inspection and the inspection findings at that time.



Attachment 1Persons ContactedNiagara Mohawk Power Corporation

- *A. Barnhart, Fire Protection Supervisor, Unit 1
- *G. Brownell, Regulation Compliance
- *K. Dahlberg, Manager Unit 1
- *S. Einbinder, Fire Protection Program Manager
- *R. Fairell, Fire Protection Engineer Unit 1
- *M. McCormick, Manager Unit 2
- *D. McNally, Training
- *J. Piontkowski, Site Fire Protection
- *D. Pringle, Fire Protection Supervisor, Unit 2
- *R. Tessier, Operations Manager Unit 1

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- W. Schmidt, Senior Resident Inspector
- R. Laura, Resident Inspector
- R. Temps, Resident Inspector
- *L. Bettenhausen, Chief, Operations Branch, DRS

*Denotes those at the exit meeting held on December 5, 1991.

During the course of this inspection, the inspectors contacted other members of the licensee's Technical, Quality Assurance, Maintenance and Fire Department staffs.



Attachment 2FIRE PROTECTION DOCUMENTATION REVIEWTechnical Specification

Sections 3, 4, 5, and 6 for Unit 1
 Section 5 and 6 for Unit 2

Fire Protection Program Related Procedures

NDD-FPP, Revision 00, "Fire Protection Program"
 AP-3.5, Revision 03, "Station Fire Protection Program"
 AP-7.2, Revision 07, "Control of Material Storage Areas"
 S-EPP-2, Revision 15, "Fire Fighting"
 S-FDP-4, Revision 02, "Report on Fire Department Activity/drills"
 AP-5.5.1, Revision 05, "Work Request"
 AP-5.4.1, Revision 01, "Housekeeping, Tours, and Inspections"
 NTP-5, "Training and Continuing Training Program Nuclear Fire Chief and Nuclear Fire Fighter"
 FPEE-1-91-002, "Appendix R Emergency D.C. Lighting Survey, May 10, 1991"
 S-FDP-1, Revision 02, "Fire Department Inspection"
 S-FDP-2, Revision 02, "Cutting/Welding/Grinding Permit"
 S-FDP-3, Revision 02, "Breach Permit"
 S-FDP-4, Revision 02, "Report on Fire Department Activity/Drills"
 S-FDP-5, Revision 02, "Fire Department Drill Assessment"
 S-FDP-6, Revision 02, "Fire Watch/Patrol"
 S-FDP-7, Revision 01, "Control of Combustible Materials"
 N1-FDP-11, Revision 04, "Fire Strategies-Safety Related Areas"
 N1-FDP-13, Revision 02, "Inspection of Fire Retardent Coatings Cable Trays & Conduits"
 N1-ST-W14, "Fire Protection System - Weekly Operation of Fire Pumps"
 N1-CTP-V900, "Zebra Mussel Treatment"

Audits Reports

No. 91016-RG/IN, "Biennial Fire Protection SRAB Audit," November 14, 1991
 No. F1331061.RPT, American Nuclear Insurers (ANI) Report, Unit 1, June 4-6, 1991
 No. F1332011, ANI Report, Unit 2, January 8-11, 1991

Surveillance, Maintenance and Inspection Procedures

N1-ST-W14, Revision 15, "Fire Protection System - Weekly Operation of Fire Pumps"
 N1-ST-C16, Revision 01, "Electric/Diesel Fire Pump Performance Tests"
 N1-FPM-LOG-A001, Revision 02, "Battery Emergency Light Test"
 N1-FPM-LOG-M001, Revision 02, "Emergency Lighting Inspection"
 N1-FST-FPW-M001, Revision 02, "Fire Hose Stations/Hose House Inspection"
 N1-FST-FPP-C001, Revision 01, "Fire Barrier/Penetration Sealing Inspection"



N1-FST-FPP-C002, Revision 01, "Fire Damper Operation & Inspection"
N1-FST-FPP-D001, Revision 02, "Daily Fire Door Inspection"
N1-FST-FPP-SA001, Revision 05, "Fire Door Operation"
N1-FST-FPW-A001, Revision 01, "Fire Hose Hydrostatic Test"
N2-FPM-FPE-A001, Revision 03, "Maintenance and Inspection Portable Fire
Extinguishers"
N2-FPM-FPE-M001, Revision 03, "Monthly Inspection of Portable Fire
Extinguishers"
N2-FPM-FPP-M001, Revision 00, "Fire Door Position Verification"
N2-FPM-LOG-A001, Revision 02, "Emergency Light Battery Test"
N2-FPM-LOG-M001, Revision 02, "Emergency Lighting Test"
N2-FSP-FPW-M001, Revision 02, "Fire Protection Hose Station and Hose House
Inspection"
N2-FSP-FPP-D001, Revision 02, "Daily Fire Door Inspection"

Training Records

NTI 2.3, "Training Records Management"
OS-FT-015-FCM-3-00, "Fire Chemistry, Theory and Physics"

