U. S. NUCLEAR REGULATORY COMMISSION
REGION I

DOCKET/REPORT NOS.	50-220/94-02 50-410/94-02
LICENSE NOS.	DPR-63 NPF-69
LICENSEE:	Niagara Mohawk Power Corporation 301 Plainfield Road Syracuse, New York 13212
FACILITY NAME:	Nine Mile Point Nuclear Station, Units 1 and 2
INSPECTION DATES:	January 24-28, 1994

INSPECTOR: _____ _____
Leanne M. Kay, Reactor Engi. er
Electrical Section, EB, DRS
Date

APPROVED BY: _____ 2/5/94
William H. Ruland, Chief
Electrical Section, EB, DRS
Date

Area Inspected: This was an announced inspection to review the overall adequacy and implementation of Nine Mile Point Nuclear Station fire protection program.

Results: During this inspection, administrative controls and procedures for the control of combustibles, fire-risk evolutions including welding, grinding, and breach permits and fire control capabilities including the maintenance and testing of fire detection and suppression systems were reviewed. The inspector performed individual plant walkdowns and observed a Unit 1 carbon dioxide full discharge test and a Unit 2 fire drill.

The inspector observed a Unit 2 fire drill and noted the Nine Mile training instructors' questioning of fire fighters regarding strategies and techniques. Their questions were beneficial for assessing brigade members knowledge and understanding of the scenario presented. The inspector also considered the thoroughness of the critique following the drill noteworthy for reemphasizing learned precautions for fire fighting. Fire brigade members responded to the alarm appropriately and analyzed the fire situation in a judicious fashion.

An unresolved item was identified regarding future licensee assignments of fire brigade members. This item requires further NRC review following implementation of organizational staff changes to verify full brigade response to fire alarms and no responsibility conflicts exist between the emergency plan for Nine Mile and brigade member duties.

Additionally, response by Unit 1 system engineering to resolve excessive false fire alarms was determined to be good and demonstrated a positive initiative toward increasing system reliability.

The inspector determined that the fire protection program at NMPC complies with the program requirements presented in the technical specifications and UFSARs.

DETAILS

1.0 PURPOSE

The purpose of this inspection was to assess the overall adequacy and implementation of the fire protection program at Nine Mile Point 1 and 2. The inspection included verification of procedure implementation and adequacy, walkdown of plant facilities, review of fire department training and qualification and previous audit reports. In addition, the inspector performed a review of the previous, current, and projected staffing plans against Technical Specifications, the updated final safety analysis reports (UFSARs), and other regulatory requirements.

2.0 FIRE PROGRAM - PROCEDURE REVIEW AND IMPLEMENTATION (64704)

The fire protection procedures listed in Attachment 2 of this report were used by the inspector for performing the fire program inspection. The inspector reviewed these procedures to verify that the fire protection program as described in each unit UFSAR and other licensing documents have been adequately implemented.

Niagara Mohawk Power Corporation (NMPC) has established a nuclear division directive (NDD) to present requirements and departmental responsibilities for the fire protection program. This directive was found to clearly define the fire protection design basis and standards considered for the design of both units. Nuclear Division Interface Procedure NIP-FPP-01 provides guidance for applying the requirements presented in the above directive and stipulates primary position responsibilities and procedures for reporting fires and fire protection concerns, fire brigade manning, training and qualification, and systems testing and maintenance. Based on this review, the inspector concluded that personnel were designated for implementing the program on site and qualifications had been delineated for personnel designated to implement the program.

The inspector reviewed the general employee training program and corresponding lesson plan to verify that workers with unescorted access to the protected area have been provided the necessary information pertaining to fire program requirements. The inspector determined from this review that adequate measures had been established for employees to comply with requirements pertaining to hot work permits, fire door closure and use, fire suppression systems, good housekeeping practices, breach permits, and fire brigade functions. In addition, the inspector verified that the NMPC nuclear engineering administrative procedure for performing plant modifications required an evaluation for potential impact on fire protection during the preliminary engineering phase prior to modification installation. Engineering activities that affect fire protection documents and procedures are controlled by engineering procedures which provide direction and method for fire protection engineering review, evaluation, approval, and documentation of design considerations as they impact the fire protection program.

The policy and procedure documentation reviewed were technically sound and effectively implemented. The fire protection program currently established was planned to be changed to describe the operation and function of a reduced unit shift fire department staff. Document revisions to existing procedures were planned to be changed by the third quarter of 1994. These changes are further discussed in Section 2.5 of this report. At the time of this inspection, the station fire protection program was found to comply with the fire program requirements presented in the technical specifications and UFSARs.

2.1 Facility Tour

The inspector toured accessible vital and non-vital areas of the site and inspected the fire protection water suppression systems, fire pumps, fire water piping and distribution systems, post indicator valves, yard hydrants, contents of indoor and outdoor fire protection equipment storage cabinets, and the condition of fire brigade equipment. The tour also included inspection of the various types of fire detectors, alarm panels, positions of automatic and manual fixed suppression instruments, fire hose stations, fire loading of transient storage areas, fire barrier penetrations, fire doors, and discussions with firewatch personnel encountered during the tour.

Tank gauges on fire equipment were found by the inspector to be adequate and battery-powered lights tested during the tour were in working order. The inspector verified emergency lighting patterns as established in fire protection engineering evaluation FPEE-1-91-002, Revision 0, "Appendix R Emergency DC Lighting Survey," for area lighting coverage of equipment and related pathways necessary for safe shutdown of Unit 1. Based on the sample reviewed, sufficient emergency lighting existed to illuminate required equipment and access and egress paths presented in the engineering evaluation. No discrepancies were identified.

The inspector noted two areas for improvement. During review of the fire brigade locker inventory of fire fighting equipment, the inspector noticed that several brigade locker stations had been organized differently and size identification of equipment such as boots and jackets were not clearly marked at all brigade stations. Following discussions with both unit fire protection supervisors during the inspection and plant management at the exit meeting, the licensee agreed to address this concern and evaluate locker enhancements. Additionally, the inspector observed the accumulation of snow outside hose house stations. This snow prevented immediate access to fire fighting equipment. Licensee management stated they intend to increase snow removal attention at these stations.

Fire loading for areas containing combustibles and transient storage areas were reviewed against acceptable values presented in the UFSARs. Calorific values (BTU/lb) of the materials found were compared to the total BTU content analyzed for that area or zone. No discrepancies were identified.

In general, good housekeeping was noted and the overall condition of equipment was acceptable. The areas toured were clean with minimal transient fire hazard materials in place.

2.2 Fire Drills/Operational Events

The inspector reviewed several fire reports including an offsite drill scenario, medical drill report, four Unit 1 and two Unit 2 drill reports, and three fire department activity reports for actual fires on site. The inspector performed this review to verify that fire department personnel met the minimum drill requirements and the minimum required number of unannounced drills had been conducted. Each completed fire drill report contained a narrative summary of the drill scope, fire drill scenario, exercise comment sheet, and post-drill critique. Results of the drills were reviewed by the training department fire specialists.

During this inspection, an unannounced drill was conducted at Unit 2. Unaffected unit (Unit 1) fire fighters responded adequately to fulfill fire brigade response. The drill demonstrated proper command and control by the brigade leader and actions taken were timely and decisive. The inspector noted the critique was effective in reemphasizing the learned precautions that the drill scenario was developed to test. Additionally, the inspector considered the Nine Mile training instructors' questions to fire fighters to be beneficial for assessing brigade members' knowledge and understanding of the drill scenario presented. Fire brigade members responded to the alarm appropriately and analyzed the fire situations in a judicious fashion.

Actual fires reported included a grease fire in the plant cafeteria, a 480 V heater fire in a fabrication shop, and a charcoal bed adsorber fire at Unit 2. Review of these reports indicated that no fire impacted plant safety or performance and fire department responses were appropriate. No deficiencies were identified.

2.3 Administrative Controls

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:

- Special authorization is required for the use of combustible, flammable, or hazardous explosive material in safety-related areas;
- 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 areas 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;

- Work authorization, construction permit, or similar arrangements are provided for review and approval of construction and maintenance activities that could lessen the safety of the facility;

- Fire reporting instructions for general plant personnel are developed.

The review of procedures and tours of the site did not identify any unacceptable conditions. Appropriate permit systems are in place to control ignition sources such as cutting and welding and to control the storage of combustible materials. No hot work in progress was observed at either unit. Material storage areas were found to be orderly and posted with appropriate permits. The posted permits demonstrated appropriate approvals based on radiological, chemistry, engineering, fire protection, and management review.

2.4 Fire Program Audits

The inspector reviewed the Quality Assurance biannual and triennial fire protection audits of the fire protection program to ascertain that the audits were conducted in accordance with the Technical Specifications. The inspector noted that audit findings and observations were adequate to meet design requirements specified in the UFSARs. The inspector also reviewed two American Nuclear Insurers (ANI) inspection reports. The inspector found that the audit and inspection findings were qualitatively assessed and presented and were being tracked and resolved in a satisfactory manner. Reports reviewed are listed in Attachment 2.

2.5 Fire Brigade Organization and Training

The site fire brigade requirements, as presented in the Unit 1 and Unit 2 UFSARs, include a minimum composition of five members for each shift with one member designated as fire brigade leader or fire chief. Each brigade member is required to participate in a minimum of two drills per year and complete both classroom and hands-on training courses with retraining at prescribed frequencies. Current staffing levels for fire brigade response include the fire chief from the affected unit, two fire brigade fire fighters from Unit 1, and two fire brigade fire fighters from Unit 2. The fire protection program described in Procedure NIP-FPP-01, Revision 1, "Fire Protection Program," is planned to be changed to describe the operation and function of a differently composed fire brigade staff. This change would utilize radwaste operators as fire fighters instead of dedicated fire department fire fighters. This change is expected to occur by the third quarter of 1994. A review of the proposed changes by the inspector indicated that the fire protection program would still comply with the design bases presented in the UFSARs. However, brigade staffing, considering emergency plan requirements for radwaste operators to serve as communicators, should be considered for maintaining compliance with established plant procedures during the proposed reorganization. In addition, discussions with fire brigade members indicated that together with the brigade composition changes, full brigade response would not be required unless an

actual fire had been confirmed. Current requirements, as stipulated in Emergency Plan Implementing Procedure EPIP-EPP-28, Revision 0, "Fire Fighting," and 10 CFR 50.59 Safety Evaluation No. 92-070, state that fire fighters shall respond to all fire alarms. Therefore, considerations must be made prior to revising fire brigade organization. This issue is unresolved pending NRC review of NMPC's fire brigade organization changes for compliance with site procedures and commitments as presented in the UFSARs including NRC Branch Technical Position 9.5-1 (Unresolved Item 50-220/94-02-01 and 50-410/94-02-01).

The inspector reviewed 1993 training records of fire brigade members to verify that they completed the required training, drill participation, and annual hands-on training. The records were found to be complete and up-to-date. Also, pre-fire plans, emergency plan procedures, lesson plans, and fire fighting strategy and tactics training material was reviewed.

The inspectors determined this information was well organized and clearly presented the information to support the objectives. Discussions held with fire brigade members during this inspection indicated that they are cognizant of their responsibilities and that the training helped maintain their fire protection and fire fighting skills.

2.6 Fire Equipment Testing

The inspector reviewed the following surveillance test records to verify that design requirements as established in the UFSARs were being met and that the tests were done at the prescribed frequencies.

• Electric/Diesel Fire Pump Functional Test	April 12, 1990
• Fire Hose Hydrostatic Test - Hose H[illegible]	June, 26, 1991
• Halon System/Damper Actuation Te	September 30, 1992
• Halon System Storage Cylinder Wt/Pressure Check	June 11, 1993
• Halon System Valve Position Check	June 30, 1993

Review of the above tests indicated that data was within the acceptance criteria and verified that adequate procedures for the maintenance, inspection, and testing requirements of plant fire protection equipment had been established.

In addition, the inspector observed a Unit 1 low-pressure carbon dioxide (CO_2) system functional surveillance test (CO_2 Puff Test) to verify operability of CO_2 system valves, associated ventilation dampers, and nozzle flow. Surveillance Procedure N1-FST-FPL-SA008, Revision 2, presented the test requirements. The inspector discussed the test objective with several personnel responsible for its performance and determined that personnel were knowledgeable of the procedure, methodology, and plant impact.

The testing schedule for fire equipment is established through the licensee's work request/order process. In December 1992, Deviation/Event Report (DER) No. 2-92-3860 was written to address the abundance of identified work requests on the fire systems and equipment. Over 100 of these requests had been documented for greater than two years, indicative of inadequate work prioritization and resolution. In December 1992, NMPC converted to a new work control system, W.C. MOSSE, that allowed for work order tracking and departmental assignment that improved the work prioritization process. During the following six months, outstanding work orders had been reduced from over 100 to 45 and has been as low as 35 during nonoutage periods. The inspector reviewed the currently open work orders and found that the orders had been correctly prioritized and that several were in the DER process. The inspector verified that all outstanding work orders greater than two years old were of minimal safety significance. The inspector concluded that the licensee has adequately prioritized open work orders and has established measures to schedule the required fire equipment testing.

2.7 Fire Alarms/Corrective Maintenance and Planning

To reduce the excessive false fire alarms and under an action item originating from the NMPC Business Plan for technical services to increase system reliability, NMPC Unit 1 system engineering has acted to reduce the frequency of non-fire activations. Actions include the creation of a DER when a non-fire activation occurs to ensure proper visibility and root cause identification. These DERs are planned to be collected and trended by fire protection engineers to establish corrective actions. Corrective actions may be design changes, procedure changes, or enhanced training of personnel.

Also, NMPC has recently established a System Window Program for expanding the available schedule time for fire protection corrective maintenance. This program has enabled the fire protection system to receive supplemental support and priority to complete maintenance tasks. This system window program affords fire protection the eighth week during a thirteen week schedule to perform maintenance of the fire protection system.

The inspector concluded that response by Unit 1 system engineering to resolve the excessive false fire alarms was a good initiative toward increasing system reliability. Also, supplemental support that the fire protection system would be receiving was considered a positive action.

3.0 EXIT MEETING

The inspector met with Niagara Mohawk personnel denoted in Attachment 1 of this report at the conclusion of the inspection on January 28, 1994. The scope of the inspection and inspection results were summarized. During this meeting, the licensee acknowledged the inspection findings as detailed in this report and agreed to address brigade locker enhancements and outdoor hose house snow removal as discussed in report Section 2.1.

ATTACHMENT 1

Persons Contacted

Niagara Mohawk Power Corporation

* R. Abbott	Plant Manager, Nine Mile Point Unit 1
* A. Barnhart	Fire Protection Supervisor, NMP 1
* C. Beckham	Manager, Quality Assurance
G. Bruce	Fire Protection Engineer, NMP 2
* J. Corcoran	Training Specialist - Fire
* R. Dean	Manager, Technical Support, NMP 2
* J. DeFabio	Fire Suppression System Engineer, NMP 1
* S. Einbinder	Fire Protection Program Manager
J. Farella	Fire Detection System Engineer, NMP 1
* S. Frugeau	Fire Protection Engineer
* C. Grippo	Fire Protection Engineer, NMP 1
* J. Maeller	Plant Manager, Nine Mile Point Unit 2
* M. McCormick	Vice President, Nuclear Safety Assessment & Support
* R. Pasternak	Manager, Technical Services, NMP 1 & 2
* A. Pinter	Licensing Engineer
* D. Pringle	Fire Protection Supervisor, NMP 2
* K. Sweet	Manager, Technical Support, NMP 1
G. Vermilyen	Technical Support, NMP 2
* J. Woodruff	Training Specialist - Fire
* A. Zallnick	Site Licensing Supervisor

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* B. Norris	Senior Resident Inspector, NMP 1 & 2

* Indicates those in attendance at the exit meeting held on January 28, 1994

Attachment 2

Documents Reviewed

Procedures

GAP-FPP-03, Rev. 0	Breach Permit
GAP-HSC-01, Rev. 0	Housekeeping, Tours, and Inspections
GAP-FPP-02, Rev. 1	Control of Hot Work
GAP-INV-02, Rev. 0	Control of Material Storage Areas
N2-FP-6, Rev. 1	Unit II Plant Fire Inspection
N1-ODP-FPP-0201, Rev. 0	Fire Strategies Safety-Related Areas
NDD-FPP, Rev. 1	Fire Protection Program
NEP-PTM-302, Rev. 2	Plant Modifications
NEP-FPP-300, Rev. 2	Fire Protection Engineering
NIP-FPP-01, Rev. 1	Fire Protection Program
NTP-TQS-402, Rev. 3	Fire Brigade Training Program
EPIP-EPP-28, Rev. 0	Fire Fighting
EPIP-EPP-11, Rev. 0	Hazardous Material Incident Response
EPIP-EPP-03, Rev. 0	Search and Rescue
EPIP-EPP-04, Rev. 0	Personnel Injury or Illness

General Employee Training

TECH-GET-SAF-WHT-3,S, Rev. 0, General Employee Training Safety/Fire and Lesson Plan

Additional Surveillance

N1-FST-FPL-SA008, Rev. 2, Low Pressure CO_2 System Functional Test

Audits

- Triennial Fire Protection Audit No. 92011-RG-IN, dated November 23, 1992
- Fire Protection Program Audit No. 93022, dated November 1-5, 1993
- ANI Insurance Inspection Report No. F031893.133
- ANI Insurance Inspection Report No. T032692

Lesson Plans

OS-FT-016-FIAT-3-00, Rev. 3, Fire Fighting Strategy and Tactics (Preplans)
OS-FT-035-FHA-2-00, Rev. 2, Fire Hazard Analysis for NMP Unit #2
OS-FT-034-FHA-1-00, Rev. 3, Fire Hazard Analysis for NMP Unit #1