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REGION I

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Report No. 50-220/86-03

Docket No. 50-220

License No. DPR-63 Priority -- Category C

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

Facility Name: Nine Mile Point Nuclear Station, Unit 1

Inspection At: Scriba, New York

Inspection Conducted: February 24, to March 31, 1986

Inspectors: S. D. Hudson, Senior Resident Inspector
C. S. Marschall, Resident Inspector

Approved by: G. W. Meyer 4/15/86
G. W. Meyer, Acting Chief, Reactor Projects Section No.2C, DRP date

Inspection Summary:

Inspection on February 24 to March 31, 1986 (Report No. 50-220/86-03)

Areas Inspected: Routine inspection by the resident inspectors (136 hours). Areas inspected included: operational safety verification, physical security, plant tours, Licensee Event Reports, Emergency Notification System Reports, preparation for refueling, refueling activities, allegation followup, safety system operability verifications, and periodic and special reports.

Results: One violation was identified. This violation concerns the failure to properly barricade and post a high radiation area. Details are provided in paragraph No. 5.

DETAILS

1. Persons Contacted

J. Aldrich, Superintendent, Operations
T. Roman, Station Superintendent

The inspectors also interviewed other licensee personnel during the course of the inspection including shift supervisors, administrative, operations, health physics, security, instrument and control, and contractor personnel.

2. Summary of Plant Activities

During the inspection period the plant coasted down from 72% on February 24, 1986 to 69% on March 7, 1986. On March 7, 1986, the licensee commenced plant shutdown for a scheduled fourteen week refueling and modification outage. On March 8, 1986 while conducting the shutdown, two HPCI initiation signals were received. These events are discussed in the Review of Emergency Event Reports section.

3. Operational Safety Verification

a. Control Room Observation

Routinely throughout the inspection period, the inspectors independently verified plant parameters and equipment availability of engineered safeguard features. The following items were observed:

-- Proper control room manning and access control;

-- Adherence to approved procedures for ongoing activities;

-- Proper valve and breaker alignment of safety systems and emergency power sources;

-- Reactor control panel instrumentation and recorder traces;

-- Reactor protection system instruments to determine that the required channels are operable;

-- Stack gas monitor recorder traces;

-- Core thermal limits; and

-- Shift turnover.

b. Review of Logs and Operating Records

The inspectors reviewed the following logs and instructions:

-- Control Room Log Book

-- Station Shift Supervisor's Log Book

-- Station Shift Supervisor's Instructions

-- Reactor Operation Log Book

The logs and instructions were reviewed to:

-- Obtain information on plant problems and operation;

-- Detect changes and trends in performance;

-- Detect possible conflicts with Technical Specifications or regulatory requirements;

-- Assess the effectiveness of the communications provided by the logs and instructions; and

-- Determine that the reporting requirements of Technical Specifications are met.

No violations were identified.

4. Observation of Physical Security

The inspectors made observations to verify that selected aspects of the plant's physical security system were in accordance with regulatory requirements, physical security plan and approved procedures. The following observations relating to physical security were made:

-- The security force was properly manned and appeared capable of performing their assigned functions.

-- Protected area barriers were intact - gates and doors closed and locked if not attended.

-- Isolation zones were free of visual obstructions and objects that could aid an intruder in penetrating the protected area.

-- Persons and packages were checked prior to entry into the protected area.

-- Vehicles were properly authorized, searched and escorted or controlled within the protected area.

-- Persons within the protected area displayed photo badges, persons in vital areas were properly authorized, and persons requiring an escort were properly escorted.

-- Compensatory measures were implemented during periods of equipment failure.

No violations were identified.

5. Plant Tours

During the inspection period, the inspectors made frequent tours of plant areas to make an independent assessment of equipment conditions, radiological conditions, safety and adherence to regulatory requirements. The following areas were among those inspected:

-- Turbine Building

-- Auxiliary Control Room

-- Vital Switchgear Rooms

-- Cable Spreading Room

-- Diesel Generator Rooms

-- Reactor Building

The following items were observed or verified:

a. Fire Protection:

-- Randomly selected fire extinguishers were accessible and inspected on schedule.

-- Fire doors were unobstructed and in their proper position.

-- Ignition sources and combustible materials were controlled in accordance with the licensee's approved procedures.

-- Appropriate fire watches or fire patrols were stationed when equipment was out of service.

On March 5 and 11, 1986, the inspector discovered protective clothing stored in the fire break zone on the 298 ft. level of the reactor building. A continuous firewatch was posted in the area during this time period due to removal of a fire door. Storage of flammable material in fire break zones is prohibited by licensee procedure. Discussions with

the licensee resulted in immediate removal of the protective clothing and instruction on observing the fire break zone prohibitions to contractors working in the area.

b. Equipment Controls:

-- Jumper and equipment mark-ups did not conflict with Technical Specification requirements.

-- Conditions requiring the use of jumpers received prompt licensee attention.

-- Administrative controls for the use of electrical jumpers and equipment mark-ups were properly implemented.

c. Vital Instrumentation:

-- Selected instruments appeared functional and demonstrated parameters within Technical Specification Limiting Conditions for Operation.

d. Radioactive Waste System Controls:

-- Gaseous releases were monitored and recorded.

-- No unexpected gaseous releases occurred.

e. Housekeeping:

-- Plant housekeeping and cleanliness were in accordance with approved licensee programs.

f. Radiation Protection:

-- Personnel monitoring was properly conducted.

-- Randomly selected radiation protection instruments were calibrated and operable.

-- Radiation Work Permit requirements were being followed.

-- Area surveys were properly conducted and the Radiation Work Permits were appropriate for the as-found conditions.

On March 7, 1986 the inspector found the entrance to a high radiation area (the gate in the fence surrounding the Turbine deck) propped wide open with a hand truck. The open gate rendered the existing posting unobservable at the gate entrance. The licensee's radiological survey of the Turbine deck conducted earlier on March 7, 1986 had confirmed radiation levels up to 400 mrem/hr in the vicinity of the north and south reheaters.

There were two people in the vicinity, one inside the fence inspecting the turbine and one outside the fence. Both appeared to be complying with the licensee's radiological control procedures. However, Technical Specification 6.12.1 requires that each high radiation area "be barricaded and conspicuously posted as a high radiation area." Therefore, the failure to maintain the turbine deck barricaded and conspicuously posted is a violation. (50-220-86-03-01)

When notified of the violation, the licensee immediately closed and locked the door to the high radiation area. Licensee investigation disclosed that the door had been propped open by maintenance personnel earlier that morning. On the following day the licensee directed all department heads and contractor management to instruct all personnel concerning strict adherence to radiation protection procedures and postings during the refueling outage. The inspector judged this corrective action to be acceptable.

On March 18, 1986 the inspector witnessed a licensee employee fail to follow correct step-off pad procedure and fail to frisk as required. Radiation protection personnel stationed near the step-off pad failed to observe the procedure violations. The inspector advised the employee of the requirement to frisk and discussed the incident with the radiation protection personnel present. Discussions with licensee management resulted in relocation of the radiation protection station for a better view of the step-off pad and counseling of the employee involved.

6. Review of Licensee Event Reports (LER's)

The LER's submitted to NRC, Region I were reviewed to determine whether the details were clearly reported, including accuracy of the description of the cause and adequacy of the corrective action. The inspectors also determined whether the assessment of potential safety consequences had been properly evaluated, whether generic implications were indicated, whether the event warranted on site follow-up and whether the reporting requirements of 10 CFR 50.73 had been met.

During this inspection period, the following LER was reviewed:

LER No.	Event Date	Subject
86-02	February 1, 1986 and February 8, 1986	Inoperable Stack Gas Pump

On February 2, 1986 at 7 a.m. the licensee discovered that the Radioactive Gaseous Effluent Monitoring System (RAGEMS) stack gas sample pump no. 1 had tripped. A computer error message indicated the pump had tripped at 8:38 p.m. on February 1, 1986. The pump was restarted at 7:15 a.m. on February 2, 1986, and then removed from service for trouble-shooting at 7:45 a.m. The Old General Electric Stack Monitoring System (OGESMS) pump No. 12, part of a redundant system, was placed in service at that time.

On Februrary 8, 1986, at 12:20 p.m., the licensee discovered that OGESMS pump no. 12 had failed at some time after 7:30 a.m. on February 8, 1986. OGESMS pump no.11 was immediately placed in service.

On February 10, 1986 RAGEMS stack gas sample pump 1 was restored to service .

The inspector discussed the following concerns about LER 86-02 with the licensee:

-- Technical Specification LCO 3.6.14.b, Gaseous Process and Effluent requires, in part, that a minimum of one operable channel is required to monitor the release of Iodine and particulates via the Radioactive Gaseous Process (stack gas) system. With less than the minimum number of operable monitoring channels, Technical Specification Table 3.6.14-2 allows continued stack gas release of Iodine and particulates provided that samples are continuously collected with auxiliary sampling equipment. However, the time required to restore RAGEMS to service or to place auxiliary equipment in service is approximately one hour. The inspector noted that the delay in connecting the auxiliary sampling equipment was acceptable, as the delay was implicit in the auxiliary equipment's use. (It is not normally connected, and it must be moved into position and connected to be used). The licensee stated that the Technical Specifications (TS) would be reviewed to determine if a TS change to better clarify this issue would be desirable. Licensee action in this area will be reviewed in a future inspection report. (50-220/86-03-02)

-- Although operations personnel notified the NRC of the loss of stack gas monitoring on February 2, 1986 they were unaware of the requirement of 10 CFR 50.36 to conduct a plant shutdown for a condition of plant operation not covered by Technical Specifications. The licensee has conducted training on 10 CFR 50.36 with all operations personnel. A plant shutdown was initiated on February 8, 1986 when OGEMS pump 12 was found tripped and terminated after OGEMS pump 11 was placed in service.

The licensee will submit a revision to LER 86-02 to address these concerns.

No violations were identified.

7. Review of Emergency Notification System Reports

The inspectors reviewed the following events which were reported to the NRC via the Emergency Notification System as required by 10 CFR 50.72. The purpose of this review was to determine if the event was properly reported, if any generic implications exist, and if appropriate corrective

action has or will be taken. Additionally, the significance of each event was evaluated to determine if on-site followup may be necessary to ensure that the safety significance of each event has been properly determined.

During the current inspection period, the following reports were reviewed:

Event Date	Subject
March 8, 1986	HPCI initiation. At 1:16 a.m. during a normal plant shutdown for a fourteen week refueling outage, a HPCI initiation was received upon tripping the turbine. Operations personnel reported this event although HPCI initiation is normal on turbine trip and the HPCI function was bypassed by holding in the HPCI reset buttons. The report was made due to confusion in interpreting the alarm typer.
March 8, 1986	HPCI initiation. At 2:08 a.m. while testing the turbine mechanical overspeed trip, a HPCI initiation was received. Although the HPCI initiation should have been bypassed after the turbine governor was tripped at 1:16 a.m. without being reset, a sticky pushrod failed to actuate the limit switch in the turbine front standard, and the HPCI initiation signal was inserted. The licensee plans extensive overhaul of the turbine control system during the refueling outage.

No unacceptable reports were noted.

8. Safety System Operability Verification

On a sampling basis, the inspectors directly examined selected safety system trains to verify that the systems were properly aligned in the standby mode. This examination included:

-- Emergency Diesel Generator Air Start Systems

-- Emergency Ventilation System

No violations were noted.

9. Review of Periodic and Special Reports

The inspectors reviewed the following periodic and special reports to determine whether the safety significance of each event has been properly evaluated, to monitor plant operations, to determine if appropriate

corrective action has been taken, and to ensure compliance with NRC reporting requirements.

During this inspection period, the following reports were reviewed:

Type	Date	Subject
Voluntary	February 19, 1986	Contaminated cask received at Barnwell burial site.
Monthly	March 5, 1986	Operating Experience for February, 1986.
Special	March 12, 1986	Fire barrier penetrations.
Special	March 21, 1986	Inoperable High Range Gamma Monitor

The inspector determined that the requirements of Technical Specifications were met and no violations were noted.

10. Preparation for Refueling

The inspector witnessed selected aspects of preparation for refueling to insure that licensee procedures and administrative controls for refueling and outage activities were adequate. The following items were observed or verified:

-- Checkout and dry run of refueling bridge.

-- Operability of refueling interlocks.

-- Operability of refueling floor radiation monitors.

-- Operability of emergency ventilation system.

The inspector noted that when maintenance personnel assigned to perform refueling bridge checks were discovered by the refueling floor coordinator to be unfamiliar with the procedure, the refueling floor coordinator stopped work to minimize personnel exposure to radiation. The licensee assigned maintenance personnel familiar with the procedure to complete the task. No violations were noted.

11. Refueling Activities

The inspectors witnessed refueling activities to determine whether activities were being controlled and conducted as required by Technical Specifications and approved procedures. The following activities were observed or verified:

-- Periodic testing and verification of the operability of refueling related equipment.

-- Reactor disassembly including vessel head steam dryer and moisture separator removal.

-- Fuel handling operations.

-- Housekeeping and loose object control in the refueling and spent fuel areas.

The inspector noted that the licensee experienced considerable difficulty in removal of the moisture separator and numerous problems with the refueling bridge.

Difficulty with removal of the moisture separator resulted from a suspected bent lifting lug on the moisture separator. The licensee is investigating possible modifications to the lifting rig to correct the difficulty experienced in attaching the lifting rig to the moisture separator.

Numerous problems with the refueling bridge resulted from proximity switch problems in the grapple, which were eventually corrected, and drive problems. Cleaning relays and replacing circuitry corrected many of the drive problems so that defueling proceeded with a minimum of delay.

The inspector also noted that during the initial lift of the reactor head from the vessel, water from within the vessel flowed over the vessel flange into the refueling bellows. Quick action on the part of maintenance personnel caused the head to be lowered, stopping the flow of water. The potential existed for maintenance personnel to be unnecessarily contaminated by reactor water and for reactor water to flow through three open hatches in the refueling bulkhead down into the drywell. The inspector discussed the incident with the licensee and determined the cause to be a plugged instrument line causing level indication to be inaccurate on the flange level indicator. The licensee has committed to change the refueling procedure to include a step which requires maintenance personnel to visually check water level immediately before lifting the vessel head. This will be done by using a flashlight to look down into the vessel through one of the open nozzles in the vessel head. This will allow assurance that water level is below the level of the flange before the vessel head is lifted.

No violations were observed.

12. Allegation Followup

On March 3, 1986, NRC Region I received an allegation (no. RI-86-A-0024) from a reporter in which the alleger stated that in April or May of 1984 a fire brigade member had been caught sleeping in the cable spreading room and four other fire brigade members had been found asleep elsewhere on

site. Technical Specifications require posting of a continuous fire watch with additional fire-fighting equipment when the installed fire suppression equipment is inoperable. Technical Specifications also require a minimum of five fire brigade personnel on site.

The inspectors discussed the incident with the licensee and learned that on May 3, 1984, four fire brigade members had been discovered asleep by a licensee supervisor in a trailer on site and one fire brigade member had been found asleep in the fire extinguisher repair room. None of the five people found sleeping had been involved in a continuous fire watch. In addition to the fire brigade members found sleeping, six other regular fire brigade personnel and five operations personnel temporarily assigned to the fire brigade were on shift. The licensee indicated that all five people found sleeping were suspended for a week without pay. The inspectors reviewed the licensee's documentation of the incident to verify the presence of the additional fire brigade personnel. Based on licensee statements and review of documentation, the inspectors concluded there were no violations or reportable events.

13. Exit Interview

At periodic intervals throughout the reporting period, the inspector met with senior station management to discuss the inspection scope and findings.

Based on the NRC Region I review of this report, it was determined that this report does not contain information subject to 10 CFR 2.790 restrictions.