U. S. NUCLEAR REGULATORY COMMISSION
REGION I

DCS Numbers
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50220-831017

Report No. 83-28

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: November 1-December 12, 1983

Inspectors: S. D. Hudson — Dec. 22, 1983
S. D. Hudson, Senior Resident Inspector — date

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Approved by: S. J. Collins — 1/4/84
S. J. Collins, Chief, Reactor Projects Section 2C, DPRP — date

Inspection Summary:

Inspection on November 1-December 12, 1983 (Report No. 50-220/83-28)
Areas Inspected: Routine inspection by the resident inspector (113 hours). Areas inspected included: licensee action on previous inspection findings, operational safety verification, physical security, plant tours, surveillance testing, safety system verification, maintenance activities, and review of LER's.

Results: No violations were identified, however, inspector concerns exist in two of the 8 areas reviewed. The licensee's failure to maintain a fire barrier penetration seal intact was noted by the inspector during a plant tour. As a result of this finding the licensee is currently conducting a comprehensive review of fire barrier penetrations. This issue remains unresolved pending completion of the licensee's evaluation and subsequent review by the NRC (paragraph 6.b.). During surveillance program reviews the inspector questioned the adequacy of the licensee's implementation of the Main Steam Isolation Valve position scram instrument channel test as required by Technical Specification 4.6.2.a in that the procedure does not test the operability of the channel sensors, i.e., the MSIV limit switches. This issue remains unresolved pending review by the Office of Nuclear Reactor Regulation (paragraph 7.b.).

Region I Form 12
(Rev. February 1982)

DETAILS

1. Persons Contacted

J. Aldrich, Supervisor, Operations
W. Connolly, Supervisor, Q.A. Operations
K. Dahlberg, Site Maintenance Superintendent
W. Drews, Technical Superintendent
E. Leach, Superintendent of Chemistry and Radiation Management
T. Perkins, General Superintendent, Nuclear Generation
R. Raymond, Supervisor, Fire Protection
T. Roman, Station Superintendent
B. Taylor, Supervisor, Instrument and Control

The inspector 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

The plant operated at full power except for a power reduction to 75% power due to turbine pressure control problems on November 15-19, 1983.

3. Licensee Action on Previous Inspection Findings

(Open) INSPECTOR FOLLOWUP ITEM (82-12-01): To meet TMI Action Item II.E.4.2.3, the licensee installed automatic isolation valves in the recirculation loop sample line (valves #110-127 and -128) and in the containment spray to radwaste line (valves #80-114 and-115). Surveillance tests ISP-IC-23, "Integrated Leak Rate Test of Primary Containment," and ISP-25.2, "Primary Containment Isolation Valves Leak Rate Tests," have been revised to include both pairs of valves. Surveillance test ST-R2, "Loss of Coolant and Emergency Diesel Generator Simulated Automatic Initiation Test," Revision 3, has not yet been revised to include either pair of valves. This item remains open pending revision of ST-R2.

4. Operational Safety Verification

a. Control Room Observations

Routinely throughout the inspection period, the inspector 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; and

-- Core thermal limits.

b. Review of Logs and Operating Records

The inspector reviewed the following logs and instructions for the period November 1-December 12, 1983:

-- Control Room Log Book

-- Station Shift Supervisor's Log Book

-- Station Shift Supervisor's Instructions

-- Licensee Event Report Log

-- Reactor Operating Log

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;

-- Determine that records are being reviewed as required;

-- 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.

5. Observation of Physical Security

The inspector 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 identification 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.

6. Plant Tours

During the inspection period, the inspector made multiple 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

-- Yard Areas

-- Radwaste Area

-- Diesel Generator Rooms

-- Screen House

-- Reactor Building

The following items were observed or verified:

a. 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.

b. 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.

During a plant tour on November 28, 1983, the inspector noted that fire barrier penetration R-16, located at Reactor Building elevation 261 feet, was not intact. Duc seal had been placed around the conduit going thru the penetration on the turbine building side but it was not effective in that air flow was noticed thru the penetration into the reactor building. No duc seal was present on the reactor building side of the penetration.

Technical Specification 3.6.10 requires that all fire barrier penetration fire seals protecting safety related areas shall be intact or a continuous fire watch shall be established on at least one side of the affected penetration within one hour.

After the inspector notified the licensee of the degraded fire barrier penetration, a continuous fire watch was established. The penetration was sealed about 1½ hours later. The licensee also conducted a visual inspection of all fire barrier penetrations throughout the plant. Six additional penetrations in the Radioactive Waste Building were found to be not properly sealed. The licensee also identified that many spare electrical penetrations in the Reactor Building, Auxiliary Control Room, and Cable Spreading Room may not provide a three hour fire rating. The licensee has posted fire watches in all affected areas while his evaluation continues. The licensee reported this event as Licensee Event Report #83-44. This issue remains unresolved pending completion of the licensee's evaluation and subsequent review by the NRC. (220/83-28-01)

c. Equipment Controls:

-- Jumpers 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 jumpers and equipment mark-ups were properly implemented.

-- The inspector independently verified that mark-ups BMU 5532 on #103 Emergency Diesel Generator Air Compressor #1 and BMU 7144 on #12 Emergency Ventilation System had been properly installed.

d. Vital Instrumentation:

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

e. Radioactive Waste System Controls:

-- Gaseous releases were monitored and recorded.

-- No unexpected gaseous releases occurred.

f. Housekeeping:

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

7. Surveillance Test Program Reviews

a. The inspector reviewed selected aspects of the licensee's surveillance program to ensure that all surveillance tests required by Technical Specifications are performed in a timely manner and that changes to Technical Specifications are factored into the surveillance test program. Specifically, the inspector reviewed the following new or revised surveillance tests to verify that the revised surveillance requirements had been implemented. The inspector also verified that each surveillance test was included on the current surveillance schedule.

New Technical Specification Surveillance Requirements	New or Revised Surveillance Tests
Amendment #42 dated April 13, 1981, T.S. 4.6.11, monthly channel test of relief valve acoustic monitors and thermocouples	ISP-01-VMS, "Acoustic Monitoring System Operating Background Noise," and ISP-RVT, "Reactor Vessel Relief and Safety Valve Temperature Channel Test"
Amendment #43 dated May 13, 1981, T.S. 4.2.7.d, quarterly exercising of the scram discharge volume vent and drain valves	ST-Q4, "Reactor Coolant System Isolation Valve Exercising Test"

New Technical Specification Surveillance Requirement	New or Revised Surveillance Tests
Amendment #44 dated May 19, 1981, T.S. 4.1.4.g, monthly verification of water in the core spray piping	ST-M6, "Core Spray Keep Fill System"
Order dated April 30, 1981, T.S. 4.2.7.1.a, cyclic testing of core spray check valves	ISP-24.7, "Core Spray System Check Valves Leak Rate Test"

The inspector noted that although no formal administrative controls have been established to ensure that Technical Specification changes will be incorporated into plant surveillance procedures, all of the changes examined were found to be properly implemented.

b. The inspector reviewed the following selected surveillance records to determine that:

-- A technically adequate procedure exists for performing the test.

-- The tests are included on the surveillance schedule.

-- The test has been performed at the required frequency.

-- The status is correctly reflected on the surveillance records.

T.S. Surveillance Requirement	Licensee's Surveillance Test
4.6.2.b, Main Steam Line Radiation Monitor quarterly calibration	ISP-PM-7, "Main Steam Line High Radiation Monitor Instrument Channel Calibration"
4.2.7.1.a, Primary Coolant System cyclic leak test	ISP-24.7, "Core Spray System Check Valve Leak Rate Test"
4.1.4.g, Core Spray monthly keep fill test	ST-M6, "Core Spray Keep Fill System"
4.1.4.a, Core Spray cyclic automatic pump start	ST-R2, "Loss of Coolant and Emergency Diesel Generator Simulated Auto Initiation Test" ST-R9, "Core Spray System Operation Using Demin Water"
4.6.2.a, APRM Scram weekly channel test	ST-W6, "APRM Rod Block and Scram Instrument Channel Test"

T.S. Surveillance Requirement	Licensee's Surveillance Test
4.6.2.g, APRM Rod Block quarterly calibration	ISP-IC-3-1, "APRM Instrument Channel Calibration"
4.2.7.b, Reactor Coolant Isolation Valves quarterly exercising	ST-Q4, "Reactor Coolant System Isolation Valve Exercising Test"
	ISP-RPS-TP, "Reactor Protection System-Auto Trip System Instrument Trip Channel Test/Calibration" for instrument #36-06
4.6.2.a, High Drywell Pressure Scram monthly channel test	ISP-RPS-TP for instrument #201.2-476
4.6.2.a, MSIV Position Scram quarterly instrument channel test	ST-Q4, "MSIV Position Instrument Channel Test"
	ST-R8, "Reactor Coolant and Primary Containment Isolation Valve Timing"
4.6.2.a, Turbine Stop Valve Position Scram quarterly instrument channel test	ISP-04, "Turbine Stop Valve Closure Instrument Channel Test"

Findings:

The inspector noted several administrative errors in two of the procedures examined. In procedure ISP-RPS-TP, pressure instrument #201.2-476B operates relay 12K26, not 12K62 and pressure instrument #201.2-476D operates relays in the #12 R.P.S. logic, not #11 R.P.S. logic as listed. In procedure ST-R2, step 7b, the simulation of high drywell pressure is missing from the body of the procedure. The data sheets correctly include this step. The appropriate departmental supervisors stated that the procedures would be reviewed and corrected.

The inspector questioned the licensee's method of performing the MSIV position scram instrument channel test as required by Technical Specification 4.6.2.a. The licensee's procedure, ST-Q4, tests this scram function by pulling fuses in instrument channel logic, which de-energizes the relay that would be operated by the MSIV limit switches. Technical Specifications (TS) define an instrument channel test as tne injection of a simulated signal into the channel to verify its proper response including, where applicable, alarm and/or trip initiating action. T.S. further define an instrument channel as an arrangement of a sensor and auxiliary equipment required to generate and transmit to a trip system a single trip signal related to the plant parameter monitored by that instrument channel. The procedure,

ST-Q4, appears to be inadequate since it does not test the operability of the sensors, i.e., the MSIV limit switches. The licensee contends that the MSIV limit switches are not designed to be tested since the inboard MSIV's are motor-operated and not provided with the capacity for slow closure testing. The inspector reviewed data obtained during the performance of ST-R8 on May 27 and 28, 1983 which demonstrated that each MSIV limit switch was operable prior to reactor start-up following the recirculation piping replacement outage. This item is unresolved pending review by the Office of Nuclear Reactor Regulation as requested by memorandum, R. Starostecki to D. Eisenhut, dated November 30, 1983. (220/83-28-02)

c. The inspector also examined selected aspects of the licensee's Quality Assurance program to determine Q.A.'s involvement in surveillance testing. The inspector reviewed Q.C. Surveillance Report SR82-026 dated December 8, 1982 to verify that a programmic review of APN-8, "Test and Inspection Program" is conducted annually. During the inspection, this year's review was in progress. The inspector examined Q.C.'s 1983 surveillance schedule to verify that Q.C. personnel periodically observed surveillance testing. The inspector reviewed two completed surveillance reports (SR83-065 and 066) documenting these inspections. The inspector noted that the Q.C. surveillance check-lists do not require that the technical adequacy of the surveillance procedure be verified. However, as a result of previous NRC findings documented in Inspection Report 50-220/83-29, the licensee has agreed to conduct a review of all surveillance procedures to ensure that all Technical Specification surveillance requirements are properly implemented. Quality Assurance also plans to expand its surveillance check-lists to include reviews to verify that future Technical Specification changes are fully implemented. The licensee's actions will be reviewed during a future inspection. (220/83-28-03)

8. Safety System Operability Verification

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

-- Verification that each accessible valve in the flow path is in the correct position by either visual observation of the valve or remote position indication.

-- Verification that power supply breakers are aligned for components that must actuate upon receipt of an initiation signal.

-- Visual inspection of the major components for leakage, proper lubrication, cooling water supply, and other general conditions that might prevent fulfillment of their functional requirements.

-- Verification by observation that instrumentation essential to system actuation or performance was operational.

During this inspection period, the following system was examined:

-- Liquid Poison System

No violations were identified.

9. Maintenance Activities

The inspector examined portions of various safety-related maintenance activities. Through direct observation and review of records, he determined that:

-- These activities did not violate the limiting conditions for operation.

-- Required administrative approvals and tagouts were obtained prior to initiating the work.

-- Approved procedures were used or the activity was within the "skills of the trade".

-- Appropriate radiological controls were properly implemented.

-- Equipment was properly tested prior to returning it to service.

During this inspection period, the following activities were examined:

-- Preventive maintenance MPM-C14 on #12 Control Room Emergency Ventilation Fan breaker, and

-- Preventive maintenance MPM-A7 on #12 Control Room Emergency Ventilation Fan.

No violations were identified.

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

The LER's submitted to NRC, Region I were reviewed to verify that the details were clearly reported, including accuracy of the description of the cause and adequacy of the corrective action. The inspector determined whether further information was required from the licensee, whether generic implications were indicated, and whether the event warranted onsite followup. The following LER's were reviewed:

LER No.	Event Date	Subject
83-28	October 27, 1983	Two snubbers found low on oil
83-29	September 29, 1983	Increase in radioactivity found in shoreline sediment

LER No.	Event Date	Subject
83-30	October 3, 1983	Failure to post continuous fire watch

This event is fully described in Inspection Report No. 83-24.

83-31	November 2, 1983	Environmental temperature indication out of tolerance
83-32	October 17, 1983	Test valve found open to the torus

This event is fully described in Inspection Report No. 83-24.

11. Unresolved Item

An unresolved item requires additional information to determine it's acceptability. Unresolved items are contained in paragraphs 6.b. and 7.b. of this report.

12. Exit Interview

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