



## DETAILS

### 1. Persons Contacted

D. Army, Maintenance Engineer  
J. Basile, General Manager Nuclear Power Generation  
M. Blatt, Acting Director, Regulatory Affairs  
A. Brescia, I&C Supervisor  
K. Burke, General Manager, Administrative Services  
J. Cullen, Rad Waste Manager  
J. Curry, Chief Operations Engineer  
R. Gauny, General Manager, Environmental Health and Safety  
J. Higgins, Chemistry Manager  
C. Jackson, Vice President Nuclear Power  
J. Mooney, Electrical Engineer  
H. Morrison, Operations Superintendent  
A. Nespoli, Major Projects Manager  
J. Quirk, Test and Performance Engineer  
M. Skotzko, Security Administrator  
M. Smith, Acting General Manager, Technical Support  
T. Walsh, Instrumentation and Controls Engineer

The inspectors also interviewed other licensee employees including members of the operations, health physics, technical support, maintenance, construction, corporate engineering staff, and security personnel.

### 2. Licensee Action on Previously Identified Inspection Findings

(Closed) Unresolved Item (247/81-19-08) A review of the licensee's security related MWR's identified 158 outstanding requests for work. The inspector expressed a concern regarding prompt action on security-related MWR's. The inspector verified that the licensee reviewed all outstanding MWR's and established priorities based on the MWR's importance. The priorities range from 1 to 4 with 1 identifying the most critical items. As of January 31, 1983, there were approximately 140 outstanding MWR's, 95 in categories 1-3. Approximately 30 were generated in 1983. In all instances where breakdown of equipment has been identified, proper compensatory plans are in place.

(Closed) Unresolved Item (247/81-19-03) At least in one instance a radiation badge issued to a worker performing maintenance in an area not accessible through radiological control points, did not carry the required green sticker. The inspector verified that the licensee posted signs at each controlled area's access point directing workers to obtain green stickers if they plan to use badges in areas not accessible through the control points. The inspector noted that no problems were identified in this area throughout 1982, which included the refueling outage.

(Closed) Unresolved Item (247/82-09-02) The remote operator for containment spray isolation valve 869B has been removed, requiring manual operation of the valve during containment spray pump tests. Without the remote operator, the valve could not be opened manually within two minutes, as required by test procedure P-TM-19. The inspector verified that the licensee replaced the remote valve operators as per MWR 453. Post Maintenance Test results show that the valves can be stroked open/or closed in approximately 35 seconds.

(Closed) Unresolved Item (247/82-19-02) Licensee to investigate cause of fan cooler coil leaks and take appropriate corrective actions. The licensee determined the cause of coil failures to be erosion due to foreign materials in the system, and inadequate water box design. The inspector verified that the licensee removed debris from supply lines, chlorinated the water system, and modified inlet boxes for better flow distribution and flow control. Each fan cooler unit was pressure tested to 185 psig. prior to returning to service.

(Closed) Violation (247/82-18-01) Contrary to Section 3.6 of the Technical Specifications, Procedure A-26, "Loss of Containment Integrity," Rev. 0, allowed the licensee to maintain an inoperable automatic isolation valve open for an indefinite time period. The inspector verified that the revised procedure A-26, requires the licensee to bring the reactor to cold shutdown if Section 3.6 of the TS requirements are not met within four hours.

(Closed) Unresolved Item (247/81-19-02) The inspector verified that the licensee completed proposed modifications identified in LER 81-021/99X-0. The modifications are designed to reduce erosion in the fan cooler motor service water piping elbows. Examination of the fan cooler motor service water piping elbows during the 1982 refueling outage did not identify corrosion problems.

### 3. Plant Operations Review

At the beginning of this inspection period, the unit was in cold shutdown. On January 31, 1983, the licensee began an outage to replace the No. 1 seal on the No. 23 reactor coolant pump.

On February 12, 1983, while returning to power operations, a turbine trip caused by the electrical overspeed protection system, resulted in a reactor trip from 8% power. The licensee attributed the actuation of the overspeed protection system channels to spurious electrical signals in the system.

On February 13, while the reactor was just critical, the licensee identified a reactor coolant system leak in excess of the Technical Specification (TS) limit of 10 gpm into containment free volume. Upon recognizing that the leakage rate exceeded TS limits, the licensee declared an "Unusual Event." After cooldown and depressurization of the reactor coolant system, the leak rate was reduced to below the TS limit, and subsequently, the unusual event was terminated later that day. The licensee traced the source of the leak to Valve No. 731, on the residual heat removal system line, which takes suction from No. 22 reactor coolant system hot leg. The reactor was maintained in hot shutdown condition, while repairs to the valve packing were completed.

The licensee returned the unit to power operations on February 16. On February 17, after operating at full power for approximately 15 minutes, a turbine trip caused by the turbine electrical overspeed protection system resulted in a reactor trip. The licensee reviewed the electrical overspeed protection system, and determined that a modification was necessary in order to eliminate electrical perturbations, which cause spurious trips of the overspeed protection channels. The licensee completed the modification of the independent electrical overspeed trip system, and returned to power operations on February 20.

No violations were identified.

#### 4. Plant Tours

During the course of the inspection period, the inspectors made multiple tours of all accessible areas within the facility. During these tours, the inspectors ascertained that adequate controls were being implemented for the following:

- Radiation Protection Controls
- Plant Housekeeping
- Fire Protection
- Equipment Control
- Tagging Controls
- Pipe Support and Seismic Restraint
- Fluid Leaks
- Instrumentation and Controls

No violations were identified.

#### 5. Inspection of Emergency Lighting and Reactor Coolant Pump Oil Collection Systems

In accordance with Temporary Instruction 2515/61, the inspector reviewed the licensee's conformance with Sections III J and O of 10 CFR 50, Appendix R.

A. Emergency Lighting

The inspector reviewed the installation of emergency lighting fixtures located in previously identified critical fire areas of the plant, including the control room, cable spreading room, switchgear room, primary auxiliary building, and the auxiliary boiler feed pump building. The inspector verified that the eight hour rated battery packs are installed in a manner which provides sufficient illumination in the above areas. The inspector also reviewed Test Procedure PT-M49, "Emergency Lighting," Revision 2, and verified that the licensee conducts monthly inspections of all emergency lights. The procedure checks the following parameters: state of charge of the battery, electrolyte level, A.C. power supply, lamp test switch, and battery voltage.

The inspector noted that during the 1982 refueling outage, the licensee installed alternate power supplies to safe shutdown equipment. The licensee's procedure SOP 27.1.9, "Safe Shutdown System Operation," requires that subsequent to loss of normal and emergency power supplies, operators verify valve lineups and breaker positions and operate transfer switches. The inspector reviewed the areas housing equipment identified in SOP 27.1.9, and determined that several areas are not provided with battery operated emergency lights. This item was brought to the licensee's attention. The licensee stated that each area identified in SOP 27.1.9 will be examined for illumination requirements. Additional emergency lights will be installed where needed. This item remains unresolved pending NRC review of the licensee's corrective actions. (50-247/83-06-01)

B. Oil Collection System for Reactor Coolant Pump

The inspector reviewed licensee's modification MMT-80-2-07, "Reactor Coolant Pump Motor Oil Collection System," dated December 9, 1980, and the associated drawings. The inspector verified by review of drawing NUS 1952-M-003 through NUS 1952-M-011 and Con Edison drawing A-207550, and by visual inspection of the installed system on each of the four reactor coolant pumps, that the oil collection system is installed in accordance with the above drawings. The system design provides for the collection of oil from the upper and lower oil level indicators, oil cooler, lower bearing, and the oil lift pump of each reactor coolant pump. The oil is drained to one of two oil collection tanks of 275 gallon capacity each, located at 46 ft. elevation of the containment building. The tanks have sufficient capacity to contain all the oil from one RCP. The tanks are equipped with flame arrestors. Two positive displacement pumps take suction from the tanks and have the capability to discharge near the 95 ft. elevation air lock to temporary collection facilities, if required. The two oil collection tanks and the associated piping are seismically designed. Oil level in the tanks is not indicated, however, reactor coolant pump reservoir levels are monitored in the control room. The oil collection tanks are inspected bi-weekly in accordance with procedure PI-BWI, Rev. 2, "Reactor Vessel and Containment Building Inspection for Leakage." The inspector verified that the licensee meets the requirements of Section III.0 of Appendix R to 10 CFR 50.

## 6. Plant Trips

Two reactor trips occurred during this reporting period. Both trips were caused by the turbine electric overspeed protection system. The licensee experienced a similar trip during the last reporting period. After each trip, the licensee stabilized the unit at hot shutdown. No activation of the engineered safety system or uncontrolled radioactive releases to the atmosphere occurred. Following each trip, the licensee made the required notifications through the Emergency Notification System.

The sequence of the reactor trips is as follows:

- 11:42 a.m. on February 12, 1983 from 8% power; and,
- 4:50 a.m. on February 17, 1983 from 100% power.

The licensee completed a modification to the turbine electrical overspeed protection system prior to returning to power operations on February 20, 1983.

No violations were identified.

## 7. Operational Safety Verification

Daily, the inspectors observe the control room for primary plant parameters, staffing, and the manner by which operations were being conducted. The inspectors ascertained the following:

- Proper control room manning and access control;
- Operators adhering to approved procedures for ongoing activities;
- Adherence to limiting conditions for operations observable from the control room;
- No abnormalities on instrumentation and recorder traces;
- Nuclear instrumentation and other reactor protection systems are operable;
- Control rod insertion limits are in conformance with technical specification requirements;
- Containment temperature and pressure indications were in conformance with technical specification requirements;
- No abnormalities indicated on radiation monitor recorder traces; and,
- Onsite and offsite emergency power sources available for automatic operation.

The inspectors reviewed the control room logs, reports, and various documents pertaining to plant status in order to obtain information concerning operating trends and activities, and to note any out-of-service safety systems.

No violations were identified.

#### 8. Operability of Engineered Safeguard Features

The inspector verified through direct observation, the operability of the auxiliary component cooling water system, high pressure safety injection, containment fan coolers service water, and containment spray systems.

The inspection criteria included:

- A walkdown of the accessible portions of selected system;
- System lineups checked against plant drawings;
- Verified appropriate hanger and support settings;
- Cleanliness of breakers, instrumentation cabinets;
- Instrumentation is properly valved and calibrated;
- Valves in proper position, power available, locked and sealed, as required by checkoff lists; and,
- Local and remote control positions correctly established.

No violations were identified.

#### 9. Surveillance

The licensee's surveillance program provides assurance that required safety related components, their instrumentation and supporting systems will perform their intended functions.

The inspector's verification of the licensee's surveillance program included:

- Review of surveillance procedure for conformance to technical specification requirements, and verify proper licensee review/approval;
- Verification of test instrumentation calibration;
- Observations of portions of system removal from service. Confirmation that LCO's are met when operational mode requirements are specified;

- Observation of portions of the conducted surveillance test;
- Observation of portions of the system's restoration to service;
- Review test data for accuracy and completeness. Independently calculated selected test results to verify accuracy;
- Confirmation that surveillance test documentation is reviewed and test discrepancies are rectified;
- Verification that test results meet technical specification requirements;
- Verification that testing was done by qualified personnel; and,
- Verification that the surveillance met the technical specification frequency requirements.

The following surveillance tests were witnessed:

- Safety Injection Pumps Functional Test, PT-M-17, Revision 17;
- Auxiliary Component Cooling Pumps, PT-M 20, Revision 14;
- Fire Pumps 11 and 12, Main Fire Pump Operational Test PT-M34, Revision 5; and,
- Reactor Protection Logic Test PT-M 14, Revision 10.

No violations were identified.

#### 10. Maintenance

The inspector reviewed portions of safety-related corrective and preventive maintenance, and determined through observations and reviews of records that:

- The maintenance activity did not violate limiting conditions for operation;
- Redundant components are operable, if required;
- Required administrative approvals, and tagouts were obtained prior to initiating the work, if required;
- Approved procedures were being used, where required;

- The procedures used were adequate to control the activity;
- The activities were being accomplished by qualified personnel;
- Replacement parts and materials being used are properly certified;
- Preventive Maintenance Program is functioning in accordance with approved procedures;
- Radiological controls are proper, and that they are being properly implemented;
- Ignition/fire prevention controls were appropriate, and were implemented;
- QC hold points were observed, and provided independent verification of specific points, if required; and,
- Equipment was properly tested prior to return to service.

Portions of the following maintenance activities were observed and reviewed:

No. 23 Reactor Coolant Pump - The licensee identified excessive leakage through the No. 1 seal of the reactor coolant pump No. 23. The licensee issued MWR 6928 to replace the seal.

RHR System Valve No. 731 - The licensee issued MWR 7078 dated February 13, to replace the packing on Valve No. 731 in order to eliminate a 10 gpm reactor coolant leak. The inspector verified post maintenance test results at 500 psig and 2235 psig, reactor coolant pressure.

Fan Cooler Unit 23, 24 and 25 - The licensee experienced leaks caused by corrosion and erosion through the fan motor cooler flexible metallic hoses. The licensee issued modification MPI 82-02-03 to replace the flexible metallic hoses with rubber hoses on all fan motors. This has been accomplished on FCU 23, 24 and 25. The remaining units, 21 and 22, will be completed during the next outage. The inspector reviewed safety evaluation SE-2-22-175, dated December 13, 1982, which determined that the installation of rubber hoses constitutes an equivalent replacement.

Independent Electrical Overspeed Protection System (IEOPS) - The licensee identified spurious electrical spikes in the electrical signals fed into the IEOPS which resulted in several turbine trips. The licensee issued MWR 7148 to implement modification MPC 83-15171-19 by installing larger magnetic pickup probes and associated printed circuit boards. Post maintenance tests verified that the modification greatly reduced the amplitude of spurious electrical signals generated through the upgraded IEOPS.

No violations were identified.

11. Containment Isolation Lineup

To ensure licensee's ability to maintain and exercise containment isolation, the inspector verified by observation:

- That manual valves required to be shut, capped and/or locked met operating mode; and,
- That motor or air-operated valves were not mechanically blocked and power was available, where required.

The following valves and penetrations were included in this inspection:

- Valve Nos. 250 A, B, C and D      Reactor Coolant Pump Seal Water
- Valve Nos. 888 A and B      Residual Heat Removal to Safety Injection Pumps
- Valve Nos. 956 E and F      Reactor Coolant System Sample
- Valve Nos. 990 A and B      Recirculating Pump to Sample System
- Valve No. 205      Charging Line

Also, electrical penetrations were inspected in electrical penetration areas of the primary auxiliary building and the containment building.

No violations were identified.

12. Monthly Operating Report

The monthly operating report for January, 1983 was reviewed by the inspector. The review included an examination of selected maintenance work requests and of significant occurrence reports. The inspector verified that the summary of operating experience was properly documented.

No violations were identified.

13. Minor Seismic Disturbance

A seismic disturbance registering 2.8 on the "Coda" scale occurred on February 26 at 3:00 p.m. The center of the disturbance was located near Putnam Lake, New York at latitude 41.55° and longitude 73.64°, approximately 20 miles from the site in the northeast direction. The licensee was notified of the event by the state police, and by the licensee's consultant. No indications were noted on the site's seismic instruments.

No violations were identified.

14. Physical Security

During the course of the inspection, the inspectors observed the implementation of the security plan by noting:

- The security organization is properly manned and that security personnel are capable of performing their assigned function;
- Persons and packages are checked prior to allowing entry into the protected area;
- Selected vital area barriers are not degraded;
- Vehicles are properly authorized, searched, and escorted or controlled within the protected area;
- Persons within the protected area display photo identification badges, persons in vital areas are properly authorized, and persons requiring escort are properly escorted;
- Compensatory measures are employed when required, by security equipment failure or impairment; and,
- Response to threats or alarms or discovery of a condition that appears to require additional security precaution is consistent with procedures and the security plan.

No violations were identified.

15. Unresolved Items

An item about which more information is required to determine whether it is acceptable, or a violation is considered unresolved. Paragraph 5 contains an unresolved item.

16. Exit Interview

At periodic intervals during the course of the inspection, meetings were held with senior facility management to discuss the inspection scope and findings.