

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos.: 50-220/91-21
Docket No.: 50-220
License No.: DPR-63
Licensee: Niagara Mohawk Power Corporation
Facility Name: Nine Mile Point Unit 1
Inspection At: Scriba, New York
Inspection Conducted: September 30 - October 4, 1991

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Inspectors: Scdd 7th for 10/23/91
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BWR Section, Operations Branch, DRS
Date

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Date

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Date

Inspection Summary: Inspection from September 30 - October 4, 1991 (Report No. 50-220/91-21)

Areas Inspected: This inspection was a pilot inspection in the area of plant operations. The inspection had two objectives. The first objective was to ensure that operations are conducted in a safe manner and in accordance with regulatory requirements and licensee approved procedures. The second objective was to assess the effectiveness of interfacing between the operations personnel and other facility departments.

Results: No violations were identified. Operations were conducted in a safe manner. Control room operations were orderly and met regulatory requirements. Communications between operations personnel and other facility department personnel were effective. Management involvement in daily activities was evident.

Several areas were identified where increased attention was needed by the licensee. These are discussed in the "Findings" section of the report.



DETAILS

1.0 Persons Contacted

Niagara Mohawk Power Corporation

B. Bandla, Operations
J. Burton, Quality Assurance
K. Dahlberg, Plant Manager
S. Domago, Operations
*G. Doyle, Quality Assurance
C. Fischer, Electrical Maintenance
*M. Goldych, Site Licensing
*E. Lighthall, Site Engineering
K. Picciott, Modification Coordinator
*B. Tessier, Operations Manager

U.S. Nuclear Regulatory Commission

R. Temps, Resident Inspector
*W. Schmidt, Sr. Resident Inspector

The inspectors also contacted various senior reactor operators, reactor operators, nonlicensed operators, and members of the technical and operating staff during the course of this inspection.

*Denotes those present at the exit meeting on October 4, 1991.

2.0 Purpose of Inspection

This inspection had two objectives. The first objective was to ensure that operations are conducted in a safe manner and in accordance with regulatory requirements and licensee approved procedures. The second objective was to assess the effectiveness of interfacing between the operations personnel and other facility departments.

3.0 Summary of Plant Activities

During this inspection, Nine Mile Point Unit 1 was in cold shutdown. A failed current transformer on the main generator caused a turbine trip and reactor scram on September 26, 1991. Efforts to repair and/or replace the faulty current transformer were underway during this inspection. Other activities such as surveillance testing and preventive and corrective maintenance were being conducted in parallel with the restoration of the main generator.



4.0 Review of Facility Operations

Scope

This was a performance based inspection of plant operations. The inspectors held discussions with plant personnel and accompanied plant operators on their daily rounds. Control room and plant observations were made on day and afternoon shifts. The inspectors reviewed work in progress in the control room and in the plant. The surveillance testing of the emergency diesel generator cooling water pump was observed. The inspectors attended outage planning meetings, a Station Operations Review Committee (SORC) meeting, and held discussions with various plant managers.

Findings

The inspectors determined that the control room was properly staffed. Access to the control room was controlled and limited to persons with a need to be there. AP-4.0, "Administration of Operations," Revision 18, establishes the responsibilities for key shift operations personnel. Unlike the other positions, the Assistant Station Shift Supervisor's (ASSS) responsibilities described in Section 5.1.5 are very general. Section 5.1.5 states that the ASSS acts as either the Station Shift Supervisor when assigned or the STA during an emergency. This is an on-shift licensed senior reactor operator position which should have better documented responsibilities. For example, other procedures such as AP-5.2.5, "Work In Progress," and NI-OD-1.11, "Log Maintenance," describe specific responsibilities of the ASSS. Discussions with an on-shift ASSS and plant management confirmed the weak development of ASSS responsibilities in AP-4.0. Plant management indicated that efforts were underway to better define and clarify the role of the ASSS.

The Chief Shift Operator (CSO), a licensed reactor operator, by procedure AP-4.0 and through inspector observations, delegates work and coordinates the activities of other licensed operators. The CSO is the "at the controls" operator. During this inspection, the plant was in cold shutdown. The inspectors did not observe the CSO directing licensed reactor operators in licensed activities, which would be in violation of 10 CFR 50.54(1). The regulation requires that licensed senior reactor operators direct licensed activities of licensed reactor operators. This issue was discussed with licensee management, who indicated that the concern was raised in the past and is being considered.

While inspecting the control room, it was noted that the master controller for the reactor recirculation pumps instrument number RY01 had an out-of-date calibration as recorded on the calibration sticker. The sticker indicated that calibration was due on 4/1/91. After discussions with the CSO and ASSS and review of AP-5.3.2, "Control and Calibration of Permanently Installed Instrumentation," it was found that calibration stickers are no longer used. Information from a new computer tracking



system indicated that the instrument is calibrated on a two-year cycle and is due for re-calibration on 3/12/92. The instrument technician forgot to remove the calibration sticker. No out-of-date calibrations were noted.

The inspectors accompanied operators on rounds in the reactor building and turbine building. The operators were adhering to the current approved procedures issued on July 15, 1991:

NI-PM-S2, "Operator's Rounds Guide Reactor Building"

NI-PM-S1, "Operator's Rounds Guides Turbine Building - Upper Floor"

The inspectors noted that much of the data to be recorded on the round sheets did not have acceptance criteria to guide the operators in identifying abnormal values. Also, much of the data on the round sheets is for power operation only. Including operating conditions might reduce entry into radiation areas and allow more attention to operating equipment. These points were discussed with the licensee, who indicated they were being considered in the next procedure revision.

The plant operators were observed to carefully follow radiation protection and ALARA practices. For example, T.V. cameras are used for remote inspection of equipment in some high radiation areas. Protective clothing was used where required. Locked high radiation area doors were checked. Equipment seal leakage was checked for contamination. Good housekeeping practices were followed. Rotating equipment was checked for excessive vibration, temperature, and lubrication. The plant appeared to be clean and areas were well lighted. Except for the items discussed below, the equipment appeared to be well maintained.

While accompanying the operators on their rounds of the reactor and turbine buildings, several concerns were noted and discussed below. These concerns were discussed with the licensee and their response was considered acceptable.

1. In the Reactor Building East Instrument Room, deficiency tag number WR 170592 dated 10/10/89 was found hanging on a test fitting. This tag stated that teflon tape was on many test fittings. The licensee was questioned on the age and importance of the tag. The use of teflon tape on test fittings not exposed to reactor coolant is an acceptable practice. However, it was not clear to the licensee if teflon tape had been used on lines exposed to reactor coolant. The licensee initiated an investigation in all four instrument rooms to determine where teflon was used. The inspectors will review the licensee findings at a later date.
2. Also, in the east instrument room, the inspectors noted a tag on level transmitter, LT36-04C, dated 1/15/91. The tag stated that there was a difference between the true value of level and the indicated reading.



LT36-04C is a level transmitter used for reactor protection. After investigation by the licensee, the inspectors were informed that the tag was applied to the wrong instrument. It should have been applied to a test instrument that was not used for control or protection purposes. The licensee indicated that repair was a high priority, but was delayed because of parts problems. The inspectors will review the repair in the future.

3. RWCU pump seal was observed to be leaking reactor coolant and was not posted as contaminated. When informed, the licensee sampled the water and determined that radioactivity levels were below limits for posting as contaminated.
4. The windows in the roof of the turbine building were observed to be open and are opened at times during operations. The licensee was asked how they ensured there was no unmonitored release from these windows. The licensee stated that the turbine building operated at a negative pressure, but they would look into the matter further. This concern will be reviewed after the licensee's investigation.
5. The inspectors noted that two banks of batteries were on the turbine building floor with only a rope isolating the area. The batteries were in a charging mode. No warning or hazard signs were posted. The adequacy of the ventilation system to remove any hydrogen that was released was not verified. The licensee began checking into this concern and was planning to post warning signs as a result of the inspection observations. This concern will be reviewed after the licensee's investigation.
6. The maximum hot spot temperature indicators on transformers 16B, 17A, and 17B were noted to be broken. They were tagged as a deficiency on 11/20/90. Power Boards 16 and 17 provide power to equipment required for safety and are vital to safe shutdown under accident conditions. Power Boards 16 and 17 are double-ended metal-enclosed unit substations, each consisting of two 1000 KVA step down transformers and associated busses. Equipment required for both normal operations and shutdown is duplicated and connected to the A bus sections of PB16 and 17. Equipment required for post-accident and shutdown systems is duplicated and connected to the B bus sections. Hot spot temperature monitoring is used to indicate insulation performance. Vendor literature states that thermometers located on the windings monitor for excessive heating. Excessive heating results in insulation deterioration which reduces normal life of the transformer. The inspector noted that no provision is made to calibrate or verify functioning of the hot spot temperature monitoring system. Based on the information available to the inspector, the licensee began monitoring and recording hot spot temperature on a monthly basis in 1987 using procedure NI-EPM-GEN-MI78. No hot spot temperature acceptance criteria is given in the procedure for these safety-related transformers, although acceptance



criteria are given for nonsafety-related transformers. A maximum hot spot temperature of 270°C was recorded in January 1987 for transformer 17A which is well above the annunciator alarm setpoint (210°C). Work request number 156311 and Problem Report number 1068 were written for the failed maximum hot spot indicator on transformer 16B in January 1987. Between 1987 and 1989, the monthly surveillance was changed to a quarterly surveillance which did not record transformer hot spot temperatures. Repair of the hot spot indicators was included in MOD 88-143, which involves repair of similar, although nonsafety-related, transformers. This is a modification initiated in 1988. With a modification backlog of 500 mods, it appears doubtful to the inspector that repairs would be made. Discussions with operations and electrical maintenance indicated that confusion existed over who was responsible for monitoring transformer performance. Operations had no acceptance criteria for hot spot temperatures on their round sheets, nor did they know what temperature gives the alarm in the control room. Control room panel A6 annunciators 3-1 (PB16) and 3-2 (PB17) alarm on high transformer hot spot temperature. Procedure NI-OP-30 directs the operator to remove the transformer from service if a high temperature alarm is received. The inspector discussed his concerns with the licensee. The licensee indicated that higher priority attention to monitoring and repair would be made. The inspector will continue to monitor the licensee's activities in this area.

Operating logs of the CSO, SSS, and plant operators were reviewed to verify compliance with NI-ODI-1.11, "Log Maintenance." Logs were generally neat and legible. In some cases, the level of detail was not provided to allow for a good understanding of an event. However, during shift turnover, the items were discussed line by line to ensure the oncoming operator was fully aware of the event. The log listing the current status of "limiting conditions for operations" is maintained on the computer. It was also reviewed and discussed with the ASSS. The ASSS was knowledgeable of plant equipment status and LCOs. The operators appeared to be following the procedures for logkeeping.

Several shift turnovers and shift meetings were observed. Individual turnovers appeared to be complete. Shift meetings were tailored to the desires of the SSS and did not involve the ASSS or the CSO. The CSO indicated that the SSS provided him any needed information later. However, this approach allows many opportunities for not communicating important information. These concerns were discussed with the licensee who indicated that appropriate action would be taken. The inspector will observe shift meetings in the future.

The inspectors observed surveillance test NI-ST-VI5, "Emergency Diesel Generator Cooling Water Cold Shutdown Test," performed on diesel generator 103 cooling water pump. The operators and Inservice Inspection personnel reviewed the test procedures, surveyed the test area, and verified that all test prerequisites were satisfied. During the test, an operator



identified a procedure error. The test was stopped and a temporary procedure change was made before resuming testing. Adequate communication was maintained with the control room. The inspectors verified that test equipment was in calibration, the correct revision of procedures was being used, and the temporary procedure change was made in accordance with procedures. No deficiencies were observed.

The inspectors discussed quality assurance activities with the QA manager for Unit 1. He meets daily with the Plant Manager to discuss activities. It appears that the Plant Manager provides strong support for QA. The inspectors reviewed a number of surveillance and audit reports issued by Quality Assurance. The effectiveness of some of the corrective actions was discussed with QA management. No deficiencies were identified. The inspectors attended SORC meeting number 91-077-1 and verified attendance requirements of Technical Specification 6.5.1.5 were met. The meeting was conducted in an efficient manner with the Plant Manager demonstrating a questioning attitude.

Conclusion

The licensee operating staff adequately performs and controls work activities in the plant. Improvements can be made in several areas that are discussed in the "Findings" section of this report. The licensee showed concern over the inspector findings and appeared to be taking the steps necessary to make these improvements. No violations were identified.

5.0 Exit Meeting

At the conclusion of the inspection on October 4, 1991, the inspectors met with the licensee representatives denoted in paragraph 1. The inspectors summarized the findings of the inspection at this meeting.

