

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Report Nos.: 50-220/89-30
50-410/89-19

Docket Nos.: 50-220
50-410

License Nos.: DPR-63
NPF-69

Licensee: Niagara Mohawk Power Corporation
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Syracuse, New York 13212

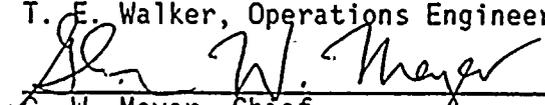
Facility: Nine Mile Point, Units 1 and 2

Location: Scriba, New York

Dates: October 19, 1989 through December 13, 1989

Inspectors: W. A. Cook, Senior Resident Inspector
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Approved by:


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Reactor Projects Section No. 1B

1-19-90
Date

Inspection Summary:

Areas Inspected: Routine inspection by the resident inspectors of station activities including Unit 1 reload preparations and Unit 2 power operations, licensee action on previously identified items, plant tours, safety system walkdowns, surveillance and maintenance reviews, LER reviews and TI 2515/99 review.

Results: The inspectors concluded that the improper performance of Inservice Testing vibration monitoring on the reactor building closed loop cooling pumps was a violation of Article IWP-4500, ASME Code, Section XI, 1983 Edition. An Executive Summary follows.

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EXECUTIVE SUMMARY

Review of Plant Events (Modules 71710, 71707, 93702): Unit 1 activities focused on preparing for core reload. Inspections at Unit 1 did not identify any noteworthy findings. Unit 2 experienced a few unplanned plant transients and operating problems including: flooding of the 250 foot elevation of the Turbine Building due to a maintenance oversight; high copper concentrations in the circulating water system imposing power operations restrictions; a reactor scram from 97% power on December 1 due to EHC problems; an automatic scram signal while troubleshooting the EHC problem on December 2, and another unit shutdown on December 9 due to high unidentified leakage inside containment.

Followup of Previous Identified Items (Modules 92700, 93702): Review of previously identified items at Unit 1 and 2 resulted in the closure of four items and the issuance of a violation for a previous unresolved item (identified during the IATI) regarding improper IST vibration monitoring of the RBCLC pumps.

Plant Tours (Modules 71707, 71710): While in the Unit 2 control room, the inspector observed an SSS properly refuse to implement a temporary modification for which a safety evaluation had not been completed.

Surveillance and Maintenance Review (Module 61726, 62703): Routine inspection at Unit 1 did not identify any noteworthy findings. Inspections at Unit 2 identified minor implementation concerns. The turbine building flood at Unit 2 was an example of poor and informal maintenance controls on non-safety related systems.

Licensee Event Reports (Module 92700): Review of the LERs received during this inspection period and subsequent inspector followup determined that only one report (LER 89-20, Unit 2) required revision by Niagara Mohawk.

Special Reports (Module 90712): Routine review and followup of these reports did not identify any noteworthy findings.

Temporary Instruction Followup (Module 2515/99): A review and close out of TI 2515/99 (NRC Bulletin 88-07, BWR Power Oscillations) was conducted. The inspector concluded that training provided per Bulletin 88-07 was effective.

Mid-SALP Assessment Meeting (Module 35502): During this inspection period the inspectors conducted a verbal Mid-SALP assessment. Unit 1 and 2 activities since March 1, 1989 were discussed with senior station management on November 8, 1989. Preliminary performance assessments and trends were discussed with Niagara Mohawk management and their comments and assessments were also provided to the inspectors.

Exit Meetings (Module 30703): Routine weekly meetings with the Unit Superintendents and a final inspection period exit meeting with the General Superintendent were held.



DETAILS

1. Review of Plant Events

1.1 Unit 1

The unit remained shutdown with the core off-loaded during this inspection period. Preparations were in progress for fuel load targeted for the end of December 1989. No significant operational events occurred during the inspection period.

1.2 Unit 2

As discussed in the last routine report, a reactor scram from the neutron monitoring Intermediate Range occurred during the controlled shutdown on October 18 to repair an inside containment leak. Restart from this shutdown was delayed due to a circulating water flood of the turbine building 250 foot elevation following maintenance on the condenser waterboxes and due to a related event involving a high copper concentration in the circulating water system (CWS). The reactor was taken critical on October 26, but subsequently shut down on October 28 due to the inability to discharge circulating water to the lake due to New York State discharge limits on copper.

The unit was returned to power on November 7, once an agreement was obtained from the State Department of Environmental Conservation which allowed discharge of the CWS water via the Unit 1 circulating water system for additional dilution. The unit operated at reduced power due to CWS chemistry and feed pump problems.

The unit scrammed on December 11 from 97% power due to an electro hydraulic control (EHC) system malfunction. While shutdown on December 2, the unit experienced an automatic scram that occurred during EHC troubleshooting. The reactor was restarted on December 7 and shut down again on December 9 due to unidentified drywell leakage. The unit remained shutdown through the end of this inspection period.

- a. A main condenser tube inspection was performed in the F waterbox. Preparation for this work included opening several manways to gain access to the tubes and opening one upper manway to promote ventilation. The job was completed and mechanical maintenance supervision reported this to Operations personnel in the control room. While filling the waterbox for system restoration, several thousand gallons of water spilled out of the upper manway flooding the 250 foot elevation in the turbine building. The upper manway was inadvertently left open by the Mechanical Maintenance Department personnel.



The inspector determined that the maintenance was not procedurally controlled because it was non-safety related. The inspector's assessment was that maintenance supervision lost control of system integrity due to informal work practices. Further, operations personnel did not detect the open manway when performing the system restoration walkdown.

The inspector identified that NMPC took the following corrective actions:

1. Operations management conducted a meeting with each shift to discuss this event and several other recent events caused by personnel error. The inspector attended one of these meetings and considered it to be a positive response to the recent personnel errors. Each shift was required to provide written feedback on the meeting, including ways to eliminate future events.
 2. A control procedure will be developed for use when entering a large component/confined space such as the condenser, in addition to the Chemistry Department air quality check procedure. This will ensure all openings are documented and get restored.
 3. Training was conducted with maintenance personnel on control of equipment markups and proper communications during system turnovers.
- b. On December 1, the unit experienced a reactor scram while operating at 97% power. Post trip review of the GETARS computer trace indicated the initiating event was the turbine control valves went shut and all five bypass valves opened. These actions were caused by an electro-hydraulic control (EHC) system malfunction. The closure of the turbine control valves caused a reactor pressure transient which resulted in an average power range monitor neutron flux upscale trip. No emergency core cooling systems were initiated and reactor water level was maintained via normal methods.

A review of EHC system relays that could have caused the trip was performed, and three suspect relay boards were replaced. The exact cause of the system failure was not identified. Proper response of the turbine control and bypass valves was observed during subsequent testing. The inspector's assessment of this transient was that the operators took proper actions to restore plant conditions subsequent to the reactor scram and that reasonable effort was expended to identify the EHC malfunction.



- c. While shutdown (Mode 3) on December 2, with reactor pressure 186 psia and main steam isolation valves open, troubleshooting of the EHC system was in progress when an automatic reactor scram occurred. The scram signal was generated on low (Level 3) water level as a result of the turbine bypass valves opening and closing twice causing swell and shrink. The operators took manual control and restored level to its normal band. There were no ECCS system actuations.

NMPC investigation revealed I&C technicians had removed some control cards in the EHC cabinet with the intent of preventing the bypass valves from opening. The electrical drawing used by the technicians did not include a modification to the circuit that provided another input to the turbine bypass valves. Thus, during troubleshooting the bypass valves inadvertently cycled open and shut twice. The GE Control Line-Up Drawing did not reflect the modification, because NMPC erroneously assumed General Electric updated this type of drawing. This drawing had been issued from the document control center as a Niagara Mohawk controlled drawing.

The inspector determined that there were other controlled lower tier diagrams available which correctly reflected the EHC system modification, but were not selected for use because the Control Line-up Drawings are generally better suited for troubleshooting. NMPC management placed a hold on all GE Control Line-up Drawings until they are properly updated and told station staff of their restricted Information Only use. The full scope of corrective actions will be reviewed upon issuance of the associated LER.

- d. Following resolution of the EHC system problems, a plant startup was commenced. While establishing turbine shell warming, it was noted that the bypass valve (for shell warming) would not open. Troubleshooting revealed that a cable installed to support generator torsional testing was interfering with proper operation of the EHC system. This cable had been installed for approximately six months, but its configuration was recently modified to allow remote turbine torsional testing monitoring. The inspector questioned the engineering staff whether this modification was appropriately reviewed by NMPC to assess plant impact. NMPC was still investigating at the conclusion of the report period.



2. Followup on Previous Identified Items

2.1 Unit 1

a. Inspection Report 89-04 (Section 3.1) described three concerns the inspectors identified with respect to the core spray and containment spray strainers and associated pedestal supports. In October, the residents met with NMPC engineers from Salina Meadows. During that meeting, NMPC described the design intent and construction of the pedestals and other design constraints related to the support of the basket strainers. NMPC also discussed corrective actions taken to address the concern of exposed steel re-bar in the pedestals. The inspectors found the meeting useful and informative and were satisfied that NMPC had adequately addressed the inspectors' concerns regarding design and construction of the strainers and associated support pedestals.

b. (Closed) Unresolved Item (50-220/88-80-01): Niagara Mohawk actions to ensure the timely review and closeout of NRC and industry information. Niagara Mohawk submitted a response to the NRC on this item dated March 31, 1989. In that response, Niagara Mohawk agreed to provide additional staffing to the Operational Experience Assessment (OEA) group to reduce the backlog of open NRC and industry information.

The inspector discussed the staffing of the OEA group with the OEA supervisor and noted that since mid-1988, permanent staffing in the OEA group doubled. In addition, 23 contract employees are presently on staff to aid in the reduction of the backlog. As a result, the backlog of OEA items has dropped over 33 percent since January 1989. The inspector considered this effort a substantial management commitment of resources and adequate to reduce the work backlog in a timely manner. This issue is closed.

c. (Closed) Unresolved Item (50-220/89-81-06): During the Integrated Assessment Team Inspection an NRC inspector reviewed the performance of the N1-ST-V7, inservice testing of the reactor building closed loop cooling (RBCLC) pumps. The inspector identified that a vibration measurement pickup device was placed on the inboard mechanical seal of the RBCLC pump in lieu of the inboard bearing housing. This monitoring was contrary to the requirements of Article IWP-4500, Section XI of the ASME Code. This is a violation. (VIOLATION 50-220/89-30-01).



Subsequent to this finding, NMPC performed a preliminary root cause analysis and implemented short term corrective actions. In addition, an inservice testing (IST) engineer was required to observe all pump testing to ensure proper data acquisition. The inspector reviewed the following short term corrective actions:

1. Assess other IST pump baseline vibration tests completed to date. This review led to the retest of pumps in the RBCLC, control room chilled water and diesel generator cooling water systems. These pumps were retested and the results were satisfactory.
2. Remove all vibration points on IST pumps and reestablish correct points for IST vibration monitoring. Red dots were painted on the pumps to designate testing locations. A separate color was utilized for other non-IST testing locations.
3. Revalidate pump sketches in the IST pump test procedures recognize the red dot as the testing location, specify probe type and add a caution to terminate testing if any red dots are missing or suspect.
4. Conduct training of I&C technicians on the revised requirements.

The formal root cause analysis was later completed by the Independent Safety Evaluation Group (ISEG) and a Corrective Action Request (CAR) 89.1014 was initiated to track corrective action completion. The inspector reviewed the results of this analysis and found it to be thorough. The NRC agreed with the conclusions of the Niagara Mohawk root cause analysis, which stated that ineffective engineering management resulted in: allowing improper data acquisition; allowing acceptance criteria being established during performance verification activity; allowing test procedures to handle conflicting criteria; and inadequate management IST support organization.

The inspector performed a field verification of 15 of the 33 pumps in the IST program. One minor discrepancy was noted with the identification of a test location for the three emergency service water pumps not matching the IST pump diagram. This was promptly corrected by a procedure change.



In summary, the inspector found the short term and long term corrective actions to be appropriate and well thought out. However, CAR 89.1014 indicated ten IST program and implementation deficiencies which the inspector assessed to be due to ineffective IST engineering management oversight of the program. In that the root causes of this violation have been identified, the corrective actions developed and implemented, and the inspector has reviewed these efforts prior to the conclusion of this inspection period with NMPC management, no response to this Notice of Violation is required. However, the inspector planned to continue to monitor implementation of the IST vibration testing and review final closure of CAR 89.1014.

2.2 Unit 2

- a. (Closed) Violation (50-410/88-30-01): Design control measures were inadequate for verifying the adequacy of the design of a modification.

This violation involved the failure to meet ambient room temperature requirements while calibrating an instrument transmitter. Further, design basis calculations regarding changes to the response time for the reactor coolant system (RCS) flow input signal to the average power range monitors (APRMs), due to the addition of a variable damping circuit, were not available for the inspector to review. The inspector determined during his review of this violation that these issues did not pose any technical safety concern, but rather posed an administrative control problem with the potential for causing a safety problem.

Niagara Mohawk's response to the violation, dated March 10, 1989 stated that a memorandum was issued from the Unit 2 manager of nuclear design advising engineering department personnel to use extra caution in assuring that the input for 10 CFR 50.59 evaluations is sufficiently detailed and clear. Further, procedure NT-100.B, regarding the preparation and control of safety evaluations, was revised to clarify the review responsibility of the engineers preparing and reviewing safety evaluations. In addition, a new Nuclear Engineering and Licensing Procedure (NE&L-056) was written to specifically delineate how engineering department inspection and installation plans are to be written.



With regard to the second portion of the violation dealing with the design calculations, Niagara Mohawk stated in their response to the violation that the calculations for the modification were contained in GE System Design Record File No. A00-980-6. GE does not normally provide these calculations to customers for proprietary reasons. However, these records were made available for audit by the NRC and Niagara Mohawk auditors. The inspector determined, after an extensive review, that the response time changes caused by the additional damping circuit installed by the modification presented no technical safety concern. Further, since the design basis calculations were retrievable from GE and readily identifiable and traceable to this modification, the original inspector concerns were resolved. This violation is closed.

- b. (Closed) Unresolved Item (50-410/88-08-03): Three primary containment penetrations did not receive local leak rate tests (LLRTs). During an earlier inspection period, Niagara Mohawk identified what was an apparent oversight in the local leak rate testing of three containment penetrations. Further review identified that these three penetrations were installed spares and that the inside containment portion of the penetrations had welded end caps. The inspector determined that the station staff surveyed all other containment penetrations to ensure no other penetrations were overlooked by the LLRT surveillance program. One additional penetration (with a welded end cap) was identified during this Niagara Mohawk review. This item is closed.

3. Plant Inspection Tours

During this reporting period, the inspectors toured the Unit 1 and 2 control rooms and accessible plant areas to monitor station activities and independently assess equipment status, radiological conditions, safety and adherence to regulatory requirements. The following assessments were made:

3.1 Unit 1

Efforts towards decontamination of plant areas continued with noticeable improvement in general plant cleanliness. Initial preparations for cleanup of the 225 foot level in the old Radwaste Building continued and training on use of the robotic arm was scheduled to commence in January 1990.



3.2 Unit 2

- a. The inspector identified several valves with excessive packing leakage in the reactor building and notified the control room for appropriate repair or adjustments. Housekeeping was generally good with only minor discrepancies noted.
- b. The inspector monitored the Station Shift Supervisor (SSS) during his normal duties in the control room for a two hour period and made two observations. First, an I&C technician requested the SSS to call materials engineering and quality assurance to help expedite the procurement of a safety-related fuse. The SSS complied with the request and contacted the two different groups. The inspector concluded that the technician should have utilized his own chain of command to expedite the process rather than burden the SSS.

The second observation concerned a systems engineer from the technical support group interacting with the SSS about making a temporary modification to the circulating water system. The engineer requested the SSS to prepare and hang a system markup to support the tie-in of a modification prior to the performance of the 50.59 evaluation. When asked by the SSS, the engineer neither knew the status of the 50.59 evaluation nor did he understand why one was required prior to the start of this work. The SSS did not approve the request to start work and gave the engineer guidance on how to proceed. The inspector was concerned that the engineer was not properly prepared.

These observations indicated some unnecessary overburdening of the SSS and distraction of him from his routine duties and responsibilities. Further, these observations indicated poor preparation by the I&C and engineering organizations for their respective work activities and a potential for over-reliance on the operations staff to screen and perform certain work activities. These observations were discussed with station management, who shared the inspector's concerns.

4. Surveillance and Maintenance Review

The inspectors observed portions of the surveillance testing and maintenance activities listed below to verify that the test instrumentation was properly calibrated, approved procedures were used, the work was performed by qualified personnel, limiting conditions for operations were met, appropriate system or component isolation was provided and the system was correctly restored following the testing or maintenance activity.



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4.1 Unit 1

- a. N1-89-6, simulates Loss of Off-Site Power/Loss of Coolant Accident (LOOP/LOCA) conditions and tests the automatic response of various plant components. Specific interest in the test re-performed on November 21 was for testing the transfer capabilities of the Motor Generator (MG) sets. (MG set 162 experienced problems when this test was last run in September and resulted in several emergency ventilation initiations and reactor scrams, see LER 89-12). MG set 162 functioned properly during the retest; however, problems were encountered with EDG 103 tripping on an overspeed condition. Adjustments were made to the EDG 103 governor and test N1-89-6 was re-performed on November 27 satisfactorily. The inspector reviewed the test results and discussed them with the Station Shift Supervisor. The testing was well understood by the operators and properly executed.
- b. N1-ST-Q25, IST of the EDG cooling water pumps and N1-ST-M4, monthly operability test of the EDGs. Due to problems encountered in obtaining consistent IST results for the EDG cooling water pumps, caused by fluctuations in backpressure, N1-ST-Q25 was generated. Part of this procedure removes a check valve in the cooling system and installs a temporary throttle valve which is used to obtain consistent backpressure readings. Following the test, the check valve internals are reinstalled and N1-ST-M4 performed to verify operability of the EDG. The inspector observed the testing to be satisfactorily performed.
- c. Maintenance on the MG sets in accordance with N1-89-11 and N1-89-12 was observed. Troubleshooting and maintenance on EDG 103's circuitry to locate a problem with a failure of the three minute cool down run to occur upon securing the EDG was also observed. The maintenance and troubleshooting activities observed were properly executed in accordance with station procedures and technicians were knowledgeable of the work being performed.

4.2 Unit 2

- a. The inspector observed a portion of electrical preventive maintenance being performed on the motor breaker for 2SWP*STR4C (rotating service water strainer) per Procedure N2-EPM-GEN-R580. The technicians performing the work followed the procedure and were very experienced with the equipment. In addition, the inspector verified this work was processed utilizing a post maintenance test sheet and a plant impact sheet. The inspector observed supervisory oversight at the job site.



While performing the maintenance, the breaker was racked out and removed from the cubicle. A red markup tag hanging on the breaker switch was removed and reattached to the front of the empty cubicle by the maintenance personnel. The inspector questioned this practice of maintenance personnel moving red mark-up tags without operations involvement. Station management committed to review this work practice and notify the inspector of their assessment and corrective action.

- b. The inspector observed maintenance on the actuator of valve 2GTS*MOV2A, including the filling of the hydraulic cylinder with oil. The inspector discussed the activity with the technicians and found them to be experienced and knowledgeable.
- c. The inspector accompanied a control room E operator (licensed reactor operator) while performing shift checks per Technical Specifications. The operator was very thorough while recording and evaluating data. It took approximately 2.5 hours to complete the checks.
- d. A meeting was held with Unit 2 station management concerning Technical Specification (TS) 3.6.1.7.a which limits opening the containment purge system supply and exhaust lines to 90 hours per 365 days for venting or purging. It was reported that Unit 2 accumulated 89.5 hours since February 1989. The discussion focused on the different methods to obtain TS relief since Unit 2 was so close to the limit. At the conclusion of the meeting, NMPC indicated they will pursue a license amendment through the normal process.

The inspector reviewed surveillance procedure N2-OSP-CPS-001, which requires the operators to compute the total time the valves are opened in the last 365 days prior to opening the valves. Inspector review of completed surveillances found them to be properly performed. As part of this surveillance the inspector determined that the chief shift operator (CSO) maintains a Control Room Purge/Vent Log which summarizes the containment purge system valve operations. The inspector noted this log was not maintained in a clear and concise manner. Particularly, some entries in the log regarding cumulative time in the previous 365 days were computed incorrectly. However, the mistakes were in the conservative direction. Operations management agreed that the logs could be better maintained and committed to improve the format of the log.



- e. The inspector observed an auxiliary operator charge control rod drive hydraulic control unit (HCU) 58-35. This was accomplished per Operating Procedure 30. The operator followed the procedure verbatim and did a good job. The inspector asked if a work request (WR) was initiated to fix the slow nitrogen bleed down problem and found that WR 170379 was issued for this purpose. The inspector considered this to be a nuisance problem since the accumulator needed to be recharged at approximately four hour intervals.

The priority of the work request was subsequently elevated to expedite fixing this leak. The inspector reviewed a chronology of maintenance on HCU 58-35 since August 14, 1989 and noted that there have been five different work requests processed and worked to address nitrogen bleed down of this HCU. Actions taken by the maintenance department to resolve this particular HCU problem appeared to be ineffective. Niagara Mohawk maintenance management acknowledged this observation and requested engineering staff review of the HCU design and maintenance practices.

6. Review of Licensee Event Reports (LERs)

The LERs submitted to the NRC were reviewed to determine whether the details were clearly reported, the cause(s) properly identified and the corrective actions appropriate. 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, whether the reporting requirements of 10 CFR 50.72 were applicable, and whether the requirements of 10 CFR 50.73 had been properly met. (Note: the dates indicated are the event dates)

6.1 Unit 1

- a. The following LERs were reviewed and found to be satisfactory:
- LER 89-09, Improper installation of penetration plug assembly due to poor written communication (August 3, 1989).
 - LER 89-12, Reactor scram and reactor building emergency ventilation initiation due to loss of reactor protection system bus 11 (September 17, 1989).
 - LER 89-13, Reactor scram due to voltage surge on reactor protection bus 11 (September 29, 1989).
 - LER 89-14, Redundant safety systems inoperable due to lack of a complete program to calibrate non-Technical Specification instrumentation (October 4, 1989).



6.2 Unit 2

a. The following LERs were reviewed and found to be satisfactory:

- LER 89-21, Inadvertent primary containment vent and purge isolation caused by a lightning strike to the main stack affecting the gaseous radiation monitors (August 15, 1989).
- LER 89-22, Standby gas treatment system initiation due to electrical fault (October 7, 1989).
- LER 89-23, Standby gas treatment system initiation as a result of a spurious high signal from a reactor building ventilation radiation monitor (September 6, 1989).
- LER 89-24, Manual reactor scram due to equipment failure and entry into the restricted operating zone (September 8, 1989).
- LER 89-25, Technical Specification surveillance on electrical breaker lineups not performed due to personnel error (September 8, 1989).
- LER 89-26, Secondary containment isolation and standby gas treatment system initiation due to spurious trip signals caused by high frequency welding (September 26, 1989).
- LER 89-27, Missed chemistry surveillance due to inadequate task scheduling and assignment results in Technical Specification violation (September 13, 1989).

b. For the following LER, Niagara Mohawk has committed to issue a supplemental report. This report will be reviewed in a subsequent inspection period:

- LER 89-20, Niagara Mohawk found the IST vibration acceptance criteria for the Division I, II, III emergency diesel generators (EDG) fuel oil transfer pumps to be incorrect. When the correct acceptance criteria was applied to past test results, Niagara Mohawk identified that the Division II pumps were in the required action range ten times and the Division III pumps were in the required action range one time. Generally, when in the required action range, pumps are declared inoperable and corrective actions are taken. The LER analysis section stated the event was reportable because actions of the IST program were not carried out. In summary, the LER stated the EDGs were never inoperable or potentially inoperable due to the inability of the transfer pumps to function properly.



This conclusion seemed to be inconsistent with Niagara Mohawk's practice of declaring pumps inoperable when found to be in the required action range.

Accordingly, the inspector disagreed with Niagara Mohawk's conclusion that the EDGs were never inoperable or potentially inoperable. TS 3.8.1.2 requires that two fuel oil transfer pumps per diesel shall be available to consider the EDG operable. In conclusion, this LER did not properly assess EDG operability or plant impact during the times the fuel oil transfer pumps were inoperable. The inspectors requested the LER be revised to assess this condition and Niagara Mohawk agreed to submit a revision.

7. Review of Special Reports

The following Special Reports were reviewed by the inspectors:

Unit 1

- Special Report dated August 11, 1989: NMP 53963
- Special Report dated October 30, 1989: NMP 56893
- Special Report dated November 13, 1989: NMP 59037
- Special Report dated November 16, 1989: NMP 59046

The inspector determined that the reports were issued on time and that proper compensatory actions were initiated as required by plant TS. Each of the reports describe events which required initiation of an Occurrence Report and subsequent inclusion in and issuance of a Special Report. These reports were satisfactorily written and properly described the events.

8. Temporary Instruction Followup - Unit 1

Training on BWR Power Oscillations - (TI 2515/99)

The purpose of this inspection was to evaluate the effectiveness of the training provided on power oscillations as part of the implementation of NRC Bulletin (NRCB) 88-07 and Supplement 1 to this bulletin. In a letter dated February 1, 1989, Niagara Mohawk committed to complete the implementation of the bulletin prior to restart of Nine Mile Point Unit 1.

The inspector discussed Niagara Mohawk's plans for simulator modifications with the simulator supervisor. An enhancement to model power oscillations was included in the 1990 budget. This enhancement will be similar to the malfunction available on the Unit 2 simulator. The power oscillation malfunction will only be effective in the restricted zone, following a transient and the magnitude of the oscillations will be variable. This enhancement is expected, by Niagara Mohawk, to be an adequate tool for providing training on the detection and mitigation of power oscillations.



The inspector observed training on power oscillations administered to licensed operators as part of their requalification training program. The training included discussions of the power oscillation event at LaSalle, thermal-hydraulic instability, the factors that affect stability in boiling water reactors (BWRs), and the restricted zone boundaries. Actions for detecting and mitigating power oscillations were also discussed. There was some confusion among the operators concerning the definition of the 80 percent rod line, but the instructor adequately addressed their concerns. The training provided adequately addressed the requirements of NRCB 88-07 and Supplement 1.

The inspector interviewed licensed ROs and SROs to determine the effectiveness of the training provided on power oscillations and to determine whether or not they were aware of the corrective actions required to terminate oscillations. Some operators were not aware of all the factors that affect stability in BWRs, but this would not prevent them from effectively detecting and mitigating power oscillations. Findings from these interviews and previous inspections indicated that the training provided was effective. The review per this Temporary Instruction is complete.

9. Mid-SALP Assessment

On November 8, the resident inspectors met with senior station management on site to discuss verbally the inspectors' mid-SALP period assessment of Niagara Mohawk performance. Assessments and trends were based upon the activities observed by the resident staff since March 1, 1989. The inspectors discussed assessments at Unit 1 in the areas of problem solving and standards of performance, consistent with the IATI's findings, and at Unit 2 regarding personnel errors in the areas of operations and maintenance. Station management provided their assessments and discussed their plans and progress regarding the above areas and the area of lit annunciators. The written SALP report will be issued following the completion of the assessment period on February 28, 1990.

10. Exit Meetings

At periodic intervals and at the conclusion of the inspection, meetings were held with senior station management to discuss the scope and findings of this inspection. Based on the NRC Region I review of this report and discussions held with Niagara Mohawk representatives, it was determined that this report does not contain Safeguards or 10 CFR 2.790 information.

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