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SYLVIA,B.R. Niagara Mohawk Power Corp.
RECIP.NAME RECIPIENT AFFILIATION
Ofc of Enforcement (Post 870413)

SUBJECT: Responds to NRC 920521 ltr re violations noted in Insp Rept 50-220/92-80.Corrective actions:circulating water pump 12 removed from svc,intake bay restored & new training course re back to basics developed.

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NIAGARA MOHAWK

NIAGARA MOHAWK POWER CORPORATION/NINE MILE POINT, P.O. BOX 63, LYCOMING, NY 13093/TELEPHONE (315) 349-2882

B. Ralph Sylvia
Executive Vice President
Nuclear

June 22, 1992
NMP1L 0673

Director, Office of Enforcement
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Re: Nine Mile Point Unit 1
Docket No. 50-220
DPR-63

Gentlemen:

SUBJECT: NOTICE OF VIOLATION DATED MAY 21, 1992

Attached is Niagara Mohawk Power Corporation's response to the Notice of Violation and Proposed Imposition of Civil Penalty transmitted by letter dated May 21, 1992. Prompt corrective actions were taken with regard to these violations that appropriately address the root causes. These actions will prevent recurrence of these violations. Also enclosed is Niagara Mohawk's check in payment of the assessed civil penalty.

As discussed at the April 8, 1992 Enforcement Conference, we will continue to improve our organizational effectiveness through improved leadership, integrated technical/management training, as well as by use of outside nuclear expertise such as INPO, to bring about sustained improvement in our nuclear programs.

These violations have been extensively evaluated and the results discussed with the NRC. These evaluations of the events, root causes, and resulting corrective actions were identified in submittals to the NRC, Licensee Event Report 92-05 Supplement 1 and materials presented at the April 8, 1992 Enforcement Conference. In order to avoid repetition, these references are incorporated in our response to this violation.

Very truly yours,

B. Ralph Sylvia

B. Ralph Sylvia
Exec. Vice President-Nuclear

NAS/mls
002786GG
Attachments

xc: Mr. T. T. Martin, Regional Administrator, Region I
Mr. W. L. Schmidt, Senior Resident Inspector
Mr. R. A. Capra, Project Director, NRR
Mr. D. S. Brinkman, Senior Project Manager
Mr. L. E. Nicholson, Chief, Reactor Projects, Section 1B
Records Management

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NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT UNIT 1
DOCKET NO. 50-220
DPR-63

REPLY TO NOTICE OF VIOLATION

VIOLATION I

Technical Specifications, Section 6.8.1, states, in part, written procedures and administrative policies shall be established, implemented and maintained that meet or exceed the requirements and recommendations of Sections 5.1 and 5.3 of ANSI N18.7-1972 and Appendix A of Regulatory Guide 1.33, which includes equipment control, modification, maintenance, and post maintenance check out.

Administrative Procedure, AP-6.1, Control of Equipment Temporary Modifications, written to comply with TS 6.8.1, states, in part, that for temporary alterations made to plant equipment that do not conform to approved drawing or other design documentation, including electrical jumpers, the temporary modification originator shall request initiation of a Temporary Modification Form from the appropriate system engineer, who will ensure the modification is reviewed and the safety evaluation is performed. Step 5.3.1 of AP-6.1, states that authorization for clearance of temporary modifications shall be obtained from the system engineer and the Station Shift Supervisor (SSS).

Administrative Procedure, AP-5.4.2, Troubleshooting, Step 5.2, written to comply with TS 6.8.1, states that the troubleshooter shall ensure Section 2 of the Troubleshooting Plan is completed, including the documentation of alterations made to the system or component and an indication if the system or component was left "as found" or if the deficiency was corrected. Step 5.2.3.a states that the cause of the problem shall be documented on the work request and the Troubleshooting Plan.

Administrative Procedure, AP-5.5.1, Work Request, Step 4.10, written to comply with TS 6.8.1, states that the department general supervisor will determine if maintenance activities performed under a work request (WR) that includes a change of scope, can continue under the original WR or if a new WR is required. Step 4.3 states the Station Shift Supervisor (SSS) shall review Post-Maintenance Testing requirements for applicability of the maintenance performed.

Administrative Procedure, AP-5.4.2, Troubleshooting, Step 5.1.1, written to comply with TS 6.8.1, states that personnel requiring troubleshooting of a system or component shall request initiation of a Troubleshooting Plan (Attachment 1) which includes a brief description of the troubleshooting work to be performed including precautions, limitations, or boundary restrictions imposed.

Contrary to the above, established work control procedures were not adequately followed during the maintenance and testing of the "D" screen house gate, as evidenced by the following examples:

1. On February 10, 1992, a temporary modification, in the form of an electrical jumper which bypassed the mechanical tension overload protection switch from the electric drive motor, was identified in the screen house gate D circuitry. The electrical jumper was neither included in facility drawings, nor authorized by a Temporary Modification Form,

as required by AP-6.1; as a result, the modification was not properly reviewed or documented.

2. During performance of troubleshooting on February 10, 1992, maintenance workers did not comply with AP-5.4.2, step 5.2.3.a, in that they failed to record the discovery of an undocumented electrical jumper on either the Troubleshooting Plan (Attachment 1) or Work Request.

3. On February 11, 1992, the requirements of AP-5.5.1 were not met in that the Work Request was revised to restore the wiring in gate D circuitry to the original design (i.e., remove the jumper), and this change was neither reviewed and approved by the initiating department general supervisor in accordance with step 4.10, nor were post maintenance test (PMT) requirements reviewed by the SSS in accordance with step 4.3.

4. On February 12, 1992, the requirements of AP-6.1, step 5.3.1, were not met in that the gate D circuitry jumper was removed by maintenance personnel without authorization from system engineering or the SSS.

5. On February 21, 1992, the requirements of AP-5.4.2, step 5.1.1, were not met in that troubleshooting (testing) was conducted to demonstrate that the D gate would satisfactorily perform in service with the jumper removed, without initiation of a troubleshooting plan to describe the troubleshooting work, including precautions, limitations, or boundary restrictions.

This is a Severity Level III violation (Supplement I).

1. ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

Niagara Mohawk admits to the violation as stated.

2. THE REASONS FOR THE VIOLATION

As discussed with the Nuclear Regulatory Commission during the Augmented Inspection Team (AIT) exit, in our March 11, 1992 letter (NMP1L 0650) and at the April 8, 1992 Enforcement Conference, Niagara Mohawk has determined the root cause of this violation to be ineffective management oversight and supervisory control over the implementation of procedures which govern the work control program. There was also a lack of fundamental awareness of licensing requirements in implementing this program.

Niagara Mohawk's findings and root cause evaluation for this violation were consistent with the causes identified by the AIT and documented in Inspection Report No. 50-220/92-80 dated March 17, 1992 and Inspection Report No. 50-220/92-81 dated May 21, 1992.

3. THE CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

Immediate corrective actions included the removal of #12 circulating water pump from service, restoration of intake bay level, the removal from service of #11 service water pump, and starting emergency service water pumps #11 and #12. All pumps that take suction from the forebay were subsequently operated to verify they would function as required. A Restricted Work Order was issued at 1030 hours on February 21, 1992, under which work was restricted to the performance of required Technical Specification surveillances and work approved by the Plant Manager.

By letter dated February 28, 1992 (NMP1L 0645) we provided our near term corrective actions to address the root cause. These near term corrective actions were discussed with the AIT during the pre-exit meeting on February 28, 1992. The near term corrective actions were expanded into the short term corrective actions for Nine Mile Point Unit 1 and short term corrective actions for Nine Mile Point Unit 2 in a letter to the NRC dated March 11, 1992. The short term corrective actions for Unit 1 were completed, allowing Unit 1 to remove its Restricted Work Order on March 5, 1992. The short term corrective actions taken before the work restriction was lifted were also described during the April 8, 1992 Enforcement Conference. The ultimate heat sink event was examined for impact at Unit 2. Only after the short term corrective actions for Unit 2 were completed, was the refueling outage at that unit allowed to begin. A three day delay in the start of the Unit 2 refueling outage occurred due to the incorporation of these short term corrective actions.

The NRC's May 21, 1992 Inspection Report, stated that Niagara Mohawk's immediate and short term corrective actions had been effective in addressing the root causes. The inspection report also stated that these corrective actions were effective in increasing worker sensitivity to shutdown risk and supervisor oversight of ongoing maintenance activities.

One of the significant short term corrective actions was the training provided by the Plant Managers to appropriate supervisors and represented personnel in the lessons learned from this event. This training emphasized that activities outside of the work control process or approved procedures can place the plant outside the design basis. This training also emphasized that all discrepancies and changes to the plant design configuration must be resolved and approved by Engineering before work begins.

Following the event, Niagara Mohawk created an assessment organization to provide a detailed analysis of the conditions leading up to the event, plant response to the transient and performance of the operating staff. Detailed assessments were performed on the Work Control Process, Plant Response and Equipment, Emergency Plan Implementation, Operator Response, Training, Root Cause and Safety Assessment. The assessment concluded that Nine Mile Point Unit 1 was effectively maintained in a cold shutdown condition, the operators and plant staff acted responsively and effectively in mitigating the event, and there was no impact on the public health and safety. The NRC noted in its May 21, 1992 Inspection Report that Niagara Mohawk's internal assessments were effective in identifying weaknesses and areas for improvement.

4. THE CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

Niagara Mohawk undertook a number of long term corrective actions to avoid further violations. These were provided to the Staff in the March 11, 1992 letter and at the April 8, 1992 Enforcement Conference. Many of these long term corrective actions have been completed as outlined at the Enforcement Conference. Recently completed was an initial review of the Work Control Procedures for enhancements. Four Administrative Procedures were revised, AP5.2.4, "Post-Maintenance Testing Requirements," AP 5.2.5, "Work In Progress (WIP)," AP 5.5, "Work Control," and AP 5.5.1, "Work Request." One Maintenance and Administrative Procedure was deleted and incorporated into an Administrative Procedure. Training of personnel has been conducted on the use of these procedures which became effective on June 1, 1992.

The Operations Staff has been strengthened by the replacement of the Operations General Supervisor with an individual with better supervisory skills. As outlined in Supplement 1 of LER 92-05, the training program is in the process of identifying other plant systems susceptible to a similar event and developing simulator scenarios, both of which are expected to be completed by July 31, 1992. An Operations lesson plan was recently revised to incorporate into the training program gate operation, potential consequences of improper operation and the effects of improper operation on other plant systems or components. Operations Procedure N1-OP-19, "Circulating Water System," has been revised to require an operator to be stationed in the forebay when the plant is in the reverse flow configuration to observe intake water level and take prompt actions, if required.

Niagara Mohawk had a special assistance visit from INPO, conducted during the period of April 27 - May 1, 1992. Niagara Mohawk requested the INPO team to provide feedback on the corrective actions taken in response to the loss of the ultimate heat sink event. The INPO team provided additional suggestions for improvement, some of which have already been implemented, with the remaining suggestions under evaluation. In addition, an INPO special assistance visit, in a mentor/coaching capacity to the Plant

Manager, has provided valuable insights in the Plant Manager's expectations and work prioritization.

As described in our March 11, 1992 letter, a key element of our long term response to this event to avoid further violations is the Work Control Monitoring Program. Based on the first eight weeks of work control monitoring reviews, we have noted an improving trend in the quality and completeness of work packages. INPO as part of a special assist visit, reviewed the Work Control Monitoring Program and provided suggestions for improvement to the monitoring program. These suggestions are now being evaluated for incorporation into the program.

Niagara Mohawk has developed a new training course entitled "Back to Basics." The course began during the week of May 18, 1992. This two day course provides training on licensing basis documents, operation within our license envelope, and is designed to result in enhancements to our management/leadership skills. This training is provided to Branch Managers and Supervisors who are then required to teach the "Back to Basics" course to their individual work groups. A major reason for the initiation of this training course was the loss of the ultimate heat sink event.

We have also enhanced the Branch level 1992-1995 Business Plans through workshops during which critical issues from a number of sources including INPO, NRC, Internal SALP Type Assessment, Safety Review and Audit Board, were identified and methods for resolving these issues were incorporated into the Branch Plans.

The "Back to Basics" training, along with the Branch Business Plan enhancements, will contribute to the prevention of future violations.

5. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on March 5, 1992 when the short term corrective actions were completed that allowed removal of the work restriction.

NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT UNIT 1
DOCKET NO. 50-220
DPR-63

REPLY TO NOTICE OF VIOLATION

VIOLATION II.A AND II.B

II.A. Technical Specification 3.6.2.a.(1) requires, in part, that the set points, minimum number of trip systems, and minimum number of instrument channels that must be operable for each position of the mode switch shall be given in Table 3.6.2.a. Table 3.6.2.a states that the number of operable instrument channels per operable trip system is four channels for the turbine stop valve closure scram function, and two channels for the generator load rejection scram function; and that with the reactor mode switch in the RUN position, these scram functions may be bypassed when reactor power is below 45%. If the requirements are not met for instrumentation that initiates a scram, control rods shall be inserted.

Contrary to the above, for an indeterminate time as early as December 9, 1991, until January 22, 1992, the unit was operating above 45% of rated power with the mode switch in RUN, and the minimum number of operable instrument channels per trip system for the turbine stop valve closure scram function, and the generator load rejection scram function, were less than required, and control rods were not inserted. Specifically, two of the four instrument channels for the turbine stop valve closure scram function, and one of the two instrument channels for the generator load rejection scram function, were inoperable. The scram functions were inoperable in that they could be bypassed at greater than 45% of rated power, as a result of a partially closed instrument root valve, (common to two of the four pressure switches that provide the signal for the bypass function below 45% of rated power for the scram logic), in conjunction with a leaking drain valve downstream of the root valve.

II.B. 10 CFR Part 50, Appendix B, Criterion XVI, requires, in part, that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.

Contrary to the above, on January 10, 1992, the Turbine First Stage Bowl Pressure Low alarm was received in the control room during reduced power operation, indicating a condition adverse to quality, and the licensee failed to promptly identify and correct the cause of the deficiency. Specifically, no further action was taken after calibration of the pressure switches failed to disclose the reason for the alarm, which cleared upon return to full power.

This is a Severity Level III problem (Supplement I).

1. ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

Niagara Mohawk admits to the violation as stated.

2. THE REASON FOR THE VIOLATION

Niagara Mohawk determined that there are two root causes associated with this violation. One of the root causes was determined to be inadequate understanding by Operations personnel of this Reactor Protection System (RPS) feature and its associated Technical Specification requirements. The second root cause was a lack of configuration management of the root valve.

When the "Turbine First Stage Bowl Pressure" alarm came in on January 10, 1992, the Station Shift Supervisor (SSS) pursued the cause for the alarming condition by generating a work request to recalibrate the pressure switch units. The SSS also reviewed the applicable annunciation response procedures, RPS prints, and the Technical Specifications to determine the cause of the alarm. The SSS failed to recognize that the "Turbine First Stage Bowl Pressure" alarm was an indication that a RPS scram signal, Turbine Stop Valve Closure, was bypassed. This condition was contrary to the requirements of Technical Specifications Table 3.6.2a Item (10).

On January 22, 1992, as reactor power was being reduced to 73% in order to reverse Circulating Water System flow to remove ice buildup, the "Turbine First Stage Bowl Pressure" annunciator alarmed. After reverse flow manipulations, a power increase to 78% was authorized to clear the annunciator. Operations personnel decided to return the unit to full power and pursue engineering resolution to the Turbine First Stage Bowl Pressure annunciator problem through the initiation of a Deviation/Event Report (DER). Because Operations personnel did not recognize the Technical Specification implications on January 22, 1992, they acted to clear the annunciator alarm as soon as practical by raising reactor power to get out of the bypass condition.

Niagara Mohawk also identified from process computer data, that during the reactor start-up of December 9, 1991, the bypass alarm was engaged at greater than 45% power. The annunciator cleared at 50.5% of rated power.

The work request generated on January 10, 1992 was processed and worked on a priority basis. One of four pressure switches was found to be slightly low in setpoint pressure. Because Operations had experienced post calibration problems with this annunciator previously, they erroneously considered the present problem to have the same cause. Accordingly, they concluded that the alarm was spurious and failed to investigate the problem further. A Deviation/Event Report (DER) was not written because of inadequate understanding of when to utilize a DER for further system investigations and troubleshooting. The sequence of events that occurred with the January 22, 1992 annunciator alarm involved the generation of a DER and timely resolution of the annunciator problem.

3. THE CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

Immediate corrective actions included a temporary modification to allow troubleshooting of the Turbine First Stage Bowl Pressure Reactor Protection System circuits. The temporary modification was designed to provide for the protective function at all power levels while allowing the annunciator to respond at all power levels and pressure changes. On January 23, 1992, troubleshooting and investigations utilizing test pressure gauges on the sensing lines found a drain valve on the sensing line to be leaking. A walkdown of the sensing line discovered a closed root valve, the cause of the annunciator problem. After opening the root valve, sensing line pressure returned to normal and the temporary modification was removed on January 23, 1992, with followup surveillance testing proving system operability.

As discussed with the Staff at the April 8, 1992 Enforcement Conference, after the January 22, 1992 event, additional corrective actions included a review and walkdown of Technical Specification and Reactor Protection System (RPS) related root valve positions and component configurations. Also, annunciator response procedures related to bypassing of RPS functions for proper operator response were enhanced. An additional, enhancement to Operating Procedure N1-OP-43, "Startup, Normal Operation and Shutdown Procedure," provides a hold point at $<45\%$ of rated power to assure that the alarm condition performs as required.

Additional corrective actions involved the training of senior reactor operator personnel on Technical Specification Limiting Safety System Settings, including enabling and bypassing RPS circuitry. This has strengthened the Operators' understanding of the RPS feature and associated Technical Specification requirements.

Additional training given by the Plant Manager, Operations Manager, and Executive Vice President emphasized to operating shifts lessons learned from this event and other events and the safety evaluation process relative to changes to procedures and licensing basis. In addition, expectations relating to log book entry, panel board walkdowns, repeat backs, announcements, self-check process, DERs, and the necessity to believe instrumentation until proven otherwise was emphasized.

Operations Management also revised shift turnover guidelines to require shift management to obtain an alarm typer printout from the process computer, perform a review of alarms that come in during the shift, and assess their significance prior to shift turnover.

4. THE CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

The long term corrective actions presented at the April 8, 1992 Enforcement Conference will assist in preventing reoccurrence of this violation. Our Nuclear Division Problem Identification and Corrective Action Program (DER system) has been simplified and made more explicit. By April 30, 1992, nuclear employees were trained on the new DER procedure by their supervisors who were trained earlier. This DER procedure is fundamental to how we do business. With proper reporting of DERs, we will be able to identify precursors to potential problems, as well as develop and utilize this data to monitor and trend performance. The large increase in the number of DERs initiated during the first half of 1992 relates, in part, to a better understanding by personnel of when to initiate a DER.

As suggested by the Staff at the April 8, 1992 Enforcement Conference, Niagara Mohawk performed a review of root valves for instruments used during the performance of Emergency Operating Procedures (EOPs). From this review, two instruments showed up on the drawing's root valve schedule, but not in a Operating Procedure. A Procedure Change Evaluation was written and these instruments have been incorporated into the Operating Procedure. We are currently incorporating the Technical Specification and RPS related root valve verification walkdown findings into drawings and other configuration control documents.

Operator requalification training will be revised by August 31, 1992, to address this event and its root causes. In addition, replacement of the Operations General Supervisor has strengthened the supervisory overview of the Operations department. Moreover, an ongoing review of the Operations shift organization's alignment of shift personnel and its effectiveness will be completed by September 1, 1992.

Niagara Mohawk is also evaluating enhancements to the Technical Specifications and procedures to bypass this feature if this malfunction occurs above 45% of rated power.

As described in the response to the loss of the ultimate heat sink Notice of Violation, the "Back to Basics" training and the enhancements made to the Branch Business Plans will contribute to prevention of the occurrence of future violations.

5. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on January 23, 1992, when the Turbine First Stage Bowl Pressure normal configuration was restored and followup testing proved system operability.