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NIAGARA MOHAWK

NMP55249

NINE MILE POINT NUCLEAR STATION / P.O. BOX 32 LYCOMING, NEW YORK 13093 / TELEPHONE (315) 343-2110

September 14, 1989

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

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

Gentlemen:

Your letter dated July 26, 1989, transmitted Inspection Report No. 50-220/89-13. That letter requested our plans for correcting identified weaknesses. The attachment to this letter provides the requested information.

Very truly yours,

NIAGARA MOHAWK POWER CORPORATION

L. Burkhardt, III
Executive Vice President
Nuclear Operations

LB/GB/lmc
(0831V)

Attachment

xc: Regional Administrator, Region I
Mr. W. A. Cook, Senior Resident Inspector
Records Management

IE01

ATTACHMENT

NIAGARA MOHAWK POWER CORPORATION

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

I. Response to Request for Planned Corrective Actions of Identified Weaknesses Observed During Proficiency Assessment of Nine Mile Point Unit 1 Operations.

Weakness (para. 1)

Communication practices for all crews require improvement, some more than others. Use of slang terminology, imprecise communications and inconsistent repeatbacks or acknowledgements were widespread. Plant status, changed condition or parameter updates were inconsistently provided or requested by the crews and often not heard or acknowledged by the crew members. The effectiveness of the SSS briefings were inconsistent among the crews. The difficulties observed during the scenarios were in several instances a result of the poor communication practices. The poor communication practices did not appear to be the result of lack of expectations on the part of the operators because all crews did perform some proper communications. However, when the situations posed during the scenario became more challenging, poor communication methods became more apparent. Operations Department Instruction N1-ODI-1.06 Operational Voice Communications Guide prescribes the communication practices expected of the operations staff, but the prescribed practices were consistently not followed during the scenarios.

As a subset of communication difficulties, several chief shift operators did not inform the senior reactor operators of recovery actions that they were pursuing until the recovery actions were completed. This lack of communication did not allow the SSS the opportunity to properly manage and prioritize the crew member activities and in some cases caused delays in executing or non-adherence to SSS directions. Communications by all shifts were considered weak.

Niagara Mohawk Response to Weakness (para. 1)

We acknowledge that the communication practices demonstrated by our operating crews including the use of slang terminology, imprecise communication and inconsistent repeatbacks or acknowledgements require improvement. Niagara Mohawk recognized that communication practices for all crews was weak and took immediate corrective action. Operations Department Instruction N1-ODI-1.06 "Operational Voice Communications Guide" was issued in February 1989 and prescribes the communication practices expected of the operations staff. As noted by a recent independent assessment, considerable improvement has been made in crew communication practices. We believe that communication practices are continuing to improve and that they support safe operation of the plant. Although communication practices have improved, strict adherence to the

guidelines prescribed in N1-ODI-1.06 will further improve the communication practices of all operating crews. Strict adherence to these guidelines is stressed during simulator training and "communications" has become a standard "self-critique" item for operators during post simulator exercise critiques which are facilitated by the simulator instructors.

Operations' management routinely observes and critiques simulator training sessions to ensure operators and instructors are meeting performance expectations.

Weakness (para. 3)

The roles of the reactor operators varied from crew to crew and this affected crew performance on each scenario. The CSOs were not effective members of the crews when the SSS allowed the CSO to establish priorities and assignments or when the SSS only used the CSO to oversee the two other reactor operators with infrequent control board manipulations required of the CSO.

The use of the CSO, as described above, resulted in certain SRO responsibilities being distributed to the reactor operators. In addition, no standard approach among the crews existed for reactor operator assignments during scenarios. Some crews assigned the reactor operators to specific panel responsibilities for most of the scenario such as ECCS, feedwater and electrical whereas other crews required the reactor operators to go from panel to panel within each scenario causing them to refamiliarize themselves with panel conditions before operating the controls.

The lack of definition of the CSO and other reactor operators' roles is considered as a weakness.

Niagara Mohawk Response to Weakness (para. 3)

It is acknowledged that at the time of the NRC evaluations, the standardized roles for reactor operators had not been fully implemented. Operations Department Instruction N1-ODI-1.03 "Operations Policy #2--Emergency Operating Procedures" was issued in February 1989 and standardizes the roles of reactor operators. This instruction directs the SSS to assign the operators to specific panels and provides guidance on the role of the CSO during emergencies. At the time of the NRC evaluation, this policy had not been consistently enforced due to the fact that individual strengths and weaknesses were being accomodated by permitting varying roles for each crew. Currently, based upon Training and Operations' management observations, this situation has been resolved. Simulator training has and will continue to stress the standardized approach outlined in N1-ODI-1.03 for every crew without exception.

Weakness (para. 4)

The reactor operators were inconsistent in using procedures during electrical switching operations. Some operators utilized the available procedures and some did not. Some operators did not utilize the procedures properly. Difficulty was observed among several crews in the ability to restore 115 kv power when it was made available during the scenarios. The operator reliance on memory and the inability to restore electrical power to service is considered a weakness.

Niagara Mohawk Response to Weakness (para. 4)

Inconsistent use of procedures by operators during electrical switching operations is acknowledged. Reliance on memory to perform a task can lead to error. Operations Department Instruction N1-ODI-1.08 "EOP Users Guide" provides direction on performance of a task from memory. This department instruction was issued just prior to the NRC evaluation and, therefore, very little training had been completed. The new instruction requires procedural review by the operator prior to manipulating a control whenever time permits. If time is of the essence, the manipulation may be performed from memory, but when time permits, review of the procedure to ensure that the procedure is performed properly is required. Additionally, the following operating procedures are being revised to strengthen operator response to electrical problems:

N1-OP-30 "4.16 kv, 600 v and 480 v House Service"
N1-OP-33A "115 kv System"
N1-OP-33B "345 kv System"
N1-SOP-5 "115 kv Power Failure

Training will be provided on these procedures prior to their use.

The use of procedures during electrical switching operations will be stressed in simulator training to preclude future difficulties.

Finally, the effectiveness of the training will be assessed by observation of simulator exercises.

Weakness (para. 5)

Assessment of plant impact when a "power board" (electrical distribution bus) was de-energized was considered a weakness among several crews. The crews recognized that a power board was de-energized but did not always assess what operating and standby equipment was affected due to power board de-energization.

Niagara Mohawk Response to Weakness (para. 5)

It is acknowledged that several crews demonstrated weak assessment of plant impact when a power board was de-energized. Several steps are being taken to correct this weakness including: revising several operating procedures (i.e. N1-OP-30, OP-33A, OP-33B, SOP-5) to strengthen operator response to electrical problems; additional training for operators on electrical distribution, circuit breaker interlocks and control and instrumentation power; and continued emphasis on proper assessment of affected equipment during simulator training involving electrical powerboard malfunction.

Weakness (para. 7)

There was an inconsistent approach to avoiding the restricted region of the reactor power to core flow map. The restricted region is that region that has the potential for inducing power oscillations. Some crews avoided the region; some SSSs told the reactor operators to avoid entering the region, but the operators entered the region, and some crews entered the region with no apparent direction to avoid the region. Inconsistent avoidance of the restricted region is considered a weakness.

Niagara Mohawk Response to Weakness (para. 7)

NRC IE Bulletin No. 88-07 Supplement 1, "Power Oscillations in Boiling Water Reactors", addressed avoiding operation within the restricted region. Due to Nine Mile Point Unit 1 being shutdown, not all of the General Electric interim stability recommendations described in the IE Bulletin had been completed at the time of the NRC evaluation. In response to this bulletin, Nine Mile Point Unit 1 has generated a new procedure, N1-SOP-13, "Unexplained Reactor Power Oscillations". Additional procedure changes are also being implemented.

Nine Mile Point Unit 1 procedures are being amended to incorporate the "lessons learned" at Nine Mile Point Unit 2 during the process of implementing this bulletin. Currently, a review of all operating procedures that may cause entry into the restricted region is underway. Affected procedures will be revised to provide standardized guidance to operators for avoiding operation in the restricted zone. All licensed operators will be trained on these final procedures prior to Unit 1 restart.

Weakness (para. 8)

Differences were noted in the crew responses and approaches to beginning a normal cooldown versus stabilizing at rated conditions. EOP-2 requires that a normal cooldown be initiated. The EOP basis documents indicate that when all control rods are inserted and the emergency still exists a normal cooldown is required. Some SSSs stabilized and maintained pressurized conditions rather than beginning a normal cooldown. Inconsistent application of EOP cooldown steps is considered a weakness.

Niagara Mohawk Response to Weakness (para. 8)

We acknowledge differences being noted in crew response and approaches to beginning a normal cooldown versus stabilizing at rated conditions. The Emergency Procedure Guidelines (EPG) and EOP-2 directs the operator to stabilize pressure before directing the operator to depressurize (cooldown) the reactor. Stabilizing pressure before beginning vessel depressurization allows for a controlled cooldown and decreases the risk of exceeding the Technical Specification maximum cooldown rate of 100° F/hr.

The point in time at which the SSS determines that RPV pressure has stabilized governs the initiation of RPV depressurization at a cooldown rate not to exceed 100° F/hr. This must be a judgment call on the part of the SSS, based on plant conditions at the time.

Operations Department Instruction, N1-ODI-1.08, "EOP Users Guide", contains guidance on cooldown, and will be revised to more clearly establish criteria on when a normal cooldown should commence, including relevant examples. Crews will be trained on this procedure prior to startup.

Weakness (para. 9)

Several crews closed the MSIVs when all feedwater was lost. When requested for the procedural basis for the actions, the response provided was that training provided such guidance. Further investigation indicated that a procedure once existed for loss of feedwater that required such actions, but the procedure does not exist at this time. The licensee committed to evaluate the appropriate operator actions for a loss of feedwater.

Operator action to close MSIVs when all feedwater is lost without appropriate procedural guidance is considered a weakness.

Niagara Mohawk Response to Weakness (para. 9)

It is acknowledged that operator action to close MSIVs when all feedwater is lost without appropriate procedural guidance or direction by the SSS is inappropriate. This direction was provided to operators in previous training but was not supported by plant procedures.

Operators are required to take actions as directed in various procedures under the general direction of the SSS, but must not preempt the command and control of the SSS. In evaluating the actions of the operator, we concluded that his actions were technically justified as they were done to take manual action prior to automatic action occurring. (Reactor water level was decreasing, and MSIVs automatically close on low water level). However, in doing so he preempted the SSS's ability to make the decision on the advisability of this action.

Corrective actions have been taken to ensure that: 1) operators understand the importance of clear communications with the SSS; 2) operators do not take actions which are not in accordance with procedures; 3) operators do not take actions which preempt the command and control of the SSS.

The corrective actions consisted of: 1) emphasizing these points to each operator in a letter (which was also covered in training classes); 2) these points will be incorporated into procedure ODI-1.08, "EOP Users Guide", and emphasized in simulator sessions.

Weakness (para. 12)

No procedure or policy direction is available to reactor operators for actions following a loss of plant annunciators. This is considered a weakness.

Niagara Mohawk Response (para. 12)

An event specific special operating procedure to cover a partial or complete loss of annunciation, N1-SOP-15, "Loss of Annunciators", has been issued. All operators will receive specialized training on this procedure prior to restart.

II. Niagara Mohawk Power Corporation was requested to provide perspective on why the weaknesses and the unsatisfactory performance of one crew and one individual were not identified and corrected as part of the five underlying root causes as noted in the Nine Mile Point Unit 1 Restart Action Plan (RAP). Also requested was a determination of when the affected crew and the Chief Shift Operator along with his crew, will be ready for further NRC assessment.

Niagara Mohawk Response

Niagara Mohawk reviewed the performance of all the operating crews prior to the NRC evaluation. While significant improvements had been made during the March through May 1989 period in the areas of communications, command/control, and teamwork, we recognized that there was still considerable room for improvement. Total remediation of longstanding deficiencies in these areas must be achieved over a period of considerable time. However, it was Niagara Mohawk management's judgment that the performance of all crews had improved to the point where they were satisfactory to support safe operation of the plant, and that all crews would perform satisfactorily during the NRC evaluation. Our judgment was in error in the case of the failing crew.

Further improvements have been made in the areas of weakness identified by the NRC during this evaluation, and it is expected that all operating crews will continue to improve in these and other areas as we continue to reinforce the Standards of Performance.

The crew and the chief shift operator that failed have been provided further training in the areas of weakness and will be ready for re-evaluation by the NRC during the week of September 25, 1989.

(0831V)