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SUBJECT: Special rept:on 920826,alarm annunicated for vent effluent monitor & lightning strike occurred near plant main stack. Caused by failed Allen Bradley analog input power supply & broken sample pump coupling.Work request issued.

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NIAGARA MOHAWK

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Neil S. "Buzz" Carns
Vice President
Nuclear Generation

September 14, 1992
NMP87247

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

RE: Docket No. 50-410
SPECIAL REPORT

Gentlemen:

In accordance with Nine Mile Point Unit 2 (NMP2) Technical Specification (T.S.) Table 3.3.7.10-1, "Radioactive Gaseous Effluent Monitoring Instrumentation," ACTION Statement 139-b, Niagara Mohawk Power Corporation is submitting the following Special Report concerning the inoperability of the Gaseous Effluent Monitoring System (GEMS).

EVENT DESCRIPTION

On August 26, 1992 at 2047 hours, the Control Room notified the Chemistry Department that an alarm had annunciated for GEMS Vent Effluent Monitor Trouble and Radiation Monitoring System (RMS) computer point RMS RC91. Concurrent with the GEMS failure was a lightning strike at or near the plant's Main Stack. Investigation at the local GEMS computer console, 2RMS-PNL200, found the computer unreachable using the computer keyboard commands. Approval was requested and granted by both the Computer Department and the Station Shift Supervisor (SSS) to allow rebooting of the system. All associated systems restarted with the exception of Main Stack GEMS.

On August 26, 1992 at approximately 2240 hours, the GEMS Main Stack Effluent Monitoring instrumentation was declared inoperable. A four hour system/sample flow estimate program, a continuous iodine and particulate sample program, and a 12 hour gas grab sample program were implemented at the time GEMS was declared inoperable as required by T.S. Table 3.3.7.10-1, ACTION Statements 136, 138 and 139-a.

On August 29, 1992 at 2240 hours, the Main Stack GEMS had not yet been declared operable. Failure to return this system to an operable condition within 72 hours requires submission of a Special Report to the U.S. Nuclear Regulatory Commission within 14 days as required by T.S. ACTION Statement 139-b.

CAUSE OF EVENT

Main Stack GEMS Effluent Sample Instrument Panel 2RMS-CAB170 is designed with two alternate sample flow pumps (3P1 and 3P2) used to establish and maintain effluent sample flow. During troubleshooting activities, no flow indications were being recorded during attempts to run the system from its remote station. The cause for the loss of flow was traced to a failed Allen Bradley analog input power supply located in 2RMS-CAB170.

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The power supply was determined to be damaged by a power surge caused by a lightning strike to the plant's Main Stack.

During subsequent system restart, following the power supply replacement, technicians determined that output effluent sample flow recordings were not consistent with input sample flow. This resulted in the loss of isokinetic flow control.

Additionally, during troubleshooting efforts, a broken sample pump (3P1) coupling was found.

ACTIONS TAKEN

1. A Work Request (WR# 207869) was issued to repair/replace the effluent sample pump (3P1) coupling for GEMS Effluent Sample Instrument Panel 2RMS-CAB170.

2. A second Work Request (WR# 207870) was issued to replace the failed Allen Bradley analog input power supply.

3. Further troubleshooting efforts are in progress to try and determine the cause for the mismatch in flow readings between the effluent sample input flow and output flow.

Previously submitted Special Report (NMP80515) dated June 12, 1991 reported the inoperability of the GEMS due to equipment failure caused by a lightning strike to the plant's Main Stack. Information provided in the ACTIONS section of this previous report incorrectly stated that a plant modification would be completed to remove GEMS instrument panels 2RMS-CAB170 and 180 from their present floating instrument ground grids and place them on the plant's grounding grid. These design changes were based on an inaccurate drawing assessment of the GEMS equipment grounding scheme. In fact, neither instrument panel was installed with a floating ground scheme. 2RMS-CAB170 has been and will remain grounded to the Main Stack ground.

Engineering had previously completed an evaluation of the grounding/electrical noise suppression configurations for 2RMS-CAB170 and determined that adequate protections were in place to protect this equipment from electrical interferences. These included: the grounding of the effluent gas sample piping; the Uninterruptible Power Supply 2VBB-UPS1H power source for stack GEMS; and the Topaz Power Conditions (power filter/ cleaner).

As a result of the August 26, 1992 event, a purchase agreement is being developed for Science Applications International Incorporated (original vendor for GEMS) to assist Engineering with resolution of grounding and electrical induced noise problems associated with the data acquisition electronics.

The effluent sampling programs will continue to be implemented in accordance with Technical Specifications until Main Stack GEMS is declared operable.

Sincerely,

Mr. N. S. Carns
Vice President - Nuclear Generation

NSC/GB/lmc
pc: Thomas T. Martin, Regional Administrator Region I
Wayne L. Schmidt, Senior Resident Inspector