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July 9, 1971



Dr. Peter A. Morris, Director
Division of Reactor Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

Subject: Failure of Main Steam Isolation Valve to Close
Ginna Station Unit No. 1
Docket #50-244

Dear Dr. Morris:

At 0755 hours on Wednesday, June 30, 1971, the control operator placed the third condensate pump in service in order to boost the main feedwater pump suction pressure.

Coincident with the increase of condensate pump discharge header pressure the hydrogen cooler temperature control valve superstructure failed and the valve went into a closed position. The normal condensate bypass valve was positioned closed by signal from high hydrogen cooler temperature. With the failure and closing of the hydrogen cooler temperature control valve and with the already closed normal condensate bypass valve the emergency feed valve opened to supply condensate directly to the main feedwater pump suction.

The mixing of this relatively cold emergency water with that of the heater drain pump discharge induced severe vibration in the main feedwater pump suction lines. This vibration caused the "A" main feedwater pump suction valve position indicator to be bent out of position, opening a switch contact which in turn tripped the "A" main feedwater pump. The second main feedwater pump was then tripped manually to prevent damage. Removing of this second pump initiated the trip of the main turbine generator and the subsequent trip of the reactor in normal logic sequence.

Coincident with the above sequence the main steam header pressure had risen from 780 psig to 1005 psig. The increase in this pressure apparently caused the failure of the flow orifice gasket in the 2B reheater and allowed live steam to escape into the turbine building.

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DATE July 9, 1971
TO Dr. Peter A. Morris

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The Head Control Operator was directed to and initiated the closing of the main steam isolation valves from the control board. The 1A valve failed to operate as indicated by the valve position lights and continuing escape of steam. The Shift Foreman then went to the valve location and manually tripped the 1A actuating solenoid. The valve closed instantly.

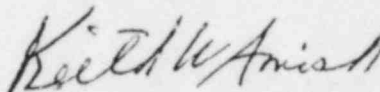
The two solenoid operators on the 1A main steam isolation valve were removed to the instrument shop for inspection. All parts were cleaned and upon reassembly the solenoids were tested ten (10) times on the bench and a similar number of times when reinstalled on the valve. Both of these main steam isolation valves were tested on April 21, 1971, during the refueling shutdown and both closed in 1.75 seconds upon receipt of closing signal.

A Plant Operation Review Committee meeting was held and return to power was approved.

It is significant to note that during a subsequent plant trip five days later, on July 5, 1971, both of these main steam isolation valves did close properly on signal.

However, to prevent a recurrence of the malfunction of these actuators, investigations are being made into methods of testing these actuators in place while at power. The possibility of the application of a different type of solenoid operator is being investigated with manufacturers and suppliers.

Very truly yours,



Keith W. Amish
Senior Vice President
Electric and Steam