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AUTH.NAME AUTHOR AFFILIATION
MANGAN,C.V. Niagara Mohawk Power Corp.
RECIP.NAME RECIPIENT AFFILIATION
VASSALLO,D.B. Operating Reactors Branch 2

SUBJECT: Reviews data re stuck open incidents & seat leakage of relief valves.Valve operation satisfactory,per guideline values outlined in previous BWR Owners Group analysis.Need to consider permanent changes not required.

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NIAGARA MOHAWK POWER CORPORATION/300 ERIE BOULEVARD WEST, SYRACUSE, N.Y. 13202/TELEPHONE (315) 474-1511

November 13, 1984

Director of Nuclear Reactor Regulation
Attention: Mr. Domenic B. Vassallo, Chief
Operating Reactors Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

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

Dear Mr. Vassallo:

Our letter dated June 8, 1984, responded to your question as to whether modifications had been made to reduce challenges and stuck open incidents with the Nine Mile Point Unit 1 relief valves. We responded on the basis that operating experience with these valves continued to be satisfactory and that stuck open frequencies met guideline values outlined by the Nuclear Regulatory Commission from a previous Boiling Water Reactors Owners Group analysis.

At the close of the recent refueling outage when relief valves were being tested in accordance with established surveillance requirements, there were stuck open incidents and seat leakage. This experience is summarized on the attached table and is attributed to extraneous debris. During the outage, we did other work near the valve locations after the valves had been removed for maintenance. This included strengthening of relief valve discharge pipes by cutting, welding, and grinding above the valve locations. Although covers were put on the openings for the relief valves, debris was observed inside the covers when they were removed at the end of the outage. This debris was removed to the extent practicable and the overhauled valves were reinstalled. There were also steam dryer repairs carried out during the outage, which could have resulted in debris being carried down the steam lines and out the relief valves during plant startup testing. Evidence for this possibility is the debris found in two valves that had <u>not</u> been opened during the outage.

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Additionally, another review of operating data during the previous operating cycle revealed an incident following the July 1983 startup when reactor isolation occurred after a scram and one relief valve opened briefly - about five seconds. This occurred in conjunction with emergency condenser operation. It resulted from a gradual primary system pressure increase caused by reactor isolation and high pressure coolant injection system operation to increase reactor water level. There was some question about the opening pressure of the relief valve, but the calibration data on the pressure switch operating the valve, both before and afterwards, showed that the setpoint was well within the allowable range in both cases. The other relief valve setpoints were also checked during the recent outage, and they were within the technical specification's allowable range.

After reviewing this information, our conclusion about overall operation of the relief valves remains the same. We continue to see no need to consider any permanent changes. However, the existing program for controling contractor work with the primary system open will be reviewed to determine better means to avoid the potential entry of debris than exists now.

Sincerely,

NIAGARA MOHAWK POWER CORPORATION

C Mangan

C. V. Mangan
Vice President
Nuclear Engineering and Licensing

JLB/bd

Table 1

Nine Mile Point Unit #1 Relief Valve Operating History During June 1984 Startups

Valve #	Work Performed During Outage	6/14 Testing - Results on Main Valve	Work Performed After 6/14 Testing	6/17 Testing - Results on Main Valve	Work Performed After 6/17 Testing	6/22 Testing - Results on Main Valve
111	None	Tested OK. No seat leakage	Inspected and cleaned solenoid	Tested satisfactorily. No seat leakage	Disassembled main and pilot valve	Tested OK. Repopped - minor seat weepage only
112	Refurbished main and pilot valve	Stuck open	Inspected top of main valve and manually stroked OK. Refurbished pilot valve. Inspected and cleaned solenoid	Tested satisfactorily. Seat leakage	Before disassembly, bench tested valve and observed seat leakage. Disassembled main and pilot valve, cleaned seat area and retested.	Tested OK. No seat leakage
113	None	Blew fuses when tested - failed to open	Inspected and cleaned solenoid. Probable cause for blown fuses appears internal wires prevented solenoid from operating as designed. Redressed wires	Tested satisfactorily. Seat leakage after test	Before disassembly, bench tested valve and observed seat leakage. Disassembled main and pilot valve, cleaned seat area and retested.	Tested OK. No seat leakage
121	Refurbished pilot valve	Stuck open	Inspected top of main valve and manually stroked OK. Installed new pilot valve. Inspected and cleaned solenoid	Stuck open	Before disassembly, bench tested valve and observed seat leakage. Disassembled main and pilot valve, cleaned seat area and retested.	Tested OK. No seat leakage
122	Refurbished main and pilot valve	Did not test	Inspected top of main valve manually stroked OK. Installed new pilot valve. Inspected and cleaned solenoid	Tested satisfactorily. No seat leakage	Disassembled main and pilot valve	Tested OK. No seat leakage
123	Refurbished main and pilot valve	Did not test	Inspected top of main valve and manually stroked OK. Inspected and cleaned solenoid	Tested satisfactorily. Seat leakage after test	Before disassembly, bench tested valve and observed seat leakage. Disassembled main and pilot valve, cleaned seat area and retested.	Tested OK. Repopped to stop seat leakage

Probable cause for stuck open valves was material plugging the pilot valve bushing openings. Seat leakage was probably caused by debris in the main valve seat.