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NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

September 17, 1979

Director of Nuclear Reactor Regulation
U S Nuclear Regulatory Commission
Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Safety-Relief Valve Information

The following information concerning the Monticello Target Rock safety-relief valves is provided in response to a letter dated July 16, 1979 from Brian K Grimes, Acting Assistant Director for Systems Engineering, Division of Operating Reactors, USNRC:

- 1a. The valves are not in their original design configuration.
- 1b. The existing simmer margin is 88 psi at full load.
- 1c. & The following modifications have been completed:
 - 1d.
 - 4-21-71 - Increased the size of the orifice in the second stage piston from 0.016 inch diameter to 0.035 inch diameter and increased the size of the orifice in the main valve piston from 0.0625 inch diameter to 0.076 inch diameter.

This modification decreases the closing time of the valves and reduces the pressure reset band.
 - 12-13-71- The 302SS set-pressure adjusting springs were replaced with springs manufactured from A-286 alloy.

This change was made to preclude drifting of valve setpoint due to relaxation of the adjusting spring.
 - 1-23-72 - New main discs were installed. The new discs were manufactured with stellite coated stems making them more resistant to galling. Also chamfered the edges of the main disc stem sleeve to reduce the possibility of galling.

This change was initiated following a reset failure of one valve due to severe galling of the main disc stem.
 - 7-28-72 - The bellows leakage detection pressure switches were replaced with switches having adjustable settings.

DUPE 7909200373 (3pp)

NORTHERN STATES POWER COMPANY

September 17, 1979

Page -2-

This change was initiated to correct a design deficiency in the bellows leakage detection system. This deficiency would have prevented a small, but significant, leak from being detected and result in an alteration of the valve trip setting.

- 4-13-73 - The stainless steel air operator glands were replaced with silicone bronze glands, and chamfered the edges of the sleeves for the air operator stem.

This modification was made to increase the operational reliability of the air operator.

- 4-13-73 - The piston rings on both stages were replaced with rings of greater hardness and the diameter of the main pistons was reduced.

The piston rings were replaced and the main piston diameters reduced to increase piston ring life.

- 4-13-73 - The stainless steel pilot stems were replaced with monel stems.

The pilot stems were replaced to produce valve lift pressures essentially the same with both nitrogen and steam.

- 4-13-73 - Second stage piston assembly modified to accept a lock pin, hex nut, and tab washer.

This modification was made to insure that the hex nut would not come loose.

- 10-12-73- Milled 2 circular grooves in the main piston hub assembly, drilled a drain passage through the main piston hub assembly and through the valve body on the inlet side, and doweled the main piston hub assembly to the valve body.

These modifications prevent delays in valve opening due to steam condensation in the area above the main operating piston or in the sensing line.

- 4-24-74 - Tab washer on second stage piston assembly removed and hex nut lock wired.

This modification provided a better means of locking the second stage piston assembly hex nut.

- 11-1-77 - Solenoid mountings removed from and mounted separate from the valves.

This modification simplified maintenance and reduced vibration, shock and heat on the solenoids.

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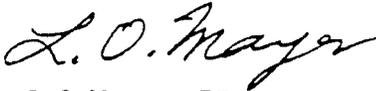
September 17, 1979
Page -3-

11-14-78 - Increased set pressure on valves from 1068 psig to 1096 psig.

This increased the simmer margin from 60 psi to 88 psi.

2. Maintenance and testing are performed each refueling outage and whenever a specific valve indicates leakage. Maintenance on the valves include determination of as-found conditions, refurbishing, and set pressure adjustment. Testing of the valves consists of determination of as-found set pressure, as-left set pressure, verification of properly installed insulation, and manual operation of the valves at 150 psig.
3. No additional modifications or maintenance is planned.
4. Not applicable.

Please contact us if you have any questions related to the information we have supplied.



L O Mayer, PE
Manager of Nuclear Support Services

LOM/DMM/jh

cc: J G Keppler
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