

APR 4 1974

Docket No. 50-263

Northern States Power Company
ATTN: Mr. L. O. Mayer, Director of
Nuclear Support Services
414 Nicollet Mall
Minneapolis, Minnesota 55401

Gentlemen:

By letters dated January 23, 1974, and supplements dated March 8 and March 19, 1974, you have described a Prompt Relief Trip System (PRT) and provided an analysis of plant behavior during abnormal transients using PRT to reduce the magnitude of pressure transients whenever reactor power level is above 70%. We have not completed our evaluation, but our preliminary review of the engineering drawings for the proposed design and installation of the PRT system in the Monticello plant has revealed that the design criterion "no more than one safety relief valve will be inadvertently actuated" is not met. A single event in the PRT cabinet can inadvertently actuate more than one safety relief valve.

Unless this concern is satisfactorily resolved, installation of the PRT cannot be approved, even though we can conclude that mere installation, but not actuation, of the PRT system can be made without degrading existing safety systems.

In order for us to evaluate our additional concerns we have on the PRT, provide the following information:

1. State the consequences of spurious or inadvertent trip (actuation) of the PRT system concurrent with the following events:
 - a. Loss of coolant accident.
 - b. Steam line break accident.
 - c. Loss of offsite power.
 - d. Identify other accidents and transients for which inadvertent or spurious trip was analyzed.

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Also, justify a PRT system whose functional response effects the reactor core and the reactor coolant pressure boundary in ways similar to the Automatic Depressurization System but does not incorporate the same protective permissives such as the ac interlocks.

2. State your justification for a PRT design that is actuated unnecessarily each time a loss of Reactor Protection System Voltage occurs.
3. Submit a Failure Mode Effects Analysis for the PRT system. Specifically address the consequences of a single failure to (1) cause spurious PRT actuation and (2) prevent PRT actuation.
4. Submit the results of the environmental and seismic qualification tests of equipment employed in the PRT system. Include the environmental qualification of the cabling and qualification of terminals located within the drywell or other regions where a high energy line break could occur.
5. The on-line testability provisions proposed by GE merely represent a continuity test and are not acceptable. Since PRT is a new system, the Regulatory Guide 1.22 recommendations should be considered in its design.
6. Since full opening of five or six relief valves for short time intervals is necessary following some abnormal operating transients to stay within fuel thermal design limits, describe the methods that are to be used by NSP to ascertain that the system has operated according to design and that the relief valves passed sufficient steam following each PRT activation and before returning to power; i.e., what assurance will be provided prior to returning to power that the core has not violated a design limit?

Your response to the concerns expressed above should be received no later than April 30, 1974, so that we can resolve these items prior to returning the Monticello facility to power.

Sincerely,

Original signed by
Dennis L. Ziemann
Dennis L. Ziemann, Chief
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