

# NSP

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NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

November 30, 1977

PDR



Mr Victor Stello, Director  
Division of Operating Reactors  
c/o Distribution Services Branch, DDC, AIM  
U S Nuclear Regulatory Commission  
Washington, DC 20555

Dear Mr Stello:

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

Response to 10/14/77  
NRC ATWS Questions

This letter responds to Mr Goller's October 14, 1977 letter, which questions the use of relays in the Recirculation Pump Trip (RPT) circuitry, which are made by the same manufacturer as relays in the Reactor Protection System (RPS). The referenced letter further states, "Use of identical relays does not fulfill the desired system diversity, in that a common mode failure similar to that described in WASH-1270 could render both reactor scram and RPT inoperative."

It is our opinion that the diversity requirement is met through functionally opposite application of the relays. Our description of RPT (NEDO-25016) submitted on September 15, 1977 states that the RPT system is "energize to trip" while the RPS is a "de-energize to trip" system. The application of functional diversity to common elements is discussed in detail in Section 4.5.3 of NEDO-25016. The likelihood of a common cause failure which would adversely affect functional application of these relays is considered acceptably low. Further pursuit of diversity presents not only unnecessary redundancy, but causes a significant impact on design work completed in the last year.

The NRC staff safety evaluation dated February 23, 1977 states, "This evaluation presents the results of our review of a proposed RPT modification, which is considered a short term solution to the anticipated

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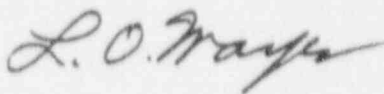
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transient without scram, ATWS. Evaluation of the long term program, which addresses all the WASH-1270 requirements and considers the need for additional modifications, will be accomplished for Monticello and other WASH-1270 Class C plants at a later date." It further states, "The diversity between the ATWS logic and reactor protection system (RPS) logic has been achieved primarily through the functional application of the logic elements and the location of the logic elements. . . . We have determined that the diversity of this system, based on the above factors, is acceptable."

We interpreted your safety evaluation to be concurrence for the entire design, installation and implementation (pending issuance of technical specifications) of the RPT circuitry as proposed; design, procurement of materials and installation activities are presently underway. We request that your determination on this recent inquiry consider the existence of functional diversity as discussed above and the applicability of the conclusions of your February 23, 1977 safety evaluation. If our understanding of your concurrence on RPT circuitry is incorrect, please inform us immediately since current efforts would have to be halted, reinitiated under newly approved criteria, and would cause significant additional delays in the implementation of RPT.

Yours very truly,



L O Mayer, PE  
Manager of Nuclear Support Services

LOM/MHV/deh

cc: J G Keppler  
G Charnoff  
MPCA  
Attn: J W Ferman