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Docket No. 50-263

Northern States Power Company
ATTN: Mr. L. O. Mayer, Manager
Nuclear Support Services
414 Nicollet Mall - 8th Floor
Minneapolis, Minnesota 55401

Gentlemen:

RE: MONTICELLO NUCLEAR GENERATING PLANT

As a result of a recent additional assessment of the structural integrity of the Mark I containment system used in your reactor facilities, members of our respective technical staffs met in Bethesda on February 26, 1976. This letter will confirm the results of these discussions and the conclusions reached by the NRR staff subsequent to the meeting.

On January 28, 1976 the Mark I owners' group specified that the torus support downward load strength ratios were based on an elastic analysis. Ratios around 1.0 were not of great concern to you because you believed that a redistribution of loads would occur and that these factors would be reduced when an elastic-plastic analysis was later performed. On those facilities with strength ratios greater than 0.9, the NRC staff requested further information, which we are currently evaluating.

On February 19 and 20, 1976, a more detailed discussion of the above technical points occurred. After studying details of the stress distribution from Bechtel's computer output, it is our judgment and your consultants agree that redistribution of loads may not be significant for the welds at the top of the torus columns. Therefore, the margin of safety at these welds are lower than those for other Mark I components.

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Because of this reduced margin, the meeting in Bethesda was called to discuss your plans to promptly restore adequate margins of safety for the structure. You described and discussed with our staff various operating modifications which would reduce the loads, such as use of an increased drywell pressure and decreased torus water level. After discussing your planned actions and the length of time required to provide enhanced safety margins using the operational actions, you and other members of the Mark I owners' group indicated that you would promptly enhance safety margins by pressuring the containment to establish a differential pressure of at least 1 psig between the drywell atmosphere and torus. You proposed to assure that such differential was established by Monday, March 1, 1976.

Our technical staff has assessed this proposal and agree with your technical representatives that the establishment of a differential pressure of at least 1 psi will provide a reduction in potential loads during a postulated loss of coolant accident and an associated restoration of the margins of safety so that the margin of safety is about a factor of two.

I am pleased with the prompt response by the Mark I owners' group to our concern that safety margins be restored in a prompt fashion. This, therefore confirms our discussions of yesterday that you will establish by Monday, Maron 1, 1976 a differential pressure of a minimum of one psi between the drywell atmosphere and the torus vapor space and that this differential pressure will be maintained whenever the reactor is in operation, until further authorization by the NRC. This will respond to our directive of yesterday that safety margins for the structure be enhanced promptly.

Some of the systems may be modified thereafter by a pumpback system to minimize the nitrogen requirements. Our staff will review any such proposal promptly when your plans become more definite.

Moreover, we also will continue to work with your staff on prompt implementation of your plans for structural modifications of the containment systems in accordance with the established program of the Mark I owners' group.

Sincerely,
Original signed by
Ben C. Rusche
Ben C. Rusche, Director
Office of Nuclear Reactor Regulation

OFFICE ▶	OR:ORB #2	OELD	D/DSS	DNOR	D/NRR
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DATE ▶	2/27/76	2/27/76	2/26/76	2/27/76	2/27/76

Form AEC-318 (Rev. 9-53) AECM 0240

☆ U.S. GOVERNMENT PRINTING OFFICE: 1974-526-166

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