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U.S. NUCLEAR REGULATORY COMMISSION

DOCKET NUMBER

50-263

## NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL

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TO:

Mr. James G. Keppler

FROM:

Northern States Power Company  
Minneapolis, Minnesota  
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DESCRIPTION

Consists of reply to IE Bulletin 77-06  
concerning containment electrical  
penetrations.....

ENCLOSURE

PLANT NAME: Monticello

RJL 12/8/77

(3-P)

SAFETY

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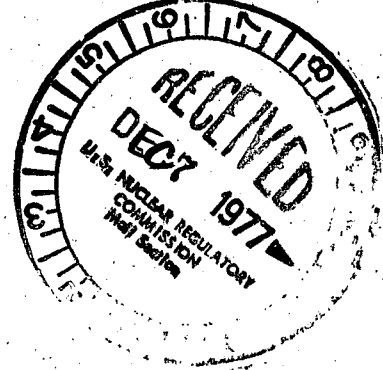
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NORTHERN STATES POWER COMPANY

MINNEAPOLIS, ILLINOIS

REGULATORY DOCKET FILE COPY

December 5, 1977



Mr. James G. Keppler  
Director - Region III  
Office of Inspection and Enforcement  
United States Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

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

The following is submitted in reply to IE Bulletin 77-06:

Question 1.0 Do you have containment electrical penetrations that are of the G. E. Series 100, or are otherwise similar in that they depend upon an epoxy sealant and a dry nitrogen pressure environment to ensure that the electrical and pressure characteristics are maintained so as to ensure the functional capability as required by the plant's safety analysis report; namely, (1) to ensure adequate functioning of electrical safety-related equipment and (2) to ensure containment leak tightness?

Answer: The Monticello Nuclear Generating Plant containment does not utilize the G. E. Series 100 penetration. General Electric has informed us that the installed penetrations are of the following type:

GE Type NS 02  
GE Type NS 03  
GE Type NS 04

A total of 14 of these penetrations are presently utilized. The penetrations utilize an epoxy sealant and a dry nitrogen pressure environment.

Question 1.1 Have you experienced any electrical failures with this type of penetration?

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Answer: No electrical failures have been experienced with the above penetrations nor has any degradation of penetration integrity been experienced as related to maintaining the integrity of the reactor containment structure. Local leak rate testing of these penetrations completed recently demonstrated that little or no leakage existed.

Question 2.0 For those penetrations referenced in Item 1 above, have you maintained the manufacturer's prescribed nitrogen pressure at all times?

Answer: We believe that positive nitrogen pressure has been maintained at all times since initial construction. It is definitely known that positive pressure has been maintained since the initial refueling outage in 1973.

Question 2.1 If you have operated the penetrations without maintaining a nitrogen pressure was any degradation of insulation resistance or anomalous component operation detected?

Answer: To the best of knowledge of the plant staff, the penetrations have always had a positive nitrogen pressure since the initial construction phase of the plant. In addition, no degradation of insulation resistance has been noted by anomalous component operation.

Question 2.2 If no measurements were taken during periods when nitrogen pressure was not maintained, how were you assured that the insulation resistance was not degrading or degraded?

Answer: Not applicable since a positive nitrogen pressure has been maintained.

Question 2.3 How do you determine that circuit insulation resistances values are satisfactorily maintained?

Answer: Circuit insulation resistance values and proper component operation are determined to be properly maintained by the Surveillance Test Program. The Surveillance Test Program requires that, on frequencies varying from daily, weekly, monthly, quarterly, semi-annually up through periods of the operating cycle, various functional tests and instrumentation tests be conducted.

Question 3.0 Is there a need, as determined by either the vendor or yourself, to maintain penetrations pressurized during a LOCA?

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Answer: There is not a need to maintain penetrations pressurized during a LOCA. The penetrations are double ended in that a seal exists on both the internal and external ends of the penetration. Either seal is designed to be capable of withstanding the pressure encountered during a loss of coolant accident.

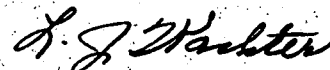
Question 3.1 What measures have you taken to ensure that penetrations of this type will perform their design function under LOCA conditions? (design reviews, analyses or tests)

Answer: General Electric Company performed extensive qualification testing both for the electrical properties of the penetration and of the epoxy potting compound and for the properties of the penetration to withstand the environment of the LOCA.

Question 3.2 Are the measures that provide this assurance adequate to satisfy the Commission's regulations? (GDC 4, Appendix A to Part 50; QA Criteria, Appendix B to Part 50)

Answer: It is our opinion that the measures taken for the design testing of the electrical penetration assemblies provide adequate assurance to satisfy the Commission's regulations.

Yours very truly,



L. J. Wachter  
Vice President - Power Production  
and System Operation

cc: ~~Mr.~~ Victor Stello  
Mr. G. Charnoff  
Minnesota Pollution Control Agency  
Attention: Mr. J. W. Ferman  
NRC Office of Inspection and Enforcement  
Washington, D.C.

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