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SUBJECT: Responds to NRC recommendations contained in station
 blackout evaluation dtd 910822. Required plant mods
 necessary to support station blackout will be completed no
 later than second outage after evaluation received.

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November 22, 1991

10 CFR Part 50
Section 50.63(c)(4)

U.S. Nuclear Regulatory Commission
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MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Response to NRC Recommendations Contained in
"Monticello Station Blackout Evaluation," dated August 22, 1991

We have reviewed the recommendations made by the NRC regarding Monticello's submittals for compliance with the Station Blackout Rule and offer the following proposed resolutions. All resolution documentation will be maintained in the project files. In accordance with our original Station Blackout submittals, required plant modifications necessary to support Station Blackout will be completed no later than the second refueling outage after the receipt of the above referenced Evaluation. Based on our schedule for refueling outages, this date will be approximately December 31, 1994. We will complete all items requiring re-analysis, procedure updates, and training prior to start-up following our next scheduled refueling outage. Based on our schedule for refueling outages, this date will be approximately March 3, 1993.

Resolutions to Specific Recommendations:

(Note: The following resolutions correspond to the recommendations contain in the August 22, 1991 NRC Station Blackout Evaluation for Monticello)

2.2.2 - Class 1E Battery Capacity

Resolution of Recommendation No. 1: We will re-validate that the 8 hour emergency lighting is adequate to support control room operations for the panels containing controls and indications to be utilized under Station Blackout conditions. If the lighting is found to be inadequate, we will initiate appropriate measures to ensure that Station Blackout lighting is adequate.

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Resolution of Recommendations No. 2.a and 2.b: These two recommendations are intended to ensure that a minimum voltage of 210V DC is available for input to the Class 1E instrumentation power supply inverters. We will re-analyze the 250 volt battery capacity calculations and verify that this voltage can be maintained. Minimum cell voltages will be utilized as necessary to support providing the minimum of 210V DC at the inverters. If it is found that this voltage cannot be maintained, we will initiate appropriate measures to ensure the minimum required voltage can be maintained (See also resolution of Recommendation 2.c).

Resolution of Recommendation No. 2.c: An aging factor of 1.11 has been used in our 250 volt battery capacity calculations. We believe that use of this factor is justified because it is Monticello practice to replace batteries when:

- 1) 85% expected service life is reached, or;
- 2) Battery capacity drops more than 10% of rated capacity from its capacity on the previous test, or;
- 3) Battery capacity tests at or below 90% of the manufacturer's rating.

These replacement criteria, which will be incorporated into plant procedures, are used in lieu of the less conservative IEEE Std 450 recommended practice of battery replacement when a capacity test of the battery shows its capacity has dropped to below 80% of the manufacturer's rating.

The rationale behind our more conservative replacement criteria is derived from other requirements and recommendations contained in IEEE Std 450. These other IEEE Std 450 requirements and recommendations are endorsed by NRC Regulatory Guide 1.129 as being important to safety.

IEEE Std 450 5.2 (3) recommends that an annual performance test be given to any battery which exhibits any of the three characteristics listed above. The Monticello Generating Plant is on an (approximate) 18 month refueling cycle. We believe it to be more prudent and economical to replace batteries when any of the above conditions are encountered rather than to schedule special outages for battery testing.

The basis for using an aging factor of 1.25 in the sizing of batteries as stated in IEEE Std 485 is due to an assumed replacement of a battery at a tested capacity of 80% of rated capacity as is recommended by IEEE Std 450. Since we follow the more conservative approach of replacing a battery which has a tested capacity that falls to 90% of rated capacity,

it follows that use of an aging correction factor of 1.11 is justified in the sizing calculations for batteries at the Monticello plant.

2.2.4 - Effects of Loss of Ventilation

Resolution of Recommendation No. 1: Normal control room heating, ventilation and air conditioning at Monticello is supplied by the redundant, Safety Related, Emergency Filtration System. Technical Specifications require one train of this system to be operable at all times. We assumed an initial control room temperature of 75° F in our initial heat up calculation. As stated in the Science Applications International Corporation Technical Evaluation Report, the NRC consultant considers this value to be reasonable for a control room with two redundant trains of heating, ventilation and air conditioning. Because we utilize the Emergency Filtration system for control room heating, ventilation and air conditioning, we believe that our initial temperature of 75° F is reasonable. Technical Specifications do, however, state that the Emergency Filtration System is designed to maintain a maximum control room temperature of 78° F. For this reason, we will revise the control room heat up calculation using an initial room temperature of 78° F. Further, we will establish appropriate administrative controls to ensure that Control Room temperature is maintained at or below 78° F.

Resolution of Recommendation No. 2: The control room heat up calculation will be re-analyzed for a heat generation rate of 230 watts per person, as recommended by the American Society of Heating, Refrigeration, and Air Conditioning Engineering handbook.

Resolution of Recommendation No. 3: We will revise the appropriate procedure to ensure that control room cabinet doors are opened within 30 minutes of the onset of a Station Blackout event. Since nearly all Control Room panels are open backed, the only panel containing equipment on our Safe Shutdown Equipment List which will require its panel doors to be opened is Panel C15.

Resolution of Recommendation No. 4: We have performed a heat up calculation for the steam tunnel area during a Station Blackout event. Environmental Test Reports show that valves located in the steam tunnel are qualified for the temperatures calculated.

2.2.5 - Containment Isolation

Resolution of Recommendation: We will ensure that appropriate containment integrity, per Regulatory Guide 1.155, Section 3.2.7 can be

demonstrated for containment isolation valves that do not meet the exclusion criteria stated therein. Confirmation of valve closure will also be ensured. This demonstration will include containment isolation valves that we had previously excluded based on our exemption of those valves from 10 CFR Part 50 Appendix J testing. The valves are exempted from Appendix J testing because their lines terminate below the surface of the suppression pool.

2.3 - Procedures and Training

Resolution of Recommendation: Procedure additions/revisions and training necessary to support Station Blackout will be completed in accordance with our original Station Blackout submittals.

2.4 - Proposed Modifications

Resolution of Recommendation: We will include a description of the proposed Station Blackout modifications in the documentation supporting Station Blackout submittals. Full descriptions of the required modifications will also be maintained in the project files.

2.5 - Quality Assurance and Technical Specifications

Resolution of Recommendation: We will verify that the equipment required for coping with a Station Blackout event is covered by an appropriate Quality Assurance program consistent with the guidance of Regulatory Guide 1.155. We will verify that plant procedures reflect appropriate testing and surveillance requirements to ensure operability of the necessary Station Blackout equipment.

2.6 - EDG Reliability

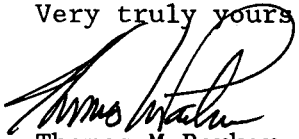
Resolution of Recommendation: We currently maintain Emergency Diesel Generator Reliability records for the last 20, 50, and 100 demands. An initial Emergency Diesel Generator Reliability Program has been established in accordance with Regulatory Guide 1.155 and NUMARC 87-00, Appendix D, Rev. 0. This program will continue to be enhanced per other ongoing developments related to the Emergency Diesel Generator reliability issue. Formalization of the NSP administrative controls and requirements for the maintenance of the Emergency Diesel Generator reliability records is in progress.

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November 22, 1991
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NORTHERN STATES POWER COMPANY

Please contact us if you require additional information.

Very truly yours,



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