

UNITED STATES NUCLEAR REGULATORY COMMISSION

NORTHERN STATES POWER COMPANY

MONTICELLO NUCLEAR GENERATING PLANT

DOCKET NO. 50-263

REQUEST FOR AMENDMENT TO
OPERATING LICENSE DPR-22

LICENSE AMENDMENT REQUEST DATED March 28, 1990

Northern States Power Company, a Minnesota corporation, requests authorization for changes to Appendix A of the Monticello Operating License as shown on the attachments labeled Exhibits A, B and C. Exhibit A describes the proposed changes, describes the reasons for the changes, and contains a significant hazards evaluation. Exhibits B and C are copies of the Monticello Technical Specifications incorporating the proposed changes.

This letter contains no restricted or other defense information.

NORTHERN STATES POWER COMPANY

By



Thomas M Parker
Manager
Nuclear Support Services

On this 28th day of March 1990 before me a notary public in and for said County, personally appeared Thomas M Parker, Manager Nuclear Support Services, and being first duly sworn acknowledged that he is authorized to execute this document on behalf of Northern States Power Company, that he knows the contents thereof, and that to the best of his knowledge, information, and belief the statements made in it are true and that it is not interposed for delay.

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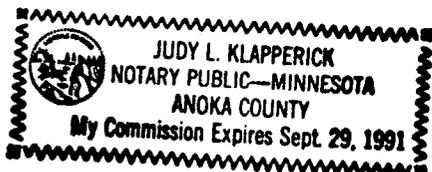


EXHIBIT A

Monticello Nuclear Generating Plant

License Amendment Request Dated March 28, 1989

Evaluation of Proposed Changes to the Technical Specifications
for Operating License DPR-22

Pursuant to 10 CFR Part 50, Section 50.59 and 50.90, the holders of Operating License DPR-22 hereby propose the following changes to the Operating License:

Proposed Change

The attached Exhibit B contains copies of existing Technical Specifications with the following changes marked on them.

1. Table 3.2.4, Page 59
Delete item 5, "Reactor Building Vent Wide Range Gas Monitors".
2. Table 4.2.1, Page 62
Delete Item No. 3 "Wide Range Gas Monitors" under the heading "REACTOR BUILDING VENTILATION".
3. Section 3.2 Bases, Page 68
 - a) Change the number of radiation monitors in the first sentence of the fifth paragraph from six to four.
 - b) Delete the last sentence of the fifth paragraph.
4. Table 3.8.2, Page 198-1
Change the note at the bottom of page 198-1 identified with "***" to read, "Provides control room indication and annunciation prior to exceeding 10 CFR 20 release rate limits".
5. Section 3.8 and 4.8 Bases, Page 198y
Change the last sentence of the fourth paragraph to read, "Use of the reactor building plenum and vent flow path for inerting and deinerting operations permits the control room operators to monitor the activity level of the resulting effluent by use of the reactor building vent wide range gas monitors. In the event that the reactor building release rate exceeds the reactor building wide range gas monitor alarm settings, the wide range gas monitors will alarm in the control room alerting the operators to take actions to limit the release of gaseous radioactive effluents. The alarm settings for the reactor building vent wide range gas monitors will be calculated in accordance with NRC approved

methods in the ODCM to ensure that alarms will alert control room operators prior to the limits of 10 CFR Part 20 Section 20.105(a) being exceeded".

Reason for Change

As a result of the Three Mile Island accident, two Wide Range Gas Monitors were installed on the Monticello Nuclear Generating Plant's Reactor Building Vent as part of the NUREG 0578, "TMI Lessons Learned" modifications. The new monitors continuously sample reactor building vent effluents (see Figure 1, "Proposed Removal of the Reactor Building Vent Wide Range Gas Monitor Isolation Logic"). The monitors were installed to provide an expanded range for continuous monitoring of radioactive effluents during normal operation and following a design basis accident.

Prior to installing these monitors, the function of gaseous radioactive effluent monitoring was performed by two narrow range monitors mounted in the reactor building plenum (Reactor Building Plenum Monitors). The plenum monitors provided an Engineered Safety Features actuation (isolation of secondary containment and initiation of the Standby Gas Treatment system) to limit the offsite release of radioactive gases during normal operation and in the event of a loss of coolant accident. Originally the new wide range gas monitors were to replace the existing Reactor Building Plenum Monitors. For this reason, the Reactor Building Wide Range Gas Monitors were installed with the capability of providing an automatic Engineered Safety Features actuation.

Further analysis showed that it was most prudent to leave both the Reactor Building Plenum Monitors and the Reactor Building Vent Wide Range Gas Monitors in service. The set point of the Reactor Building Plenum monitors was increased to a level that was consistent with the monitoring and isolation requirements of 10 CFR Part 100. As such, the Reactor Building Plenum monitors are used to protect against uncontrolled release of radioactive gaseous effluents in the event of a loss of coolant accident. The Reactor Building Plenum monitors isolate secondary containment and initiate the Standby Gas Treatment system upon receiving a one-out-of-two high signal.

The setpoint of the Reactor Building Vent Wide Range Gas Monitors is determined in accordance with the Monticello Offsite Dose Calculation Manual to assure compliance with 10 CFR Part 20 Section 20.105(a) release limits during normal plant operation. When either one of the two monitors detects a gaseous radioactive effluent release rate in excess of the setpoint, the monitors alarm in the control room, isolate secondary containment and initiate the Standby Gas Treatment system. The alarm/trip setpoint is set such that continuous release of gaseous radioactive effluents at the monitor setpoint rate would not result in an individual, in the unrestricted area, receiving a whole body dose in excess of one half of the limit specified in 10 CFR Part 20 Section 20.105(a) (10 CFR Part 20 Section 20.105(a) is 500 millirem in any period of one calendar year). Routine gaseous effluent release rates are approximately 200 times lower than the Reactor Building Vent Wide Range Gas

Monitors setpoint. This results in a significant margin between the cumulative offsite dose as a result of actual reactor building vent releases, and the limits specified in 10 CFR Part 20 Section 20.105(a).

A conservative analysis was performed which shows that under worst case conditions, the control room operators would have in excess of two hours to take manual actions to limit an elevated gaseous radioactive effluent release, without exceeding the permissible levels of radiation exposure specified in 10 CFR Part 20 Section 20.105(a). This analysis assumes worst case meteorology, and a release rate approaching the maximum allowable Technical Specifications setpoint of the Reactor Building Plenum Monitors.

Since their installation in 1981, the Reactor Building Vent Wide Range Gas Monitors have been found to be susceptible to the generation of spurious trip signals. Currently, when either of the two Reactor Building Vent Wide Range Gas Monitors trips, the monitors alarm in the control room, initiate an isolation of the secondary containment and initiate the Standby Gas Treatment system. Each spurious trip signal results in an unnecessary isolation of the secondary containment and actuation of the Standby Gas Treatment system.

Based on 1) the increased probability of unnecessary Engineered Safety Features actuations, 2) the large margin between the potential cumulative offsite dose as a result of releases above monitor's conservative setpoint and the cumulative dose from actual routine reactor building vent releases, and 3) the lack of regulatory requirements for the monitors to provide automatic Engineered Safety Features actuations, there is sufficient justification for the removal of automatic Engineered Safety Features actuations from the Reactor Building Vent Wide Range Gas Monitors.

The Reactor Building Vent Wide Range Gas Monitors will continue to alarm in the control room upon their detection of an elevated release rate in the reactor building vent. Procedures will be changed and control room operators will be trained to initiate a prompt actuation of the secondary containment isolation logic and the Standby Gas Treatment system, if it is determined that there is an actual release in progress.

The Reactor Building Plenum Monitors will continue to automatically isolate secondary containment and initiate the Standby Gas Treatment system in the event that high radiation levels are detected in the reactor building plenum. Both the Reactor Building Vent Wide Range Gas Monitors and the Reactor Building Plenum monitors will continue to be available for post accident radioactive effluent monitoring.

Safety Evaluation and Determination of Significant Hazards Considerations

The proposed change to the Operating license has been evaluated to determine whether it constitutes a significant hazards consideration as required by 10 CFR Part 50, Section 50.91 using standards provided in Section 50.92. This analysis is provided below:

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

This amendment will not cause an increase in the probability or consequences of an accident previously evaluated for the Monticello Nuclear Generating Plant. The automatic Engineered Safety Features actuation which would be removed by this amendment is currently duplicated by the Reactor Building Plenum Monitors for accident conditions. The Reactor Building Plenum Monitoring system is a single failure proof system that is installed to limit the plant release of radioactive gases during plant accident conditions. Therefore, deletion of the automatic Engineered Safety Features actuation from the Reactor Building Wide Range Gas Monitors will not increase the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any previously analyzed.

The proposed amendment will remove the automatic Engineered Safety Features actuation from the Reactor Building Vent Wide Range Gas Monitors. These instruments are only required to monitor the release of gaseous radioactive effluents during normal plant operating and accident conditions. As such, removal of their automatic Engineered Safety Features actuation will not create the possibility of a new or different kind of accident from any previously analyzed.

3. The proposed amendment will not involve a significant reduction in the margin of safety.

The proposed amendment will remove the automatic Engineered Safety Features actuation from the Reactor Building Wide Range Gas Monitors. This function will continue to be supplied by the redundant Reactor Building Plenum monitors for accident conditions. The Reactor Building Wide Range Gas Monitors will continue to alarm in the control room when the release rate of gaseous radioactive effluents reaches the monitor's conservative setpoint. This will allow control room operators to take manual actions appropriate for the existing plant conditions. Therefore, the proposed amendment does not involve a significant reduction in any margin of safety.

The Commission has provided guidance (March 6, 1986 Federal Register) concerning the application of the standard in 10 CFR 50.92 for determining whether a significant hazards consideration exists by providing certain examples of amendments that will likely be found to involve no significant hazards considerations. The changes to the Monticello Technical Specifications proposed in this amendment request are similar to NRC example (i). Example (i) is related to an administrative change to Technical Specifications. Example (i) applies in this case since the proposed amendment does not carry any operational significance or hazards.

Based on this guidance and the reasons discussed above, we have concluded that the proposed changes do not involve a significant hazards consideration.

Environmental Assessment

This license amendment request does not change the effluent types nor does it involve an increase in reactor power level. The setpoint for the Reactor Building Vent Wide Range Gas Monitors is set to protect against the release of gaseous radioactive effluents exceeding the limits set forth in 10 CFR Part 20 Section 20.105(a). Upon reaching their setpoint, the monitors currently alarm in the control room and automatically initiate Engineered Safety Features to limit the gaseous radioactive effluent instantaneous release rate from the reactor building. This amendment will remove the automatic initiation of the Engineered Safety Features from these monitors. If the reactor building vent release rate approaches the Reactor Building Vent Wide Range Gas Monitor's setpoint, the monitor will alarm in the control room where operators will take prompt actions commensurate with plant conditions. In the event of an accident the automatic initiation of secondary containment isolation and the Standby Gas Treatment system will continue to be performed by the Reactor Building Plenum Monitors. The combination of the monitoring and alarm functions provided by the Reactor Building Vent Wide Range Gas Monitors, and the isolation function provided by the Reactor Building Plenum Monitors, will assure that offsite radiation exposure will be maintained below the levels specified in 10 CFR Part 20 Section 20.105(a), 10 CFR Part 100 and as low as reasonably achievable. This change will not result in any significant impact to the environment.

Figure 1
 Proposed Removal of the Reactor Building
 Wide Range Gas Monitor Isolation Logic

