UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 18, 2000

Mr. Michael F. Hammer
Site General Manager
Monticello Nuclear Generating Plant
Northern States Power Company
2807 West County Road 75
Monticello, MN 55362-9637

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT - ISSUANCE OF AMENDMENT RE: EMERGENCY FILTRATION TRAIN TESTING EXCEPTIONS AND TECHNICAL SPECIFICATION REVISIONS (TAC NO. MA8419)

Dear Mr. Hammer:

The Commission has issued the enclosed Amendment No. 112 to Facility Operating License No. DPR-22 for the Monticello Nuclear Generating Plant. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated February 29, 2000, as supplemented July 10, 2000.

The amendment (1) approves continued use of two exceptions previously granted by the Nuclear Regulatory Commission (NRC) to the American Society of Mechanical Engineers N510-1989 testing requirements for the emergency filtration train (EFT) system, (2) revises the TSs to reflect modifications to the EFT system that eliminate the need for additional test exceptions, (3) revises the TSs to be consistent with the guidance of NRC Generic Letter 99-02, and (4) revises the TSs to include operability requirements for the EFT system during operations that could result in a fuel handling accident.

A copy of our related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

CFLyon

Carl F. Lyon, Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-263

Enclosures: 1. Amendment No. 112 to DPR-22
2. Safety Evaluation

cc w/encls: See next page

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Monticello Nuclear Generating Plant

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

NORTHERN STATES POWER COMPANY

DOCKET NO. 50-263

MONTICELLO NUCLEAR GENERATING PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 112
License No. DPR-22

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Northern States Power Company (the licensee) dated February 29, 2000, as supplemented July 10, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.2 of Facility Operating License No. DPR-22 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 112 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 45 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Claudia M. Craig

Claudia M. Craig, Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: August 18, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 112

FACILITY OPERATING LICENSE NO. DPR-22

DOCKET NO. 50-263

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE	INSERT
167	167
182	182
229v	229v
-	229vv
229w	229w
229ww	229ww
229x	229x
229y	229y
229z	229z

3.0 LIMITING CONDITIONS FOR OPERATION	4.0 SURVEILLANCE REQUIREMENTS
b. If both standby gas treatment system circuits are not operable, within 36 hours the reactor shall be placed in a condition for which the standby gas treatment system is not required in accordance with Specification 3.7.C.2.(a) through (d).	
2. Performance Requirements	2. Performance Requirement Tests
a. Periodic Requirements	a. At least once per 720 hours of system operation; or once per operating cycle, but not to exceed 18 months, whichever occurs first; or following painting, fire, or chemical release in any ventilation zone communicating with the system while the system is operating that could contaminate the HEPA filters or charcoal adsorbers, perform the following:
(1) The results of the in-place DOP tests at 3500 cfm (±10%) on HEPA filters shall show ≤1% DOP penetration.	(1) In-place DOP test the HEPA filter banks.
(2) The results of in-place halogenated hydrocarbon tests at 3500 cfm (±10%) on charcoal banks shall show ≤1% penetration.	(2) In-place test the charcoal adsorber banks with halogenated hydrocarbon tracer.
(3) The results of laboratory carbon sample analysis shall show ≤5% methyl iodide penetration when tested in accordance with ASTM D3803-1989 at 30°C, 95% relative humidity.	(3) Remove one carbon test sample from the charcoal adsorber in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978. Subject this sample to a laboratory analysis to verify methyl iodide removal efficiency.

Bases 3.7 (Continued):

While only a small amount of particulates are released from the primary containment as a result of the loss of coolant accident, high-efficiency particulate filters before and after the charcoal filters are specified to minimize potential particulate release to the environment and to prevent clogging of the charcoal adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the environment. The in-place test results should indicate a system leak tightness of less than 1% bypass leakage for the charcoal adsorbers using halogenated hydrocarbon and a HEPA filter efficiency of at least 99% removal of DOP particulates. Laboratory carbon sample test results indicate a radioactive methyl iodide removal efficiency for expected accident conditions. The allowable penetration for the laboratory test is based on the 90% adsorber efficiency assumed in the off-site dose analysis and a safety factor of ≥ 2. Operation of the standby gas treatment circuits significantly different from the design flow will change the removal efficiency of the HEPA filters and charcoal adsorbers. If the performance requirements are met as specified, the calculated doses would be less than the guidelines stated in 10 CFR 100 for the accidents analyzed.

D. Primary Containment Isolation Valves

Double isolation valves are provided on lines penetrating the primary containment. Closure of one of the valves in each line would be sufficient to maintain the integrity of the Primary Containment. Automatic initiation is required to minimize the potential leakage paths from the containment in the event of a loss-of-coolant accident. Details of the Primary Containment isolation valves are discussed in Section 5.2 of the USAR. A listing of all Primary Containment automatic isolation valves including maximum operating time is given in USAR Table 5.2-3b.

E. Combustible Gas Control System

The function of the Combustible Gas Control System (CGCS) is to maintain oxygen concentrations in the post-accident containment atmosphere below combustible concentrations. Oxygen may be generated in the hours following a loss of coolant accident from radiolysis of reactor coolant.

The Technical Specifications limit oxygen concentrations during operation to less than four percent by volume during operation. The maintenance of an inert atmosphere during operation precludes the build-up of a combustible mixture due to a fuel metal-water reaction. The other potential mechanism for generation of combustible mixtures is radiolysis of coolant which has been found to be small.

A special report is required to be submitted to the Commission to outline CGCS equipment failures and corrective actions to be taken if inoperability of one train exceeds thirty days. In addition, if both trains are inoperable for more than 30 days, the plant is required to shutdown until repairs can be made.

3.0 LIMITING CONDITIONS FOR OPERATION	4.0 SURVEILLANCE REQUIREMENTS
3.a With both control room ventilation trains inoperable, restore at least one train to operable status within 24 hours.	
3.b If 3.a is not met, then be in hot shutdown within the next 12 hours and in cold shutdown within 24 hours following the 12 hours.	
3.c If 3.a is not met during movement of irradiated fuel assemblies in the secondary containment, core alterations, or activities having the potential for draining the reactor vessel then immediately suspend these activities.	
B. Control Room Emergency Filtration System	B. Control Room Emergency Filtration System
1. Except as specified in 3.17.B.1.a through d below, two control room emergency filtration system filter trains shall be operable whenever irradiated fuel is in the reactor vessel and reactor coolant temperature is greater than 212°F, or during movement of irradiated fuel assemblies in the secondary containment, core alterations or activities having the potential for draining the reactor vessel.	1. At least once per month, initiate from the control room 1000 cfm (±10%) flow through both trains of the emergency filtration treatment system. The system shall operate for at least 10 hours with the heaters operable.

3.0 LIMITING CONDITIONS FOR OPERATION	4.0 SURVEILLANCE REQUIREMENTS
a. When one control room emergency filtration system filter train is made or found to be inoperable for any reason, restore the inoperable train to operable status within seven days or be in hot shutdown within the next 12 hours following the seven days and either reduce the reactor coolant temperature to below 212°F or initiate and maintain the operable emergency filtration system filter train in the pressurization mode within the following 24 hours.	
b. When both filter trains of the control room emergency filtration system are inoperable, restore at least one train to operable status within 24 hours or be in hot shutdown within the next 12 hours following the 24 hours and reduce the reactor coolant water temperature to below 212°F within the following 24 hours.	
c. With one control room ventilation train inoperable during movement of irradiated fuel assemblies in the secondary containment, core alterations or activities having the potential for draining the reactor vessel, restore the inoperable train to operable status within 7 days or immediately after the 7 days initiate and maintain the operable emergency filtration system filter train in the pressurization mode or immediately suspend these activities.	
d. With both control room ventilation trains inoperable during movement of irradiated fuel assemblies in the secondary containment, core alterations or activities having the potential for draining the reactor vessel, immediately suspend these activities.	

3.0 LIMITING CONDITIONS FOR OPERATION	4.0 SURVEILLANCE REQUIREMENTS

2. Performance Requirements

   a. Acceptance Criteria - Periodic Requirements

      (1) The results of the in-place DOP tests at 1000 cfm (±10%) shall show ≤1% DOP penetration on each individual HEPA filter and shall show ≤0.05% DOP penetration on the combined HEPA filters.

      (2) The results of in-place halogenated hydrocarbon tests at 1000 cfm (±10%) shall show ≤1% penetration on each individual charcoal adsorber and shall show ≤0.05% penetration on the combined charcoal banks.

      (3) The results of laboratory carbon sample analysis shall show ≤0.5% methyl iodide penetration when tested at 30°C and 95% relative humidity.

2. Performance Requirement Test

   The in-place performance testing of HEPA filter banks and charcoal adsorber banks shall be conducted in accordance with Sections 10 and 11 of ASME N510-1989. The carbon sample test for methyl iodide shall be conducted in accordance with ASTM D 3803-1989. Sample removal shall be in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978.

   a. At least once per operating cycle, but not to exceed 18 months; or following painting, fire, or chemical release while the system is operating that could contaminate the HEPA filters or charcoal adsorbers, perform the following:

      (1) In-place DOP test the HEPA filter banks.

      (2) In-place test the charcoal adsorber banks with halogenated hydrocarbon tracer.

      (3) Remove one carbon test sample from each charcoal adsorber bank. Subject this sample to a laboratory analysis to verify methyl iodide removal efficiency.

      (4) Initiate from the control room 1000 cfm (±10%) flow through both trains of the emergency filtration treatment system.

3.0 LIMITING CONDITIONS FOR OPERATION	4.0 SURVEILLANCE REQUIREMENTS
b. Acceptance Criteria - System Operation Requirements The results of laboratory carbon sample analysis shall show $\leq$0.5% methyl iodide penetration when tested at 30°C and 95% relative humidity.	b. At least once per 720 hours of system operation, remove one carbon test sample from each charcoal adsorber bank. Subject this sample to a laboratory analysis to verify methyl iodide removal efficiency.

3.0 LIMITING CONDITIONS FOR OPERATION	4.0 SURVEILLANCE REQUIREMENTS
c. The system shall be shown to be operable with:	c. At least once per operating cycle, but not to exceed 18 months, the following conditions shall be demonstrated for each emergency filtration system train:
(1) Combined filter pressure drop ≤ 8 inches water.	(1) Pressure drop across the combined filters of each train shall be measured at 1000 cfm (± 10%) flow rate.
(2) Inlet heater power output 5kw ± 10%.	(2) Operability of inlet heater at nominal rated power shall be verified.
(3) Automatic initiation upon receipt of a high radiation signal.	(3) Verify that on a simulated high radiation signal, the train switches to the pressurization mode of operation and the control room is maintained at a positive pressure with respect to adjacent areas at the design flow rate of 1000 cfm (± 10%).
3. Post Maintenance Requirements	3. Post Maintenance Testing
a. After any maintenance or testing that could affect the HEPA filter or HEPA filter mounting frame leak tight integrity, the results of the in-place DOP tests at 1000 cfm (± 10%) shall show ≤ 1% DOP penetration on each individual HEPA filter and shall show ≤ 0.05% DOP penetration on the combined HEPA filters.	a. After any maintenance or testing that could affect the leak tight integrity of the HEPA filters, perform in-place DOP tests on the HEPA filters.
b. After any maintenance or testing that could affect the charcoal adsorber leak tight integrity, the results of in-place halogenated hydrocarbon tests at 1000 cfm (± 10%) shall show ≤ 1% penetration on each individual charcoal adsorber and shall show ≤ 0.05% penetration on the combined charcoal adsorber banks.	b. After any maintenance or testing that could affect the leak tight integrity of the charcoal adsorber banks, perform halogenated hydrocarbon tests on the charcoal adsorbers.

Bases 3.17:

A. Control Room Ventilation System

The Control Room Ventilation System provides air conditioning and heating as required to maintain a suitable environment in the main control room and portions of the first and second floors of the Emergency Filtration Train (EFT) building. The system is designed to maintain a nominal temperature of 78°F dry bulb in the main control room in the summer and a nominal temperature of 72°F in the winter. During normal operation, the CRV system recirculates the air in the control room envelope as needed. During a high radiation event, the Control Room Ventilation System continues to operate, and the Control Room Emergency Filtration Train system will start automatically to pressurize the control room protective envelope. The Emergency Filtration Train system can also be started manually.

All toxic substances which are stored onsite or stored/shipped within a 5 mile radius of the plant have been analyzed for their effect on the control room operators. It has been concluded that the operators will have at least two minutes to don protective breathing apparatus before incapacitation limits are exceeded. For toxic substance which are transported on highways within 5 miles of the plant, it has been determined that the probability of a release from the plant due to incapacitation of the operators caused by a spill is sufficiently low that this scenario may be excluded. Protection for toxic chemicals is provided through operator training.

B. Control Room Emergency Filtration System

The Control Room Emergency Filtration System assures that the control room operators will be adequately protected against the effects of radioactive leakage which may by-pass secondary containment following a loss of coolant accident, steam line break accident or fuel handling accident. The system is designed to slightly pressurize the control room on a radiation signal in the ventilation air. Two completely redundant trains are provided.

Each train has a filter unit consisting of a prefilter, HEPA filters, and charcoal adsorbers. The HEPA filters remove particulates from the Control Room pressurizing air and prevent clogging of the iodine adsorbers. The charcoal adsorbers are installed to remove any radioiodines from the pressurizing air. The verification of performance parameters combined with the qualification testing conducted on new filters and adsorbers provide a high level of assurance that the Emergency Filtration System will perform as predicted in reducing doses to plant personnel below those levels stated in Criterion 19 of Appendix A to 10 CFR 50. The allowable penetration for the laboratory test is based on a conservative adsorber efficiency of 99% and a safety factor of ≥ 2.

Dose calculations have been performed for the Control Room Emergency Filtration System which show that, assuming 85% standby gas treatment system overall removal efficiency and 98% control room emergency filtration system overall removal efficiency and radioiodine plateout, whole body and organ doses remain within NRC guidelines.

Bases 4.17:

A. Control Room Ventilation System

Control room air temperature is checked each shift to ensure that the continuous duty rating for the instrumentation and equipment cooled by this system is not exceeded.

Demonstrating automatic isolation of the control room using simulated accident signals assures control room isolation under accident conditions.

B. Control Room Emergency Filtration System

Air flow through the filters and charcoal adsorbers each month assures operability of the system.

The frequency of tests and sample analysis is necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. The charcoal adsorber tray is installed which can accommodate a sufficient number of representative adsorber sample modules for estimating the amount of penetration the system adsorbs through its life. Sample modules will be installed with the same batch characteristics as the system adsorbent and will be withdrawn for the methyl iodide removal efficiency tests. Each module withdrawn will be replaced or blocked off. In-place testing procedures will be established utilizing applicable sections of ASME N510-1989 as described in Section 6.7 of the USAR. If test results are unacceptable, all adsorbent in the train is replaced. Any HEPA filters found defective are replaced.

Pressure drop across the combined HEPA filters and charcoal adsorbers of less than or equal to 8 inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter.

Demonstrating automatic control room pressurization using simulated accident signals assures control room pressurization with respect to adjacent areas under accident conditions.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 112 TO FACILITY OPERATING LICENSE NO. DPR-22

NORTHERN STATES POWER COMPANY

MONTICELLO NUCLEAR GENERATING PLANT

DOCKET NO. 50-263

1.0 INTRODUCTION

By application dated February 29, 2000, as supplemented July 10, 2000, the Northern States Power Company (the licensee) requested changes to the Technical Specifications (TSs) for Monticello Nuclear Generating Plant. The proposed amendment would (1) approve continued use of two exceptions previously granted by the Nuclear Regulatory Commission (NRC) to the American Society of Mechanical Engineers (ASME) N510-1989 testing requirements for the emergency filtration train (EFT) system, (2) revise the Technical Specifications (TSs) to reflect modifications to the EFT system that eliminate the need for additional test exceptions, (3) revise the TSs to be consistent with the guidance of NRC Generic Letter 99-02, and (4) revise the TSs to include operability requirements for the EFT system during operations that could result in a fuel handling accident.

The July 10, 2000, supplemental submittal provided clarifications to the February 29, 2000, application. The information was within the scope of the original *Federal Register* notice and did not change the staff's initial proposed no significant hazards considerations determination.

2.0 BACKGROUND

2.1 In-Place Filter Testing Requirements

On August 28, 1998, the NRC issued Amendment No. 101 to the TS for Monticello. This amendment revised TS Section 3/4.17.B for the control room emergency filtration system (CREFS) and added two license conditions to Appendix C of the license which were proposed by the licensee in its letter dated July 1, 1998, which supplemented its June 19, 1998, amendment request.

The revision to TS Section 3/4.17.B included the following ten exceptions to the ASME N510-1989 testing requirements for the CREFS:

1. Monticello performs a visual inspection of applicable items from Section 5.5.1 of ASME N510-1989. Examples of items that are not applicable to Monticello include dovetail type access gaskets with a seating surface suitable for a knife edge seal, and shaft seals.

2. The housing leak test in Section 6.2.2 and Table 1 of ASME N510-1989 is not performed at Monticello because the CREFS was built to be tested to American National Standards Institute (ANSI)/ASME N510-1980 which does not require these tests to be performed periodically.

3. The mounting frame pressure leak test in Section 7.1 of ASME N510-1989 is not performed at Monticello. Leaks of this nature are detected by the visual inspection test or the in-place filter bypass test.

4. The housing component pressure drop airflow test in Section 8.5.1.4 of ASME N510-1989 is not performed at Monticello because the CREFS was built to be tested to ANSI/ASME N510-1980 which does not require these tests to be performed periodically.

5. The periodic airflow distribution test in Section 8.5.2.2 of ASME N510-1989 is not performed at Monticello because the CREFS was built to be tested to ANSI/ASME N510-1980 which does not require these tests to be performed periodically.

6. Section 10.3 of ASME N510-1989 states that sample points for the high efficiency particulate air (HEPA) filter in-place testing shall be located downstream of the fan or downstream sample manifolds shall be qualified. Monticello samples upstream of the fan using a single injection point. No shaft seals are installed on the system's fans; therefore, sampling downstream of the fan would obtain a diluted air sample. The CREFS does not have any provisions for sampling manifolds.

7. Section 10.5.8 of ASME N510-1989 states that upstream and downstream DOP [dioctyl or di-2-ethylhexyl phthalate] concentrations are repeated until readings within ±5 percent of respective previous readings are obtained. Monticello takes readings until the concentrations are within ±10 percent, and the highest penetration reading is conservatively used with a minimum of three readings taken. Because of the injection point location for the Monticello CREFS system, it is difficult to consistently achieve ±5 percent between readings.

8. Section 11.3 of ASME N510-1989 states that sample points for the charcoal filter in-place testing shall be located downstream of the fan or downstream sample manifolds shall be qualified. Monticello samples upstream of the fan using a single injection point. No shaft seals are installed on the system's fans; therefore, sampling downstream of the fan would obtain a diluted air sample. The CREFS does not have any provisions for sampling manifolds.

9. Monticello reserves the ability to use alternate test gases that are found to be acceptable alternatives to R-11 by the industry because of future availability of the gases specified in ASME N510-1989.

10. The in-series charcoal adsorbers will be tested as a unit rather than testing each bank separately because testing individually was not a requirement under ASME N510-1980 and is not feasible at Monticello.

The two license conditions to Appendix C of the license are as follows:

1. Within 9 months of August 28, 1998, NSP will conduct an independent evaluation of the testing methodology and the testing configuration of the CREFS by HEPA and charcoal filter experts. The exceptions to the ASME N510-1989 testing standard listed in Exhibit F of NSP's June 19, 1998, amendment request will be evaluated. The evaluation results will be reported to the NRC staff.

2. Within 24 months of August 28, 1998, NSP will initiate appropriate modifications to the CREFS to comply with the ASME N510-1989 testing standard or obtain NRC staff approval for continued use of the exceptions.

Based on these license conditions, the above exceptions to the ASME N510-1989 in-place testing were allowed for 24 months.

2.2 Laboratory Charcoal Sample Testing

Safety-related air-cleaning units used in the engineered safety features (ESF) ventilation systems of nuclear power plants reduce the potential onsite and offsite consequences of a radiological accident by filtering radioiodine. Analyses of design-basis accidents assume particular safety-related charcoal adsorption efficiencies when calculating offsite and control room operator doses. To ensure that the charcoal filters used in these systems will perform in a manner that is consistent with the licensing basis of a facility, licensees have requirements in their TSs to periodically perform a laboratory test (in accordance with a test standard) of charcoal samples taken from these ventilation systems.

In GL 99-02, the NRC staff alerted licensees that testing nuclear-grade activated charcoal to standards other than American Society for Testing and Materials (ASTM) D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon," does not provide assurance for complying with their current licensing basis as it relates to the dose limits of General Design Criterion (GDC) 19 of Appendix A to Part 50 of Title 10 of the Code of Federal Regulations (10 CFR) and Subpart A of 10 CFR Part 100.

GL 99-02 requested that all licensees determine whether their TSs reference ASTM D3803-1989 for charcoal filter laboratory testing. Licensees whose TSs do not reference ASTM D3803-1989 were requested to either amend their TSs to reference ASTM D3803-1989 or propose an alternative test protocol.

3.0 EVALUATION

3.1 In-Place Filter Testing Requirements

On May 25, 1999, the licensee fulfilled the first license condition by sending a letter to the NRC reporting the results of the independent evaluation of the testing methodology and the testing configuration of the CREFS performed by NUCON.

On February 29, 2000, the licensee sent a proposed TS amendment request to the NRC which requested continued use of only two exceptions to ASME N510-1989. The TS amendment request also proposed to revise the testing requirements for the CREFS, revise the TSs to reflect modifications to the CREFS that eliminate the need for additional test exceptions, revise the TSs to be consistent with the guidance of GL 99-02, and revise the TSs to include operability requirements for the CREFS during operations that could result in a fuel handling accident. Approval of this TS amendment by August 28, 2000, allows the licensee to fulfill the second license condition.

In its February 29, 2000 application, the licensee proposed the following for the original ten exceptions to ASME N510-1989:

1. The licensee proposes continued use of an exception to Section 5.5.1 of ASME N510-1989 because the system design does not accommodate all of the inspection items. Examples of items that are not applicable to Monticello include dovetail type access gaskets with a seating surface suitable for a knife edge seal and shaft seals. As the system is maintained in the future, the licensee will install replacement dovetail gaskets as recommended by NUCON.

The continued use of this exception is acceptable to the NRC staff because the licensee should not be required to perform inspections on items which are not part of the design of the system.

2. The licensee proposes continued use of an exception to Section 6.2.2 and Table 1 of ASME N510-1989 because the design of the CREFS does not accommodate the periodic housing leak test. The CREFS fan is located downstream from the CREFS housing and the CREFS housing is contained within the control room envelope. Therefore, any leakage would be clean control room envelope air going into the housing. This happens because the housing is at a negative pressure with respect to the control room envelope since it is on the suction side of the fan. The licensee has incorporated a smoke test in the test program as an alternative to the housing leak test.

The continued use of this exception is acceptable to the NRC staff because the system design is such that any possible housing leakage would be clean control room envelope air going into the housing. The licensee's proposal to incorporate a smoke test in the test program as a means for determining housing leaks will serve as a rough indication of housing leaks.

3. The licensee proposes to eliminate this exception since it complies with Section 7.1 of ASME N510-1989. The mounting frame pressure leak test was performed during acceptance testing.

This is acceptable to the NRC staff because the licensee will comply with Section 7.1 of ASME N510-1989 and the test was performed during acceptance testing.

4. The licensee proposes to eliminate this exception since it complies with Section 8.5.1.4 of ASME N510-1989. The pressure drop airflow test was performed during acceptance testing.

This is acceptable to the NRC staff because the licensee will comply with Section 8.5.1.4 of ASME N510-1989 and the test was performed during acceptance testing.

5. The licensee proposes to eliminate this exception since it complies with Section 8.5.2.2 of ASME N510-1989. The airflow distribution test was performed during acceptance testing.

This is acceptable to the NRC staff because the licensee will comply with Section 8.5.2.2 of ASME N510-1989 and the test was performed during acceptance testing.

6. The licensee proposes to eliminate this exception since the system has been modified to allow use of temporary manifolds (designed by NUCON) for downstream sampling and therefore the licensee complies with Section 10.3 of ASME N510-1989.

This is acceptable to the NRC staff because the system has been modified to have qualified sample ports in accordance with Section 10.3 of ASME N510-1989.

7. The licensee proposes to eliminate this exception since the system has been modified to allow use of injection manifolds (designed by NUCON) which tests have shown to provide adequate mixing, meeting the ±5 percent criterion. Therefore, the licensee complies with Section 10.5.8 of ASME N510-1989.

This is acceptable to the NRC staff because the system has been modified to meet the ±5 percent criterion in accordance with Section 10.5.8 of ASME N510-1989.

8. The licensee proposes to eliminate this exception since the system has been modified to allow use of temporary manifolds (designed by NUCON) for downstream sampling and therefore the licensee complies with Section 11.3 of ASME N510-1989.

This is acceptable to the NRC staff because the system has been modified to allow use of qualified temporary manifolds for downstream sampling in accordance with Section 11.3 of ASME N510-1989.

9. The licensee proposes to eliminate this exception since it complies with Section 11.4 of ASME N510-1989.

This is acceptable to the NRC staff because the licensee will comply with Section 11.4 of ASME N510-1989.

10. The licensee proposes to eliminate this exception since the system has been modified to allow use of temporary injection/sample manifolds (designed by NUCON) to test the adsorber banks individually. Therefore, the licensee complies with Section 11.5.8 of ASME N510-1989.

This is acceptable to the NRC staff because the system has been modified to allow use of temporary injection/sample manifolds to test the adsorber banks individually in accordance with Section 11.5.8 of ASME N510-1989.

3.2 CREFS Limiting Conditions For Operation (LCO)

In its February 29, 2000, application, the licensee stated that the control room doses for the fuel handling accident (FHA) are bounded by the main steamline break (MSLB) accident. The MSLB accident assumes that the CREFS is operating; therefore, the CREFS must operate

during a FHA in order to consider the MSLB as a bounding event. Consequently, the licensee proposed an LCO for the CREFS during fuel handling operations in Section 3.17.B of the TS. The licensee proposed to revise this section to require both trains of the CREFS to be operable during fuel handling operations. The licensee also proposed to add two new action statements (3.17.B.1.c and 3.17.B.1.d) to cover the situation when one or both trains are inoperable. The proposed LCO and action statements are consistent with those in NUREG-1433, Revision 1, "Standard Technical Specifications General Electric Plants, BWR/4," and are therefore acceptable to the NRC staff.

3.3 Laboratory Charcoal Sample Testing

The current and proposed laboratory charcoal sample testing TS surveillance requirements for the standby gas treatment system (SGTS) and the CREFS are shown in Table 1 and Table 2 (Attachment).

Per GL 99-02, both the SGTS and CREFS are considered Group 1 systems because the charcoal filters for these systems are currently tested to ASTM D3803-1989. However, since the CREFS currently has a safety factor greater than 2 and the SGTS currently has a safety factor less than 2 and references ASTM D3803-1989 in the TS Bases, the licensee proposed a TS amendment to be consistent with the recommendations in GL 99-02.

The proposed use of ASTM D3803-1989 is acceptable because it provides accurate and reproducible test results. The proposed test temperature of 30°C is acceptable because it is consistent with ASTM D3803-1989. The proposed test relative humidity (RH) of 70 percent is also acceptable because SGTS and CREFS are equipped with a safety-related heater which maintains less than or equal to 70-percent RH during accident conditions. This is consistent with the actions requested in GL 99-02.

The credited efficiency for radioactive organic iodine for the SGTS is 90 percent. The proposed test penetration for radioactive methyl iodide for the SGTS is $\leq$5 percent. The proposed test penetration was obtained by applying a safety factor of 2 to the credited efficiency. The proposed TS Bases 3.17.B states that dose calculations have been performed assuming 85 percent SGTS overall removal efficiency. By its supplemental letter dated July 10, 2000, the licensee stated that this overall efficiency accounts for potential bypasses. The credited efficiency for radioactive organic iodine for the CREFS is 98 percent. The proposed test penetration for radioactive methyl iodide for the SGTS is $\leq$0.5 percent. The proposed test penetration was obtained by applying a safety factor of 4 to the credited efficiency. The proposed TS Bases 3.17.B states that the allowable penetration for the laboratory test is based on a conservative credited adsorber efficiency of 99 percent and a safety factor of $\geq$2. Per its February 29, 2000, application, the licensee indicated that this would allow them to revise their dose analysis in the future to a credited adsorber efficiency of 99 percent for the CREFS without the need for a TS amendment. The proposed safety factors are acceptable because they ensure that the efficiency credited in the accident analysis is still valid at the end of the surveillance interval. This is consistent with the minimum safety factor of 2 specified in GL 99-02.

By letter dated July 10, 2000, the licensee stated that the actual system face velocities at the TS maximum system flow rates are less than 110 percent of 40 fpm. Therefore, it is not necessary to specify the face velocity in the proposed TS change. This is acceptable because it ensures that the testing will be consistent with the operation of the ventilation system during accident conditions. This is consistent with the August 23, 1999, errata to GL 99-02.

3.4 Conclusion

On the basis of the above evaluation, the NRC staff finds that continued use of the two remaining exceptions to ASME N510-1989 is acceptable. In addition, because the NRC staff considers ASTM D3803-1989 to be the most accurate and most realistic protocol for testing charcoal in safety-related ventilation systems, the NRC staff finds that the proposed TS changes satisfy the actions requested in GL 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal," dated June 3, 1999, and are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Minnesota State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes inspection and surveillance requirements. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding (65 *FR* 17917). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Attachment: Tables 1 and 2

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Date: August 18, 2000

MONTICELLO NUCLEAR GENERATING PLANT

TABLE 1 - CURRENT TS REQUIREMENTS

System Description						Current TS Requirements					
TS Section	System	Bed Thickness (inches)	Actual Charcoal		Credited Efficiency (% methyl iodine)	Test Penetration (% methyl iodide)	Safety Factor	Test Standard	Test Temp (° C)	Test RH %	Test Face Velocity (fpm)
			Res. Time (sec)	Face Velocity (fpm)							
3/4.7.B	Standby Gas Treatment System (SGTS)	2	0.26	38	90%	<6%	1.7	ASTM D3803-1989*	30	95	Not stated
3/4.17.B	Control Room Emergency Filtration System (CREFS)	2+2	0.25 per 2" bed	40	98%	<0.4%	5	ASTM D3803-1989	30	95	Not stated

* In Bases, not in TS.

ATTACHMENT

MONTICELLO NUCLEAR GENERATING PLANT

TABLE 2 - PROPOSED TS REQUIREMENTS											
System Description						**Proposed TS Requirements**					
TS Section	System	Bed Thickness (inches)	Actual Charcoal		Credited Efficiency (methyl iodide)	Test Penetration (methyl iodide)	Safety Factor	Test Standard	Test Temp (° C)	Test RH	Test Face Velocity (fpm)
			Res. Time (sec)	Face Velocity (fpm)							
3/4.7.B	Standby Gas Treatment System (SGTS)	2	0.26	38	90%	<5%	2	ASTM D3803-1989	30	95	Not stated***
3/4.17.B	Control Room Emergency Filtration System (CREFS)	2+2	0.25 per 2" bed	40	98%	<0.5%	4**	ASTM D3803-1989	30	95	Not stated***

** Safety factor of 4 is based on 98% credit efficiency and a 0.5% test penetration. The proposed TS Bases 3.17.B states that the allowable penetration for the laboratory test is based on a conservative adsorber efficiency of 99% and a safety factor of ≥2.
*** Test Face Velocity is 40 fpm per ASTM D3803-1989.