



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

January 28, 2014

Mrs. Karen D. Fili  
Site Vice President  
Monticello Nuclear Generating Plant  
Northern States Power Company - Minnesota  
2807 West County Road 75  
Monticello, MN 55362-9637

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT - ISSUANCE OF AMENDMENT TO ADOPT TECHNICAL SPECIFICATIONS TASK FORCE (TSTF) TRAVELER TSTF-501, REVISION 1, "RELOCATE STORED FUEL OIL AND LUBE OIL VOLUME VALUES TO LICENSEE CONTROL" (TAC NO. ME9601)

Dear Mrs. Fili:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 178 to Renewed Facility Operating License No. DPR-22 for the Monticello Nuclear Generating Plant (MNGP). The amendment consists of changes to the technical specifications (TS) in response to your application dated September 18, 2012, as supplemented by letters dated March 12, and November 15, 2013, and an e-mail on July 17, 2013.

The amendment approves a revision to the MNGP TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," by removing the current stored diesel fuel oil, and lube oil numerical volume requirements from the TSs and replacing them with duration-based numerical requirements consistent with TSTF-501. The November 15, 2013, supplement included a commitment to revise the MNGP Updated Safety Analysis Report to include a description of the fuel oil calculation methodology. The July 17, 2013, e-mail provided confirmation that cited standards were correctly identified in the TS Bases and consistent with the proposed changes.

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,

A handwritten signature in black ink, appearing to read "Terry A. Beltz", with a long horizontal line extending to the right.

Terry A. Beltz, Senior Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-263

Enclosures:

1. Amendment No. 178 to DPR-22
2. Safety Evaluation

cc w/encls: Distribution via ListServ



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

NORTHERN STATES POWER COMPANY - MINNESOTA

DOCKET NO. 50-263

MONTICELLO NUCLEAR GENERATING PLANT

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 178  
License No. DPR-22

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Northern States Power Company - Minnesota (NSPM, the licensee), dated September 18, 2012, as supplemented on March 12, 2013, November 15, 2013, and July 17, 2013, 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 Renewed 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. 178, are hereby incorporated in the license. NSPM shall operate the facility in accordance with the Technical Specifications.

Enclosure 1

3. Implementation Requirements

- A. This license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.
- B. Upon implementation of Amendment No. 178 to adopt TSTF-501, Revision 1, NSPM shall incorporate in the Updated Safety Analysis Report (USAR) the following information as set forth in the NRC staff's safety evaluation attached to this amendment, and shall submit the revised description with the next USAR update:

The specific Emergency Diesel Generator (EDG) fuel oil volumes contained in the diesel oil storage tank (equivalent to duration-based requirements) are calculated using Section 5.4 of American National Standards Institute (ANSI) N195 - 1976, "Fuel Oil Systems for Standby Diesel-Generators," and are based on applying the conservative assumption that the EDG is operated continuously at rated capacity. This fuel oil calculation methodology is one of the two approved methods specified in Regulatory Guide (RG) 1.137, Revision 1, "Fuel-Oil Systems for Standby Diesel Generators," Regulatory Position C.1.c.

- C. The USAR change shall be implemented in the next periodic update of the USAR in accordance with 10 CFR 50.71(e).

FOR THE NUCLEAR REGULATORY COMMISSION



Robert D. Carlson, Chief  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to Renewed Facility  
Operating License DPR-22 and  
Technical Specifications

Date of Issuance: January 28, 2014

ATTACHMENT TO LICENSE AMENDMENT NO. 178

RENEWED FACILITY OPERATING LICENSE NO. DPR-22

DOCKET NO. 50-263

Replace the following page of Renewed Facility Operating License DPR-22 with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

REMOVE

3

INSERT

3

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

REMOVE

3.8.3-1  
3.8.3-2

INSERT

3.8.3-1  
3.8.3-2

2. Pursuant to the Act and 10 CFR Part 70, NSPM to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operations, as described in the Final Safety Analysis Report, as supplemented and amended, and the licensee's filings dated August 16, 1974 (those portions dealing with handling of reactor fuel);
  3. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NSPM to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
  4. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NSPM to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
  5. Pursuant to the Act and 10 CFR Parts 30 and 70, NSPM to possess, but not separate, such byproduct and special nuclear material as may be produced by operation of the facility.
- C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission, now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
1. Maximum Power Level  
NSPM is authorized to operate the facility at steady state reactor core power levels not in excess of 2004 megawatts (thermal).
  2. Technical Specifications  
The Technical Specifications contained in Appendix A, as revised through Amendment No. 178, are hereby incorporated in the license. NSPM shall operate the facility in accordance with the Technical Specifications.
  3. Physical Protection  
NSPM shall implement and maintain in effect all provisions of the Commission--approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search

3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel Oil, Lube Oil, and Starting Air

LCO 3.8.3 The stored diesel fuel oil, lube oil, and starting air subsystems shall be within limits for each required emergency diesel generator (EDG).

APPLICABILITY: When associated EDG is required to be OPERABLE.

ACTIONS

-----NOTE-----  
Separate Condition entry is allowed for each EDG.  
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CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Fuel oil level < 7-day supply and > 6-day supply in storage tank.	A.1 Restore fuel oil level to within limits.	48 hours
B. One or more EDGs with lube oil inventory < 7-day supply and > 6-day supply.	B.1 Restore lube oil inventory to within limits.	48 hours
C. Stored fuel oil total particulates not within limit.	C.1 Restore fuel oil total particulates to within limit.	7 days
D. New fuel oil properties not within limits.	D.1 Restore stored fuel oil properties to within limits.	30 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more EDGs with starting air receiver pressure in one starting air subsystem < 165 psig.	E.1 Restore starting air receiver pressure to $\geq$ 165 psig.	7 days
F. One or more EDGs with starting air receiver pressure in both starting air subsystems < 165 psig and $\geq$ 125 psig.	F.1 Restore starting air receiver pressure in one starting air subsystem to $\geq$ 165 psig.	48 hours
G. Required Action and associated Completion Time of Condition A, B, C, D, E, or F not met.  <u>OR</u>  One or more EDGs with diesel fuel oil, lube oil, or starting air subsystem(s) not within limits for reasons other than Condition A, B, C, D, E, or F.	G.1 Declare associated EDG inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.3.1 Verify the fuel oil storage tank contains $\geq$ a 7-day supply of fuel.	31 days
SR 3.8.3.2 Verify, for each EDG, lube oil inventory is $\geq$ a 7-day supply.	31 days



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 178 TO

RENEWED FACILITY OPERATING LICENSE NO. DPR-22

NORTHERN STATES POWER COMPANY - MINNESOTA

MONTICELLO NUCLEAR GENERATING PLANT

DOCKET NO. 50-263

1.0 INTRODUCTION

By application to the U.S. Nuclear Regulatory Commission (NRC or Commission) dated September 16, 2012 (Reference 1), as supplemented by letters dated March 12, 2013 (Reference 3) and November 15, 2013 (Reference 8), Northern States Power Company - Minnesota (NSPM, the licensee), doing business as Xcel Energy, Inc., requested changes to the technical specifications (TSs) for the Monticello Nuclear Generating Plant (MNGP). The proposed changes that would revise TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," by removing the current stored diesel fuel oil, and lube oil numerical volume requirements from the TSs and replacing them with diesel operating time requirements consistent with Technical Specifications Task Force (TSTF) Standard Technical Specifications (STS) Traveler TSTF-501, Revision 1, "Relocate Stored Fuel Oil and Lube Oil Volume Values to Licensee Control" (Reference 4). The March 12, 2013, supplement provided the revision number of Regulatory Guide (RG) 1.137, Revision 1, in the TS 3.8.3 Bases, "References," and other TS Bases changes. The TS Bases changes will be made by the licensee in accordance with TS 5.5.9, "Technical Specifications Bases Control Program." Additionally, in a July 17, 2013, e-mail (Reference 7), the licensee provided confirmation of several ASTM [American Society for Testing and Materials] Standards referenced in the proposed TS Bases 3.8.3, "References."

The licensee requested changes to the MNGP TSs to adopt TSTF-501, Revision 1. The licensee's current TSs contain numerical volume requirements for both stored diesel fuel oil and lube oil, and any change to the numerical volume requirements currently requires prior approval from the NRC. As an example, diesel fuel oil numerical volume requirements may need to be modified in order to take into account changes to the energy content (BTU/gallon) of available fuels in the market. Fluctuations in energy content could be caused by a variety of factors, including changes to regulatory requirements. By adopting TSTF-501, Revision 1, the numerical volume requirements for both stored diesel fuel oil and lube oil would be removed from the TS. As a result, the numerical volume requirements for both stored diesel fuel oil and lube oil could be modified under licensee control under the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.59 and, therefore, would not require prior NRC approval.

Enclosure 2

The proposed changes would revise TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," by removing the current stored diesel fuel oil volume and lube oil level numerical requirements from the TS and replacing them with diesel operating time requirements so that the volume necessary to meet the TS duration requirements may be modified under licensee control. The TSs would also be modified so that the stored diesel fuel oil and lube oil inventory will require that a 7-day supply be available for each diesel generator. As a result, the licensee proposed the following changes:

- Revise Condition A and Condition B in the Action table. Currently, Condition A and Condition B are entered when the stored diesel fuel oil volume and lube oil level numerical requirements are not met. As discussed in the current TS Bases, the numerical diesel fuel oil volume requirement in Condition A is based on a volume of less than a 7-day supply, but greater than a 6-day supply. The numerical diesel lube oil level requirement in Condition B is a volume of less than a 7-day supply, but greater than a 6-day supply. The proposed revision would remove the numerical requirements from the TS. The TSs would be modified so that Condition A is entered when the stored diesel fuel oil is less than a 7-day supply, but greater than a 6-day fuel oil for one or more diesel generators (DGs). Condition B would be entered when stored diesel lube oil is less than a 7-day supply, but greater than a 6-day lube oil supply for one or more DGs.
- Revise Surveillance Requirements (SR) 3.8.3.1 and 3.8.3.2. Currently, SR 3.8.3.1 and SR 3.8.3.2 require the licensee to verify that the stored diesel fuel oil volume and lube oil level numerical requirements are met. As discussed in the current TS Bases, the numerical requirements in SR 3.8.3.1 and SR 3.8.3.2 are based on maintaining at least a 7-day supply. The proposed revision would remove the volume numerical requirements from the TS. The TS would be revised so that SR 3.8.3.1 and SR 3.8.3.2 require the licensee to verify that the stored diesel fuel oil and lube oil inventories are greater than or equal to a 7-day supply for each DG.

The licensee stated that the license amendment request is consistent with NRC-approved TSTF-501, Revision 1. The availability of this TS improvement was announced in the *Federal Register* on May 26, 2010 (75 FR 29588) (Reference 5), as part of the consolidated line item improvement process.

The licensee's supplemental letters dated March 12, 2013, and November 15, 2013, and July 17, 2013, e-mail, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on December 11, 2012 (77 FR 73689).

## 2.0 REGULATORY EVALUATION

### 2.1 Proposed Change to LCO 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," Requirements

The regulation at Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, "Technical specifications," provides the regulatory requirements for the content required in the

TS. As stated in 10 CFR 50.36, the TS include Limiting Conditions for Operation (LCO) and Surveillance Requirements (SR) to assure that the LCOs are met.

The regulation at 10 CFR 50.36(c)(2)(i) states that TSs will include limiting conditions for operation (LCO) which are "the lowest functional capability or performance levels of equipment required for safe operation of the facility."

Regulatory Guide (RG) 1.137, Revision 1, provides guidance that describes a method acceptable to the NRC staff for complying with the Commission's regulations regarding fuel oil systems for standby diesel generators. RG 1.137, Section C.1.c, sets forth two methods for calculation of fuel oil storage requirements: as described in Section 5.4 of American National Standards Institute (ANSI) N195 - 1976, "Fuel Oil Systems for Standby Diesel-Generators."

## 2.2 Proposed Change to Action Table for TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air"

The regulation at 10 CFR 50.36(c)(2)(i) states that TSs will include limiting conditions for operation (LCO) which are "the lowest functional capability or performance levels of equipment required for safe operation of the facility." Paragraph 50.36(c)(2)(i) additionally states that "when a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met."

## 2.3 Proposed Change to SR 3.8.3.1 and 3.8.3.2

Paragraph 50.36(c)(3) states that TSs will include SRs which are "requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

RG 1.137, Revision 1, addresses the recommended fuel oil practices as supplemented by ANSI N195-1976, Appendix B. The fuel oil properties that are checked to ensure the proper quality of the fuel oil are sediment content, the kinematic viscosity, specific gravity (or API gravity), and impurity level.

Regulatory Position 2 of RG 1.137 states, in part, that "Appendix B to ANSI N195-1976 be used as a basis for a program to ensure the initial and continuing quality of fuel oil." As a result, the use of Appendix B of ANSI N195-1976, as referenced by RG 1.137, Revision 1, provides a basis for ensuring the proper quality of the fuel oil; namely that water and sediment content, the kinematic viscosity, specific gravity (or API gravity), and impurity level are within the specified limits.

## 3.0 TECHNICAL EVALUATION

### 3.1 Proposed Change to LCO 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," Requirements

Each DG is provided with a fuel oil capacity sufficient to operate that diesel for a period of 7-days while the DG is supplying maximum load demand. This onsite fuel oil capacity is

sufficient to operate the DGs for longer than the time needed to replenish the onsite fuel oil supply from outside sources.

The standby alternating current (ac) power sources are a part of the primary success path and function or actuate to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. Diesel fuel oil and lube oil are retained in the TS to satisfy 10 CFR 50.36(c)(2)(i), since they support the operation of the standby ac power sources. The proposed changes would revise TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," by removing the current stored diesel fuel oil and lube oil numerical volume requirements from the TS and replacing them with the required diesel operating time so that the fuel oil and lube oil volumes necessary to support the required diesel operating time may be modified under licensee control.

The DG lubrication system is designed to provide sufficient lubrication to permit proper operation of its associated diesel generator under all loading conditions. The system is required to circulate the lube oil to the diesel engine working surfaces and to remove excess heat generated by friction during operation. Each DG has a lube oil inventory capable of supporting a minimum of 7-days of operation. This supply is sufficient to allow the operator to replenish lube oil from outside sources.

In order to meet a 7-day supply of stored diesel fuel oil and lube oil for each DG, TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," currently contains numerical volume requirements associated with a 7-day supply for each DG as measured by volume, in gallons. The TS Bases currently state that the numerical volume requirements are based on meeting a 7-day supply. The proposed change would revise TS 3.8.3 by removing the current stored diesel fuel oil and lube oil numerical volume requirements from the TS so that the fuel oil and lube oil volumes necessary to support the required diesel operating time may subsequently be modified under licensee control pursuant to 10 CFR 50.59. The revised TS continue to require that the stored diesel fuel oil and lube oil inventory has a 7-day supply available for each DG. The removal of the TS numerical value volume requirement does not change the current plant configuration, the current volume requirements, or the current 7-day basis for the fuel oil and lube oil volume requirements.

Finally, the methodology as to how the stored diesel fuel oil and lube oil numerical volume basis may be modified under licensee control is described in Section 3.5. The use of this methodology is consistent with RG 1.137 and will ensure that a 7-day supply of stored diesel fuel oil and lube oil for each DG will be met, thereby, providing assurance that the lowest functional capability or performance levels of the DG required for safe operation of the facility will be continued to be met.

Based on the above evaluation, the NRC staff finds the change to the LCO 3.8.3 requirements to be acceptable.

### 3.2 Proposed Change to Action Table for TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air"

Currently, Condition A and Condition B are entered when the stored diesel fuel oil and lube oil numerical volume requirements are not met. The current TS Bases state that the numerical volume requirements in Condition A and Condition B are based on volumes less than a 7-day

supply, but greater than a 6-day supply. The proposal would remove the volumetric requirements from the TS, and would modify Condition A and Condition B to maintain a duration-based requirement such that the Conditions are entered when the stored diesel fuel oil and lube oil inventory is less than a 7-day supply, but greater than a 6-day supply for one or more DGs. No other parts of Condition A and Condition B (i.e., Required Actions or Completion Times) are proposed to be modified in the application.

Finally, the methodology to be used in modifying the stored diesel fuel oil and lube oil numerical volume basis may be modified under licensee control is described in Section 3.5. The use of this methodology will ensure that the 7-day and 6-day supply of stored diesel fuel oil and lube oil for each DG that dictate Condition entry will continue to be calculated in accordance with NRC-approved methods.

Based on the above evaluation, the NRC staff considers the modification to the TS 3.8.3, Action Table to be acceptable.

### 3.3 Proposed Change to SRs 3.8.3.1 and 3.8.3.2

Currently, SR 3.8.3.1 and SR 3.8.3.2 require the licensee to verify that the stored diesel fuel oil and lube oil numerical volume requirements are met. The licensee proposes to revise SR 3.8.3.1 and SR 3.8.3.2 to reflect the change in LCO requirements, namely that a 7-day supply (rather than a specified numerical volume) be available for each DG. As a result, SR 3.8.3.1 and SR 3.8.3.2 would require the licensee to verify that the stored diesel fuel oil and lube oil inventory is greater than or equal to a 7-day supply for each DG.

No other revision to these SRs is proposed. The licensee proposes to remove the current numerical volume requirement from the TS, and replace it with the associated current 7-day supply for fuel oil and lube oil for each DG.

In an e-mail dated December 13, 2012 (Reference 2), the NRC staff asked the licensee to identify the RG 1.137 revision number used to calculate the specific volume of DG fuel oil equivalent to a 7-day and 6-day supply and include the RG revision number in the proposed TS Bases "References." In the March 12, 2013, response (Reference 3), the licensee provided the following information regarding the licensee's methodology for determining the 7-day stored fuel oil volume.

The specific volume of Emergency Diesel Generator (EDG) fuel oil equivalent to a 7-day and 6-day supply is calculated using Section 5.4 of ANSI Standard N195 - 1976, "Fuel Oil Systems for Standby Diesel-Generators," and is based on the assumption that the EDG is operated continuously at rated capacity. This methodology is in accordance with Regulatory Guide (RG) 1.137, Revision 1, "Fuel-Oil Systems for Standby Diesel Generators," Regulatory Position C.1.c. The revision number "Revision 1" to Regulatory Guide 1.137 has been added to the proposed TS Bases currently identified as "Reference 2."

The licensee also stated that the ASTM Standards in place at the time of the TS conversion to Improved Standard TS were retained with the conversion. As a clarification, the "Background" Section of the TS 3.8.3 Bases concerning the quality of the fuel oil are also revised to refer to

ASTM Standards listed under TS Bases "Reference 5," as discussed in SR 3.8.3.3, since they reflect the later versions of the standards than those discussed in either Revision 0 or Revision 1 of RG 1.137.

ANSI N195-1976 discusses how the stored diesel fuel oil requirement is to be calculated based upon the DGs operating at the minimum required capacity for the plant condition which is most limiting for the calculation of such capacity. One method for calculating the stored diesel fuel oil supply takes into account the time dependence of DG loads. That is, if DG loads increase or decrease during the event, the load changes shall be included in the required fuel storage calculation. If the design includes provisions for an operator to supply power to equipment other than the minimum required for the plant condition, such additional loads shall be included in the calculation of required fuel storage capacity. RG 1.137, Revision 1, supplements the above by stating that for the time-dependent load method, the minimum required capacity should include the capacity to power the engineered safety features. A minimum margin of 10 percent will be added to the calculated storage requirement if the alternate conservative calculation discussed next is not used. Another method for calculating the stored diesel fuel oil supply, which is more conservative than the time-dependent load method, is to calculate the storage capacity by assuming that the diesel operates continuously for seven days at its rated capacity. The licensee uses the more conservative, continuous 7-day operation at rated capacity, methodology. Both calculation methods will include an explicit allowance for fuel consumption required by periodic testing. This includes the fuel required for operation of the engine at the minimum loads specified by the engine manufacturer.

One variable used in both stored diesel fuel oil calculation methods is the fuel consumption rate. The property of diesel fuel oil having the most significant effect on the fuel consumption rate is the energy content (heating value) of the fuel. There are standards which correlate the energy content to the fuel's American Petroleum Institute (API) gravity or absolute specific gravity. At a minimum, plants calculate their required fuel storage values assuming the most limiting API gravity or absolute specific gravity, and therefore, the most limiting fuel energy content. As long as the fuel oil placed in the storage tank is within the API gravity range or absolute specific gravity range specified by the TS Diesel Fuel Oil Testing Program, the calculations of fuel consumption and required stored volume remain valid. Current TS SR 3.8.3.3 requires new fuel to be tested in order to verify that the new fuel API gravity or absolute specific gravity is within the range assumed in the diesel fuel oil consumption calculations.

The lube oil inventory equivalent to a 7-day supply, as well as the 6-day supply associated with Condition B, is based on the DG manufacturer consumption values for the run time of the DG. Licensee continued adherence to the methods described above provides assurance that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met.

Based on the above evaluation, the NRC staff finds the duration-based change to SR 3.8.3.1 and SR 3.8.3.2 to be acceptable.

### 3.4 ANSI N195-1976

The TS LCO 3.8.3 requires, in part, that the stored diesel fuel oil and lube oil shall be within limits for each required DG. For proper operation of the standby DGs, it is necessary to ensure

the proper quality of the fuel oil. RG 1.137, Revision 1, addresses the recommended fuel oil practices as supplemented by ANSI N195-1976, Appendix B. The fuel oil properties that are checked to ensure the proper quality of the fuel oil are sediment content, the kinematic viscosity, specific gravity (or API gravity), and impurity level.

In response to the NRC staff's request for additional information (Reference 2), the licensee stated that RG 1.137, Revision 1, will be referenced in the TS Bases. RG 1.137 states: "Appendix B to ANSI N195-1976 addresses the recommended fuel oil practices. Although not a mandatory part of the standard, the staff believes Appendix B can serve as an acceptable basis for a program to maintain the quality of fuel oil, as supplemented by regulatory position 2 of this guide." Regulatory Position 2 of RG 1.137 states, in part, that "Appendix B to ANSI N195-1976 be used as a basis for a program to ensure the initial and continuing quality of fuel oil." As a result, the use of Appendix B of ANSI N195-1976, as referenced by RG 1.137, Revision 1, provides a basis for ensuring the proper quality of the fuel oil; namely that water and sediment content, the kinematic viscosity, specific gravity (or API gravity), and impurity level are within the specified limits. Current TS SR 3.8.3.3 verifies these limits.

### 3.5 Implementation Requirement to Revise the Updated Safety Analysis Report (USAR)

To ensure an acceptable and consistent fuel oil calculation methodology is maintained, NSPM provided a commitment in its November 15, 2013, letter, to revise the MNGP USAR with the following information and to submit the revised description with the next USAR update:

The specific Emergency Diesel Generator (EDG) fuel oil volumes contained in the diesel oil storage tank (equivalent to duration-based requirements) are calculated using Section 5.4 of American National Standards Institute (ANSI) N195 - 1976, "Fuel Oil Systems for Standby Diesel-Generators," and are based on applying the conservative assumption that the EDG is operated continuously at rated capacity. This fuel oil calculation methodology is one of the two approved methods specified in Regulatory Guide (RG) 1.137, Revision 1, "Fuel-Oil Systems for Standby Diesel Generators," Regulatory Position C.1.c.

The NRC staff finds that licensee control of the fuel oil calculation methodology in the USAR will continue to adequately ensure public health and safety, as any deviation from the calculation methodology described above requires the licensee to perform an evaluation pursuant to the provisions of 10 CFR 50.59 to determine whether the change requires prior NRC approval.

### 3.6 TS Bases ASTM Standards References

In response to an NRC staff e-mail (Reference 6), requesting confirmation that ASTM Standards 04057-88, D445-96, D93-97, 01796-90, and D975-91 are accurately identified in the proposed TS 3.8.3 Bases "References," the licensee provided an e-mail response (Reference 7) stating that the cited ASTM Standards are correctly identified in the proposed TS Bases. These references are consistent with the proposed TS changes.

### 3.7 Conclusion

The proposed changes to LCO 3.8.3, and SRs 3.8.3.1 and 3.8.3.2, continue meet the regulations specified in 10 CFR 50.36, and guidance provided in RG 1.137 for complying with the Commission's regulations regarding fuel oil systems for standby diesel generators. The proposed changes continue to provide assurance that the lowest functional capability or performance levels of equipment required for safe operation of the facility will be continued to be met. Therefore, the NRC staff finds the proposed changes to be 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 a requirement with respect to the use of facility components located within the restricted area as defined in 10 CFR Part 20. The NRC 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 (77 FR 73689, dated December 11, 2012). 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 NRC staff 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) there is reasonable assurance that 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.

### 7.0 REFERENCES

- (1) Letter from NSPM to the U.S. NRC dated September 18, 2012, "License Amendment Request: Adoption of Technical Specifications Task Force (TSTF) Traveler TSTF-501, Revision 1, Relocate Stored Fuel Oil and Lube Oil Volume Values to Licensee Control" (ADAMS Accession No. ML122630070).
- (2) E-mail to NSPM dated December 13, 2012, "Monticello Nuclear Generating Plant - Draft Request for Additional Information for License Amendment Request re: TSTF-501" (ADAMS Accession No. ML12348A829).

- (3) Letter from NSPM to the U.S. NRC dated March 12, 2013, "Response to a Request for Additional Information for License Amendment Request for TSTF-501, Revision 1, Relocate Stored Fuel Oil and Lube Oil Volume Values to Licensee Control" (ADAMS Accession No. ML13074A810).
- (4) TSTF Traveler 501, "Relocate Stored Fuel Oil and Lube Oil Volume Values to Licensee Control," Revision 1 (ADAMS Accession No. ML090510686).
- (5) TSTF-501 - Notice of Availability published in the *Federal Register* on May 26, 2010 (75 FR 29588).
- (6) E-mail from Terry A. Beltz (U.S. NRC) to Richard A. Loeffler (NSPM), dated May 15, 2013, "Monticello TSTF-501 Review," (ADAMS Accession No. ML13219A313).
- (7) Richard A. Loeffler (NSPM) e-mail response to the Terry A. Beltz (U.S. NRC), dated July 17, 2013, "Monticello e-mail response on whether the years listed for ASTM Standards is correct," (ADAMS Accession No. ML13219A312).
- (8) Letter from NSPM to the U.S. NRC dated November 15, 2013, "Commitment to Adopt Fuel Oil Calculation Methodology from Regulatory Guide 1.137 in Conjunction with Adoption of TSTF-501, Revision 1, Relocate Stored Fuel Oil and Lube Oil Volumes Values to Licensee Control (TAC No. ME9601)," (ADAMS Accession No. ML13319B204).

Principal Contributor: Gerald Waig, NRR

Date of issuance: January 28, 2014

Mr. Karen D. Fili  
Site Vice President  
Monticello Nuclear Generating Plant  
Northern States Power Company - Minnesota  
2807 West County Road 75  
Monticello, MN 55362-9637

January 28, 2014

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT - ISSUANCE OF AMENDMENT TO ADOPT TECHNICAL SPECIFICATIONS TASK FORCE (TSTF) TRAVELER TSTF-501, REVISION 1, "RELOCATE STORED FUEL OIL AND LUBE OIL VOLUME VALUES TO LICENSEE CONTROL" (TAC NO. ME9601)

Dear Mrs. Fili:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 178 to Renewed Facility Operating License No. DPR-22 for the Monticello Nuclear Generating Plant (MNGP). The amendment consists of changes to the technical specifications (TS) in response to your application dated September 18, 2012, as supplemented by letters dated March 12, and November 15, 2013, and an e-mail on July 17, 2013.

The amendment approves a revision to the MNGP TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," by removing the current stored diesel fuel oil, and lube oil numerical volume requirements from the TSs and replacing them with duration-based numerical requirements consistent with TSTF-501. The November 15, 2013, supplement included a commitment to revise the MNGP Updated Safety Analysis Report to include a description of the fuel oil calculation methodology. The July 17, 2013, e-mail provided confirmation that cited standards were correctly identified in the TS Bases and consistent with the proposed changes.

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,

/RA/

Terry A. Beltz, Senior Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-263

Enclosures:

1. Amendment No. 178 to DPR-22
2. Safety Evaluation

cc w/encls: Distribution via ListServ

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ADAMS Accession No.: **ML13218A061**

\* Safety evaluation transmitted by memo dated 08/09/13

OFFICE	LPL3-1/PM	LPL3-1/LA	STSB/BC *	OGC	LPL3-1/BC	LPL3-1/PM
NAME	TBeltz	MHenderson	RElliott	MYoung (NLO)	RCarlson	TBeltz
DATE	11/18/13	11/18/13	11/21/13	12/11/13	01/02/14	01/28/14

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