Xcel Energy®

Monticello Nuclear Generating Plant
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November 14, 2013

L-MT-13-041
10 CFR 50.90

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Monticello Nuclear Generating Plant
Docket No. 50-263
Renewed Facility Operating License No. DPR-22

License Amendment Request: Revision of Technical Specification 5.5.11 for Drywell Personnel Airlock Leakage Rate Testing

Pursuant to 10 CFR 50.90, Northern States Power Company – Minnesota (NSPM), doing business as Xcel Energy Inc., proposes to revise Monticello Nuclear Generating Plant (MNGP) Technical Specification (TS) 5.5.11, "Primary Containment Leakage Rate Testing Program." NSPM proposes to remove the reduced pressure testing option for drywell airlock door leakage testing in accordance with the requirements of 10 CFR 50, Appendix J, Option B, since this capability is not required and does not reflect the current testing practice at the MNGP.

Enclosure 1 provides a description and assessment of the proposed changes, and includes the regulatory analysis and associated no significant hazards determination and environmental evaluation. Enclosure 2 provides a marked-up copy of the existing TS pages showing the proposed changes. No TS Bases changes are associated with this proposed license amendment request.

The MNGP Plant Operations Review Committee has reviewed this application. In accordance with 10 CFR 50.91, a copy of this application, with enclosures, is being provided to the designated Minnesota Official.

In accordance with 10 CFR 50.91(a)(1), the analysis about the issue of no significant hazards consideration using the standards in 10 CFR 50.92 is being provided to the Commission.

NSPM requests approval of this proposed license amendment request by November 30, 2014, with the amendment being implemented within 90 days of NRC approval.

This license amendment request has been evaluated and the removal of the capability to test the drywell airlock at reduced pressure has no impact on the pending Extended Power Uprate and Maximum Extended Load Line Limit Analysis Plus (MELLLA+) license amendment requests currently under NRC review.

Should you have questions regarding this letter, please contact Mr. Richard Loeffler at (763) 295-1247.

Summary of Commitments

This letter proposes no new commitments and does not revise any existing commitments.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on November 14, 2013.

Karen D. Fili
Site Vice President, Monticello Nuclear Generating Plant
Northern States Power Company - Minnesota

Enclosures (2)

cc: Administrator, Region III, USNRC
Project Manager, Monticello, USNRC
Resident Inspector, Monticello, USNRC
Minnesota Department of Commerce

ENCLOSURE 1

MONTICELLO NUCLEAR GENERATING PLANT

LICENSE AMENDMENT REQUEST

REVISION OF TECHNICAL SPECIFICATION 5.5.11 FOR DRYWELL PERSONNEL AIRLOCK LEAKAGE RATE TESTING

DESCRIPTION OF CHANGES

(9 pages follow)

TABLE OF CONTENTS

DESCRIPTION OF CHANGES

REVISION OF TECHNICAL SPECIFICATION 5.5.11 FOR DRYWELL PERSONNEL AIRLOCK LEAKAGE RATE TESTING

1.0 DESCRIPTION

Pursuant to 10 CFR 50.90, Northern States Power Company – Minnesota (NSPM), doing business as Xcel Energy Inc., proposes to revise the Monticello Nuclear Generating Plant (MNGP) Technical Specification (TS) 5.5.11, "Primary Containment Leakage Rate Testing Program," airlock testing conditions. NSPM proposes to remove the reduced pressure testing option for drywell airlock door leakage testing in accordance with the requirements of 10 CFR 50, Appendix J, Option B, since this capability is not required and does not reflect the current testing practice at the MNGP.

The drywell personnel airlock doors do not have a dual seal arrangement that allows for reduced pressure testing between the door seals. The configuration of the drywell personnel airlock door only allows for pressurizing the entire airlock space between the inner and outer airlock doors. Individual door seal leakage rate tests can not be performed.

2.0 BACKGROUND

Requirements for performing primary containment leakage rate tests are established in 10 CFR 50.54(o), 10 CFR 50, Appendix J. Compliance with Appendix J, provides assurance that the primary containment, including those systems and components which penetrate the primary containment, do not exceed the allowable leakage rate specified in the TS. The allowable containment leakage rate is determined so that the leakage assumed in the safety analyses is not exceeded.

The performance-based containment leakage testing option, i.e., Option B of 10 CFR Part 50, Appendix J, became effective on October 26, 1995. This option allows use of a revised testing frequency for primary containment systems and components, based on performance history.

The Primary Containment Leakage Rate Testing Program provided within MNGP Specification 5.5.11 satisfies the guidelines contained in NRC Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995 (Reference 1). The specification was developed applying the guidance of Nuclear Energy Institute Report 94-01, Revision 0, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," dated July 21, 1995 (Reference 2), which provides methods acceptable to the NRC staff for complying with the provisions of Option B of 10 CFR 50, Appendix J.

The configuration of the drywell personnel airlock utilized at MNGP does not provide the capability to test between the individual door seals, so leakage rate testing may only be accomplished by testing the overall airlock (barrel) leakage rate in accordance with Specification 5.5.11.d.2.a.

The wording of the specification, however, implies that each airlock door can be individually tested. This condition is being treated as a non-conservative TS condition. The guidance of NRC Administrative Letter 98-10, "Dispositioning of Technical Specifications that are Insufficient to Assure Plant Safety," is being applied until this condition is resolved following approval of this license amendment request.

3.0 DETAILED DESCRIPTION

Specification 5.5.11.d.2 provides the airlock testing acceptance criteria:

2. Air lock testing acceptance criteria are:

   a) Overall air lock leakage rate is ≤ 0.05 L_a when tested at ≥ P_a.

   b) For each door, leakage rate is ≤ 0.007 L_a when pressurized to ≥ 10 psig.

NSPM proposes to revise Specification 5.5.11.d.2 by removing option b) to test the airlock doors at a reduced test pressure. Specification 5.5.11.d.2 will then read:

2. Air lock testing acceptance criterion is an overall air lock leakage rate of ≤ 0.05 L_a when tested at ≥ P_a.

The proposed change to Specification 5.5.11.d.2 is provided in Enclosure 2. There are no changes to the TS Bases for this specification, because the specification is located in Section 5 of the TS and there are no bases associated with this section of the TS.

4.0 TECHNICAL ANALYSIS

On June 3, 1984, the NRC approved exemptions from certain requirements of 10 CFR 50.54(o) and 10 CFR 50, Appendix J for the MNGP (Reference 3). One exemption allowed for reduced pressure testing of the drywell personnel airlock at specified intervals when the airlock was in frequent use, and primary containment integrity was required, rather than testing at full accident pressure. The exemption allowed reduced pressure leakage testing to be performed by pressurizing the airlock barrel between the inner and outer drywell airlock doors. The reduced pressure testing acceptance criterion was added to the MNGP TS in November, 1987 by Amendment No. 55 (Reference 4). Custom TS Limiting Condition for Operation (LCO) statement

3.7.A.2.c.2 was revised to require that the primary containment airlock shall be operable with:

> An overall airlock leakage rate of less than or equal to 0.05 L_a at P_a or 0.007 L_a at 10 psig.

The exemptions were noted in the custom TS Section 4.7 Bases for MNGP. The custom TS Section 4.7 Bases stated:

> The Monticello airlock is tested by pressurizing the space between the inner and outer doors. Individual door seal leakage tests cannot be performed. Since the inner door is designed to seat with containment pressure forcing the door closed, special bracing must be installed for each leakage test.

On April 25, 2002[1], NSPM submitted a license amendment request to revise the MNGP custom TS to allow the use of 10 CFR 50, Appendix J, Option B, for Type B and C containment leakage rate testing (Reference 5). The drywell personnel airlock leakage rate testing acceptance criteria proposed in custom TS Specification 6.8.M, "Primary Containment Leakage Rate Testing Program," was established following the guidance for the Option B format specified in NUREG-1433, "Standard Technical Specifications General Electric Plants, BWR/4," Revision 2, dated April 2001 (Reference 6).

The custom TS Specification 3.7 LCO statement, 3.7.A.2.c.2, was proposed to be relocated to the "Programs and Manuals" section of the custom TS as part of a new Section 6.8.M, "Primary Containment Leakage Rate Testing Program." Custom TS LCO statement 3.7.A.2.c.2 had stated that the primary containment airlock shall be operable with:

> An overall airlock leakage rate of less than or equal to 0.05 L_a at P_a or 0.007 L_a at 10 psig.

The item that the acceptance criteria applied to, the drywell airlock, was incorrectly translated from custom TS LCO statement 3.7.A.2.c.2 to Specification 6.8.M.4.b, for drywell personnel airlock leakage testing with the adoption of 10 CFR 50, Appendix J, Option B. The reduced pressure testing allowance for testing the drywell airlock at specified intervals when in frequent use was incorrectly translated into a testing requirement in Specification 6.8.M.4.b, that applied to the airlock doors, as further described below.

1) Overall air leakage rate is $\leq 0.05\ L_a$ when tested at $\geq P_a$.

2) For each door, leakage rate is $\leq 0.007\ L_a$ when pressurized to $\geq$ 10 psig.

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1. The license amendment request was erroneously dated April 25, 2001 and subsequently corrected by letter to the NRC dated May 30, 2002.

On February 4, 2003, Amendment No. 132 was issued by the NRC to incorporate the requirements for Appendix J, Option B, Type B and C containment leakage rate testing (Reference 7) into the MNGP custom TS. Comparing custom TS LCO statement 3.7.A.2.c.2 to the wording translated to custom TS Specification 6.8.M.4.b (which is based on the NUREG-1433 presentation), the revised wording inadvertently introduced the concept that reduced pressure testing applied to the drywell personnel airlock doors rather than to the overall airlock as previously specified.

The conversion from the MNGP custom TS to the improved standard TS format then relocated the Specification 6.8.M.4.b (custom TS) for drywell personnel airlock leakage rate acceptance criteria into improved TS Specification 5.5.11.d.2.

As previously discussed, the configuration of the drywell personnel airlock used at MNGP does not provide the capability to test the individual door seals. There is only one seal per airlock door. Also, the inner airlock door is designed to seat with containment pressure pressing the door closed, so special bracing must be installed for each leakage test. The wording of improved TS Specification 5.5.11.d.2.b creates confusion because it implies that an individual airlock door can be tested at a reduced pressure, when this is not possible, because the door design does not include dual seals. Leakage rate testing can only be accomplished by testing the overall airlock (barrel test).

Reduced pressure airlock door testing while useful to many plants, is not useful to NSPM for MNGP, due to the considerations discussed above. NSPM implicitly tests the MNGP airlock doors as part of the overall drywell airlock leakage rate test. A review of past test performances indicates that from the time Amendment No. 132 was approved, i.e., February 4, 2003, overall drywell airlock leakage testing at $\geq P_a$ in accordance with improved TS Specification 5.5.11.d.2.a has always been performed. Overall drywell airlock leakage rate testing in accordance with improved TS Specification 5.5.11.d.2.a is the practice at the plant.

Therefore, this license amendment request proposes to remove improved TS Specification 5.5.11.d.2.b in its entirety.

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Consideration Determination

In accordance with the requirements of 10 CFR 50.90, the Northern States Power Company – Minnesota (NSPM) requests an amendment to revise the Monticello Nuclear Generating Plant (MNGP) Technical Specifications (TSs). The proposed change will remove Specification 5.5.11.d.2.b, for periodic testing of each drywell airlock door at a reduced pressure in accordance with the requirements of 10 CFR 50, Appendix J, Option B.

NSPM has evaluated the proposed change in accordance with 10 CFR 50.91 against the standards in 10 CFR 50.92 and has determined that operation of the MNGP in accordance with the proposed amendment presents no significant hazards consideration. NSPM's evaluation against each of the criteria in 10 CFR 50.92 follows.

1. **Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?**

   Response: No.

   The proposed change removes the TS allowance to test the leakage rate of the drywell personnel airlock doors at a reduced pressure. However, overall airlock leakage rate testing will continue to be performed in accordance with Option B of 10 CFR 50, Appendix J. Removal of this capability does not affect nor is it a precursor for an accident or transient analyzed in MNGP Updated Safety Analysis Report. The proposed change does not change the total allowable primary containment leakage rate nor does it involve a change to the physical design and operation of the plant.

   Therefore, operation of the facility, in accordance with the proposed change, does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. **Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?**

   Response: No

   The proposed change removes the TS allowance to test the leakage rate of the drywell personnel airlock doors at a reduced pressure. However, overall airlock leakage rate testing will continue to be performed in accordance with Option B to 10 CFR 50, Appendix J. The change being proposed will not change the physical plant or the modes of operation defined in the facility license. The proposed change does not increase the total allowable primary containment leakage rate. The change does not involve the addition or modification of equipment, nor does it alter the design or operation of plant systems.

   Therefore, operation of the facility in accordance with the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No

The proposed change removes the TS allowance to test the leakage rate of the drywell personnel airlock doors at a reduced pressure. However, overall airlock leakage rate testing will continue to be performed in accordance with Option B to 10 CFR 50, Appendix J. The proposed change does not affect plant safety analyses or change the physical design or operation of the plant. The proposed change does not increase the total allowable primary containment leakage rate.

Therefore, operation of the facility, in accordance with the proposed change, does not involve a significant reduction in the margin of safety.

Based on the above, the NSPM has determined that operation of the facility in accordance with the proposed change does not involve a significant hazards consideration as defined in 10 CFR 50.92(c), in that it does not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

5.2 Applicable Regulatory Requirements

10 CFR50.54(o)

(o) Primary reactor containments for water cooled power reactors, other than facilities for which the certifications required under §§ 50.82(a)(1) or 52.110(a)(1) of this chapter have been submitted, shall be subject to the requirements set forth in appendix J to this part.

10 CFR 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors"

The primary containment leakage rate test requirements follow Option B of 10 CFR 50, Appendix J. These test requirements ensure that (a) leakage through the containments or systems and components penetrating the containments does not exceed allowable leakage rates specified in the technical specifications; and (b) integrity of the containment structure is maintained during its service life. Option B of Appendix J identifies the performance-based requirements and criteria for preoperational and subsequent periodic leakage-rate testing.

The Primary Containment Leakage Rate Testing Program provided in MNGP Specification 5.5.11 satisfies the guidelines contained in NRC Regulatory Guide 1.163, with the exceptions as indicated.

USAR Section 5.2.4.2

USAR Section 5.2.4.2 states:

> This test may be conducted at a minimum of 10 psig to assure that the airlock door seal integrity is maintained if a test at a minimum pressure of 42 psig was conducted within the last thirty months.

USAR Section 5.2.4.2 is consistent with the NRC exemption that allowed reduced pressure testing of the drywell personnel airlock. USAR Section 5.2.4.2 will be revised to reflect the proposed change to Specification 5.5.11 upon NRC approval.

NSPM has evaluated the proposed changes against the applicable regulatory requirements and acceptance criteria. The proposed TS changes will continue to assure that the regulatory requirements and acceptance criteria for MNGP are met. Based on this review, there is reasonable assurance that the health and safety of the public, following approval of this change, is unaffected.

6.0 ENVIRONMENTAL EVALUATION

The proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR Part 20, and would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

7.0 REFERENCES

1. NRC Regulatory Guide (RG) 1.163, "Performance-Based Containment Leak-Test Program," dated September, 1995.

2. Nuclear Energy Institute (NEI) 94-01, Revision 0, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," dated July 21, 1995.

3. Letter from D. G. Eisenhut, Director, Division of Licensing, USNRC, to D. M. Musolf, "Safety Evaluation by the Office of NRR, Appendix J Review," dated June 3, 1984.

4. NRC Amendment No. 55, Letter from NRC to Northern States Power Company, [Changes to Primary Containment Technical Specifications], dated November 25, 1987.

5. Nuclear Management Company, LLC to NRC, "License Amendment Request for Conversion to Option B for Containment Leak Rate testing," dated April 25, 2002 (ADAMs Accession No. ML021280504)

6. NUREG-1433, "Standard Technical Specifications General Electric Plants, BWR/4," Revision 2 dated April 2001.

7. NRC to Nuclear Management Company, LLC., "Monticello Nuclear Generating Plant – Issuance of Amendment Re: License Amendment Request for Conversion to Option B for Containment Leak Rate Testing (TAC No. MB4975)," dated February 4, 2003 (ADAMs Accession No. ML023300295).

ENCLOSURE 2

MONTICELLO NUCLEAR GENERATING PLANT

LICENSE AMENDMENT REQUEST

REVISION OF TECHNICAL SPECIFICATION 5.5.11 FOR DRYWELL PERSONNEL AIRLOCK LEAKAGE RATE TESTING

MARKED-UP TECHNICAL SPECIFICATION PAGE

(1 page follows)

5.5 Programs and Manuals

5.5.11 Primary Containment Leakage Rate Testing Program (continued)

d. Leakage rate acceptance criteria are:

1. Containment leakage rate acceptance criterion is $\leq 1.0\ L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $< 0.60\ L_a$ for the Type B and C tests and $\leq 0.75\ L_a$ for Type A tests.

2. Air lock testing acceptance ~~criteria are~~ criterion is an overall

~~a) Overall~~ air lock leakage rate ~~is~~ of $\leq 0.05\ L_a$ when tested at $\geq P_a$.

~~b) For each door, leakage rate is $\leq 0.007\ L_a$ when pressurized to ≥ 10 psig.~~

e. The resilient seals of each 18 inch primary containment purge and vent valve shall be replaced at least once every 9 years. The provisions of SR 3.0.2 are applicable to this requirement. If a common mode failure attributable to the resilient seals is identified based on the results of SR 3.6.1.3.11, the resilient seals of all 18 inch primary containment purge and vent valves shall be replaced.

f. The provisions of SR 3.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

5.5.12 Battery Monitoring and Maintenance Program

This Program provides for battery restoration and maintenance, based on the recommendations of IEEE Standard 450-1995, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications," or of the battery manufacturer of the following:

a. Actions to restore battery cells with float voltage < 2.13 V; and

b. Actions to equalize and test battery cells that had been discovered with electrolyte level below the minimum established design limit.