Xcel Energy®

2807 West County Road 75
Monticello, MN 55362

March 18, 2022

L-MT-22-010
10 CFR 50.90

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

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

License Amendment Request to Revise Technical Specification 3.6.1.8 Residual Heat Removal (RHR) Drywell Spray Header and Nozzle Surveillance Frequency

In accordance with the provisions of 10 CFR 50.90, Northern States Power Company, a Minnesota corporation, doing business as Xcel Energy (hereafter "NSPM"), hereby requests a revision to the Technical Specifications (TS) for the Monticello Nuclear Generating Plant (MNGP). The proposed change would modify the frequency of TS Surveillance Requirement (SR) 3.6.1.8.2 for drywell spray nozzles to an event-based frequency, specifically, change the frequency from "10 years" to "Following maintenance that could result in nozzle blockage".

The Enclosure provides NSPM's evaluation of the proposed change. Attachment 1 to the Enclosure provides marked-up existing MNGP TS pages. Attachment 2 to the Enclosure provides the existing MNGP TS pages retyped. Attachment 3 to the Enclosure provides existing TS Bases pages marked up to show the proposed changes, which are provided for information only.

NSPM has evaluated the proposed changes in this License Amendment Request in accordance with 10 CFR 50.92 and concluded that they involve no significant hazards consideration. In accordance with 10 CFR 50.91(b)(1), "Notice for Public Comment; State Consultation," a copy of this application, with attachments, is being provided to the designated Minnesota Official.

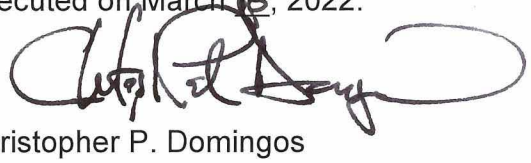
NSPM requests approval of the proposed license amendment by March 31, 2023, with an implementation period of 30 days. An airflow test is scheduled to be performed during the 2023 RFO 31 refueling outage to comply with the current TS SR 3.6.1.8.2 frequency.

If there are any questions or if additional information is required, please contact Mr. Ron Jacobson at (612) 330-6542 or ronald.g.jacobson@xcelenergy.com.

Summary of Commitments

This letter makes no new commitments and no revisions to existing commitments.

I declare under penalty of perjury, that the foregoing is true and correct.
Executed on March 18, 2022.



Christopher P. Domingos
Site Vice President, Monticello and Prairie Island Nuclear Generating Plants
Northern States Power Company – Minnesota

Enclosure

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

ENCLOSURE

MONTICELLO NUCLEAR GENERATING PLANT

EVALUATION OF PROPOSED CHANGE

License Amendment Request

Revise Technical Specification 3.6.1.8 Residual Heat Removal (RHR) Drywell Spray Header and Nozzle Surveillance Frequency

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ATTACHMENTS:

1. Technical Specification Pages (Marked Up)
2. Technical Specification Pages (Retyped)
3. Technical Specification Bases Pages (Marked Up, For Information Only)

License Amendment Request

Revise Technical Specification 3.6.1.8 Residual Heat Removal (RHR) Drywell Spray Header and Nozzle Surveillance Frequency

1.0 SUMMARY DESCRIPTION

In accordance with the provisions of 10 CFR 50.90, Northern States Power Company, a Minnesota corporation, doing business as Xcel Energy (hereafter "NSPM"), hereby requests a revision to the Technical Specifications (TS) for the Monticello Nuclear Generating Plant (MNGP). The proposed change would modify the frequency of TS Surveillance Requirement (SR) 3.6.1.8.2 for drywell spray nozzles to an event-based frequency, specifically, change the frequency from "10 years" to "Following maintenance that could result in nozzle blockage".

2.0 DETAILED DESCRIPTION

2.1 System Design and Operation

The primary containment system, which employs a pressure suppression containment system (constructed of steel), houses the reactor primary vessel, the reactor coolant recirculation system loops, and other branch connections of the reactor primary system. The system consists of a drywell, a pressure suppression chamber (wetwell) that stores a large volume of water, a connecting vent system between the drywell and the chamber water pool, isolation valves, ventilating and cooling systems, and other service equipment.

In the event of a process system piping failure within the drywell, reactor water and steam would be released into the drywell air space. The resulting increased drywell pressure then forces a mixture of non-condensable gases, steam, and water through the vents into the pool of stored water in the suppression chamber. The steam condenses rapidly and completely in the suppression pool, resulting in rapid pressure reduction in the drywell.

Following a design basis accident (DBA), the RHR drywell spray system condenses any steam that may exist in the drywell thereby lowering drywell pressure and temperature. The RHR drywell spray mode of operation is not credited in the DBA loss of coolant accident (LOCA); however, it is credited for the evaluation of steam line breaks inside the drywell. For these events, the RHR drywell spray system will ensure that the drywell air temperature is within the peak drywell air temperature limit of 338°F specified for the drywell temperature envelope for equipment qualification and will also ensure that the drywell wall temperature is within the design limit of 281°F.

Each of the two RHR drywell spray subsystems contains two pumps and one heat exchanger, which are manually initiated and independently controlled. The two subsystems perform the drywell spray function by circulating water from the suppression pool through the RHR heat exchangers and returning most of it to the associated drywell spray header. RHR service water, circulating through the tube side of the heat exchangers, exchanges heat with the suppression pool water and discharges this heat to the ultimate heat sink. Either RHR drywell spray subsystem is sufficient to condense the steam that may exist in the drywell during the postulated DBA.

The MNGP design includes keeping the section of piping between the two drywell spray isolation valves voided (part of containment spray function). The emergency operating procedures that manually initiate containment spray direct the RHR pump(s) to be started, the outboard valve opened, then the inboard valve opened.

In the event of a DBA, a minimum of one RHR drywell spray subsystem is required to mitigate the consequences of steam line breaks in the drywell and maintain the primary containment peak temperature below the design limits. To ensure that these requirements are met, two RHR drywell spray subsystems must be OPERABLE with power from two safety related independent power supplies.

2.2 Current Technical Specifications Requirements

3.6.1.8 Residual Heat Removal (RHR) Drywell Spray

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.1.8.2	Verify each drywell spray header and nozzle is unobstructed.	10 years

2.3 Reason for Proposed Change

The proposed change will eliminate unnecessary testing of the spray nozzles. The design of the RHR drywell spray system and cleanliness controls used during maintenance activities ensure that line or nozzle blockage is unlikely. Performance of SR 3.6.1.8.2 at the current frequency has the potential to result in unwarranted occupational radiation exposure and increased outage costs without a commensurate increase in system reliability or performance. Testing would be performed based on activities or conditions that could potentially cause nozzle blockage.

Industry experience has shown that nozzle blockage is unlikely since the nozzles are a passive design and the system is kept in a normally dry state. The proposed frequency

will continue to provide confidence that an unobstructed flow path is available and will preclude the need for unnecessary testing when no activities have occurred that would introduce debris into the headers and no active degradation mechanism is present. Performance of the air flow test presents a personnel safety risk for the individual(s) required to access the upper portions of the drywell to check the nozzle air flow. Testing at the proposed frequency would reduce outage dose and improve personnel safety.

2.4 Description of the Proposed Change

The proposed license amendment would revise the surveillance frequency for testing the drywell spray nozzles. Specifically, TS SR 3.6.1.8.2 frequency would be changed from "10 years" to "Following maintenance that could result in nozzle blockage".

Attachment 1 to the Enclosure provides marked-up existing MNGP TS pages. Attachment 2 to the Enclosure provides the existing MNGP TS pages retyped. Attachment 3 to the Enclosure provides existing TS Bases pages marked up to show the proposed changes, which are provided for information only and will be processed in accordance with the MNGP Technical Specifications Bases Control Program (TS Section 5.5.9).

3.0 TECHNICAL EVALUATION

3.1 System Description

The 1-1/2" diameter MNGP drywell spray nozzles were manufactured by Spraying Systems Co. Type 7G FOG JET NO. 1 1/2-7G 40, and have multiple holes for spray. The upper spray header contains 105 brass spray nozzles and the lower spray header contains 104 spray nozzles. Spray header piping and fittings are carbon steel.

The drywell spray system is normally kept dry, isolated from the RHR system by two motor-operated isolation valves in series in each loop, located outside of the drywell.

The Foreign Material Exclusion and Control (FME) program, developed using industry guidance and operating experience documents, is in place to prevent the introduction of foreign material into the drywell spray system. When maintenance or repairs are performed on the drywell spray system or on other connected systems that could result in obstruction of the spray nozzles, the FME program ensures that system cleanliness is maintained. Program procedures include criteria for establishing FME areas, steps to take if FME control is lost, and guidance for foreign material retrieval. FME areas are clearly marked and material accountability is assured through logs and securing of loose items and tools. FME barriers and covers are used except when performing necessary operations. The FME controls require post maintenance verification of system cleanliness and freedom from foreign materials.

Depending on the activity, work planning and preparation may be performed at various times, such as during the maintenance work management process, during procedure writing, during modification design, or as part of preparation for a pre-job briefing. In each case, the planning phase identifies how different activities, components, systems, and areas of the plant may be affected by different types of foreign material and, therefore, what FME controls are required.

If any material is unaccounted for in an FME area or a general FME concern is observed, a condition report is initiated in the corrective action program which would provide for a determination of the scope of the issue, the actions necessary to return the area to the required level of cleanliness, and whether testing is necessary. Should it be determined that an activity or event could have resulted in the potential for nozzle blockage, various methods could be used to perform the surveillance (e.g., an air flow test or visual inspections of nozzle and piping interiors.) The appropriate method used to complete the surveillance would be determined based on an analysis of the potential foreign material and its location. A visual inspection (e.g., borescope) of the nozzles or piping could be used in lieu of an air test if a visual inspection is determined to provide an equivalent or more effective post-maintenance test. A visual inspection may be more effective if the potential for material intrusion is localized and the affected area is accessible.

3.2 Basis for Proposed Change

Nozzle blockage is considered unlikely since the nozzles are of a passive design and the system is kept in a normally dry state. The proposed frequency will continue to provide confidence that an unobstructed flow path is available and will preclude the need for unnecessary testing when no activities have occurred that would introduce debris to the headers or when no other active degradation mechanism is present.

Previous testing has verified that the nozzles are not blocked. Air flow testing and visual inspections of the MNGP drywell spray nozzles were performed in 1980, 1984, 1989, 2001, and 2013. If conditions were favorable for corrosion to form, it is expected that some nozzle blockage or abnormalities would have been discovered. No nozzle blockage nor other abnormalities were identified by these tests.

The current FME program requires that any breaches of system boundaries during maintenance activities be appropriately protected from the intrusion of foreign material. The FME program provides guidelines that establish cleanliness requirements and accounting of material, tools, and parts to preclude the introduction of foreign materials into systems or components during maintenance, modification, test, or inspection activities. The program demands the highest level of controls for safety related systems such as the containment spray system. The program requires supervision and management involvement if FME integrity is lost or could not be assured and that a condition report be written if an item cannot be found or retrieved. These controls are sufficient to ensure that material is not inadvertently introduced.

A review of the maintenance history since the last (2013) MNGP surveillance test to date indicates no maintenance has been performed on the drywell spray piping or nozzles. Maintenance on other portions of the RHR system which connect to the drywell spray portion of the system has included routine periodic activities. Cleanliness control practices, including post work inspections, were used and documented in the work orders to ensure cleanliness requirements were maintained. FME control has not been lost for these activities. One instance of corrective maintenance was conducted on the internals of MO-2020, one of the two RHR outboard drywell spray isolation valves: in 2021 the valve disc and stem were replaced. FME control was maintained. Additionally, the drywell spray nozzles are located high in containment with nozzles orifices oriented in the downward direction and thus are not subject to foreign material entry.

Normal plant operation and maintenance practices at MNGP are not expected to trigger the surveillance requirement as proposed. Only an unanticipated circumstance would initiate this surveillance, such as an inadvertent spray actuation, a major configuration change, or a loss of foreign material control when working within the affected boundary of the system. MNGP procedures will require performance of an evaluation to determine whether a containment spray nozzle test would be required to ensure the nozzles remain unobstructed.

Review of industry experience indicates that containment spray systems of similar design are highly reliable (not subject to plugging). At least four boiling water reactors (BWRs) were previously approved this requested surveillance frequency, and at least seventeen pressurized water reactors (PWRs) were previously approved the same surveillance frequency for their containment spray systems (see section 4.2)

4.0 REGULATORY ANALYSIS

4.1 Applicable Regulatory Requirements / Criteria

1. Title 10 Code of Federal Regulations 50.36, "Technical specifications":

   10 CFR 50.36(c)(2)(ii), Criterion 3, stipulates the following:
   "...structure, system, or component that is part of the primary success path and which functions or actuates 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."

2. General Design Criteria (GDC)

MNGP was designed largely before the publishing of the 70 GDC for Nuclear Power Plant Construction Permits proposed by the Atomic Energy Commission (AEC) for public comment in July 1967, and constructed prior to the 1971 publication of the 10 CFR 50, Appendix A, GDC. As such, MNGP was not licensed to the Appendix A, GDC.

The MNGP Updated Safety Analysis Report (USAR), Section 1.2, lists the Principal Design Criteria (PDC) for the design, construction, and operation of the plant. MNGP USAR Appendix E provides a plant comparative evaluation to the 70 proposed AEC design criteria. It was concluded that the plant conforms to the intent of the GDC.

The applicable AEC GDC are:

> Criterion 58 - Inspection of Containment Pressure-Reducing System (Category A). Design provisions shall be made to facilitate the periodic physical inspection of all important components of the containment pressure-reducing systems, such as, pumps, valves, spray nozzles, torus, and sumps.
>
> Criterion 60 - Testing of Containment Spray Systems (Category A)
> A capability shall be provided to test periodically the delivery capability of the containment spray system at a position as close to the spray nozzle as is practical.

NSPM has evaluated the proposed change against the applicable regulatory requirements and acceptance criteria. The technical analysis concludes that the proposed TS changes will continue to assure that the design requirements and acceptance criteria for MNGP are met. Based on the considerations discussed above, (i) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (ii) such activities will be conducted in compliance with the Commission's regulations, and (iii) the approval of the proposed change will not be inimical to the common defense and security or to the health and safety of the public.

4.2 Precedent

1. Prairie Island Nuclear Generating Plant, dated November 6, 2008 (Reference 1)

2. Nine Mile Point Nuclear Station, dated February 11, 2008 (Reference 2)

3. Arkansas Nuclear One, dated July 2, 2007 (Reference 3)

4. R. E. Ginna Nuclear Power Plant, dated July 31, 2006 (Reference 4)

5. Comanche Peak Steam Electric Station, dated September 23, 2005 (Reference 5)

6. Vermont Yankee Nuclear Power Station, dated September 20, 2005 (Reference 6)

7. Crystal River, dated August 4, 2005 (Reference 7)

8. Millstone Power Station, dated May 31, 2005 (Reference 8)

9. Pilgrim Nuclear Power Station, dated April 12, 2005 (Reference 9)

10. Calvert Cliffs Nuclear Power Plant, dated April 8, 2004 (Reference 10)

11. Byron Station, dated September 22, 2003 (Reference 11)

12. South Texas Project, dated August 20, 2003 (Reference 12)

13. Beaver Valley Power Station, dated February 24, 2003 (Reference 13)

14. Palisades Plant, dated February 24, 2003 (Reference 14)

15. Braidwood Station, dated February 20, 2003 (Reference 15)

16. Surry, dated December 10, 2002 (Reference 16)

17. Salem Nuclear Generating Station, dated October 10, 2002 (Reference 17)

18. North Anna Power Station, dated October 1, 2002 (Reference 18)

19. H. B. Robinson Steam Electric Plant, dated September 19, 2002 (Reference 19)

20. Clinton Power Station, dated March 28, 2002 (Reference 20)

21. Perry Nuclear Power Plant, dated June 29, 2000 (Reference 21)

4.3 No Significant Hazards Consideration Determination

In accordance with the provisions of 10 CFR 50.90, Northern States Power Company, a Minnesota corporation, doing business as Xcel Energy (hereafter "NSPM"), hereby requests a revision to the Technical Specifications (TS) for the Monticello Nuclear Generating Plant (MNGP). The proposed change would modify the frequency of TS Surveillance Requirement (SR) 3.6.1.8.2 for drywell spray nozzles to an event-based frequency, specifically, change the frequency from "10 years" to "Following maintenance that could result in nozzle blockage".

NSPM has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

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

   Response: No.

   The proposed change modifies the surveillance requirement (SR) to verify that the drywell spray nozzles are unobstructed after maintenance that could introduce material that could result in nozzle blockage. The spray nozzles are not assumed to be initiators of any previously analyzed accident. Therefore, the proposed change does not increase the probability of any accident previously evaluated. The spray nozzles are used in the accident analyses to mitigate design basis accidents. The revised SR frequency does not affect the ability of the drywell spray system to perform its function. Since the system will still be able to perform its accident mitigation function, the consequences of accidents previously evaluated are not increased.

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

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

   Response: No.

   The proposed change revises the frequency for performance of the SR to verify that the RHR drywell spray system nozzles are unobstructed. The frequency is changed from every 10 years to following maintenance that could result in nozzle blockage. The change does not introduce a new mode of plant operation and does not involve physical modification to the plant. The change will not introduce new accident initiators or impact the assumptions made in the safety analysis.

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

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

   Response: No.

   The proposed change revises the frequency for performance of the SR to verify that the RHR drywell spray system nozzles are unobstructed. The frequency is changed from every 10 years to following maintenance that could result in nozzle blockage. The change in SR frequency does not alter a design basis or safety limit.

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

4.4 Conclusions

In conclusion, based on the considerations discussed above, (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.

5.0 ENVIRONMENTAL CONSIDERATION

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 20, or 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.

6.0 REFERENCES

1. Letter from NRC to Michael D. Wadley, Prairie Island Nuclear Generating Plant, "Prairie Island Nuclear Generating Plant, Units 1 and 2 - Issuance of Amendments Re: License Amendment to Revise Containment Spray Nozzle Surveillance Requirements (TAC Nos. MD7362 and MD7363)," dated November 6, 2008 (ADAMS Accession Number ML082740226)

2. Letter from the NRC to Keith J. Polson, "Nine Mile Point Nuclear Station, Unit No. 2 - Issuance of Amendment Re: Revision to Drywell Spray Nozzle Testing Frequency (TAC No. MD6280)," dated February 11, 2008 (ADAMS Accession Numbers ML080170139 and ML0800520616)

3. Letter from NRC to Timothy G. Mitchell, "Arkansas Nuclear One, Unit No. 2 - Issuance of Amendment Re: Containment Spray Nozzle Technical Specifications Test Requirements (TAC No. MD4835)," dated July 2, 2007 (ADAMS Accession Numbers ML071550004 and M071550003)
4. Letter from NRC to Mary G. Korsnick, "R. E. Ginna Nuclear Power Plant - Amendment Re: Containment Spray Nozzle Testing Frequency (TAC No. MC9004)," dated July 31, 2006 (ADAMS Accession Numbers ML 061980055 and ML062140525)

5. Letter from NRC to M. R. Blevins, "Comanche Peak Steam Electric Station, Units I and 2 - Issuance of Amendments Re: Containment Spray System Surveillance Requirements for Spray Nozzles. (TAC Nos. MC4314 and MC 4315)," dated September 23, 2005 (ADAMS Accession Numbers ML052510487 and ML052760047)

6. Letter from NRC to Michael Kansler, "Vermont Yankee Nuclear Power Station - Issuance of Amendment Re: Drywell Spray Header and Nozzle Air Test Frequency (TAC No. MC4603)," dated September 20, 2005 (ADAMS Accession Numbers ML052360002 and ML052640090)

7. Letter from NRC to Mr. Dale E. Young, "Crystal River Unit 3 - Issuance of Amendment Regarding Reactor Building Spray Nozzles Surveillance (TAC No. MC4878)," dated August 4, 2005 (ADAMS Accession Numbers ML052160348 and ML051710381)

8. Letter from NRC to Mr. David A. Christian, "Millstone Power Station, Unit 3 - Issuance of Amendment Re: Quench Spray and Recirculation Spray Nozzle Surveillance (TAC No. MC4743)," dated May 31, 2005 (ADAMS Accession Numbers ML050670028 and ML051520344)

9. Letter from NRC to Mr. Michael Kansler, "Pilgrim Nuclear Power Station- Issuance of Amendment Re: Revision to Surveillance requirement Frequency for containment and suppression Pool Spray Headers and Nozzles (TAC No. MC4311)," dated April 12, 2005 (ADAMS Accession Numbers ML050810006 and ML051040032)

10. Letter from NRC to Mr. George Vanderheyden, "Calvert Cliffs Nuclear Power Plant, Units 1 and 2 - Amendment Re: Changes to the Testing Requirements for Containment Spray Nozzles (TAC Nos. MC0030 and MC0031)," dated April 8, 2004 (ADAMS Accession Numbers ML040720077 and ML041050324)

11. Letter from NRC to Mr. John L. Skolds, "Byron Station, Units 1 and 2, Issuance of Amendments (TAC Nos. MB4853 and MB4854)," dated September 22, 2003 (ADAMS Accession Numbers ML032470096 and ML032691315)

12. Letter from NRC to Mr. James J. Sheppard, "South Texas Project, Units I and 2 - Issuance of Amendments Re: Revision to Surveillance Requirement 3/4.6.2, 'Depressurization and Cooling Systems' (TAC Nos. MB9100 and MB9101)," dated August 20, 2003 (ADAMS Accession Number ML032340230)

13. Letter from NRC to Mr. Mark B. Bezilla, "Beaver Valley Power Station, Unit Nos. 1 and 2 - Issuance of Amendments Re: Containment Spray Nozzle Surveillance Requirements (TAC Nos. MB5850 and MB5851)," dated February 24, 2003 (ADAMS Accession Numbers ML030560174, ML030580349, and ML030580356)

14. Letter from NRC to Mr. Douglas E. Cooper, "Palisades Plant - Issuance of Amendment Re: Containment Spray Nozzles (TAC No. MB4283)," dated February 24, 2003 (ADAMS Accession Numbers ML030410045 and ML030580571)

15. Letter from NRC to Mr. John L. Skolds, "Braidwood Station, Units 1 and 2 -Issuance of Amendments (TAC Nos. MB4851 and MB4852)," dated February 20, 2003 (ADAMS Accession Numbers ML022880956 and ML030510344)

16. Letter from NRC to Mr. David A. Christian, "Surry Units 1 and 2 - Surveillance Frequency for the Containment Spray and Recirculation Spray Nozzles (TAC Nos. MB5114 and MB5115)," dated December 10, 2002 (ADAMS Accession Numbers ML0234600086 and ML023470135)

17. Letter from NRC to Mr. Harold W. Keiser, "Salem Nuclear Generating Station, Units Nos. 1 and 2, Issuance of Amendment Re: Containment Spray Nozzles (TAC Nos. MB5629 and MB5630)," dated October 10, 2002 (ADAMS Accession Numbers ML022460003 and ML022880064)

18. Letter from NRC to Mr. David A. Christian, "North Anna Power Station, Units 1 and 2 - Issuance of Amendments Re: Quench Spray and Recirculation Spray Nozzles Surveillance Frequency (TAC Nos. MB4270 and MB4271)," dated October 1, 2002 (ADAMS Accession Numbers ML022750134 and ML022760129)

19. Letter from NRC to Mr. J. W. Moyer, "H. B. Robinson Steam Electric Plant, Unit 2 - Issuance of Amendment - Technical Specification Change on Surveillance Requirement of Containment Vessel Spray Nozzle Testing Frequency (tac No. MB4248)," dated September 19, 2002 (ADAMS Accession Numbers ML02269068 and ML022660139)

20. Letter from NRC to Mr. Oliver D. Kingsley, "Clinton Power Station, Unit 1 - Issuance of Amendment (TAC No. MB2975)," dated March 28, 2002 (ADAMS Accession Numbers ML020570638 and ML02880505)

21. Letter from NRC to Mr. John K. Wood, "Perry Nuclear Power Plant, Unit 1 -Issuance of Amendment (TAC No. MA7136)," dated June 29, 2000 (ADAMS Accession Number ML003730258)

ENCLOSURE 1, ATTACHMENT 1

MONTICELLO NUCLEAR GENERATING PLANT, UNIT 1

License Amendment Request

Revise Technical Specification 3.6.1.8 Residual Heat Removal (RHR) Drywell Spray Header and Nozzle Surveillance Frequency

TECHNICAL SPECIFICATIONS PAGES (MARKUP)

(1 Page Follows)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.8.1	Verify each RHR drywell spray subsystem manual and power operated valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.8.2	Verify each drywell spray header and nozzle is unobstructed.	~~10 years~~ Following maintenance that could result in nozzle blockage
SR 3.6.1.8.3	Verify RHR drywell spray subsystem locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

ENCLOSURE 1, ATTACHMENT 2

MONTICELLO NUCLEAR GENERATING PLANT, UNIT 1

License Amendment Request

Revise Technical Specification 3.6.1.8 Residual Heat Removal (RHR) Drywell Spray Header and Nozzle Surveillance Frequency

TECHNICAL SPECIFICATIONS PAGES (RE-TYPED)

(1 Page Follows)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.8.1	Verify each RHR drywell spray subsystem manual and power operated valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.8.2	Verify each drywell spray header and nozzle is unobstructed.	Following maintenance that could result in nozzle blockage
SR 3.6.1.8.3	Verify RHR drywell spray subsystem locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

ENCLOSURE 1, ATTACHMENT 3

MONTICELLO NUCLEAR GENERATING PLANT, UNIT 1

License Amendment Request

Revise Technical Specification 3.6.1.8 Residual Heat Removal (RHR) Drywell Spray Header and Nozzle Surveillance Frequency

TECHNICAL SPECIFICATIONS BASES PAGES (MARKUP)

(For Information Only)

(2 Pages Follow)

BASES

ACTIONS (continued)

MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.1.8.1

Verifying the correct alignment for manual and power operated valves in the RHR drywell spray mode flow path provides assurance that the proper flow paths will exist for system operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since these valves were verified to be in the correct position prior to locking, sealing, or securing. A valve is also allowed to be in the nonaccident position provided it can be aligned to the accident position within the time assumed in the accident analysis. This is acceptable since the RHR drywell spray mode is manually initiated. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

following maintenance that could result in nozzle blockage

SR 3.6.1.8.2

This Surveillance is performed ~~every 10 years~~ to verify that the drywell spray nozzles are not obstructed and that spray flow will be provided when required. ~~The 10 year Frequency~~ is adequate to detect degradation in performance due to the passive nozzle design and has been shown to be acceptable through operating experience.

INSERT B1

SR 3.6.1.8.3

RHR Drywell Spray System piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the RHR drywell spray subsystems and may also prevent water hammer and pump cavitation.

INSERT B1

As an alternative, a visual inspection (e.g., borescope) of the nozzles or piping could be used in lieu of an air test if a visual inspection is determined to provide an equivalent or more effective post-maintenance test. A visual inspection may be more effective if the potential for material intrusion is localized and the affected area is accessible. Maintenance that could result in nozzle blockage would be those maintenance activities on the upper and lower drywell spray headers of the RHR system where the Foreign Material Exclusion program controls were deemed ineffective. For activities such as valve repair/replacement, a visual inspection would be the preferred post-maintenance test since small debris in a localized area is the most likely concern. An air test may be appropriate following an event where a large amount of debris potentially entered the system or water was actually discharged through the spray nozzles. The frequency