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Monticello Nuclear Generating Plant
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June 8, 2010

L-MT-10-033
10 CFR 50.55a

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

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

Subject: 10 CFR 50.55a Request No. VR-03: Extension of the Main Steam Safety Relief Valve Test Interval Through the Next Refueling Outage

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(i), Northern States Power Company – Minnesota (NSPM) requests U.S. Nuclear Regulatory Commission (NRC) authorization of an alternative to the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (ASME OM Code).

Specifically, NSPM requests NRC authorization for a one-time extension to the five year test interval for relief valves specified within the ASME OM Code to allow testing of five Main Steam System safety relief valves (SRVs) to be performed during the 2011 Refueling Outage and restore code compliance. These five SRVs have exceeded the five year test interval due to a misinterpretation of the ASME OM Code requirements. The basis for this proposed alternative provides an acceptable level of quality and safety.

As indicated within Section 7.0 of Enclosure 1, the NRC has authorized similar 10 CFR 50.55a requests for the Peach Bottom Atomic Power Station, Units 2 and 3; the Dresden Nuclear Power Station, Unit 2; the Nine Mile Point Nuclear Station, Unit 2; and the Susquehanna Steam Electric Station, Unit 1.

Authorization is requested to apply this alternative through the next refueling outage, currently scheduled to begin in March 2011.

The 10 CFR 50.55a request is described in Enclosure 1 to this letter.

If you have any questions or require additional information, please contact Mr. Richard Loeffler at (763) 295-1247.

NSPM requests authorization of this alternative by March 2011.

Summary of Commitments

- During the 2011 Refueling Outage, NSPM will remove and test Main Steam safety relief valves (SRVs) RV-2-71 A through D and RV-2-71 G. The removed valves will be replaced with recently tested SRVs.

Timothy J. O'Connor
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

10 CFR 50.55a REQUEST NO. VR-03

PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(a)(3)(i) WHICH PROVIDES AN ACCEPTABLE LEVEL OF QUALITY OR SAFETY

EXTENSION OF THE MAIN STEAM SAFETY RELIEF VALVE TEST INTERVAL THROUGH THE NEXT REFUELING OUTAGE

10 CFR 50.55a Request No. VR-03

Proposed Alternative In Accordance With 10 CFR 50.55a(a)(3)(i) Which Provides an Acceptable Level of Quality or Safety

Extension of Main Steam Safety Relief Valve Test Interval Through the Next Refueling Outage

1.0 ASME Code Component(s) Affected

Component ID	Code Class	Category	Description	ADS	LLS
RV-2-71 A	1	BC	Main Steam Safety/Relief Valve	Yes	---
RV-2-71 B	1	BC	Main Steam Safety/Relief Valve	---	---
RV-2-71 C	1	BC	Main Steam Safety/Relief Valve	Yes	---
RV-2-71 D	1	BC	Main Steam Safety/Relief Valve	Yes	---
RV-2-71 G	1	BC	Main Steam Safety/Relief Valve	---	Yes

The Safety/Relief Valves (SRVs) for the Main Steam System provide overpressure protection for the reactor coolant pressure boundary to prevent failure of the reactor vessel pressure boundary . Three of the five valves are associated with the Automatic Depressurization System (ADS). One of the five valves is associated with the Low-Low Set (LLS) function.

2.0 Applicable ASME Code Edition and Addenda

The Monticello Nuclear Generating Plant (MNGP) is currently in the fourth 10-year Inservice Test (IST) Program interval and is committed to the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (ASME OM Code), 1995 Edition through OMa-96 Addenda.

3.0 Applicable Code Requirement

ASME OM Code 1995 Edition through OMa-1996 Addenda, paragraph I-1.3.3(a), "Test Frequencies, Class 1 Pressure Relief Valves," states that "Class 1 pressure relief valves shall be tested at least once every 5 years". It also states that "a minimum of 20% of the valves from each valve group shall be tested within any 24 month interval. This 20% shall consist of valves that have not been tested during the current 5-year interval, if they exist. The test interval for any individual valve shall not exceed 5 years."

ASME OM Code Interpretation 01-18 (Reference 1) dated June 26, 2003, states that the five year test interval starts when the valves are tested.

4.0 Reason for Request

OM Code Appendix I, paragraph I-1.3.3(a) requires the Main Steam System SRVs to be tested every five years. Northern States Power – Minnesota (NSPM) has been applying an "installation-to-test" rather than a "test-to-test" duration. During a review of industry operating experience, a discrepancy was identified in how ASME OM Code Interpretation 01-18 was applied at MNGP. The code interpretation indicates that implementation of the test interval should be based upon a test-to-test duration. Contrary to this, the test interval used at MNGP has been based on an installation-to-test interval, which resulted in exceeding the maximum allowable interval of five years.

Utilizing the test-to-test interpretation, the five year test interval has expired for the five SRVs specified in Section 1.0 of this 10 CFR 50.55a request. Table 1 of Enclosure 2 indicates the dates on which the five year test interval expired for the affected SRVs (and will expire for the non-affected SRVs). For the five affected SRVs, designated RV-2-71A through D and RV-2-71G, the five year test interval expired between March 14, 2008 and June 28, 2009, depending on the particular valve.

The failure to meet Technical Specification (TS) Surveillance Requirement (SR) 3.4.3.1, to verify the safety function lift setpoints at the Inservice Testing Program specified frequency, has been treated as a missed surveillance in accordance with the provisions of SR 3.0.3. Implementing the provisions of SR 3.0.3, which allows continued operation of the unit provided that certain conditions are met, does not restore ASME OM Code compliance. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), NSPM requests a one-time authorization for an alternative to the requirements of the 1995 Edition, 1996 Addenda of the OM Code, Appendix I, paragraph I-1.3.3(a). The alternative would permit the test interval for the five affected SRVs to be extended until completion of the spring 2011 RFO. The basis for this proposed alternative provides an acceptable level of quality and safety.

The applicable TS for the main steam SRVs is Specification 3.4.3, "Safety/Relief Valves." MNGP is equipped with eight SRVs, seven of which are required to be OPERABLE in accordance with the Limiting Condition for Operation (LCO) of the specification. SR 3.4.3.1 requires verification of the safety function lift setpoint at a frequency "In accordance with the Inservice Testing Program."

Failure to complete testing within the specified frequency can be addressed in accordance with the provisions of SR 3.0.3, provided certain provisions are met. This SR allows compliance with the requirement to declare the LCO for the SRVs not met to be delayed, from the time of discovery, for up to 24 hours or up to the limit of the specified frequency, whichever is greater. For a delay period greater than 24 hours, a risk evaluation must be performed and the risk impact managed in accordance with 10 CFR 50.65(a)(4).

NSPM has performed a risk evaluation and determined that the effect of delaying the next test performance for these five SRVs, until the 2011 RFO, is well below the acceptability threshold of 1E- 06 for incremental conditional core damage probability (ICCDP). The spring 2011 RFO is the earliest opportunity to address this discrepancy and perform testing of the SRVs without requiring a forced shutdown. The testing history of the SRVs indicates that when tested at comparable durations, the SRVs continue to meet performance requirements. The valves lift at the prescribed as-found value, and did not exceed 3 percent of their set pressure in accordance with ASME OM Code and TS requirements. In accordance with the TS, it is permissible to delay completion of the testing for these five SRVs, until the 2011 RFO, before complying with the Required Actions of Specification 3.4.3.

Section 7, "Identification of Code Noncompliance," of NUREG-1482, Revision 1 (Reference 2), states, "If a licensee determines that the degraded or nonconforming condition relates to an ASME Code noncompliance and has not resulted in a known TS violation, the licensee' should follow the guidance in GL 91-18."[1] No TS violation occurred because the condition could be treated (as described previously) as a missed surveillance in accordance with the provisions of SR 3.0.3. To address this ASME OM Code noncompliance, as prescribed in Section 7.4.2 of the NRC Inspection Manual, Part 9900 (Reference 3), a change to the current licensing basis (CLB) is necessary to allow for the condition. Specifically,

> To resolve the degraded or nonconforming condition without restoring the affected SSC [system, structure or component] to its CLB [current licensing basis], a licensee may need to obtain an exemption from 10 CFR Part 50 in accordance with 10 CFR 50.12 or relief from a design code in accordance with 10 CFR 50.55a.

In this case, the nonconforming condition cannot be corrected. The five affected SRVs cannot be restored to compliance since the code requirement, a five year duration between tests, is exceeded. The only option to restore ASME OM Code

1. NRC Regulatory Issue Summary 2005-20 replaced Generic Letter 91-18 and provides the current guidance addressing degraded or non-conforming conditions.

compliance is to adopt an alternative where the test interval of the affected SRVs is extended through the 2011 refueling outage, if this can be determined acceptable, and meet this alternative to the code. The basis for this proposed alternative in accordance with 10 CFR 50.55a(3)(i) provides an acceptable level of quality and safety.

5.0 Proposed Alternative and Basis for Use

For the five main steam SRVs impacted, which includes RV-2-71A through D and RV-2-71G, NSPM proposes to extend the maximum test interval by varying amounts beyond the five year test interval. The proposed test interval will be from the date the SRV as-left safety actuation setpoint was last tested (see Table 1 in Enclosure 2) until the spring 2011 RFO. During the 2011 RFO, NSPM will remove and test main steam SRVs RV-2-71A through D and RV-2-71G. The removed valves will be replaced with recently tested SRVs.

Additionally, as required by the Appendix I, paragraph I-1.3.3(c), "Requirements for Testing Additional Valves," of the OM Code, if the as-found set-pressure of any SRV is found to be greater then 3 percent above the nameplate set-pressure, two additional SRVs from the same valve group will be tested. If the as-found set-pressure of any of these additional SRVs is found to be greater then 3 percent above the nameplate set-pressure, then all remaining SRVs of that same valve group shall be tested.

The basis for this request is as follows:

The SRV as-found set pressure test data for the past 12 years (1998 RFO to the present) is summarized in Table 2 within Enclosure 2. A review of this data, which comprises 22 data points, shows that the average setpoint deviation is minus 0.475 percent. This deviation is well within the requirement specified in SR 3.4.3.1 (and the Code) that the as-found lift setpoint be within plus or minus 3 percent. Within the population of 22 SRV lifts, the number of as-found setpoints within plus or minus 1 percent of the set pressure was 9. The number of as-found setpoints within plus or minus 2 percent of the set pressure was 18. All 22 as-found setpoints for these SRV lift tests were within the TS and ASME Code requirement of plus or minus 3 percent (OM Code, Appendix I, paragraph I-1.3.3(c)(1)). Since no lift results were greater than the Code tolerance of plus or minus 3 percent for the as-found setpoint tests, testing of additional SRVs was not required. This historical test data indicates that the SRV lift performance has continued to meet requirements.

A 24-month fuel cycle has been implemented at the MNGP. Each refueling outage, NSPM removes, inspects, and tests the required number of SRV assemblies in accordance with Code requirements and preventative maintenance practices.

Four of the eight Main Steam line SRVs pilot valves are removed and tested each refueling outage, such that all pilot valve assemblies are removed and are tested every two refueling outages. Any SRV that failed the as-found set pressure test is inspected to determine the cause and a corrective action request is initiated.

All adverse conditions are corrected and each SRV is then recertified for service through inspection and testing consistent with ASME OM Code-1996, Appendix I, paragraph I-3.3.1 requirements. After recertification testing, the SRVs are stored in controlled areas at the recertification vendor facility and at the MNGP.

The SRV as-found set pressure test data in Table 2 demonstrates that the current maintenance practices have been effective, and that pre-installation SRV storage has had no significant impact on SRV test results. No as-found setpoint test failure has been experienced during the time period encompassed by the data in Table 2. The historical data in Table 2 illustrates that SRVs that have exceeded five years between tests have demonstrated acceptable as-found setpoint test results.

Based on the above cited valve performance history, SRV maintenance and storage practices, there is continued assurance of valve operational readiness, as required by ASME OMa Code-1996, Appendix I, paragraph I-1.3.3(a), even given the requested one-time extension of the test interval as outlined in this request. Therefore, NSPM has concluded that the proposed alternative provides an acceptable level of quality and safety.

6.0 Duration of Proposed Alternative

The proposed alternative will be applied until completion of the spring 2011 RFO.

7.0 Precedent

The NRC has authorized similar 10 CFR 50.55a requests for the following nuclear power plants; Peach Bottom Atomic Power Station, Units 2 and 3 (Reference 4); the Dresden Nuclear Power Station, Unit 2 (Reference 5) ; the Nine Mile Point Nuclear Station, Unit 2 (Reference 6); and the Susquehanna Steam Electric Station, Unit 1 (Reference 7).

8.0 REFERENCES

1. ASME OM Code Interpretation 01-18, "ASME OM Code-1995 with ASME OMa Code-1996 Addenda, Appendix I, issued on June 26, 2003.

2. NUREG-1482, Revision 1, "Guidelines for Inservice Testing at Nuclear Power Plants, Final Report," date published: January 2005.

3. NRC Inspection Manual, Part 9900: "Technical Guidance, Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety, dated April 16, 2008.

4. Letter from H. Chemoff (USNRC) to C. Pardee (Exelon), "Peach Bottom Atomic Power Station, Units 2 and 3 – Requests for Relief Associated with the Fourth Inservice Testing Interval (TAC NOS. MD7461 and MD7462)," dated September 3, 2008. (Relief Request Number 01A-VRR-1)

5. Letter from R. Gibbs (USNRC) to C. Crane (Exelon), "Dresden Nuclear Power Station, Unit 2 – Request for Relief from ASME OM Code 5-Year Test Interval Requirements (TAC No. MD5959)," dated September 20, 2007. (Relief Request Number RV-02B).

6. Letter from N. L. Salgado (USNRC) to S. Belcher (NMPNS), "Nine Mile Point Nuclear Station, Unit 2 – Request for Alternative No. MSS-VR-02 Main Steam Safety Relief Valve Test Interval Extension (TAC No. ME2130)," dated September 23, 2009.

7. Letter from N. L. Salgado (USNRC) to T. S. Rausch (PPL), "Susquehanna Steam Electric Station, Unit 1 RE: Relief Requests RR-07 And RR-08 from the Requirements of the OM Code for Inservice Testing of Safety Relief Valves (TAC No. ME2629 and ME2888)," dated January 7, 2010.

ENCLOSURE 2

MONTICELLO NUCLEAR GENERATING PLANT

10 CFR 50.55a REQUEST NO. VR-03

PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(a)(3)(i) WHICH PROVIDES AN ACCEPTABLE LEVEL OF QUALITY OR SAFETY

EXTENSION OF THE MAIN STEAM SAFETY RELIEF VALVE TEST INTERVAL THROUGH THE NEXT REFUELING OUTAGE

TABLES OF CURRENTLY INSTALLED MAIN STEAM SRVS AND AS-FOUND TEST RESULTS

TABLE 1: CURRENTLY INSTALLED MAIN STEAM SRVS IN MONTICELLO UNIT 1

SRV Installation Position	Installed Valve Serial number	Design Safety Actuation Setpoint (psig)	"As Left" Safety Actuation Setpoint (Psig)	Date SRV "As-Left" Safety Actuation Setpoint Last Tested	Five Years from Test Date	Exceeds 5-Year Interval
A	170	1109	1101	5/30/2003	5/30/2008	Yes
B	177	1109	1100	3/14/2003	3/14/2008	Yes
C	169	1109	1104	6/28/2004	6/28/2009	Yes
D	7	1109	1111	6/25/2004	6/25/2009	Yes
E	5	1109	1106	1/18/2007	1/18/2012	No
F	197	1109	1106	12/7/2008	12/7/2013	No
G	6	1109	1098	6/26/2004	6/26/2009	Yes
H	208	1109	1107	11/23/2008	11/23/2013	No

TABLE 2: SRV AS-FOUND TEST RESULTS SINCE 1998

Serial Number	Date Tested	Set Pressure (psig)	Test Pressure (psig)	Deviation (psig)	Percent Deviation
4	4/2/1998	1109	1109	0	0.00
5	3/22/2005	1109	1091	-18	-1.62
6	5/5/2003	1109	1114	5	0.45
53	3/21/2005	1109	1088	-21	-1.89

TABLE 2: SRV AS-FOUND TEST RESULTS SINCE 1998

Serial Number	Date Tested	Set Pressure (psig)	Test Pressure (psig)	Deviation (psig)	Percent Deviation
119	4/7/2007	1109	1131	22	1.98
122	4/1/1998	1109	1097	-12	-1.08
	3/22/2005	1109	1091	-18	-1.62
123	4/6/2007	1109	1113	4	0.36
169	5/5/2003	1109	1101	-8	-0.72
177	11/17/2001	1109	1101	-8	-0.72
194	11/16/2001	1109	1139	30	2.71
	4/11/2009	1109	1086	-23	-2.07
195	4/7/2007	1109	1102	-7	-0.63
196	5/6/2003	1109	1094	-15	-1.35
	4/10/2009	1109	1109	0	0.00
197	4/6/2007	1109	1091	-18	-1.62
208	5/6/2003	1109	1100	-9	-0.81
216	1/25/2000	1109	1132	23	2.07
	4/10/2009	1109	1084	-25	-2.25
217	3/21/2005	1109	1095	-14	-1.26
	4/11/2009	1109	1118	9	0.81
242	1/25/2000	1109	1095	-14	-1.26