



Monticello Nuclear Generating Plant  
2807 W County Road 75  
Monticello, MN 55362

February 24, 2015

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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

Monticello Nuclear Generating Plant's Fourth Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)(TAC No. MF0924)

References:

1. NRC Order EA-12-051, "Issuance of Order to Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," dated March 12, 2012 (ADAMS Accession No. ML12054A682).
2. NRC Interim Staff Guidance JLD-ISG-2012-03, "Compliance with Order EA-12-051, Reliable Spent Fuel Pool Instrumentation," Revision 0, dated August 29, 2012 (ADAMS Accession No. ML12221A339).
3. NEI 12-02, "Industry Guidance for Compliance with NRC Order EA-12-051, 'To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation,'" Revision 1, dated August 2012 (ADAMS Accession No. ML12240A307).
4. NSPM Letter to NRC, "Initial Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)," L-MT-12-092, dated October 29, 2012 (ADAMS Accession No. ML12305A383).

5. NSPM Letter to NRC, "Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)," L-MT-13-016, dated February 28, 2013 (ADAMS Accession No. ML13060A447).
6. NSPM Letter to NRC, "Monticello's First Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)," L-MT-13-080, dated August 28, 2013 (ADAMS Accession No. ML13241A197).
7. NSPM Letter to NRC, "Monticello Nuclear Generating Plant's Second Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)(TAC No. MF0924)," L-MT-14-015, dated February 28, 2014 (ADAMS Accession No. ML14069A463).
8. NSPM Letter to NRC, "Monticello Nuclear Generating Plant's Third Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)(TAC No. MF0924)," L-MT-14-072, dated August 28, 2014 (ADAMS Accession No. ML14241A262).
9. NRC Letter to NSPM, "Monticello Nuclear Generating Plant – Interim Staff Evaluation and Request for Additional Information Regarding the Overall Integrated Plan for Implementation of Order EA-12-051, Reliable Spent Fuel Pool Instrumentation (TAC No. MF0924)," dated October 28, 2013 (ADAMS Accession No. ML13275A187).

On March 12, 2012, the Nuclear Regulatory Commission (NRC) staff issued Order EA-12-051, "Issuance of Order to Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," (Reference 1) to all NRC power reactor licensees and holders of construction permits in active or deferred status. Reference 1 was effective immediately and directed Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, to have a reliable indication of the water level in the spent fuel storage pool for Monticello Nuclear Generating Plant (MNGP). Specific requirements were outlined in Attachment 2 of Reference 1.

Pursuant to Condition C of Section IV, Reference 1 required submission of an initial status report 60 days following issuance of the final interim staff guidance (ISG), an overall integrated plan, and status reports at six-month intervals following the submittal

of the overall integrated plan. The ISG (Reference 2) endorsed, with exceptions and clarifications, the methodologies described in a guidance document from the Nuclear Energy Institute (NEI), NEI 12-02, "Industry Guidance for Compliance with Order EA-12-051, 'To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation,'" Revision 1 (Reference 3). Reference 4 provided the MNGP initial 60-day status report regarding reliable spent fuel pool instrumentation. Reference 5 provided the overall integrated plan for MNGP. References 6 and 7 and 8 provided the first, second and third six-month status reports for the overall integrated plan, per Condition C.2 of Section IV of Reference 1.

On October 28, 2013, the NRC issued an Interim Staff Evaluation (ISE) for MNGP's SFPI overall integrated plan (Reference 9). The ISE documents the NRC Staff's review and provides feedback on NSPM's overall integrated plan. The ISE also includes Requests for Additional Information (RAI), response to which the NRC Staff needs to complete their review.

The purpose of this letter is to provide the fourth six-month status report pursuant to Section IV, Condition C.2 of Reference 1, which delineates the progress made in implementing the requirements of the Reference 1 Order. The enclosed report provides an update of milestone accomplishments since the Reference 8 status report was submitted, including changes to the compliance method, schedule, or the need and basis for relief, if any.

Please contact John Fields at 763-271-6707, if additional information or clarification is required.

#### 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 February 24, 2015.

A handwritten signature in cursive script, appearing to read "Peter A. Gardner".

Peter A. Gardner  
Site Vice President, Monticello Nuclear Generating Plant  
Northern States Power Company – Minnesota

Enclosure

cc: Administrator, Region III, USNRC  
Director of Nuclear Reactor Regulation (NRR), USNRC  
Project Manager, Monticello Nuclear Generating Plant, USNRC  
Resident Inspector, Monticello Nuclear Generating Plant, USNRC

## ENCLOSURE

### Monticello Nuclear Generating Plant Fourth Six-Month Status Report for Implementation of Order EA-12-051, Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation

#### 1.0 Introduction

The U.S. Nuclear Regulatory Commission (NRC) issued Order EA-12-051, "Issuance of Order to Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," on March 12, 2012 (Reference 1). The Order requires licensees to have reliable indication of the water level in associated spent fuel pools capable of supporting identification of the following spent fuel pool water level conditions by trained personnel: (1) level that is adequate to support operation of the normal fuel pool cooling system, (2) level that is adequate to provide substantial radiation shielding for a person standing on the spent fuel pool operating deck, and (3) level where fuel remains covered and actions to implement make-up water addition should no longer be deferred. The Order required licensees to submit an overall integrated plan, including a description of how the requirements in Attachment 2 of the Order would be achieved. Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, submitted the overall integrated plan (Reference 2) for the Monticello Nuclear Generating Plant (MNGP) on February 28, 2013. References 4, 5 and 6 provided the first, second and third six-month status reports for the overall integrated plan, per Condition C.2 of Section IV of Reference 1.

On June 7, 2013, the NRC Staff provided requests for additional information (RAI) in Reference 7 regarding the Spent Fuel Pool Instrumentation (SFPI) overall integrated plan. Reference 3 provided the NSPM responses to NRC Requests for Additional Information (RAI) regarding the overall integrated plan for MNGP.

On October 28, 2013, the NRC issued an Interim Staff Evaluation (ISE) for MNGP's SFPI overall integrated plan (Reference 8). The ISE documents the NRC Staff's review and provides feedback on NSPM's overall integrated plan. The ISE also included RAIs, to which the NRC Staff needed a response to complete their review. The RAIs issued by the NRC in the ISE supersedes the RAIs reported in the Reference 7 email.

This Enclosure provides the MNGP fourth six-month status report. This status report includes an update of milestone accomplishments since the previous status report was submitted, including any changes to the compliance method, schedule, or the need and basis for relief, if any. This information is current as of January 31, 2015 (cutoff date).

## 2.0 Milestone Accomplishments

The original milestone schedule, with target dates, was provided in Section 1.2 of Reference 2. The "Commence Installation" milestone was completed in November 2014. The "Submit Report that Full Compliance is Achieved" milestone is being revised from June 2015 to July 2015. An explanation of the impact of this change is provided in Section 5.0 of this enclosure.

## 3.0 Milestone Schedule Status

The following table provides an update of the milestone schedule to support the overall integrated plan. This includes a brief milestone status and provides revised target completion dates, if necessary. The dates are planning dates subject to change as design and implementation details are developed. One target completion date milestone has been changed for this six-month status report.

<b>Table 1 – Overall Integrated Plan Milestone Schedule</b>			
<b>Milestone</b>	<b>Target Completion Date</b>	<b>Activity Status</b>	<b>Revised Target Completion Date</b>
Submit 60 Day Status Report	October 2012	Complete	
Submit Overall Integrated Plan	February 2013	Complete	
Select Instrument Vendor	March 2013	Complete	
Submit First Six-Month Status Report	August 2013	Complete	
Commence Engineering Design	January 2014	Complete	
Submit Second Six-Month Status Report	February 2014	Complete	
Submit Third Six-Month Status Report*	August 2014	Complete	
Commence Installation	September 2014	Complete	
Submit Fourth Six-Month Status Report	February 2015	Complete with this submittal	
Reliable Spent Fuel Pool Instrumentation Operational	May 2015 (End of R27)	Not Started	
Submit Report that Full Compliance is Achieved	June 2015	Not Started	July 2015

\*Note: As noted in Section 6, NSPM provided the responses to the Reference 8 ISE RAIs via the online reference portal on September 30, 2014, instead of in the third six-month status report.

#### **4.0 Proposed Changes to Compliance Method**

There are no changes proposed to the compliance method described in the overall integrated plan (Reference 2).

#### **5.0 Need and Basis for Relief from the Requirements of the Order**

NSPM has changed the "Submit Report that Full Compliance is Achieved" milestone date from June 2015 to July 2015 and thus the final Order Implementation date. NSPM plans to provide the NRC with a report that full compliance with the order has been achieved within 60 days after completion of the 2015 refueling outage. The change to this date is consistent with the current projected completion of the 2015 refueling outage, plus 60 days.

NSPM expects to comply with the Order implementation date and requirements and no relief is required at this time.

#### **6.0 Open Items from Overall Integrated Plan and Interim Staff Evaluation**

NSPM has not identified any open items in the overall integrated plan. The overall integrated plan did contain future actions to ensure compliance with the Order. The future actions were identified internally and are being tracked through NSPM's corrective action program (CAP).

On October 28, 2013, the NRC issued the ISE for MNGP's SFPI overall integrated plan (Reference 8). The ISE identified RAIs that were necessary for the NRC to complete its evaluation of NSPM's plans for implementing the requirements of Order EA-12-051. In Reference 5, NSPM stated that the responses to the NRC's ISE RAIs will be provided in the third six-month status report scheduled for August 2014. Subsequent to Reference 5, the NRC notified each licensee participating in the audit not to formally submit their RAI responses on the docket but instead, put their responses and any other supporting information on their online reference portals by the date identified in their ISE to support the NRC Staff's review process (Reference 9). In accordance with this guidance from the NRC, NSPM provided the responses to the ISE RAIs via the online reference portal on September 30, 2014.

During the week of November 17 – 21, 2014 the NRC held an onsite audit to assess MNGP's readiness for compliance with Order EA-12-051. As a result of the onsite audit the NRC closed the Order EA-12-051 RAI responses, except for the following listed in Table 2. The table provides an update regarding NSPM's closure of these remaining open items.

<u>Table 2 – Open Items for Order EA-12-051</u>	
<u>Item No.</u>	<u>Description</u>
<u>Response</u>	
SFP 5	For each of the mounting attachments required to attach SFP level equipment to plant structures, please describe the design inputs, and the methodology that was used to qualify the structural integrity of the affected structures/equipment.
<p>A calculation has been performed which determined that the structural integrity of the SFP level instruments mounting attachments are designed satisfactorily and meet the MNGP structural integrity requirements. This calculation includes the design inputs and methods used for determining that the required structural integrity for the mounting attachments has been met. This calculation was provided to the NRC via the online reference portal.</p>	
SFP 6	<p>Please provide the following:</p> <p>a) A description of the specific method or combination of methods you intend to apply to demonstrate the reliability of the permanently installed equipment under beyond-design- basis ambient temperature, humidity, shock, vibration, and radiation conditions.</p> <p>b) A description of the testing and/or analyses that will be conducted to provide assurance that the equipment will perform reliably under the worst-case credible design-basis loading at the location where the equipment will be mounted. Include a discussion of this seismic reliability demonstration as it applies to a) the level sensor mounted in the SFP area, and b) any control boxes, electronics, or read-out and re-transmitting devices that will be employed to convey the level information from the level sensor to the plant operators or emergency responders.</p> <p>c) A description of the specific method or combination of methods that will be used to confirm the reliability of the permanently installed equipment such that following a seismic event the instrument will maintain its required accuracy.</p>
<p>During the onsite audit performed by the NRC in November 2014 the NRC determined that they needed room heat-up calculations completed for the EFT building to close out this item. The room heat-up calculations were not complete at the designated cutoff date (January 31, 2015) for this status report. NSPM will notify the NRC when the required calculations are available and provide the requested calculations to the NRC via the online reference portal.</p>	

<b><u>Table 2 – Open Items for Order EA-12-051</u></b>	
<u>Item No.</u>	<u>Description</u>
<u>Response</u>	
SFP 11	<p>Please provide the following:</p> <p>a) A description of the capability and provisions the proposed level sensing equipment will have to enable periodic testing and calibration, including how this capability enables the equipment to be tested in-situ.</p> <p>b) A description of how such testing and calibration will enable the conduct of regular channel checks of each independent channel against the other, and against any other permanently installed SFP level instrumentation.</p> <p>c) A description of how functional checks will be performed, and the frequency at which they will be conducted. Describe how calibration tests will be performed, and the frequency at which they will be conducted. Provide a discussion as to how these surveillances will be incorporated. Need completion of I&amp;C calibration procedure into the plant surveillance program.</p> <p>d) A description of what preventive maintenance tasks are required to be performed during normal operation, and the planned maximum surveillance interval that is necessary to ensure that the channels are fully conditioned to accurately and reliably perform their functions when needed.</p>
<p>During the onsite audit performed by the NRC in November 2014 the NRC determined that they needed an I&amp;C calibration procedure completed to close out this item. The I&amp;C calibration procedure was not complete at the designated cutoff date (January 31, 2015) for this status report. NSPM will notify the NRC when the procedure is available and provide the requested procedure to the NRC via the online reference portal.</p>	

## 7.0 Potential Interim Staff Evaluation Impacts

There are no potential impacts to the Interim Staff Evaluation identified at this time.

## 8.0 References

1. NRC Order EA-12-051, "Issuance of Order to Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," dated March 12, 2012 (ADAMS Accession No. ML12054A682).
2. NSPM Letter to NRC, "Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements

for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)," L-MT-13-016, dated February 28, 2013 (ADAMS Accession No. ML13060A447).

3. NSPM Letter to NRC, "Responses to Requests for Additional Information Regarding Monticello Nuclear Generating Plant's Overall Integrated Plan Submitted in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051) (TAC No. MF0924)," L-MT-13-058, dated July 12, 2013 (ADAMS Accession No. ML13193A324).
4. NSPM Letter to NRC, "Monticello's First Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)," L-MT-13-080, dated August 28, 2013 (ADAMS Accession No. ML13241A197).
5. NSPM Letter to NRC, "Monticello Nuclear Generating Plant's Second Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)(TAC No. MF0924)," L-MT-14-015, dated February 28, 2014 (ADAMS Accession No. ML14069A463).
6. NSPM Letter to NRC, "Monticello Nuclear Generating Plant's Third Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)(TAC No. MF0924)," L-MT-14-072, dated August 28, 2014 (ADAMS Accession No. ML14241A262).
7. NRC Email to NSPM, "Monticello Nuclear Generating Plant - Requests for Additional Information Regarding Overall Integrated Plan for Reliable Spent Fuel Pool Instrumentation (TAC No. MF0924)," dated June 7, 2013 (ADAMS Accession No. ML13176A331).
8. NRC Letter to NSPM, "Monticello Nuclear Generating Plant – Interim Staff Evaluation and Request for Additional Information Regarding the Overall Integrated Plan for Implementation of Order EA-12-051, Reliable Spent Fuel Pool Instrumentation (TAC No. MF0924)," dated October 28, 2013 (ADAMS Accession No. ML13275A187).

9. NRC Letter, "Nuclear Regulatory Commission Audits of Licensees Responses to Reliable Spent Fuel Pool Instrumentation Order EA-12-051," dated March 26, 2014 (ADAMS Accession No. ML14083A620).