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

August 13, 2015

L-MT-15-060
10 CFR 50.54(f)

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: Expedited Seismic Evaluation Process (ESEP) – Augmented Approach to Post-Fukushima Near-Term Task Force (NTTF) 2.1 – Clarification of Response to Request for Additional Information

References:

1) NRC Letter, "Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated March 12, 2012. (ADAMS Accession No. ML12056A046)
2) Letter from K. Fili (NSPM) to Document Control Desk (NRC), "Request Commitment Change for Response to NRC Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding the Seismic Aspects of Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," L-MT-14-027, dated March 31, 2014. (ADAMS Accession No. ML14090A297)
3) Letter from K. Fili (NSPM) to Document Control Desk (NRC), "Monticello Nuclear Generating Plant: Expedited Seismic Evaluation Process (ESEP) – Augmented Approach to Post-Fukushima Near-Term Task Force (NTTF) 2.1," L-MT-14-093, dated December 23, 2014. (ADAMS Accession No. ML14357A280)
4) Email from S. Wyman (NRC) to J. Fields (NSPM), "Monticello ESEP Report Clarifications," dated April 8, 2015.
5) Letter from P. Gardner (NSPM) to Document Control Desk (NRC), "Monticello Nuclear Generating Plant: Expedited Seismic Evaluation Process (ESEP) – Augmented Approach to Post-Fukushima Near-Term Task Force (NTTF) 2.1 – Response to Requests for Additional Information," L-MT-15-030, dated May 22, 2015.

On March 12, 2012, the NRC issued "Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," ("information request") to all NRC power reactor licensees and holders of construction permits in active or deferred status (Reference 1).

On March 31, 2014, in accordance with this information request, Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, committed to provide an Expedited Seismic Evaluation Process (ESEP) report for the Monticello Nuclear Generating Plant (MNGP) to the NRC by December 31, 2014 (Reference 2).

On December 23, 2014, NSPM provided the MNGP ESEP Report to the NRC (Reference 3).

On April 8, 2015, the NRC sent an email (Reference 4) which contained requests for additional information (RAIs) related to the ESEP report provided in Reference 3. On May 22, 2015, NSPM provided responses to the RAIs (Reference 5).

On June 23, 2015, the NRC and NSPM held a conference call to discuss NSPM's response to RAI #6. In this conference call, NSPM provided further information related to validating the seismic adequacy of MNGP inaccessible components.

On August 6, 2015, the NRC and NSPM held a conference call to discuss NSPM's response to RAI #4. In this conference call the NRC requested that NSPM provide additional information relative to the High Confidence of a Low Probability of Failure (HCLPF) values for the specific set of relays discussed in RAI #4.

Enclosure 1 to this letter documents the information provided in the June 23, 2015, conference call and provides additional clarifying information related to RAIs #6.

Enclosure 2 to this letter provides the additional information the NRC requested relative to the HCLPF values for the specific set of relays discussed in RAI #4.

If there are any questions or if additional information is needed, please contact John Fields, Fukushima Response Licensing, at 763-271-6707.

Summary of Commitments

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

I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 13, 2015.

for P. Gardner

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

Enclosures

cc: Administrator, Region III, USNRC
Director of Nuclear Reactor Regulation (NRR), USNRC
NRR Project Manager, MNGP, USNRC
Senior Resident Inspector, MNGP, USNRC

ENCLOSURE 1

MONTICELLO NUCLEAR GENERATING PLANT

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION #6

CLARIFYING INFORMATION

On April 8, 2015, the NRC sent Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, an email (Reference 1) which contained requests for additional information (RAIs) related to the Monticello Nuclear Generating Plant (MNGP) Expedited Seismic Evaluation Process (ESEP) report. On May 22, 2015, NSPM provided responses to the RAIs (Reference 2). On June 23, 2015, the NRC and NSPM held a conference call to discuss NSPM's response to RAI #6. In that conference call, NSPM provided further information related to validating the seismic adequacy of MNGP inaccessible components.

This enclosure documents the information provided in that conference call and provides additional clarifying information related to RAI #6.

The original NRC RAI #6 is provided below in italics font, followed by the original NSPM response (in normal font) (Reference 2), followed by the clarifying information request (in italics font) and finally, the clarification response is provided (in normal font) as discussed on the June 23, 2015 conference call with the NRC.

NRC Question 6

There are approximately 50 ESEL items identified as inaccessible because they are inside the drywell. The licensee does NOT intend to complete a walk-by or remote visual of the inaccessible ESEL items at a later date. It is relying on A-46 walkdown results, which are around 20 years old. This appears to be inconsistent with the augmented approach proposed by EPRI and accepted by NRC. Discuss the technical basis why these approximately 50 items do not need to be looked at, in order to verify condition and re-affirm the A-46 walkdown results.

Original NSPM Response

For inaccessible components, NSPM relied on walk downs performed to meet the A-46 issue, the Recommendation 2.3 seismic walk downs performed in 2013 and in specific cases, other information as described below. The 2013 walkdowns

observed the following components and areas in the drywell: (1) inboard Main Steam Isolation Valve (MSIV) - AO-2-80A, (2) SRV - RV-2-71A, (3) area walk-bys on the 933' and 951' elevations of the drywell. There was nothing noteworthy found during these walk downs.

The ESEL equipment that was determined to be inaccessible (due to location in the drywell) included valves, accumulators and temperature elements. Each component type was assessed as follows:

For valves, the Seismic Review Team (SRT) gathered valve drawings in addition to the A-46 Screening Evaluation Work Sheets (SEWS) and pictures, and performed the valve evaluation based on the methodology presented in EPRI NP 6041-SL (Reference 4).

Temperature elements were evaluated based on A-46 walk down notes and pictures. These components are directly attached/secured to structural components. Therefore, the SRT determined that the information was adequate for the ESEP purpose.

Accumulators were evaluated based on the A-46 notes and pictures. Typically two large U bolt connections were utilized to secure the accumulator. With the large margin of these items, the SRT determined that the information was adequate for the ESEP purpose.

Clarifying Information Request

From the June 23, 2015 conference call with the NRC regarding ESEP RAI #6, the NRC requested that NSPM provide further information related to validating the seismic adequacy of inaccessible components for MNGP. Specifically, the NRC requested that NSPM provide justification for each inaccessible item type stating why the current evaluation performed by NSPM (i.e., using the 20 year old walkdown data/photos) is acceptable.

NSPM Response

The information below describes the approach NSPM used to evaluate the inaccessible items for seismic adequacy. In summary, as described in the initial response to RAI #6, NSPM relied on information performed to meet the A-46 requirements, the Near Term Task Force (NTTF) Recommendation 2.3 seismic walk-bys and walk-downs of the Drywell (DW), and other available information. NSPM affirms that the inaccessible components' seismic evaluation has been completed in accordance with EPRI NP 6041-SL and that no further evaluation is required.

Below is the specific list of MNGP inaccessible components with further justification for each component's seismic adequacy evaluation.

Safety Relief Valves (SRVs) - RV-2-71A through RV-2-71H

- NSPM reviewed the SEWS evaluation from 1995 with photos.
- A walk by was performed in 2013 (DW elevation 951').
- The valves are located in an inert environment during plant operation.
- RV-2-71A was specifically walked down in 2013 and documented on a Seismic Walkdown Checklist (SWC) with photos taken. The other seven valves are supported in a similar manner.
- Valve drawings were reviewed.
- The valves are rigidly mounted on seismic piping with supporting seismic analysis.
- The NSPM design control program is applicable to these components and assesses any proposed changes to MNGP to ensure the seismic qualification continues to meet design and licensing requirements.

Discharge Vacuum Relief Valves (8 inch valves) - RV-3242A, RV-3243A, RV-3244A, RV-3245A, RV-7440A, RV-7441A, RV-7467A and RV-7468A

- NSPM reviewed the SEWS evaluation from 1995 with photos.
- A walk by was performed in 2013 (DW elevation 951') and documented on an Area Walk-By Checklist (AWC).
- The valves are located in an inert environment during plant operation.
- These valves are supported in a similar manner as other seismic valves integral to piping systems.
- The valves are rigidly mounted on seismic piping with supporting seismic analysis.
- The NSPM design control program is applicable to these components and assesses any proposed changes to MNGP to ensure the seismic qualification continues to meet design and licensing requirements.

Drywell Purge/Vent Valves - AO-2386 and AO-2387

- NSPM reviewed the SEWS evaluation performed in 2014.
- The valves have a similar mounting as other seismically designed valves integral to piping systems.
- NSPM did not walk by these valves due to their location in a locked high radiation area (located in Reactor Water Cleanup Pump Room).
- The material condition of the valves was observed to be satisfactory during performance of a Local Leak Rate Test (LLRT) in 2015.
- Valve drawings were reviewed.

- The NSPM design control program is applicable to these components and assesses any proposed changes to MNGP to ensure the seismic qualification continues to meet design and licensing requirements.

High Pressure Coolant Injection/Reactor Core Isolation Cooling Steam Isolation Valves - MO-2035 and MO-2076

- NSPM reviewed the SEWS evaluation from 1995 with photos.
- Valve drawings were reviewed.
- A walk by was performed in 2013 (Steam Chase) and documented on an AWC.
- These valves are supported in a similar manner as other seismic valves integral to piping systems.
- The NSPM design control program is applicable to these components and assesses any proposed changes to MNGP to ensure the seismic qualification continues to meet design and licensing requirements.

SRV Air System Solenoid Valves - SV-2-71A through SV-2-71M

- NSPM reviewed the SEWS evaluation from 1995 with photos.
- An area walk by was performed in 2013 (DW elevation 951').
- The valves are located in an inert environment during plant operation.
- The valves are light weight and rigidly mounted to a steel frame.
- All of these solenoid valves have a similar mounting.
- The NSPM design control program is applicable to these components and assesses any proposed changes to MNGP to ensure the seismic qualification continues to meet design and licensing requirements.

DW Temperature Elements (TEs) - TE-4247A through TE-4247H

- NSPM reviewed four SEWS (TE-4247A, C, F, H) evaluations from 1995 with photos.
- Photos show that these light weight TEs are rigidly mounted to DW structural steel.
- An area walk by was performed in 2013 for TEs 4247A - D (TEs 4247E - H are located at higher elevations in the DW with similar mounting but are not as accessible).
- Components are located in an inert environment during plant operation.
- TEs are inherently rugged, and mounted to large I-beams.
- The NSPM design control program is applicable to these components and assesses any proposed changes to MNGP to ensure the seismic qualification continues to meet design and licensing requirements.

SRV Accumulators - T-57A through T-57H

- NSPM reviewed SEWS evaluations from 1995 with photos.
- Accumulator drawings were reviewed.
- An area walk by was performed in 2013 (DW elevation 951').
- Accumulators are fabricated from stainless steel, and are located in an inert environment during plant operation.
- The accumulators are mounted to DW structural steel I-beams with stainless steel ¾" U-bolts and nuts.
- Mounting is similar for all these accumulators.
- The NSPM design control program is applicable to these components and assesses any proposed changes to MNGP to ensure the seismic qualification continues to meet design and licensing requirements.

References

1) Email from S. Wyman (NRC) to J Fields (NSPM), "Monticello ESEP Report Clarifications," dated April 8, 2015.
2) Letter from P. Gardner (NSPM) to Document Control Desk (NRC), "Monticello Nuclear Generating Plant: Expedited Seismic Evaluation Process (ESEP) – Augmented Approach to Post-Fukushima Near-Term Task Force (NTTF) 2.1 – Response to Requests for Additional Information," L-MT-15-030, dated May 22, 2015.
3) Not Used.
4) EPRI Report No.: NP-6041-SL, A Methodology for Assessment of Nuclear Power Plant Seismic Margin, Revision 1.

ENCLOSURE 2

MONTICELLO NUCLEAR GENERATING PLANT

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION #4

CLARIFYING INFORMATION

On August 6, 2015, the NRC and Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, held a conference call to discuss Request for Additional Information (RAI) #4 from Reference 1. In the conference call the NRC requested additional clarifying information regarding the High Confidence of a Low Probability of Failure (HCLPF) values presented in Table 4-1.

This enclosure provides the additional clarifying information related to RAI #4 that the NRC requested.

Clarifying Information Request

> *From the August 6, 2015 conference call with the NRC regarding ESEP* [Expedited Seismic Evaluation Process] *RAI #4, the NRC requested that Table 4-1 from Reference 1 be augmented to also provide the HCLPF values that represent the ground level acceleration through to the anchorage or functional capacity of the installed component. This should include the peak acceleration when reporting the value.*

NSPM Response

In NSPM letter to NRC dated May 22, 2015 (Reference 1), NSPM provided Table 4-1 which included the functional capacities HCLPF values for 17 relays.

NSPM is providing Table 4-1 – Revised, "HCLPF for Relays," below. This revised table includes the same 17 relays provided in the original Table 4-1. The revised table provides the HCLPF values that represent the ground level acceleration through to the anchorage or functional capacity of the installed component. These values include peak acceleration.

Table 4-1 – Revised - HCLPF for Relays

Component ID	GenRS Peak – (clipped 4 - 16 Hz Demand (g)/Max ZPA[1](g))	Functional Capacity Peak/ZPA (g)	SFc[2] min (capacity/demand) of peak/ZPA	Relay HCLPF (g)	Host Cabinet / Bldg / Elevation	Maximum Horizontal Floor Acceleration for Host Cabinet (g)	Host Cabinet HCLPF (g)
13A-K1	1.76/0.71	6.00/2.40	3.38	0.64	C-30/Admin/ 939’	1.76	0.21
13A-K2	1.76/0.71	6.00/2.40	3.38	0.64	C-30/Admin/ 939’	1.76	0.21
13A-K6	1.76/0.71	6.00/2.40	3.38	0.64	C-30/Admin/ 939’	1.76	0.21
13A-K7	1.76/0.71	8.00/3.20	4.51	0.86	C-30/Admin/ 939’	1.76	0.21
13A-K10	1.76/0.71	6.00/2.40	3.38	0.64	C-30/Admin/ 939’	1.76	0.21
13A-K12	1.76/0.71	6.00/2.40	3.38	0.64	C-30/Admin/ 939’	1.76	0.21
13A-K16	1.76/0.71	6.00/2.40	3.38	0.64	C-30/Admin/ 939’	1.76	0.21
13A-K18	1.76/0.71	6.00/2.40	3.38	0.64	C-30/Admin/ 939’	1.76	0.21
13A-K19	1.76/0.71	6.00/2.40	3.38	0.64	C-30/Admin/ 939’	1.76	0.21
13A-K22	1.76/0.71	6.00/2.40	3.38	0.64	C-30/Admin/ 939’	1.76	0.21
13A-K27	1.76/0.71	6.00/2.40	3.38	0.64	C-30/Admin/ 939’	1.76	0.21
13A-K31	1.76/0.71	8.00/3.20	4.51	0.86	C-33/Admin/ 939’	1.76	0.21
13A-K32	1.76/0.71	6.00/2.40	3.38	0.64	C-33/Admin/939’	1.76	0.21
13A-K33	1.76/0.71	10.00/4.00	5.63	1.07	C-30/Admin/ 939’	1.76	0.21
13A-K34	1.76/0.71	6.00/2.40	3.38	0.64	C-30/Admin/ 939’	1.76	0.21
13A-K37	1.76/0.71	12.00/4.80	6.76	1.28	C-30/Admin/ 939’	1.76	0.21
K102A	1.76/0.71	2.64/1.06	1.49	0.28	C-303A/Admin/939’	1.76	0.21

[1] ZPA = Zero Period Acceleration
[2] SF_C = Component-Specific Scale Factor

The Review Level Ground Motion (RLGM) was determined by linearly scaling the MNGP Safe Shutdown Earthquake (SSE) for the structure by the maximum Safety Factor[3] between the 1 and 10 Hz range.

The method used to derive the ESEP in-structure response spectra (ISRS) was to uniformly scale the existing SSE-based ISRS by the maximum SF between the SSE and the RLGM.

In order to eliminate conservatism for the components in Table 4-1 – Revised, the In-Cabinet Response Spectra (ICRS) was generated through the application of the GenRS software. GenRS was used because the peak frequency of the input In-Structure Response Spectra (ISRS) was significantly different than the natural frequency of the subject cabinets.

The relays in Table 4-1 - Revised used functional capacities drawn from EPRI NP-7147-SL (Reference 2), manufacturer test data, and Seismic Qualification Utility Reports and Testing Standardization (SQURTS) reports.

References

1) Letter from P. Gardner (NSPM) to Document Control Desk (NRC), "Monticello Nuclear Generating Plant: Expedited Seismic Evaluation Process (ESEP) – Augmented Approach to Post-Fukushima Near-Term Task Force (NTTF) 2.1 – Response to Requests for Additional Information," L-MT-15-030, dated May 22, 2015.
2) EPRI Report No.: NP-7147-SL, Seismic Ruggedness of Relays, August 1991.

[3] Safety Factor = Ground Motion Response Spectra (GMRS)/SSE ratio