



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

January 10, 2014

L-MT-14-004  
10 CFR 50.46(a)(3)(ii)

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

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

Report of Changes in Emergency Core Cooling System Evaluation Models

- References:
- 1) NRC to NSPM, "Subject: Monticello Nuclear Generating Plant – Issuance of Amendment No. 176 to Renewed Facility Operating License Regarding Extended Power Uprate (TAC No. MD9990)," dated December 9, 2013. (ADAMS Accession No. ML13316B298).
  - 2) GE 10 CFR 50.46 Notification Letter 2012-01, Revision 1, "PRIME Fuel Properties Implementation for Fuel Rod T/M Performance, replacing GESTR Fuel Properties," dated July 30, 2013.
  - 3) Letter from K. Fili (NSPM) to Document Control Desk (NRC) "2013 Annual Report of Changes and Errors in Emergency Core Cooling System Evaluation Models," L-MT-13-116, dated December 27, 2013.

Pursuant to 10 CFR 50.46(a)(3)(ii), the Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, is providing the following report of changes identified in the Emergency Core Cooling System (ECCS) evaluation model for the Monticello Nuclear Generating Plant (MNGP). This report provides changes to the ECCS model based on the NRC granting the Extended Power Uprate (EPU) amendment (Amendment 176) issued on December 9, 2013 (Reference 1).

This change re-baselines the MNGP ECCS report to include EPU conditions and incorporates General Electric (GE) 10 CFR 50.46 Notification Letter 2012-01, Revision 1 (Reference 2). GE 10 CFR 50.46 Notification Letter 2012-01, reflects an increase in the Peak Clad Temperature (PCT) of 10°F, due to applying the PRIME fuel properties for fuel rod thermal / mechanical (T/M) performance. This results in a Licensing Basis PCT of 2150°F for EPU conditions, which is less than the 10 CFR 50.46 limit of 2200°F. The re-baselined MNGP ECCS report supersedes the 2013 ECCS annual report provided in Reference 3.

The Enclosure provides additional information on the nature of the change. This information is being submitted in accordance with the requirements of 10 CFR 50.46(a)(3)(ii) for the MNGP.

Summary of Commitments

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

A handwritten signature in cursive script, reading "Karen D. Fili".

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

Enclosure

cc: Regional Administrator, Region III, USNRC  
Project Manager, Monticello Nuclear Generating Plant, USNRC  
Resident Inspector, Monticello Nuclear Generating Plant, USNRC

**ENCLOSURE**

**MONTICELLO NUCLEAR GENERATING PLANT**

**RE-BASELINE OF MONTICELLO  
LOSS OF COOLANT ACCIDENT ANALYSIS**

### Re-Baseline of Monticello Loss of Coolant Accident (LOCA) Analysis

Applicable Analysis or Error Description	Ref.	Licensing Basis PCT(°F) GE14
NEDC-33322P, Revision 3, Safety Analysis Report for Monticello Constant Pressure Power Uprate	1	< 2140
PRIME Fuel Properties Implementation for Fuel Rod T/M Performance, replacing GESTR Fuel Properties (10 CFR 50.46 Notification Letter 2012-01, Revision 1)  This change is due to the application of an NRC-approved procedure to estimate the change in Peak Clad Temperature (PCT) due to the change in fuel properties from GESTR to PRIME primarily to address inaccuracies in fuel pellet thermal conductivity as a function of exposure.	2	+ 10
<b>Current Adjusted Peak Cladding Temperature</b>		<b>&lt; 2150</b>

### References

1. NEDC-33322P, Revision 3, "Safety Analysis Report for Monticello Constant Pressure Power Uprate," dated October 2008 (Enclosure 5 of L-MT-08-052, dated November 5, 2008, ADAMS Accession No. ML083230111) as supplemented by NSPM letter to NRC, "Monticello Extended Power Uprate and Maximum Extended Load Line Limit Analysis Plus License Amendment Requests: Supplement for Analytical Methods Used to Address Thermal Conductivity Degradation and Analytical Methods Limitations (TAC Nos. MD9990 and ME3145)," L-MT-13-053 dated July 8, 2013 (ADAMS Accession No. ML13191A568).
2. 10 CFR 50.46 Notification Letter 2012-01, Revision 1, "PRIME Fuel Properties Implementation for Fuel Rod T/M Performance, replacing GESTR Fuel Properties," dated July 30, 2013.