



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

April 29, 2014

L-MT-14-033
10 CFR 50.90

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

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

AREVA ATRIUM 10XM Fuel Transition – Supplement to Describe the Effect of Local Power Range Monitor Surveillance Grace Period (TAC MF2479)

- References:
- 1) Letter from M A Schimmel (NSPM), to Document Control Desk (NRC), "License Amendment Request for Transition to AREVA ATRIUM 10XM Fuel and AREVA Safety Analysis Methodology," L-MT-13-055, dated July 15, 2013 (ADAMS Accession No. ML13200A185)
 - 2) Email from T. Beltz (NRC) to G. Adams (NSPM), "Monticello Nuclear Generating Plant - Request for Additional Information re: NRC Staff Review of AREVA Fuel Transition License Amendment Request (TAC MF2479)," dated December 18, 2013 (ADAMS Accession No. ML13353A366)
 - 3) Letter from K D Fili (NSPM), to Document Control Desk (NRC), "AREVA ATRIUM 10XM Fuel Transition – Response to Request for Additional Information (TAC MF2479)," L-MT-14-003, dated January 31, 2014 (ADAMS Accession No. ML14035A298)

In Reference 1, Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, requested approval of an amendment to the Monticello Nuclear Generating Plant (MNGP) Renewed Operating License (OL) and Technical Specifications (TS). The proposed change would allow operation using AREVA ATRIUM 10XM fuel.

In Reference 2, the NRC provided Requests for Additional Information (RAIs) pertaining to information needed to support the Fuel Transition License Amendment Request (Reference 1). In Reference 3, NSPM provided a response to question 4b, and stated that the effect of adding 25 percent grace period uncertainty to the Local Power Range Monitor (LPRM) surveillance interval would be evaluated and submitted in approximately three months. The following paragraphs provide that supplemental information.

Evaluation – AREVA Analysis for License Amendment Request (LAR)

AREVA determined the effect of additional uncertainty by first assessing which analyses used statistical licensing methodologies. Thus, only two methodologies were identified: (1) Safety Limit Minimum Critical Power Ratio (SLMCPR), and (2) the RODEX4 based fuel rod methodology that is applied to the ATRIUM 10XM fuel. The RODEX2 methodology that AREVA uses for transient analysis of GE14 fuel is not statistically based and is therefore not impacted. The results from analyses with these increased uncertainties yielded the following:

1. The SLMCPR for the fuel transition based on the original power uncertainties were reported in Reference 1 (Section 4.2 of Enclosure 16). These SLMCPR calculations were repeated with the increased uncertainties. While the increase in these two uncertainties resulted in a small increase in the number of rods calculated to be in boiling transitions at some cycle exposures, the results continued to provide margin to the same SLMCPR values provided in the LAR.
2. The ATRIUM 10XM steady state Linear Heat Generation Rate (LHGR) limits based on the original power uncertainties were reported in Reference 1 (Enclosure 22 and Table 8.7 of Enclosure 16). The fuel rod calculations consider steady state operation and slow transients at rated operating conditions. These fuel rod calculations were repeated with the increased uncertainties. While the increase in these two uncertainties resulted in small changes in the calculated results, the results continued to provide margin to the same LHGR limits provided in the LAR.
3. The ATRIUM 10XM power and flow dependent LHGR multipliers based on the original power uncertainties were reported in Reference 1 (Table 8.8 and Table 8.10 of Enclosure 16). These fuel rod calculations were repeated with the increased uncertainties. While the increase in these two uncertainties resulted in small changes in the calculated results, the results continued to provide margin to the same power and flow dependent LHGR multipliers provided in the LAR.

For the purposes of the subject license amendment request, the small changes in uncertainty will be incorporated as a plant input into the core reload analysis. This core reload analysis will be performed for the first transition core, and will be manifest in the analysis of record, along with any other effects discovered henceforth.

The clarifying information provided herein does not change the conclusions of the No Significant Hazards Consideration and the Environmental Consideration evaluations provided in the Reference 1 LAR.

In accordance with 10 CFR 50.91(b), a copy of this application supplement is being provided to the designated Minnesota Official.

If there are any questions or if additional information is needed, please contact Glenn Adams at 612-330-6777.

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: April 29, 2014



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

cc: Administrator, Region III, USNRC
Project Manager, Monticello Nuclear Generating Plant, USNRC
Resident Inspector, Monticello Nuclear Generating Plant, USNRC
Minnesota Department of Commerce