Xcel Energy®

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

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L-MT-14-002

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

Deviation from BWRVIP-181-A Solution Annealing/Weld Inspection Requirement

References:

1) Paul Young (NSPM) to Andrew McGehee, BWRVIP Program Manager – Electric Power Research Institute, "Monticello Nuclear Plant (MNGP) Technical Justification for Deviation from BWRVIP-181-A," dated December 16, 2013.

2) BWR Vessel and Internals Project, Steam Dryer Repair Design Criteria, EPRI Report 1020997 (BWRVIP-181-A), dated July 2010.

3) BWR Vessel and Internals Project, Program Implementation Guide, EPRI Report 1024452 (BWRVIP-94NP, Revision 2), dated September 2011.

4) BWRVIP Communication 2012-155, "BWRVIP-181-A Requirements for Solution Annealing of Steam Dryer Welds," dated October 3, 2012.

Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, submitted a technical justification for a deviation from Boiling Water Reactor Vessel Internals Project (BWRVIP) guidance to the BWRVIP for the Monticello Nuclear Generating Plant (MNGP) on December 16, 2013 (Reference 1). The deviation disposition is in regard to solution annealing or inspection of welds as outlined in BWRVIP-181-A, "Steam Dryer Repair Design Criteria," (Reference 2). In accordance with BWRVIP-94NP, "BWR Vessel Internals Project Program Implementation Guide," (Reference 3), NSPM is notifying the U.S. Nuclear Regulatory Commission (NRC) of the deviation from the BWRVIP guidance.

The deviation is from a "needed" element of the BWRVIP program guidance for replacement steam dryers. BWRVIP-181-A provides two options for replacement steam dryer (RSD) welds: solution anneal welds wherever practical or subject the welds that are not solution annealed to augmented inspections at the next refueling outage.

Solution annealing of steam dryer welds is performed to reduce the likelihood of intergranular stress corrosion cracking (IGSCC). While solution annealing is generally a good practice, it has the potential to cause distortion of the dryer, which could induce additional stresses and affect steam dryer functionality. Additionally, the situation exists where welds that would not be solution annealed may also not be accessible for inspection. This situation was communicated to all BWRVIP members in BWRVIP Communication 2012-155 (Reference 4). Reference 4 also noted that other requirements of the Reference 2 guidelines (e.g., use of IGSCC-resistant materials, proper welding procedures, minimization of cold work and polishing of all welds) also provide effective protection against IGSCC.

The MNGP RSD was installed in 2011. The fabrication welds were not solution annealed and not all welds were inspected during the 2013 refueling outage. NSPM deviates from the guidance outlined in Reference 2 for solution annealing or inspection of the non-solution annealed welds. In lieu of the Reference 2 requirement, NSPM implemented fabrication requirements for the RSD that remained consistent with the principles that are associated with minimizing the effects of IGSCC and fatigue cracking from Reference 2 for fabrication of a new steam dryer. In addition, NSPM has completed targeted inspections of representative weld locations that revealed no indications. Future inspections are planned. The material selection, fabrication requirements, completed inspections, and planned inspections provide justification for the deviation.

This letter is being submitted in accordance with Section 3.5 of Reference 3 for information only. NSPM is not requesting any action from the NRC Staff.

Please contact Lynne Gunderson at (612) 396-0173 if there are any questions regarding this letter.

Summary of Commitments

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

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
BWRVIP Project Manager, USNRC