



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

August 5, 2015

**LICENSEE:** Xcel Energy

**FACILITY:** Monticello Nuclear Generating Plant

**SUBJECT:** SUMMARY OF THE JULY 7, 2015, PUBLIC MEETING WITH XCEL ENERGY AND AREVA TO DISCUSS CHANGES TO THE PROPOSED TECHNICAL SPECIFICATIONS AND CORE OPERATING LIMITS REPORT IN SUPPORT OF THE AREVA EXTENDED FLOW WINDOW LICENSE AMENDMENT REQUEST REVIEW (TAC NO. MF5002)

On July 7, 2015, the U.S. Nuclear Regulatory Commission (NRC) staff held a Category 1 public meeting with representatives of Northern States Power Company - Minnesota, doing business as Xcel Energy (the licensee), and AREVA, at NRC headquarters. The purpose of the meeting was for the licensee to discuss potential changes to the Technical Specifications (TSs) and Bases, and Core Operating Limits Report (COLR), supporting the AREVA Extended Flow Window (EFW) license amendment request (LAR) for the Monticello Nuclear Generating Plant (Monticello) dated October 3, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14283A119), that is currently under NRC staff review. The proposed changes would, in part, allow Xcel Energy to better implement the Reactor Protection System features that enforce Enhanced Option III (EO-III) long-term stability.

The licensee's presentation followed handout material provided during the meeting and is available at ADAMS Accession No. ML15196A019. The licensee indicated during the meeting that the information provided in its presentation may be made publicly available.

Xcel Energy described the background for this meeting as a follow-up to the NRC staff's audit at the AREVA facilities in Richland, Washington, during the week of June 13, 2015. During the audit, the staff had some questions regarding the proposed TSs in support of its review of the October 3, 2014, LAR.

Xcel Energy presented a series of flow charts (ADAMS Accession No. ML15196A019, first four pages) that explained the regulatory bases and precedent to support the TS revisions proposed in the LAR. The supporting regulatory bases include the Boiling Water Reactor Owners Group (BWROG) Option III licensing topical report (LTR) NEDO-31960-A and AREVA LTR ANP-10262-P-A for EO-III. The licensee further described how the TSs would be implemented, including the means to "initiate alternate methods" (in TS Required Action I.1), and stated that these methods are further described by the TS Bases and procedures, employing the same methods that have been widely used by those implementing Option III long-term stability solution (including Monticello prior to implementation of MELLA+ [Maximum Extended Load Line Limit Analysis Plus]).

Meeting points of discussion and comments are summarized below:

- Xcel Energy briefly discussed that the phrase to “Exit Region 1 Immediately” (page 2 of flow charts) customarily means to initiate the action promptly (e.g., do not delay initiating action for 2 hours).
- Xcel Energy discussed what the “backup solution” as described in the EO-III LTR means and how Monticello was intending to implement it. The licensee noted that the EO-III LTR provided an example only. As specified in the EO-III SER, any specific proposed backup solution needed NRC approval on a plant-specific basis.
- Xcel Energy discussed the EO-III SER requirement to provide automatic protection in the event of a Two Recirculation Pump Trip (2RPT) when operating in the EFW domain. The licensee expanded its explanation that 2RPT protection is provided by the Extended Flow Window Stability (EFWS) trip (“the red line”), which provides a scram during the course of the power-flow trajectory for a 2RPT.
- Xcel Energy explained that the EFWS trip would be armed in the EFW region and the MELLLA region with the same setpoints, even though the EO-III SER does not require the EFWS trip to be armed outside the EFWS region.
- Xcel Energy discussed the control board indication for the EFWS trip setpoint being “on” or “armed”. The current indication consists of backlighting a small “ABSP [Automatic Backup Stability Protection]” on the top line of the PRNM [power range neutron monitor] NUMAC [Nuclear Measurement Analysis and Control] C-05 display. The licensee acknowledged that this indication could be difficult to see and stated that it would take an action to explore whether the addition of a computer alarm or point would enhance this indication for plant operators.

A similar question was raised regarding indication that the EFWS trip was being approached. After discussion, there appeared to be agreement that the corresponding Rod Block would serve as an adequate alarm and be enforced by the RMCS [reactor manual control system].

- There was discussion regarding how much of the Natural Circulation Line (NCL) should be protected. The NRC staff suggested that it should be protected to at least the intersection of the NCL and Region-I (the Immediate Scram Region), to be consistent with the intent of original Intermediate Corrective Actions. AREVA provided assurance that the methodology provides such coverage.
- In TS Table 3.3.1.1-1, Function 2.g, there appeared to be agreement that enforcement of EFWS trip was better when the stated region of applicability was “above the MELLLA line” rather than “within the EFW region”.
- The NRC staff indicated an interest in adding an action such as “confirm EFWS/ABSP is on” whenever the Oscillation Power Range Monitors (OPRMs) are inoperable. The staff noted that inoperable OPRMs should now be a rare occurrence, unlike earlier days when problems with the calculation models were sometimes discovered.

- The NRC staff expressed concern that the requirement for turning “on” or “arming” the EFWS trip above and below the MELLLA line could result in a distraction to plant operators if it was being switched on/off as the plant was maneuvered around this line. The staff discussed the possibility of an arrangement such that the EFWS trip would be left “on” above some constant power level that would bound the MELLLA line, but that would not be so high as to routinely be crossed during plant maneuvering. The licensee explained that if it is “on” at a power that is too low, then startup maneuvering is severely challenged due to the intersection with the “ARTS [Average Power Range Monitor/Rod Block Monitor/Technical Specifications]” region, the NCL, and the feedwater flow interlock.

It was further noted by the licensee that plant operators would typically want a margin to a requirement, so that, for example, if this requirement was established at 50 percent RTP [rated thermal power], then plant operators would typically implement it at 40 percent RTP.

The licensee provided a markup of draft TS pages (refer to ADAMS Accession No. ML15196A019, last 11 pages) to describe the incremental changes to TS 5.6.3 to restore the Backup Stability Protection (BSP) Regions I and II to the power-flow map in the COLR. The licensee explained that these regions were mistakenly removed in the LAR marked-up pages.

Xcel Energy described the inclusion of a new, yet-unreleased, document reference to TS 5.6.3 that would describe the methodology used to develop the EFWS trip setpoints. The NRC staff recommended that any such document be docketed and include the necessary “calculational framework.” Xcel Energy explained that the “calculational framework” document would describe the drive flow / core flow correlation method, any uncertainties, the method for combining uncertainties, and inclusion of the BSP region. The licensee also suggested that the Technical Requirements Manual could be supplemented to describe the General Electric setpoint methodology.

Specific points of discussion:

1. NRC was amenable to the proposed addition of Reference 6 under TS 5.6.3.b. The staff understood the argument for a document that would not have frequent revision updates.
2. Xcel Energy suggested that TS 5.6.3.c provided sufficient constraint to ensure that the most conservative Operating Limits (i.e., OPRM setpoints) for either the Option III or the EO-III calculations are established. However, NRC staff was not convinced and asked if the AREVA method could be shown to bound the other method.

The licensee indicated it had clarification questions for the NRC staff in the Containment and Ventilation Branch and Instrumentation & Controls Branch regarding requests for additional information. It was suggested that a telephone conference be scheduled with the NRC staff at a later date to discuss the questions. A conference call was subsequently held on July 21, 2015.

The Enclosure to this meeting summary contains the list of participants.

Before the meeting adjourned, all meeting participants were given the opportunity to comment on any aspects of the meeting.

Mr. Marvin Lewis, a member of the public participating via the teleconference conference bridge, expressed a concern regarding the meaning and applicability of a Completion Time of "Immediately" identified within the Monticello Technical Specifications. Mr. Lewis also questioned the accessibility of these TS documents to other parties, if these documents were only available to Monticello, and how others would know to take the actions "immediately" if the TS documents were only available at Monticello. The NRC staff responded to Mr. Lewis's concerns in an e-mail dated July 8, 2015 (ADAMS Accession No. ML15196A011).

No regulatory decisions or commitments were made during the meeting. There were no members of the public in attendance at the meeting at NRC headquarters. There were three participants on the telephone conference line. The NRC staff received no meeting feedback forms.

Please direct any inquiries to me at 301-415-3049 or e-mail [Terry.Beltz@nrc.gov](mailto:Terry.Beltz@nrc.gov).



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Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No.: 50-263

Enclosure:  
List of Participants

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LIST OF PARTICIPANTS

U.S. NUCLEAR REGULATORY COMMISSION (NRC) PUBLIC MEETING

WITH XCEL ENERGY AND AREVA

TO DISCUSS THE LICENSE AMENDMENT REQUEST REGARDING

AREVA EXTENDED FLOW WINDOW

MONTICELLO NUCLEAR GENERATING PLANT

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The following individuals participated by telephone:

John Elam	Duke Energy
Guy Jacks	Duke Energy
Marvin Lewis	Member of Public
Harold Scott	NRC/RES/DSA/FSCB <sup>6</sup>

<sup>1</sup> Office of Nuclear Reactor Regulation, Division of Operating Reactor Licensing, Plant Licensing Branch III-1

<sup>2</sup> Office of Nuclear Reactor Regulation, Division of Safety Systems, Reactor Systems Branch

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<sup>4</sup> Office of Nuclear Reactor Regulation, Division of Safety Systems, Nuclear Performance and Code Review Branch

<sup>5</sup> Office of Nuclear Reactor Regulation, Division of Safety Systems, Containment and Ventilation Branch

<sup>6</sup> Office of Nuclear Regulatory Research, Division of Systems Analysis, Fuel and Source Term Code Development Branch

Enclosure

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**ADAMS Accession Numbers: Package: ML15195A450; Meeting Notice: ML15176A336;**  
**Meeting Summary: ML15195A447; Licensee Meeting Handouts: ML15196A019**  
**Response to Public Comment: ML15196A011** \* concurrence provided via e-mail

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