

From: Guzman, Richard
Sent: Monday, September 12, 2016 12:45 PM
To: 'wanda.d.craft@dom.com'
Subject: Millstone Unit 2 - Request for Additional Information - LAR to Revise ECCS TS and FSAR Ch. 14 to Remove Charging (MF7297)

Categories: Followup

Wanda,

The NRC staff has reviewed the information provided in the subject license amendment request dated January 25, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16029A168), as supplemented by letter dated June 27, 2016 (ADAMS Accession No. ML16182A037), and has determined that additional information is needed to complete its review. Shown below is the NRC staff's follow-up request for additional information (RAI) questions. The information was discussed with your staff on August 31, 2015. As agreed, please provide your formal response by October 12, 2016. Please contact me if you have any questions.

REQUEST FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST TO REVISE EMERGENCY CORE COOLING SYSTEM TS

3/4.5.2

AND FINAL SAFETY ANALYSIS REPORT CHAPTER 14 TO REMOVE CHARGING

CAC NO. MF7297

The NRC staff transmitted a request for additional information (RAI) to Dominion Nuclear Connecticut, Inc. (DNC) on May 12, 2016 (ADAMS Accession No. ML16133A356). The NRC staff has reviewed the information provided in DNC's RAI response dated June 27, 2016, and has determined that additional information as requested below is needed to complete its review.

Follow-up RAI-1

In the response to RAI-6 documented in DNC letter dated June 27, 2016 (ADAMS Accession No. ML16182A037), the licensee stated that "If the initiating event involves the inadvertent opening of the PORV(s) [power-operated relief valve] (IOPORV) event, MPS2 Emergency Operating procedure EOP 2525, "Standard Post-trip Actions," directs the operator to close the associated PORV block valve(s)".

Please provide evidence to show that the PORVs and/or the associated block valves can be closed on demand during an IOPORV event. The requested information should address one of the following two conditions applicable to MPS2:

(a) Condition 1: The PORVs and/or the associated block valves can be credited for closure in the water or steam-water conditions during an IOPORV event

Provide a discussion of the test data that qualify the PORVs and/or the associated block valves for closure in the water or steam-water conditions.

(b) Condition 2: The PORVs and/or the associated block valves are not qualified for closure in water or steam-water conditions during an IOPORV event. If the PORVs and/or associated block valves are not qualified please address the following:

The IOPORV event, an ANS Condition II event, is a depressurization event. The steam releases from the opening PORVs result in a decrease in the Reactor Coolant System (RCS) pressure. If operators do not take appropriate actions to terminate the RCS depressurization by either closing the PORV or its block valve, the safety injection (SI) system will be actuated when the RCS pressure decreases to the low pressurizer reactor protection system signal. Injection of the high pressure safety injection (HPSI) pump flow following the SI actuation signal could fill the pressurizer and result in water or steam-water mixture discharge through the open PORV and the associated block valve. For water or steam-water mixture discharge through the PORV and its block valve, the valves must be assumed to fail to close, if they are not qualified for water or steam-water mixture releases. As a result, the event initiating with an American Nuclear Society (ANS) Condition II (i.e., IOPORV event) escalates to an ANS Condition III event (i.e., an unisolable small-break loss-of-coolant accident (SBLOCA)). This result would not meet the acceptance criterion (AC) for the analysis of the anticipated operational occurrences (AOOs). For the IOPORV event (an AOO), Standard Review Plan (SRP) 15.6.1 indicates that in meeting the AC, the event must not generate a more serious condition plants without other faults occurring independently. In addition, the MPS2 licensing basis as discussed in FSAR (final safety analysis report), Table 14.0.1-1 identifies the IOPORV event (including IOPORV event) as a moderate frequency event and the acceptance criteria in FSAR Section 14.0.1.1 specify that the event should not generate a more serious plant condition without other faults occurring independently. The staff believes the MPS2 classification of plant conditions as discussed in FSAR Section 14.0.1 are consistent with the referenced ANS Conditions.

In order to satisfactorily resolve the concern of meeting the SRP 15.6.1 AC discussed above, the licensee is requested to demonstrate that an IOPORV event assuming the opening of one PORV and show that the operator has sufficient time to close the PORV and/or its block valve before the pressurizer overfill occurs, preventing an ANS Condition II event from escalating to an ANS Condition III event (i.e., a moderate frequency event escalating to an infrequent fault or limiting condition). The requested information should include:

- i) The maximum achievable operator action time to close the PORV or its block valve during an IOPORV event and the basis supporting the determined operator action time.
- ii) A discussion of the adequacy of the computer code and methods used for the IOPORV analysis.
- iii) A discussion of the assumptions and values of key plant parameters (such as HPSI flow, decay heat model, pressurizer water level) used in the IOPORV analysis to demonstrate that they are conservative, resulting in a minimum time for the pressurizer overfill to occur, and

iv) The results of the analysis of the IOPORV event, including a discussion of the sequence of events.