From: Guzman, Richard
Sent: Monday, June 01, 2015 8:11 PM
To: 'wanda.d.craft@dom.com'
Subject: Millstone Unit 2 and 3 - Request for Additional Information re: LAR to Adopt TSTF-523, Rev.2, GL 2008-01 - Managing Gas Accumulation (TAC No MF5715/5716)

Wanda,

The NRC staff is reviewing the information provided in the subject license amendment request dated January 15, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15021A128), as supplemented by letter dated April 15, 2015 (ADAMS Accession No. ML15111A449) and has determined that additional information is needed to complete its review. Shown below is the NRC staff's request for additional information (RAI) questions. This information request was discussed with your staff on June 1, 2015. As agreed, please provide your formal response by July 17, 2015. Please contact me if you have any questions.

REQUEST FOR ADDITIONAL INFORMATION
LICENSE AMENDMENT REQUEST TO ADOPT TSTF-523, REVISION 2,
GL 2008-01, MANAGING GAS ACCUMULATION
(TAC NOs. MF5715 AND MF5716)

1. Please clarify use of the Froude number, as follows:

   a. The License Amendment Request (LAR) referenced Generic Letter (GL) 2008-01. The response to GL 2008-01 states that a Froude number > 0.70 will remove gas from piping. This is inconsistent with the NEI 09-10, "Guidelines for Effective Prevention and Management of System Gas Accumulation," and the NRC's safety evaluation that approved NEI 09-10. Please explain this apparent inconsistency.
   b. In the GL response, some locations are stated to be ensured to be gas free by use of a sufficient flow rate. What are the Froude numbers used at these locations? If a system is not exempted because it is in operation, how long is flow maintained when gas removal is being accomplished?

2. The Millstone Power Station Unit 3 (MPS3) Containment Quench Spray System (QSS) is stated to be excluded from surveillance requirements (SRs), in part, because there are no identified gas intrusion mechanisms. Please explain how potential operator error during initial filling is not a gas intrusion mechanism for this system.

3. The MPS3 operating centrifugal charging pump (CCP), associated pump piping, the recirculation spray system (RSS) pump, the RSS heat exchanger, and associated RSS piping are excluded from SRs. This appears to be inconsistent with TSTF-523, Revision 2, "Generic Letter 2008-01, Managing Gas Accumulation." Please provide an explanation for this apparent inconsistency. Include a discussion of dormant piping that may accumulate gas associated with operating CCP flow such as a tee with no flow in the vertical connection, but with flow entering and leaving through the horizontal

connections. Also, address the potential for gas generation associated with flow through bypass orifices.

4. Please describe the monitoring of system parameters that could identify a change that could introduce gas into piping between surveillance intervals.

5. What are representative surveillance frequencies that exist under the MPS3 Surveillance Frequency Control Program that differ from the TSTF-523 example of 31 days and what is the basis for those changes?

6. The licensee states in its application, "Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY." Explain how this is consistent with the design basis requirement that the subject systems be water-solid.

7. Many references are made to the effect that there are no known sources of gas that could contribute to a gas void in numerous components. A chemical sampling system that connects to multiple locations within containment has been known to cause gas accumulation due to multiple valve leaks. This system is not mentioned in the licensee's application. Does Millstone Power Station Unit 2 (MPS2) or MPS3 have such a system? If so, what is the potential for gas accumulation and how is it addressed?

8. The reported April 6, 2014, 'B' LPSI pump cavitation was attributed to a previously recognized discharge side void. Please address how this interacted with behavior associated with a common two inch discharge line where the pump that has a lower discharge pressure capability may no longer provide flow.

9. Please provide the void surveillance history of MPS2 starting at January 1, 2008. Include the following:

    a. The surveillance frequency.
    b. For each discovered void, provide the mode, date, location, void quantity, void acceptance criterion, post void action (location restored to a water-solid condition) and reason for discovery of the void (examples include routine surveillance, accumulator behavior, reactor coolant leakage). If the void quantity exceeded the void acceptance criterion, then provide the disposition with respect to the impact on operability.
    c. A statement that if a void is not identified in Item b, then routine surveillances determined that there was no void.
    d. The total number of surveillances conducted.
    e. Monitoring of equipment such as accumulators or reactor coolant system leakage and follow-up from outages with respect to void assessment.

Thanks,

Rich Guzman
Sr. Project Manager
NRR/DORL
US NRC

301-415-1030