Lent, Susan

From: Singal, Balwant
Sent: Tuesday, January 29, 2013 2:53 PM
To: 'Hope, Timothy'
Cc: 'Jack.Hicks@luminant.com'
Subject: Relief Request B2 - Request for Additional Information (TAC MF0507)
Attachments: RR-B2-RAI.docx

Tim,

By letter dated January 16, 2013, Luminant Generation Company LLC (Luminant) submitted Relief Request (RR) B-2 for U.S. Nuclear Regulatory Commission (NRC) staff review and approval. The NRC staff needs the attached additional information to complete its review. The Draft Request for Additional Information (RAI) was forwarded to you on January 23, 2013 and clarification conference call was held on January 29, 2013. Since the NRC staff have been requested for an aggressive schedule for processing this RR, Jack Hicks of Luminant agreed to provide the response within 10 days of the issuance of the formal RAIs. Please treat this e-mail as formal request for additional information.

Please contact me at 301-415-3016 for any questions.

Thanks.

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U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

REQUEST FOR ADDITIONAL INFORMATION
RELIEF REQUEST B-2
FOR THE REACTOR VESSEL HOT LEG NOZZLE WELD EXAMINATIONS
COMANCHE PEAK NUCLEAR POWER PLANT
LUMINANT GENERATION COMPANY LLCDOCKET NUMBER 50-445

By letter dated January 16, 2013, Luminant Generation Company (the licensee) requested relief from the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, IWA-2232, at the Comanche Peak Nuclear Power Plant, Unit 1. Specifically, the licensee proposed an alternative as documented in Relief Request B-2 for examination of the reactor vessel hot leg nozzle welds. To complete its review, the U.S. Nuclear Regulatory Commission (NRC) requests the following additional information.

Questions

1. Please provide a drawing of the nozzle, safe end, weld, and pipe showing wall thickness dimensions or inside and outside diameter dimensions. If applicable, the drawing should show pipe inside surface cladding and provide cladding thickness and material specification. Please provide the material specification for the nozzle, affected welds, and pipe.

2. Section 6 of the relief request states that the measured flaw size will be adjusted by adding the difference between the demonstrated Root-Mean-Square (RMS) error (i.e., 0.189 inches) and the required RMS error (i.e., 0.125 inches). This implies that the measured flaw depth will be increased by 0.064 inches (0.189 – 0.125). The ASME Code, Section XI, IWA-3310 provides requirements under which a subsurface flaw must be considered as a surface-breaking flaw based on the flaw's proximity to the pipe surface. If a subsurface flaw is detected in the affected welds, nozzle, safe end, or pipe, the flaw would have two ends (crack tips). One end would be located closer to the inside surface of the pipe/weld and the other end would be located closer to the outside surface of the pipe. (1) Please discuss how the 0.064-inch difference would be added to the measured flaw depth (e.g., to which crack tip would the 0.064-inch difference be added?) (2) For flaws greater than 50 percent through-wall, the licensee stated that it will use eddy current testing to verify whether the flaw is surface-breaking. Discuss whether eddy current testing will be used to verify whether any subsurface flaw regardless of depth, which is located close to the inside surface, is surface-breaking. If eddy current will not be used in this situation, please explain why.

3. Section 6 of the relief request (page 3) states that "...for planar indications that are connected to the inside surface, an IWB-3600 evaluation will be performed..." (1) The Code of Record, 1998 edition through the 2000 addenda of the ASME Code, Section XI, permits a detected flaw to be dispositioned by the acceptance standards of IWB-3514. The licensee does not need to perform a flaw evaluation if the flaw is accepted by IWB-3514. However, if a flaw is connected to the inside surface of the nickel-based dissimilar metal weld, the NRC staff believes that the flaw needs to be evaluated regardless of its size, even if it is accepted by IWB-3514. The NRC staff is concerned regarding the crack growth of primary stress corrosion cracking affecting the structural integrity of the nickel-based dissimilar metal weld. Also, starting from the 2007 edition of the ASME Code, Section XI, the acceptance standards of IWB-3514 are not applicable to flaws connected to the inside surface of the nickel-based dissimilar metal welds. Therefore,

confirm that an IWB-3600 evaluation will be performed for any size of flaw as long as it is connected to the inside surface of the nickel-based dissimilar metal weld. (2) Please confirm that when performing a flaw evaluation based on IWB-3600 for an inside surface-connected flaw, the flaw growth will be calculated based on the degradation mechanisms of primary stress corrosion cracking and fatigue.

4. Section 6 of the relief request (page 2) stated that a demonstrated or measured RMS error of 0.189 inches will be used. Section 6 (page 3) further stated that if the examination vendor demonstrates an improved depth sizing RMS (i.e., smaller error) prior to the examination, the excess of that improved RMS error over the 0.125 inch RMS error requirement will be added to the measured flaw depth. Please discuss which demonstrated RMS error will be used to compare with the required RMS error of 0.125 inches if the demonstrated RMS error prior to actual examination is greater (i.e., data scatter become worse) than 0.189 inch.

5. (1) Please clarify whether the proposed relief request is applicable for the spring 2013 refueling outage 1RF16 only, or for the remaining third 10-year inservice inspection interval. (2) provide the end date of the third 10-year inservice inspection interval and month of 2013 refueling outage 1RF16.