

From: [Sayoc, Emmanuel](#)
To: [Paul Aitken](#); [Eric A Blocher](#)
Cc: [Wu, Angela](#)
Subject: Draft Surry SLRA RAI
Date: Tuesday, June 04, 2019 10:47:00 AM
Attachments: [029 Surry On Site Audit Tank RAI Huynh Holston.docx](#)
Importance: High

Paul, Eric,

Draft RAI B.2.1.36-1, on Atmospheric Metallic Tanks. We will assume you want a clarification call until you indicate otherwise.

Thanks

Emmanuel "Manny" Sayoc
Safety Project Manager
NRR/DLR
301-415-4084

TRP 29 Atmospheric Metallic Tanks

RAI B.2.1.36-1

Regulatory Basis

Regulatory Basis: 10 CFR § 54.21(a)(3) requires an applicant to demonstrate that the effects of aging for structures and components will be adequately managed so that the intended function(s) will be maintained consistent with the current licensing basis for the subsequent period of extended operation. One of the findings that the staff must make to issue a renewed license (10 CFR Section 54.29(a)) is that actions have been identified and have been or will be taken with respect to the managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under 10 CFR Section 54.21, such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the current licensing basis (CLB). To complete its review and enable making a finding under 10 CFR Section 54.29(a), the staff requires additional information in regard to the matters described below.

Background:

On April 24, 2019, NRC staff performed a walkdown of the emergency condensate storage tanks (ECSTs). During the walkdown, water was identified around one of the weep drainage holes for the Unit 2 ECST, whereas the remaining weep holes did not have any condensation present. Condition Reports 1121772 and 1121803 state that: (a) a similar condition existed on the Unit 1 ECST; and (b) a sealant will be installed on the missile shield to prevent water intrusion which could cause external corrosion of the tank and potential damage to the external insulation. The condition reports also state that internal inspections of the Unit 1 and Unit 2 ECSTs were completed in 2013 and 2017, respectively, and did not document any concerns regarding the external or internal condition of the tanks.

The detection of aging effects program element in GALL-SLR AMP XI.M29, "Outdoor and Large Atmospheric Metallic Storage Tanks" states, in part, that "[i]f the exterior surface is not coated, visual inspections of the tank's surface are conducted within sufficient proximity to detect loss of material" and "[i]f the exterior surface of an outdoor tank or indoor tank exposed to condensation is insulated, sufficient insulation is removed to determine the condition of the exterior surface of the tank."

SLRA Section B2.1.17 states an exception to conducting visual and volumetric examinations of the external surfaces of the ECSTs due to the concrete missile shielding and expansion joint filler foam surrounding the tank. The concrete missile shields do not allow visual examinations of the tank's external surfaces as recommended by AMP XI.M29.

Issue:

The duration of the presumably ongoing leakage through the missile shields is unknown. In addition, a review of station drawings indicated that the plug was located above the tank such that any leakage that managed to penetrate the external joint filler foam between the missile barrier and tank could potentially wet the external surface of the tank. Because the tanks are contained within a concrete missile barrier with insulation between, any leakage that penetrates to the surface of the tank could be retained for an extended period, potentially corroding the external surface of the tank.

The summary of the inspections conducted in 2013 and 2017 lacks sufficient detail to justify why external corrosion has not occurred on the tanks as a result of the ongoing leakage. For example, an internal inspection will not detect external corrosion unless a volumetric wall thickness inspection was conducted.

Because of this plant-specific operating experience, SLRA Section B2.1.17 lacks a sufficient basis to justify the exception to AMP XI.M29.

Request:

State the basis for tank integrity will be maintained throughout the SPEO despite the potential for condensation being retained on the surface of the tank and a lack of visual confirmation to prove otherwise.