

From: [Sayoc, Emmanuel](#)
To: [Paul Aitken](#); [Eric A Blocher](#)
Cc: [Wu, Angela](#)
Subject: One more RAI - Sorry!
Date: Monday, July 01, 2019 12:05:00 PM
Attachments: [Surry SLRA 2.3.3.4 Aux Systems -- Service Water - Draft SE and RAI Scoping and Screening.docx](#)
Importance: High

Paul, Eric,

Last Thursday we got this RAI from an emergent technical issue from the staff. Sorry I now I told you there were no more RAI as that is what the staff told me.

We have a meeting with the associated BC this afternoon to discuss how this came in so late and what we can do to work the issue being that Set 1 and 2 are out already.

I'll set up a clarification call on this and I am hoping we can squeeze this in your Set 2 response due in 7/18. The staff isn't off the hook on this easy, I will ask them to also give me an

Expedited review of your response and SER input to stay on schedule.

I posed the question again, is anyone else thinking about an RAI? Other than this I got none.

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RAI 2.3.3.4-1 – Scoping and Screening - Auxiliary Systems - Emergency Service Water Pumps

REGULATION

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 period of extended operation. One of the findings that the staff must make to issue a renewed license (10 CFR 54.29(a)) is that actions have been identified and have been or will be taken with respect to 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 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. In order to complete its review and enable making a finding under 10 CFR 54.29(a), the staff requires additional information in regard to the matters described below.

Background:

Section 2.3.3.4, “Service Water,” of the SLRA provided the following description defining the system evaluation boundaries related to the emergency service water pumps:

The emergency service water pump diesel engines themselves and attached/skid-mounted subcomponents are part of the active assembly, not subject to aging management review.

Section 2.1.5.1, “Identification of Structures and Components Subject to AMR,” of the SLRA provided the following definition of complex assemblies:

A complex assembly is a predominantly active assembly where the performance of its components is closely linked to that of the intended function of the entire assembly, such that testing and monitoring of the assembly is sufficient to identify degradation of these components. Examples of complex assemblies include diesel generators and chiller units. Complex assemblies are considered active and can be excluded from the requirements of AMR. However, to the extent that complex assemblies include piping or components that interface with external equipment, or components that cannot be adequately tested or monitored as part of the complex assembly, those components are identified and subject to aging management review. This follows the screening methodology for complex assemblies as described in Table 2.1-2 of NUREG-2192.

Sheet 1 of SLRA Boundary Drawing 11448-SLRM-071A, “Subsequent License Renewal – Service Water System – Surry Power Station Unit 1,” displays the interface of the three emergency service water pumps with the service water piping. For each pump assembly, this drawing shows a 2-inch flexible connection to an element labeled “Diesel” [Locations B-4, D-4, and E-4] and a 1-inch flexible connection to an element labeled “Shaft Bearing Oil Cooler” [Locations C-4, E-4, and F-4].

SLRA Table 2.3.3-4, “Service Water,” includes no component of the type “heat exchanger” requiring an aging management review and no component with an intended function of “heat transfer.” However, Table 2.3.3-6, “Service Water,” of the original Surry License Renewal

Application from 2001 (ADAMS Accession No. ML011500486) lists emergency service water pump diesel jacket water radiators and emergency service water pump diesel oil coolers that perform heat transfer and pressure boundary intended functions.

The staff provided the following guidance for scoping of complex assemblies in Table 2.1.2, "Specific Staff Guidance on Scoping," of NUREG-2192, "Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants:"

Some SCs, when combined, are considered a complex assembly (for example, diesel generator starting air skids or heating, ventilating, and air conditioning refrigerant units). For purposes of performing an AMR [aging management review], it is important to clearly establish the boundaries of review. An applicant should establish the boundaries for such assemblies by identifying each structure and component that make up the complex assembly and determining whether or not each structure and component is subject to an AMR.

Issue:

The applicant has not provided justification that heat exchanger components of the emergency service water pumps, including the associated diesel driver, are so closely linked to the intended function of the entire assembly that testing and monitoring of the assembly is sufficient to identify degradation of these components. Separate aging management review of the emergency service water pump diesel jacket water radiators and emergency service water pump diesel oil coolers, as identified in the original Surry license renewal application, suggests these components may be subject to individual aging management review.

Request:

Please provide justification that heat exchanger components of the emergency service water pumps, including the associated diesel driver, are so closely linked to the intended function of the entire assembly that testing and monitoring of the assembly is sufficient to identify degradation of these components or identify these components as subject to an aging management review and provide the results of the aging management review for these components.