NRR-PMDAPEm Resource

From: Lingam, Siva
Sent: Thursday, June 02, 2016 3:27 PM
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Cc: Pascarelli, Robert; Weerakkody, Sunil; Huckabay, Victoria; Kulesa, Gloria; Green, Brian; Yoder, Matthew; Wood, Kent; Regner, Lisa
Subject: Palo Verde 1, 2, and 3 - APHB and ESGB RAIs for Spent Fuel Pool Criticality Safety Analysis LAR (CAC Nos. MF7138, MF7139, and MF7140)

By letter dated November 25, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15336A087), as supplemented by letter dated January 29, 2016 (ADAMS Accession No. ML16043A361), Arizona Public Service Company (the licensee) submitted a license amendment request (LAR) for Palo Verde Nuclear Generating Station, Units 1, 2, and 3. The proposed amendment would revise the Technical Specification requirements to incorporate the results of an updated criticality safety analysis for both new and spent fuel storage. Our Probabilistic Risk assessment Operations and Human Factors Branch (APHB) and Steam Generator Tube Integrity and Chemical Engineering Branch (ESGB) have the following **official** requests for additional information (RAIs).

To complete its review, the U.S. Nuclear Regulatory Commission (NRC) staff requests the following official additional information within 30 days from the date of this e-mail (as agreed during the clarification call on May 25, 2016). Your timely responses will allow the NRC staff to complete its review on schedule. Based on the telephone call held on April 13, 2016, regarding the proprietary information to be withheld, you may also choose to submit the revised Westinghouse report WCAP-18030-P/NP, "Criticality Safety Analysis for Palo Verde Nuclear Generating Station Units 1, 2, and 3," including the affidavit, along with your RAI responses.

APHB-RAI-1

Clarification is needed for items on Tables, 2, 3, and 5. These tables present specific acceptance/rejection criteria for various tests. Most of the items listed on these tables are clear and specific making it easy and unambiguous for inspectors to determine if a component has pass or failed the inspection. However, each of these tables has an item that is less clear: "Evidence of visual indications of performance inhibitors." Please clarify what specific properties an inspector would look for to indicate that performance is inhibited. If the requested information is specified in other documents, such as an inspection procedure, you may include a reference to that document as well as a brief description of the acceptance criteria and/or an excerpt from the document.

APHB-RAI-2

Has the operating experience review [OER] mentioned in Sections 3.1.4 and 3.1.5 of the November 25, 2015, submittal been conducted? If so what were the results? If not, when will it be conducted and how will the results be used to modify this process?

ESGB-RAI-1

The proposed amendment refers to a "related spent fuel pool (SFP)" when describing the coupon tree surveillance assembly. Please confirm that each unit's SFP will have its own coupon tree. If each unit has an independent coupon tree, will the frequency of coupon removal described in Table 1 apply to each unit's coupons? If there is not a coupon tree in each SFP, please describe how the monitoring program ensures that tested coupons are representative of the installed inserts in each unit's SFP.

ESGB-RAI-2

Table 2 of the LAR dated November 25, 2015, provides a minimum areal density criterion of 0.0156 g/cm^2 [gram/centimeter^2] Boron-10 for the coupons. What is the nominal areal density of the installed panels and surveillance coupons? If the as-built Maxus production material used for a given coupon has an areal density that is significantly greater than the minimum value described in the acceptance criteria for the coupon program, then that coupon could decrease significantly in areal density from its pre-characterization value and still pass the acceptance criteria. Since there is no acceptance criteria for change in areal density (i.e. 5% reduction), how would such a reduction be addressed by the neutron absorber monitoring program?

ESGB-RAI-3

What is the tolerable variation in areal density within a pool's production material for the inserts and coupons? If an insert were manufactured close to the minimum acceptable areal density, and a coupon for the same pool were manufactured at the upper bound of the acceptable areal density for that batch, it is possible that degradation (reduction in areal density) in the coupon would meet the acceptance criteria for the surveillance program but, that same reduction would place the panel below the minimum areal density. Please discuss the acceptable variation of areal density within each pool in the context of its potential impact of the surveillance program.

ESGB-RAI-4

For the full length inserts that will be removed for periodic inspection as described in Table 4 of the LAR dated November 25, 2015, please confirm that the inserts will be placed back in their original storage location following inspection.

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