NRR-PMDAPEm Resource

From: Saba, Farideh
Sent: Thursday, June 19, 2014 5:18 PM
To: Williams, Gordon Robert (grwilliams1@tva.gov)
Cc: Schrull, Edward Dustin (edschrull@tva.gov); Hess, Thomas A (tahess@tva.gov)
Subject: RAIs REGARDING PROPOSED TECHNICAL SPECIFICATION CHANGE TO REVISE THE LEAKAGE RATE THROUGH MSIVS – TS-485, TAC Nos. MF3124, MF3125, and MF3126
Attachments: MF3124-6_BFN1-3 SBPB RAIs REVISE THE LEAKAGE RATE THROUGH MSIVS TS-485-FES.docx

Importance: High

Gordon,

Please see the request for additional information (RAIs) in the attached document from the technical reviewer in the Balance of Plant Branch (SBPB). I had sent you these RAIs as draft RAIs on 06/05/14 and had a clarification call on 06/17/14. As we discussed during this call, you understand the questions. Referring to your email dated 06/19/14, you will respond to these RAIs by 07/18/14.

Thanks,

Farideh
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Created By: Farideh.Saba@nrc.gov

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Options
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REQUEST FOR ADDITIONAL INFORMATION (RAI)

PROPOSED TECHNICAL SPECIFICATION CHANGE TO REVISE

THE LEAKAGE RATE THROUGH MSIVS – TS-485

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT UNITS 1, 2, AND 3

DOCKET NOS. 50-259, 50-260, AND 50-296

By letter dated November 22, 2013, Tennessee Valley Authority (TVA), the licensee, requested a change to the Technical Specifications (TS) to Browns Ferry Nuclear Plant Units 1, 2, and 3 (BFN). The amendment proposes to change TS 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)," specifically for decreasing the allowable leakage rate of each of the mainsteam isolation valves (MSIV) and decreasing the combined leakage rate of all four MSIV.

The Nuclear Regulatory Commission (NRC) staff has performed a review of BFN's license amendment request (LAR) for modifying TS 3.6.1.3 (TS-485). The review resulted in the following request for additional information (RAI). The requested information is necessary for the NRC staff to complete the evaluation of this amendment request.

SBPB RAI-1

BFN Updated Final Safety Analysis Report (FSAR), Section 4.11.4 states that the outside mainsteam drain lines on the four mainsteam headers are used to allow continuous draining to the condenser through the orifice. In addition the outside steam line drains are capable of being utilized to equalize pressure across the main steam isolation valves prior to restart following steam line isolation. Also the main steam drain lines are used to warm up and pressurize the outside steam lines.

However, in the LAR, the licensee states:

> In the unlikely event the primary flow path is not available, and consistent with the guidance provided in NEDC-31858P, a secondary flow path is provided (although not with orifice flow). The secondary flow path is through normally open valves FCV-1-168, FCV-1-169, FCV-1-170, and FCV-1-171, and continues through valves FCV-1-57, FCV-1-58, and FCV-1-59 to the main condenser.

Descriptions of drain pathways appear to be different between the FSAR reference and the statement in the LAR. Additionally, the licensee implies that some operator actions may be necessary for secondary drain flow path alignment.

a. Clarify any differences in how the primary and secondary ALT pathway is operated post-accident versus the mainstream line drains systems while at power, startup, or

shutdown. Consider revising the UFSAR by adding the two ALT pathway descriptions to the UFSAR.

b. Explain how main control room (MCR) operators know when or how the primary flow path, which is passive, is unavailable in order to line-up the secondary path. Provide drawings and/or describe the instruments that are available to the MCR staff in order to make such an assessment.

SBPB RAI-2

In the LAR, the licensee states:

> One of the valves (FCV-1-59) has a four-inch bypass containing no valves or orifices. Therefore, there is no concern associated with FCV-1-59 with respect to ALT Pathway availability."

Also, in the LAR, the licensee states:

> The secondary ALT Pathway (Figure 2) has now been defined as the pathway through the main steam drain lines and through open valves FCV-1-57, FCV-1 - 58, and FCV-1-59 to the condenser.

Descriptions of drain pathways appear to be different between the UFSAR reference and the licensee statements in the LAR.

Confirm that there are no restrictions in the bypass line around FCV-1-59 and provide explanation of the system configuration and why the valve is closed and why the valve is necessary. If FCV-1-59 is truly a full bypass, describe why FCV-1-59 exists and why it needed to be open in the secondary ALT Pathway.

SBPB RAI-3

In the LAR, the licensee states:

> That all the valves in the ALT pathway, and any boundary valves required to close, are included in the IST or augmented IST programs. The IST program and will test the power operated valves on an appropriate periodic basis.

In addition, the licensee states that the primary ALT Pathway is through this 0.1875-inch orifice with valve FCV-1-58 closed. To ensure the flow through the 0.1875-inch orifice is not obstructed, periodic radiography inspection of the 0.1875 inch orifice will be performed during refueling outages. Also four two-inch bypass lines, that contain 0.25 inch orifices (around valves FCV-1-168, FCV-1-169, FCV-1-170 and FCV-1-171), connecting to a three-inch header.

Inspection methodology for all orifices in the flow path, to verify there is no flow blockage, is not described in the LAR.

a. Describe why a radiography (RT) inspection of the 0.1875 inch orifice around FCV-1-58 is preferred over a visual inspection. Also, describe why radiography was selected to verify an open flow path versus other means such as a visual inspection.

b. Provide an explanation of how a RT would provide assurance on an open pathway through on orifice plate. Describe the acceptance criteria of the RT for the 0.1875 inch orifice.

c. Identify the procedures/methodology that ensures that inspections are performed during refueling outages, including the frequency (i.e., every refueling outage) that the inspection is performed.

d. Discuss the rational for not performing a periodic radiography inspection or visual inspection of the 0.25 inch orifices around FCV-1-168, FCV-1-169, FCV-1-170 and FCV-1-171.