NRR-PMDAPEm Resource

From: Stroud, Russell Allen [rastroud@tva.gov]
Sent: Wednesday, February 25, 2015 4:10 PM
To: Poole, Justin; 'robert.shaaf@nrc.gov'; Zimmerman, Jacob
Cc: Shea, Joseph W; Cobey, Eugene William; Arent, Gordon; Bryan, Robert H Jr.; Hilmes, Steven A; Durr, Michael Joseph; Taylor, Ashley J; Bowman, Mark D; Womack, Tamatha A
Subject: TVA Response to NRC Topical Questions from February 19 2015 Public Meeting
Attachments: Feb 25 2015 Email Response to NRR on DVR Topics.pdf

Justin / Bob / Jake:

Attached is TVA's response to the three degraded voltage topical issues that were discussed during the February 19, 2015 public meeting. Should you have questions about this response, please contact me at the numbers listed below.

Russell A. (Rusty) Stroud
Sr. Program Manager, Site Nuclear Licensing
Watts Bar Nuclear Plant
423.365.1435 *office*
423.208.7189 *cell*

Hearing Identifier: NRR_PMDA
Email Number: 1918

Mail Envelope Properties (0013B339CCAE6A41A5EA299747357AFD29B7F52B)

Subject: TVA Response to NRC Topical Questions from February 19 2015 Public Meeting
Sent Date: 2/25/2015 4:09:45 PM
Received Date: 2/25/2015 4:09:47 PM
From: Stroud, Russell Allen

Created By: rastroud@tva.gov

Recipients:
"Shea, Joseph W" <jwshea@tva.gov>
Tracking Status: None
"Cobey, Eugene William" <ewcobey@tva.gov>
Tracking Status: None
"Arent, Gordon" <garent@tva.gov>
Tracking Status: None
"Bryan, Robert H Jr." <rhbryan@tva.gov>
Tracking Status: None
"Hilmes, Steven A" <sahilmes@tva.gov>
Tracking Status: None
"Durr, Michael Joseph" <mjdurr@tva.gov>
Tracking Status: None
"Taylor, Ashley J" <ajtaylor@tva.gov>
Tracking Status: None
"Bowman, Mark D" <mdbowman@tva.gov>
Tracking Status: None
"Womack, Tamatha A" <tawomack@tva.gov>
Tracking Status: None
"Poole, Justin" <Justin.Poole@nrc.gov>
Tracking Status: None
"'robert.shaaf@nrc.gov'" <robert.shaaf@nrc.gov>
Tracking Status: None
"Zimmerman, Jacob" <Jacob.Zimmerman@nrc.gov>
Tracking Status: None

Post Office: TVACHAXCH7.main.tva.gov

Files	**Size**	**Date & Time**
MESSAGE	425	2/25/2015 4:09:47 PM
Feb 25 2015 Email Response to NRR on DVR Topics.pdf	93077	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

On February 19, 2015, a public meeting was held between the Nuclear Regulatory Commission (NRC) and the Tennessee Valley Authority (TVA) to discuss activities related to the granting of an Operating License for the Watts Bar Nuclear Plant (WBN), Unit 2. One topic discussed during the public meeting was the NRC review of the design of the Degraded Voltage Relay (DVR) scheme at WBN. The NRC indicated that TVA's response to NRC's requests for additional information (RAIs) dated January 30, 2015 provided sufficient information for the NRC close to Supplemental Safety Evaluation Open Item 30 (TAC No. MD8203).

While not affecting the NRC's overall conclusion regarding TVA's degraded voltage protection scheme, the NRC identified three additional topics that required discussion before closure of the open item. Specifically, confirmation that the grid protocol between TVA's Transmission and Power Supply (TPS) group and the Nuclear Power Group would be revised to consider Watts Bar Unit 2 and response to a dual unit trip; notification that the NRR staff had not completed a detailed review of TVA's supporting calculations and as such relied upon summary information provided by TVA; and, TVA's compliance to Branch Technical Position (BTP) PSB-1 section B.1.b

In response, TVA provides the following:

Topic 1

NRC Inspection Planning & Scheduling (IP&S) item 210 for Watts Bar Unit 2 has an open action to incorporate the dual unit operation into the Transmission Operation Procedures. Specifically, IP&S Item 210 includes:

> *"Revision to incorporate WBN dual unit operating requirements is required for Transmission Operation procedures TRO-EA-SOP-30.405, "Nuclear Offsite Power Operating Requirements" (Tab 12) and TRO-EA-SOP-30.406, "Incorporation of Nuclear Offsite Power NPIRs and Accident Loading into Operating System Models" (Tab 13), and WBN procedure 1-PI-OPS-1-500kV, "Main Control Room Voltage Monitoring"(Tab 15)".*

Topic 2

TVA understands and will support subsequent inspections of the calculations that support TVA's Response to Watts Bar Nuclear Plant Unit 2 Request for Additional Information Regarding Chapter 8, "Electrical Power" - Supplemental Safety Evaluation Report (SSER 22, OPEN ITEM 30) (TAC NO. ME2731)

Topic 3

During previous discussions with the staff on WBN's degraded voltage protection scheme, TVA has referenced a January 23, 2002, letter from the NRC approving an amendment to the WBN-1 license. The amendment increased the time delay setting of 6.9 kV emergency bus degraded voltage function from 6 to 10 seconds (reference: TAC No. MB 1954 / ADAMS Accession No. ML020230334). While the NRC's safety evaluation does not explicitly refer to BTP PSB-1, it did consider the adequacy of the DVR time delay settings and acknowledged that the load tap changers (LTCs) will restore 6.9 kV shutdown board voltage for a safety injection signal with a simultaneous worst case grid drop before the degraded voltage relays actuate to transfer power supply to the emergency diesel generator (EDGs).

Since the separate time delays are not explicitly addressed in the current licensing basis, TVA has concluded the following clarifying information will be provided in the Watts Bar Unit 2 Final Safety Analysis Report Amendment 114:

> *WBN's DVR scheme includes two separate time delay relays, both of which have the same setpoint. Each relay setpoint is selected following the guidance given in PSB-1, position B.1.b. The time delay for position B.1.b.2 is of a limited duration that ensures the permanently connected Class 1E loads will not be damaged. Since the offsite power supply has automatic high-speed load tap changers (LTCs), minimal time delay (i.e. same as B.1.b.1 time delay) is sufficient for restoration of Class 1E bus voltage, negating the need for additional time to allow manual operator actions.*