WBN2Public Resource

From: Lyon, Fred
Sent: Friday, March 11, 2011 12:19 PM
To: garent@tva.gov; wdcrouch@tva.gov
Cc: Poole, Justin; Milano, Patrick; Raghavan, Rags
Subject: Component Cooling System RAI 9.2-CSS-6
Attachments: RAI 9.2-CSS-6.docx

Attached fyi is a request for information regarding the component cooling system. Please provide a response by letter within 15 days.

Thanks, Fred Lyon (301-415-2296)

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From: Lyon, Fred

Created By: Fred.Lyon@nrc.gov

Recipients:
"Poole, Justin" <Justin.Poole@nrc.gov>
Tracking Status: None
"Milano, Patrick" <Patrick.Milano@nrc.gov>
Tracking Status: None
"Raghavan, Rags" <Rags.Raghavan@nrc.gov>
Tracking Status: None
"garent@tva.gov" <garent@tva.gov>
Tracking Status: None
"wdcrouch@tva.gov" <wdcrouch@tva.gov>
Tracking Status: None

Post Office: HQCLSTR01.nrc.gov

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REQUEST FOR ADDITIONAL INFORMATION

REGARDING FSAR SECTION 9.2.2, "COMPONENT COOLING SYSTEM (CCS)"

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT, UNIT 2

DOCKET NO. 50-391

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated March 4, 2009 (ADAMS Accession No. ML090700378), the Tennessee Valley Authority (TVA) submitted an update to its application for a facility operating license for Watts Bar Nuclear Plant (WBN), Unit 2. The NRC staff's review of the information provided by TVA, as supplemented by amendments to the WBN Unit 2 Final Safety Analysis Report (FSAR), and TVA's responses to the staff's requests for additional information, is in progress. The NRC staff requests the following additional information to complete its review of the proposed application.

Request for Additional Information (RAI)

RAI 9.2-CCS-6:

In its letter dated December 10, 2010, TVA provided Enclosure 3, "Summary Heat Load and Flow Tables for RAI 9.2-CCS-4." These tables show component cooling system (CCS) heat loads and flows for (1) loss of offsite power (LOOP) with loss of Train B, and (2) LOOP with loss of Train A (1A and 2A). It appears that loss of Train A is the worst case single failure, because in the safety injection (one unit) and cold shutdown (other unit) mode only one CCS pump is operating; whereas, in the loss-of-coolant accident (LOCA) recirculation (Recirc) mode (one unit) and cold shutdown (other unit), two CCS pumps are running with the C heat exchanger. Loss of Train A appears to be the worst case scenario, because there is more CCS flow and there are more available heat exchangers for the same modes when the single failure is loss of Train B.

TVA also stated in its letter dated December 10, 2010, in response to RAI 9.2-CCS-1, that, "The project has performed calculations which demonstrate that there is sufficient ERCW and CCS capability to bring the non-accident unit to Cold Shutdown within 72 hours from entry into the Hot Standby mode." It is not clear to the staff whether or not this ability includes assuming the worst case single failure, as described above. Therefore, the staff requests TVA provide responses to the following questions.

1. Is loss of Train A the worst case single failure for the CCS system, as described above? If not, then what is the worst case single failure for the CCS?

2. From the CCS flow and heat load in the worst single failure scenario, explain whether or not the remaining CCS equipment, which is not affected by the single failure, can perform its safety function for the LOCA unit and provide an orderly shutdown and cool down of the nonaccident unit. Provide the approximate time to reach cold shutdown for the nonaccident unit, and explain whether or not this meets the requirements of GDC 5 for shared systems.

3. Does the 72-hour cold shutdown capability described above include assuming the worst case single failure? Explain why or why not.