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**Date:** 05/14/2007 4:41:22 PM  
**Subject:** Followup Comments on ESBWR Chapter 16 RAIs

Joel,

we have identified some additional comments on ESBWR Chapter 16.0 and 16.2. These comments are provided in the attachment to this e-mail. Please provide your response at your earliest convenience. Thanks for your quick attention.

Chandu

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## **Followup comments on ESBWR Chapter 16**

### **Followup Comment on RAI 16.2-88:**

The conductor overcurrent protective devices for the electrical containment penetrations are used for both safety-related and non-safety-related power, control and instrumentation circuits. Some of these circuits may be susceptible to unanticipated fault conditions during a design-basis accident (DBA). Of particular concern would be 6900-volt and 480-volt non-safety-related power circuits with equipment that is not qualified for the post-accident containment environment. It is recognized that some of the non-safety-related circuits are de-energized during a DBA, while other circuits may be de-energized after some time delay. However, for those circuits that are energized, actuation of the overcurrent protective devices may be necessary to protect the electrical penetrations from fault current levels that could damage the penetrations and compromise the integrity of the containment fission product barrier.

Since the overcurrent protective devices are necessary to ensure the integrity of the electrical penetration during faulted conditions, the overcurrent protective devices are considered by the staff to be support systems. According to TS Section 1.1, a safety system (electrical penetration) is considered "OPERABLE" only if all required support systems (which would include overcurrent protective devices) are "OPERABLE."

Based on the above, explain why the overcurrent protective devices for the electrical containment penetrations are not included in the TS per Criterion 3 of 10 CFR 50.36(c)(2)(ii).

### **Followup comment on RAI 16.2-98:**

Technical Specification Limiting Condition for Operation (LCO) 3.5.2, Conditions A and B in Revision 3 of Tier 2 of the DCD allow plant operation with only 3 gravity driven cooling system injection and one equalizing line out of the 8 available injection and 4 equalizing lines. In the Bases it is stated that "This completion time is acceptable because the analysis described in Reference 4 determined that 3 injection branch lines [and 1 equalizing line] is sufficient to respond to the design basis LOCA."

In a tele-conference on March 26, 2007, GE stated that the analysis to support this LCO was not performed and that the LCO actions should be placed in "brackets" indicating that the information is either plant specific or not yet complete. GE stated that the brackets were left off in error. The staff requests that GE put the LCO 3.5.2, Conditions A and B, actions and associated Bases in brackets in the next revision of the DCD. If GE completes the supporting analysis by this time, the staff instead requests that GE submit the analysis.

### **Followup comment on RAI 16.0-3:**

The ESBWR TS 3.6.2.1, "Suppression Pool Average Temperature," differs significantly from TSTF-458-T:

- \* Required Action D.2 still requires verifying instead of determining temperature;
- \* STS Required Action D.3, to be in Cold Shutdown in 36 hours of entering Condition D, is deleted;
- \* Required Action E.2, to be in Cold Shutdown in 36 hours of entering Condition E, is not

deleted; and

- \* Condition D applies when suppression pool average temperature exceeds 120 degrees F, instead of the STS value of 110 degrees F, and
- \* Condition E applies when suppression pool average temperature exceeds 130 degrees F, instead of the STS value of 120 degrees F.

Please justify these differences, including the higher temperatures associated with Conditions D and E.