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**Date:** 06/15/2007 11:38:30 AM  
**Subject:** Supplemental RAI for ESBWR Chapter 16

Joel,

please see attached supplemental RAI for Chapter 16. please provide a schedule for your response, and let me know if you have any questions. Supplemental information is requested for RAIs 16.2-63, 16.2-96, and 16.2-124.

Thanks,  
Chandu

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**Supplemental Request for Additional Information**  
**ESBWR, Tier 2, Rev. 3, Chapter 16**

1. Comment on response to RAI 16.2-63 supplement 1 (MFN-06-431, supplement 2):

In RAI 16.2-63, the staff requested the applicant to establish surveillance requirements to verify (a) isolation power center (IPC) bus breaker alignment and power availability, and (b) automatic and manual transfer of AC power sources from the normal Plant Investment Protection (PIP) bus to the alternate PIP bus. In its response letter (MFN 06-431, supplement 2, dated May 14, 2007), the applicant stated that incorrect breaker alignment or power availability from the non-safety-related PIP buses supplying power to the four IPC buses will result in failure to meet Surveillance requirement (SR) 3.8.1.1. SR 3.8.1.1 verifies that each required battery terminal voltage is greater than or equal to minimum established temperature-compensated float voltage every 31 days. This is an indirect method of verifying IPC breaker alignment and power availability for a Class 1E distribution system. Operational problems may not be noted until the effected batter(ies) have significantly discharged. It would be prudent in accordance with the Applicability Statement to verify breaker alignments and power availability prior to entering Modes 1, 2, 3, and 4 and every 7 days thereafter as recommended by NUREG 1434 for Class 1E distribution systems.

As stated above, RAI 16.2-63 request that SRs be established to verify automatic and manual IPC bus transfer capabilities. This recommendation is closely related to RAI 16.2-61 which request that surveillance requirements for the IPC degraded and under voltage protection relays be included in the technical specifications (TS) to ensure IPC fast bus transfer capability. IPC fast bus transfer capability is needed to reduce routine challenges to the safety related 250 VDC and 120 VAC vital buses.

In summary, the staff considers the IPC buses an essential part of the Class 1E distribution system, and should therefore be included in TS 3.8.6, Distribution Systems - Operating, and TS 3.8.7, Distribution Systems - Shutdown.

2. Comment on response to RAI 16.2-96 (MFN 07-211, April 9, 2007):

GE states ( MFN 07-211, Page 4 of 5 ) that "Requirements for the GDCS deluge subsystem are included in programs controlled by the COL applicant". This should be included in the DCD Tier 2, Section 6.3.6, as an action item for the COL applicant.

3. Comment on response to RAI 16.2-124 (MFN 07-306, June 4, 2007):

The proposed minimum battery capacity of 80% is applicable to vented lead acid batteries. GE's proposed changes to SR 3.8.3.6 should be revised to state:

Verify each required battery capacity is greater then or equal to 90% of the manufacturer's rating when subjected to a performance discharge test {or a modified performance discharge test}.

These changes are consistent with the proposed Bases and Section 6.3 of IEEE Standard 1188-2005, "Recommended Practices for Maintenance, Testing, and Replacement of Valve-Regulated Lead-Acid Batteries for Stationary Applications."