

ArevaEPRDCPEm Resource

From: Miernicki, Michael
Sent: Thursday, November 29, 2012 5:40 PM
To: WILLIFORD Dennis (AREVA)
Cc: Snyder, Amy; RYAN Tom (AREVA)
Subject: FW: Assessment of Draft Response to RAI 370 Question 03.07.01-27

Importance: High

Dennis, staff would like to discuss w/ AREVA subject draft response on Thursday 12/13, 2-4:30pm. Please let me know if this time works for AREVA. See comments below.

Mike

Michael J. Miernicki
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From: Xu, Jim
Sent: Thursday, November 29, 2012 1:09 PM
To: Miernicki, Michael
Cc: Xu, Jim; Thomas, Brian
Subject: FW: Assessment of Draft Response to RAI 370 Question 03.07.01-27
Importance: High

Mike,

Please arrange a telecon with AREVA to discuss the subject draft response which affect both 3.7 and 3.8 reviews.

Jim

From: David Foster [<mailto:dfoster@numarkassoc.com>]
Sent: Thursday, November 29, 2012 12:55 PM
To: Xu, Jim
Cc: mmiranda@bnl.gov; braverman@bnl.gov; carl costantino; Thomas Houston
Subject: Assessment of Draft Response to RAI 370 Question 03.07.01-27
Importance: High

I have discussed the response to RAI 370, Question 03.07.01-27 with Carl and Joe who had input from Tom and Manuel. The following is a summary of the review for draft response RAI 370, Question 03.07.01-27.

- The basis for the generation of ISRS as described in the draft response is acceptable. However there are clarifications or additional information that should be provided by AREVA. These are:
 - On draft FSAR page 2.5-4 it says that ZPA comparisons will be made between values found in U.S EPR Table 3.7.2-10 and the applicant's site specific SSI analysis for the key locations identified on FSAR page 2.5-4. The EPGB and ESWB locations and elevations shown on FSAR page 2.5-4 are not included in Table 3.7.2-10 but should be added to the table. Also it is not clear what the basis is for the selection of the key locations. For instance the fuel building

comparison is done only at elevation 12 feet, 1 2/3 inches. Why was this selected? The basis for the key locations should be explained.

- On draft FSAR page 3.7-11, Section 3.7.1.2 second paragraph, it should clarify that SSE damping values are used for the seismic analysis of the NI EUR cases and OBE damping values are used for the high frequency cases as well as for the seismic analysis of the EPGB and ESWB.
- Regarding the analysis of the RCS, it is not clear what damping values will be used in the combined structural stick/RCS model described in Appendix 3C. As the RCS is a supported system, it would seem appropriate to use Rayleigh damping based on OBE structural damping for at least one of the time history analyses used to develop the response of the RCS system. This would be compatible with the fact that AREVA is going to use OBE damping for generating ISRS for the case of un-cracked concrete. Also on draft FSAR page 3.7-108 at the top of the page, second bullet, AREVA indicates that 3 percent RCS component damping is also used for generation of ISRS. AREVA needs to describe under what conditions and in which analysis this damping value is used. Appendix 3C should be revised as necessary to make it compatible with the commitments made in the response to RAI 370, Question 03.07.01-27.
- In reviewing draft FSAR Table 3.7.2-10 it is noted that for the Safeguard Building at elevation 8.10 meters, the controlling ZPA is based on the hfub case. The reported ZPA is significantly different from the hflb and hfbe cases and higher than any of the EUR cases. AREVA should confirm the hf values are based on OBE damping and explain the apparent anomaly of the hfub case.
- The response indicates that the approach for structural evaluations of the nuclear island is revised. For the nuclear island structural design, including stability evaluations, the analysis will utilize SSE damping with out-of-plane cracking for the EUR based ground motions and will utilize the OBE damping with out-of-plane cracking for the high frequency ground motions. This approach is different than the structural analysis method described in the response to RAI-335, Question 03.08.01-44, Supplement 16, which indicates that cracked and uncracked analysis models are used in the SSI analysis, and the envelop of cracked and uncracked analysis results are used to generate ZPAs for the NI Common Basemat Structures. AREVA should explain the inconsistency between the responses to Questions 03.07.01-27 and 03.08.01-44. Also the closure plan for RAI 370, Question 03.07.01-27 is inconsistent with the response to 03.08.01-44.

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