North Anna 3 – Questions on Review of Draft FSAR Revision 9 (12/10/15)
1-15-16

Provide an explanation/justification for the items listed below.

a) FSAR Section 3.8.1 does not identify any departures, whereas, Sections 3.8.2, 3.8.3, 3.8.4, and 3.8.5 identify NAPS DEP 3.7-1. This departure relates to the NA3 site-specific ground response spectra for seismic structural loads and floor response spectra.

b) In FSAR 3.8.2, corresponding to NAPS DEP 3.7-1, the only change is to replace a paragraph in the DCD with a new paragraph which states:

> "A finite-element analysis model supplemented with hand calculation is used to determine the stresses in the different components of the PCCS condenser and supports. Details of this analysis, including relevant drawings and results, can be found in DCD Reference 3.8-1, and details of the site specific analysis, which uses the same approach as the DCD but with Unit 3 seismic loads, can be found in Reference 3.8-201."

This reference is the PCCS condenser seismic analysis report. Why aren't comparable departures also given to all structures and structural components in this FSAR Section 3.8.2 and the other FSAR sections?

c) In FSAR Section 3.8.4, corresponding to NAPS DEP 3.7-1, the statement is made that "Unit 3 site-specific structural evaluations for the RB/FB, CB, and FWSC are described in Sections 3G.7 through 3G.10." This statement is important and needed because it ties DCD 3.8.4 to the detailed description in Appendix G. Explain why the other FSAR sections do not also include this statement.

d) In FSAR Section 3.8.4, a new paragraph is added regarding the structural acceptance criteria. It sates:

> "The structural acceptance criteria for the site-specific structural evaluations of the RB, CB, FB, and FWSC, which are described in Sections 3G.7 through 3G.10, are the same as the acceptance criteria for the standard design provided in this section, with the exception that the Unit 3 structural evaluations of the non-containment RB and FB structures may use the acceptance criteria of either: 1) the ASME BPVC, Section I II, Division 2, Subsection CC, "Code for Concrete Containments," or 2) the ACI 349-01, rather than apply the more limiting of these two criteria as described in DCD Sections 3.8.4.5.1 and 3.8.4.5.3. This is an acceptable alternative to the standard design approach because the RB and FB are not part of the containment pressure boundary and applying the more limiting ASME BPVC criteria is not required."

Enclosure 3

Justification would be needed for this change because, the reason the more limiting criterion was placed in the DCD is that the containment is integrally connected to the RB (unlike other containments) and thus, the RB provides support and interacts with the containment. During design certification, the applicant specified this criterion to address this issue. While the revised criterion seems reasonable for structural members sufficiently distant from the RB / containment interface (e.g., FB where an overstressed condition was identified), justification would be needed to completely revise the criterion as defined above.