

**NRC Feedback on “KHNP’s Draft Revised Response to RAI 200-8225, Question 03.08.02-2”  
(Draft Response Provided 4/6/16)**

The staff reviewed the draft response to Question 03.08.02-2 and noticed that Section 3.8.2.4.2 of the markup for DCD Tier 2, provided in the response has several items that should be addressed:

1. To avoid confusion and to be consistent with the terminology in ASME Section III, Subsection NE, and consistent with SRP 3.8.2, the loading conditions should be identified as Testing; Design; and Service Levels A, B, C, and D; rather than test, normal, upset, emergency, and faulted.
2. On page 4 of 6 of the attachment (Insert B), it is stated that “For the ASME Class MC Components, the applicable loads for each condition and load combination are as listed below and those presented in Table 3.8-3.” The staff notes that DCD Table 3.8-3 does not identify all applicable loads in some of the load combinations. For example, the seismic load  $E_s$  is not included in load combination no. 6. Also, hydrodynamic loads such as POSRV and hydraulic transient loads (mentioned in Item b-2 of the markup) are not identified. The need to consider POSRV is also being reviewed as part of RAI 129-8085, Question 03.08.01-1, which has not yet been resolved.
3. Page 4 of 6 of the attachment refers to loads and load combinations defined in DCD Table 3.8-3, and also lists them in items a) through g) of the response. However it appears that some of the applicable loads are missing from the load combinations listed in Items a) through g). For example, live load (L) is missing in most load combinations;  $T_a$ ,  $P_a$ , and  $R_a$  is missing from Service levels A, B, C, and D load combinations. Also, identification of some loads should be made clear; for example, explain what are “design pressures and temperatures” and if they correspond to  $P_a$  and  $T_a$ , respectively, then these should be used or stated. Also explain why they are plural; which suggests there may be more than one design pressure and one design temperature. Based on the above discussion, a review by KHNP of the information in Insert B should be made to ensure it matches DCD Table 3.8-3, and that both of these are consistent with the load combinations in SRP 3.8.2, or explain any deviation.
4. Explain why DCD Table 3.8-3 identifies the Post-LOCA flood load combination and Insert B does not.
5. On page 4 of 6 of the attachment, Item f indicates that the fatigue evaluation considers the combination of loads listed in Item b. Explain why some of the other loads (e.g., mechanical loads) are not included for fatigue evaluation. Also, identify what portion of ASME Section III, Subsection NE is used to design for fatigue.
6. Page 5 of 6 of the attachment identifies that loads such as condensation oscillation and chugging are also considered. Explain what these loads are and where they are placed in the load combinations, and also describe them in the DCD text and include them in DCD Table 3.8-3.

7. The applicant stated in its response that, “The equipment hatch, personnel airlocks, and electrical penetrations mentioned in DCD Tier 2, Subsection 3.8.2.4.1 are vendor designed components. The COL applicant is to provide detailed analysis and design procedure for the equipment hatch, personnel airlocks, and electrical penetrations. The key design aspects and criteria for the equipment hatch and personnel airlocks will be described in DCD Tier 2 Subsection 3.8.2.4.1.” The staff considers this statement to be acceptable, but requires incorporating markup into the DCD.