

**Comments on New Seismic Section of the NRC's Risk Assessment of Operational Events
("RASP") Handbook**

No.	Section, Page, Text	Comment
1.	General	1.1 The first option should be use of a licensee's peer-reviewed Seismic PRA (SPRA), if one is available.
2.	Section 4.2.1, Item 1, Seismic Hazard Vector	2.1 The guidance refers the analyst to seismic hazard vectors submitted in response to the Fukushima Near-Term Task Force Recommendation 2.1 in 2014-2015. The guidance should allow for use of seismic hazard vectors from the licensee's peer-reviewed SPRA (if available), as a more current and realistic input.
3.	Section 4.2.2, Table 4-1	3.1 The values in Table 4-1 should be updated using a real example with recent data. The source of data given in Table 4-1 (NUREG-1488) was published in 1994, more than 22 years ago.
4.	Section 4.2.4, second paragraph, discussing SSC seismic fragilities	4.1 Regarding: "A more extensive collection of SSC seismic fragilities is available in an NRC document (non-public), which contains proprietary information, in ADAMS as ML071220070." It is important for industry to have access to all of the information on which NRC bases its risk evaluations. NRC should find a way to release the SSC fragility data mentioned above, to industry at least.
5.	Section 4.2.4, SSC Seismic Fragilities, unnumbered equation for HCLPF: $HCLPF = a_m \exp(1.645(\beta_r + \beta_u))$	5.1 The equation is missing a minus sign in the parentheses, and should read as follows (note highlighted piece below): $HCLPF = a_m \exp(-1.645(\beta_r + \beta_u))$ 5.2 In future, consider numbering all significant equations presented in the RASP Handbook to facilitate identifying specific equations mentioned in communications with users and between stakeholders and the NRC.
6.	Section 4.3.1, "...non-safety systems should not be credited in BINs 2 and 3."	6.1 Credit for non-safety systems should be allowed if they are modeled in a peer-reviewed SPRA.
7.	Section 4.3.2, third paragraph, regarding credit for other AC power sources	7.1 Credit for other AC power sources should be allowed if plant-specific fragilities are available.

No.	Section, Page, Text	Comment
8.	Section 4.3.3, "...model for adjustment of human error probabilities...is given in a...non-public [document]"	8.1 The cited source document (ADAMS ML13280A056) should be made available to the industry. Without this document, stakeholders cannot determine how the NRC is altering the Human Error Probabilities.
9.	Section 4.3.4, Relay Chatter	9.1 What is the intent of this section? Part of it seems to say that relay chatter is not a concern (i.e., "This Handbook does not provide guidance to address modeling of relay chatter problems explicitly...Unless the [IPEEE] or similar reports identified relay chatter vulnerabilities, this issue need not be pursued for evaluation purposes.") Then the section goes on to discuss post-Fukushima testing, with no mention of whether this testing supports or contradicts the potential need to look at relay chatter.
10.	Section 4.3.7, Seismic Correlation Coefficients	10.1 Correlations from a peer-reviewed SPRA should be allowed as a more realistic input.
11.	Section 4.3.8, Multi-Unit Effects	11.1 Credit for multi-unit equipment, such as crossties, should be allowed if modeled in a peer-reviewed SPRA.
12.	Appendix 4B, page 4-50, second paragraph, "The currently available seismic fragility information in this library is placed in ADAMS as an EXCEL file with Accession No. ML071220070 as well as in the RASP Tool Box website."	12.1 As noted in a previous comment, the cited source of seismic fragility information (ML071220070) should be made available to the industry.