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Ms. Cindy Bladey, Chief
Rules, Announcements, and Directives Branch (RADB)
Office of Administration
Mail Stop: TWB-05-B01M
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

4/25/2013
78 FR 24439
(4)

Subject: Comments on Draft JLD-ISG-2013-01, Guidance for Assessment of Flooding Hazards Due to Dam Failure (Docket ID NRC-2013-0073)

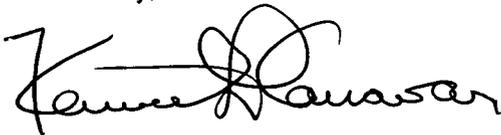
Dear Ms. Bladey,

EPRI appreciates the opportunity to provide comments on draft JLD-ISG-2013-01, *Guidance for Assessment of Flooding Hazards Due to Dam Failure*.

The attached technical comments address several topics that can be significant to the assessment of flooding resulting from potential dam failures. We believe that the inclusion of our comments and recommendations will result in a more technically sound and useful document.

If you have questions on this subject, please contact Ken Huffman (khuffman@epri.com, 704-595-2555).

Sincerely,



c: Edward Miller, Japan Lessons-learned Project Directorate, NRR
Ken Huffman, Technical Executive, EPRI

SUNSI Review Complete
Template = ADM - 013
E-RIDS= ADM-03

Add= E. Miller (gxm)

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**Comments on Draft JLD-ISG-2013-01, *Guidance for Assessment of Flooding Hazards Due to Dam Failure*
(Docket ID NRC-2013-0073)
PT-052013-026**

Technical Comments on Draft JLD-ISG-2013-01 (4/15/2013)

1. *Modeling Consequences of Seismic Dam Failure:*

From page 56 – “Given the hazard frequency target of 1×10^{-6} discussed in Section 1.4.2, the dam failure flood wave at the site should be combined with flows of a frequency that result in a combined annual probability of 1×10^{-6} . For example, if the dam fails under a 10-4 ground motion; combine the dam break flood wave with a 100-year flood. If the dam fails under a 10^{-3} ground motion, combine the dam break flood wave it with a 1000-year flood.”

Comment - The combining of an earthquake and a flood by simply multiplying their annual probabilities of occurrence does not allow for the very small duration within a year for the earthquake to coincide with a longer but still only a fairly small fraction of a year for the duration of most floods. Recommend consideration of methodology in: Event Combination Analysis for Design and Rehabilitation of U.S. Army Corps of Engineers Navigation Structures by Bruce R. Ellingwood, Contract Report ITL-95-2, July 1995, US Army Corps of Engineers, Waterways Experiment Station.

2. *Regression Equations for Breach Parameters:*

From page 76 - “However, their paper does not provide clear criteria for selecting the erodibility index.”

Comment- Xu and Zhang (2009) do not provide detailed criteria for selecting the erodibility index because they state that they used definitions in a paper by Briaud, which provides detailed definitions.

3. *Regression Equations for Breach Parameters:*

From page 76 - “In addition, anecdotal evidence suggests that their relation for failure time may be biased in favor of longer times (Wahl, 2013).”

Comment - Xu and Zhang define failure time differently than in other empirical breach parameter studies. This means that one must use their failure time estimates in a breach model (e.g. HEC-RAS) in a way that is consistent with their definition. It is not a fundamental deficiency or flaw in the method.

4. *Uncertainty in Predicted Breach Parameters and Hydrographs, Sensitivity Analyses:*

From pages 77 and 78 – Section 8.2.2.1, Uncertainty in Predicted Breach Parameters and Hydrographs and Section 8.2.2.2, Performing Sensitivity Analyses to Select Breach Parameters.

Comment - It is useful to recognize that “uncertainty” in regression equations is associated with “unexplained variance” and that physical arguments/engineering justifications can be made as to where in the range of “uncertainty” a particular dam would be expected to fit given its physical characteristics that are not specifically included in the “explained variance” represented by the mathematical form of the regression equation. Therefore it may not be appropriate to perform sensitivity analyses over the entire range of uncertainty on predicted breach parameters (or predicted peak breach flow rates).