

**Mitman, Jeffrey**

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**From:** Laur, Steven *MLR*  
**Sent:** Monday, March 15, 2010 4:22 PM  
**To:** Mitman, Jeffrey; James, Lois; Vail, James  
**Cc:** Ferrante, Fernando  
**Subject:** RE: Generic Dam Failure Rate Analysis

Colleagues:

I gave one verbal comment to Fernando and Jeff on this latest revision. Pending incorporation of that comment, I concur with the report.

Steven A. Laur  
NRR Division of Risk Assessment  
OWFN 10-C15  
(301) 415-2889  
[steven.laur@nrc.gov](mailto:steven.laur@nrc.gov)

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**From:** Mitman, Jeffrey *MLR*  
**Sent:** Friday, March 12, 2010 4:37 PM  
**To:** James, Lois; Vail, James; Laur, Steven  
**Cc:** Ferrante, Fernando  
**Subject:** Generic Dam Failure Rate Analysis

Attached is the current (hopefully final) version of the generic dam failure rate write-up. This incorporates all comments received to date. Steve's concern about the prior distribution parameters have challenged us to revisit the data and justify the distribution. We have found additional data which was not used. Therefore, we have abandoned the empirical bayes approach for a "lumped" bayes analysis. In this approach we have included all dam failures and all dam years (including the previously omitted data) into a single prior with a mean of  $3.2E-4$  and a fifth of  $1E-5$  and a 95th of  $1E-3$ . This is described in detail in the attached write-up and the corresponding alpha and beta are given. This is intended to make the analysis more comprehensive by including all of the data.

This Bayesian approach has not changed the final results.

Jeff