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From: Goutam Bagchi NRR
To: George Hubbard NRR
Date: Wed, Aug 2, 2000 4:31 PM
Subject: Spent Fuel Pool Decommissioning: Seismic Screening

George,
After our meeting this morning, I reviewed the sources of conservatism in the seismic failure probability estimates with Robert Kennedy and Nilesh. I need to inform you that there can be a substantial amount of conservatism in the use of PGA vs spectral acceleration. However, Bob Kennedy used spectral acceleration for his failure probability estimates; so this factor is not present in the Table 3 of his report. Another source of conservatism is the fragility assumption. Here too, the margin for out of plane shear failure is minuscule. In order to really figure out the conservatism in fragility, one would have to develop a 3D finite element model of the pool structure and evaluate the ulitimate failure level. The last source that we examined is the hazard estimate itself. We can justifiably (arbitrarily?) use a geometric mean of the LLNL and the EPRI hazard values (we would have to provide qualitative arguments to take care of Gareth's concern). The results of the use of geometric mean of EPRI and LLNL are provided in the NEI correspondence dated November 2, 1999. According to this information assuming the HCLPF value of 1.2 g spectral acceleration, the failure probability is 1XE-6 with 5 to 6 sites as outliers.

This is the same kind of result that we got, i.e., 3 operating plants are outliers for 4.5XE-6 using LLNL curves. If 1XE-6 result does not buy us anything for the partial drain down condition, I would much rather stick with what I gave you - 4.5XE-6.

Thank you,
Goutam
301-415-3305

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301-415-3305

CC: David Diec, Diane Jackson, Gareth Parry, Glenn ...

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