

HLWYM HEmails

From: James Mancillas
Sent: Thursday, January 17, 2008 5:21 PM
To: Bret Leslie; Osvaldo Pensado; James Winterle

All,

Recently, Osvaldo and I have been examining how the DOE has evaluated the total expected dose from their TSPA-SEIS results.

The approach that DOE is currently employing separates aleatory and epistemic uncertainty.

This separation involves not only the control of the sampling algorithms, which can create related aleatory and epistemic parameter sets; it includes how the DOE evaluates their outcome data.

The typical analyses we have performed with the TPA have resulted in an outcome which we evaluated statistically (calculating mean, median and quantiles) over all uncertainty (epistemic and aleatory). In contrast, the DOE approach is to evaluate the aleatory expectation value for each epistemic sample, then evaluate the distribution of the epistemic sampling.

This results in DOE results, which have statistics that are evaluated only over epistemic uncertainty.

e.g. In the past we would have said the median value is X, and the 95th percentile is Y for the sampled set.

Now we would need to state; The median value for the *epistemic* distribution is X ...

And could possibly ask, what is the median value for the aleatory distribution?

I would like to have a meeting to discuss:

- 1) The mechanics of how the DOE has implemented this approach.
- 2) What is its significance on the interpretation of compliance?

Who would be good candidates for a small (less than 10) group discussion?

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