

From: Gareth Parry
To: Andrew Howe; Nicholas Saltos; Theodore Tjader
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Subject: Some thoughts on the RMTS guidelines

As a concept the document seems to be OK, but it is short on explicit guidance, and will lead to very variable implementation. Is NRC going to write guidance on process review?

I have a few comments:

In several places the document refers to the 'application', as in 'quality commensurate with the application'. It should be clarified whether this refers to the RMTS program as an application, or a specific instance of the RMTS analysis.

On page 2-1, the last sentence in the first paragraph discusses revising the front-stop CTs outside the scope of the program. That got me thinking as to how I'd change the PRA model to reflect plant operation under the new regime. I'm not sure how I'd do it, or whether there's much of an effect, but for the RMTS program, fortunately it doesn't matter. But it may be important for future revisions to the CTs.

Page 3-15: what is a 'pre-existing documented and approved process for quantifying RMAs'? It's hard to imagine being able to quantify much of what's in section 3.5.3. In that same sentence, the ANS standards should be referenced along with the ASME standard.

Page 3-16: The last paragraph - on uncertainty: The ASME requirements on uncertainty are focused on parameter uncertainty and its propagation to address the state of knowledge correlation, and on identifying key sources of uncertainty in the PRA and assessing their impact on CDF and LERF. The key uncertainties will be different when looking at the risk of specific configurations, and will differ from configuration to configuration. I agree that parameter uncertainties should be handled in an acceptable manner by using mean values, though with special attention to the state of knowledge uncertainty, which again will be of a different significance for different configurations. Model uncertainties are not addressed. Maybe these are not very crucial for most cases - there aren't many model uncertainties that are controversial in level 1, but there could be some cases where they are. Probably what is more important is the amount of credit taken in the PRA for alternate systems (e.g., use of fire water as a source of injection for BWRs). As long as this credit is deemed appropriate by the peer review, it should be OK. I wonder how many licensees have added recovery after the peer review. It's something to look out for, but maybe this is more of an implementation issue.

The common cause discussion seems OK. If there's been an extent of condition evaluation the particular common cause can be ruled out. However, for higher order redundancy systems, other CCFs are not ruled out for the remaining redundancies, and it would be inappropriate to model them as independent.

I agree that the guidance on use of qualitative methods and bounding analyses is very high level.