

SAMA Presentation Examples

1. Slide 14

Examples:

MPS – “Please describe in more detail, the general process used for determining the impact of the various SAMAs [on] the CDF, person REM, and offsite economic impact...”

MPS Response (partial):

“...Set gate LOSC in master fault tree to be successful.”

“...Set basic events CS* in plant damage class cutsets to be successful.”

“...Set the containment release category frequency M1A to zero...”

ANO-2 – “The SAMA analysis did not include an assessment of impact of PSA uncertainties. On that basis, please provide the following information... An assessment of the impact on the final screening if risk reduction estimates are increased to account for uncertainties in the risk assessment.”

ANO-2 Response (partial) “...There is sufficient conservatism throughout the SAMA analysis to account for uncertainty...Conservatisms in the SAMA analysis include:”

- The population for 2040 was used, vice 2038
- Used the higher of 2 population extrapolation schemes
- Benefits of many SAMAs were estimated as the maximum attainable benefit, equivalent to removing all severe accident risk.
- Cost estimates for candidate SAMAs are conservative.
- Several sensitivity cases were performed.

2. Slide 16

Examples (Typical of all four example plants):

MPS - “Provide a description of the overall findings of the Peer Review (by element) and discussion of any elements rated low (e.g., rated less than a 3 on a scale of 1 to 4 or rated conditional 3) or any facts and observations (e.g., A and B Facts and Observations) that could potentially affect the SAMA identification and evaluation process, and how Dominion has addressed these findings for this application (including for example sensitivity studies).”

D.C. Cook - “For each dominant contributor identified in the current PRA (August 2001), [provide] a cross-reference to the SAMAs evaluated in the ER which addresses that contributor. If a SAMA was not evaluated for a dominant risk contributor, justify why SAMAs to reduce these contributors would not be cost beneficial.” (1 of 43 RAIs at D.C. Cook)

MPS - “For each model revision listed in Table F.2-1, provide the approximate CDF and large early release frequency (LERF), and a description of the major

hardware and/or Level 1/Level 2 modeling changes from the prior version. Specifically, identify and discuss any changes made to address the weaknesses identified in the NRC staff SER on the MPS2 IPE. Include a description of the major differences between the PRA version peer reviewed in 2000 and the PRA used for the SAMA analysis.”

3. Slide 18

Example:

FNP - “NUREG-1742 (“Perspectives Gained From the IPEEE Program,” Final Report, 4/02), lists the significant fire area CDFs for FNP. While these fire-related CDF estimates may be conservative, they are still large relative to the FNP internal events CDF. For each fire area, please explain what measures were taken to further reduce risk, and explain why these CDFs can not be further reduced in a cost effective manner.”

FNP & ANO-2 - “SNC [Entergy] has opted to double the estimated benefits (for internal events) to accommodate any contributors for external events. This is acceptable when sound reasons exist to support such a numerical adjustment. However, based on information in the ER and in the IPEEE report, the fire CDF is approximately a factor of five greater than the internal events CDF, which suggests that a baseline CDF should be increased by a factor of six to account for external events...”

4. Slide 20

Example:

MPS – “A plant has recently installed a direct drive diesel to power an auxiliary feedwater (AFW) pump for under \$200K. Please provide the averted risk benefit of supplemental AFW capability at MPS2 and an assessment of whether such a SAMA could be a cost beneficial alternative to an additional motor driven or turbine driven pump.”

5. Slide 21

Examples:

FNP – For certain SAMAs considered in the ER, there may be lower cost alternatives that could achieve much of the risk reduction... Please consider and provide estimated costs and benefits for:

- Adding a diesel-driven battery charger...
- Installing a direct-drive diesel to power an auxiliary feedwater (AFW) pump...

MPS - “...Please provide a brief explanation regarding the applicability/feasibility of...” Provid[ing] a 480VAC power supply to open the power operated relief valve and reduce the potential for temperature induced SGTR, and high pressure melt ejection.

6. Slide 22

Examples:

ANO-2 – “...Please provide justification, supported by a more detailed analysis or cost estimate, for eliminating the following SAMA candidates...CC-01 [Provide Diesel Driven Low Pressure Vessel Makeup]...CW-09 [Provide an Additional Diverse SW Pump]...CW-13 [Replace All ECCS Pump Motors with Air-Cooled Motors]...FW-01 [Install a Digital Feedwater Upgrade]”

D.C. Cook - “...please provide...an estimated cost (approximate) for all screened out SAMAs. Also provide a brief description of the methodology, information sources, major cost elements, and assumptions...used to develop these cost estimates...”