

LPSD Fire PRA Methodology Report Public Comments and Responses

Steve Nowlen Sandia National Laboratories October 18, 2012





Background

- Methodology for Low Power/Shutdown Fire PRA -Draft for Public Comment
 - NUREG/CR-7114, SAND2011-0027P
- Posted for public comment in Late 2011
- Comment period closed February 2012





Background continued

- A total of 74 comments received from 5 sources:
 - NEI (1)
 - EPRI (8)
 - PWROG (61)
 - Doug True/Erin (1)
 - Vincent Young/RSC Engineers (3)
- Note that comments as cited in this presentation are paraphrased. Full comment text for all comments available in the pre-meeting handouts.



Four comments recommended withdrawal

- Report seen as pre-mature for various reasons (see slides that follow)
- Overall response to these comments:
 - Report acknowledges most of the points cited by commenters as barriers to publication
 - These discussion will be expanded to reflect comments
 - Publication advances the discussion
 - One goal is to identify technical challenges, barriers to implementation and areas for further work
- To reflect comments and more clearly acknowledge implementation and technical challenges, the report title is being changed to:

"A Framework for LPSD Fire PRA"



Perceived barriers to publication:

- Erin-1: "... first define the requirements (via the Standard) ... for LPSD fire PRA ... BEFORE issuance of the final guidance document...". Also calls for pilots and lessons learned feedback.
- Response:
 - Report is not intended as "final guidance" and title change will reflect that.
 - All elements of the PRA standard have benefited greatly from existence of defined PRA structures including at-power fire. The LPSD fire section should be no different.
 - As complementary documents, the Standard and methods guidance should both benefit from parallel development.
 - Piloting and feedback is anticipated but you need a method documented before it can be piloted. Plan has to eventually pilot through EPRI/RES MOU.



Perceived barriers to publication: (2)

- NEI-1: "... does not present a comprehensive, technically sound approach ... and LPSD Fire PRAs do not have a clear regulatory application at this time."
- Response:
 - Title change will clarify intent of this report.
 - Development of PRA methods in all areas has been a long and continuing process. The same is expected of LPSD fire PRA. This report represents only a first step in that process.
 - Report already acknowledges many areas of technical challenge and these discussions will be expanded
 - While no immediate regulatory applications are anticipated, LPSD PRA has long been of interest to NRC.



Perceived barriers to publication: (3)

- PWROG-1: Cites complexity of the area and states that "document falters in a number of areas..."
- Response:
 - Comment also acknowledges that document "... is a good start to developing guidance ..." and that is all that is intended. Title change and expanded discussion in Chapter 1 will reflect that.
 - The areas of technical challenge cited in the subsequent comments were already acknowledged in the document and discussions of some will be expanded



Perceived barriers to publication: (4)

- PWROG-2: "... no companion reference for LPSD internal events. ... Fire PRA depends, to a large degree, on an existing internal events PRA ..."
- Response:
 - It is true that there is no comprehensive source of LPSD internal events methods guidance. However, as noted in the comment, various plants do have LPSD PRAs, and LPSD internal events methods are also of interest to NRC. Parallel development is seen as a positive factor rather than a negative factor.
 - Fire PRA is dependent on internal events both for at-power and LPSD. These dependencies are already called out in great detail in the document.



Perceived barriers to publication: (5)

- EPRI 1-8: Comments on various technical challenges that parallel those of ERIN and NEI
- EPRI-1: Cites that document failed to address "... configuration risk management ..." which is seen as "... the dominant application of risk analysis during shutdown conditions..."
- Response:
 - The original work plan developed under the EPRI/RES MOU called for EPRI to lead on these types of alternative approaches.
 - Project was delayed for two years at EPRI request, but then NRC began work those portions of the project NRC had agreed to lead (quantitative PRA).
 - EPRI never followed through on the alternative approaches documentation (given other higher research priorities).





Other technical comments

Refer to tracking spreadsheet for discussion...

