SOARCA Peer Review Committee Meeting No. 3
(March 2nd and 3rd, 2010)

The SOARCA Peer Review Committee met in NRC offices on March 2nd and 3rd, 2010 for the ~~third time.~~ 3rd peer review committee meeting. The objective of the meeting was to further discussions, with the goal of completion, of all comments previously made by the committee members on the ~~draft~~ SOARCA NUREG documents.

Fundamentally, the objective of this meeting was successfully met. The peer review committee found all but a few of the staff comment resolutions acceptable. Some additional results and

~~Over the course of the two day meeting several major~~ items were identified which require varying degrees of follow-on action. ~~This summary is provided prior to receipt of each individual peer review member's reports and prior to the overall committee report, and therefore serves as an interim summary of the discussions~~. Drafts of ~~these~~ the peer review committee reports will be provided by the end of April, 2010, with final versions by mid-May. A preliminary summary of the discussions at the 3rd committee meeting is provided below.

Major items discussed are summarized below, along with proposed resolutions:

Scenario Selection:

1. Include a summary of events not considered in SOARCA with justification.
    a. Large break LOCA, multi-unit accidents, low power and shutdown, extreme seismic events, spent fuel pool accidents, security events are examples of such events not analyzed in SOARCA.
    b. Proposed Resolution: Add summary text addressing each type of event not included.

Mitigation Vs Non-Mitigation (or Best Case Results ... Mitigation):

2. Highlight and expand mitigation efforts in the NUREG.
    a. Generally, the committee members all agreed that mitigation actions will occur for most/all scenarios.
    b. Individual views amongst the membership are varied regarding assumptions to be made in what to include as mitigations.
    c. Proposed Resolution: Upon receipt of individual committee member reports address each opinion on a case by case basis.

Events Analysis (MELCOR Analysis):

3. Provide additional justification in support of the analyzed timing and location of RCS high temperature failure results.
    a. Performed sensitivity analysis using MELCOR and SCDAP/RELAP5 on the Surry plant which resulted in temperatures high enough to cause RCS failure.
    b. Similar analysis continues for the Peach Bottom plant.
    c. Proposed Resolution: Resolve some minor technical details of the Surry analysis and continue on with the Peach Bottom analysis.

4. Provide additional justification for Surry hydrogen combustion results.
    a. Performed sensitivity analysis delaying the start time of combustion ignition to determine the impact on containment pressure.
    b. Proposed Resolution: Reevaluate the sensitivity analysis based on peer review comments.

Consequence Assessment (MACCS ~~Accident~~ Analysis):

5. Reconsider projecting LCF risk predictions out to 100 miles.
   a. Reporting LCF risk predictions out to 100 miles suggests that reactor accidents threaten people out to that distance. The peer committee suggested truncating results at 50 miles.
   b. Proposed Resolution: Revise presentation of results (and the NUREG) for LCF risk prediction to 50 miles. This requires text to justify 50 miles including the basis for 50 mile regulatory analysis guidelines, SAMA evaluations, and ingestion EPZ.

6. Present clear justification for source term discussions in the NUREG.
   a. Include text that explains the acceptability of the source term data used in SOARCA, with appropriate comparative discussions regarding FGR-13, BEIR-5 and BEIR-7 data.
   b. Proposed Resolution: Obtain guidance from one of the peer review members in this field and include as appropriate.

Events Analysis; Structural Analysis:

7. Assess and address potential structural/seismic – liquefaction issues.
   a. A peer review member presented concerns regarding the liquefaction of soil during a severe earthquake causing vertical shifting of the concrete containment foundation slab which could result in plant system damage.
   b. Proposed Resolution: Provide pertinent supporting plant information to one of the committee members for further evaluation.

Document structure and Editorials

8. Continue current NUREG editing efforts.
   a. The NUREG contains structural and editorial issues (worse than the previous revision reviewed by the committee). One of the peer review members offered to help us with this.
   b. Proposed Resolution:

9. Continue uncertainty study to completion.

Incomplete

10. Consider follow-on work beyond SOARCA.

Incomplete

SOARCA major project milestones were presented and discussed:

1.	Submit SOARCA documents to plants for fact check	end of March
2.	Incorporate peer review, staff and plant comments	mid-April
3.	Provide documents to ACRS subcommittee	end of April
4.	ACRS subcommittee	mid-May
5.	ACRS full committee	mid-June
6.	Release draft NUREG for public review and comment	end of July
7.	Public meetings(s)	late August
8.	Final concurrence of NUREG, NUREG/CR & NUREG/BR	early October
9.	NUREG and recommendations to Commission	end of October