



State-of-the-Art Reactor Consequence Analysis (SOARCA)

Semi-Annual Briefing for
Commission Technical Assistants
September 3, 2010

Best estimates

Agenda

- Accomplishments
- Project Schedule
- Uncertainty Analysis
- Challenges

→ conservative positive

J/8

Accomplishments

- Last Commission Update via Memo on January 28, 2010
 - Revised Schedule
 - Additional analyses as a result of peer review panel input
 - Additional public involvement
 - Revised Communication Plan
- Office of Nuclear Regulatory Research (RES) Program Briefing on February 18, 2010
- Steering Committee Meeting on July 28, 2010
 - Supportive of proposed schedule
 - Expressed sensitivity to public interactions
 - Discussed value of uncertainty analysis
 - Discussed addressing staff comments

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Accomplishments - continued

- ACRS Subcommittee Meeting on June 21, 2010
 - Very positive feedback overall
 - Many members recommend conducting uncertainty analysis before publishing the final results
- Peer Review Panel draft reports *(ACR/RES/RES)*
 - Supportive of SOARCA approach and methodology
 - Some comments resulted in additional sensitivity analysis
 - Members express interest in uncertainty analysis
- Recent Site Visits to review Mitigative Measures
 - Peach Bottom: June 10, 2010
 - Surry: August 4, 2010

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Project Schedule

- Original Plan:
 - Final NUREG to Commission, ready for publication, including input from public by 10/29/2010
- New Plan:
 - Final NUREG to Commission, ready for publication, including input from public by 06/30/2011
 - Uncertainty Analysis NUREG/CR ready for publication by 06/30/2011

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Report

Level II → NUREG (original) How far → Future
Level III →

Project Schedule - Continued

- Options to provide input to Commission this fall prior to release for public review and comment:

only
– GA Note with draft NUREG in ADAMS

– SECY paper with draft NUREG

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Project Schedule - Continued

- Phase 1 of Uncertainty Analysis: Plan & Approach Aug – Sept 2010
- Phase 2 of Uncertainty Analysis: Code Runs & Analysis Oct 2010 – Jan 2011
- Draft SOARCA NUREG to be made available to Commission October 29, 2010
- Release draft SOARCA NUREG for public review and comment (for 60 days) *meeting OPA* January 2011
- Phase 3 of Uncertainty Analysis: Analysis and Documentation of Results Feb – June 2011
- SOARCA NUREG to Commission, ready for final publication, along with Uncertainty Analysis NUREG/CR June 30, 2011

- *Commission may get fanned*

Press Release

→ come plan

- (1) DRAFT
- (2) COMMENTS
- (3) CONTINUED MTD

→ finding good value

Be the catalyst

new of

Best estimate

Final U.S. COLLEGE STUDY

25 - 7/15/10

Project Schedule - Continued

- Modified Schedule
 - Completion of additional analysis
 - Addressing greater than anticipated number of staff comments
 - Completion of Uncertainty Analysis
- Products
 - NUREG/BR-0471, Information Brochure - January 2011
 - NUREG-1935: SOARCA Main Report - June 2011
 - Appendix A: Peach Bottom Atomic Power Station
 - Appendix B: Surry Power Station
 - NUREG/CR-XXXX, Uncertainty Analysis - June 2011
 - NUREG/CR-7008, MELCOR Best Practices - 2011
 - NUREG/CR-7009, MACCS Modeling Experience for SOARCA - 2011

Uncertainty Analysis

- Goal: More thoroughly confirm the robustness of the SOARCA predictions of the most likely outcomes and help in determining the variability of those results to modeling parameters and assumptions
- Evaluating accident scenario(s) for uncertainty analysis which provide(s) insights generally applicable to both BWRs and PWRs
- Evaluating number of uncertain parameters to include
 - Accident progression (MELCOR)
 - Offsite consequences (MACCS2)
- Utilize project staff and contractors to define distributions for uncertain parameters
- Review by ACRS and Peer Review Committee

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Challenges

- Schedule Integrity
 - Addressing extensive number of staff comments
 - Completing additional technical analysis resulting from Peer Review Panel and Plant input
 - Potential request for longer public review and comment period
- Uncertainty Analysis
 - Reaching consensus on approach: scenario(s), parameters, distributions, methodology
 - Obtaining preliminary results by January to facilitate communication with public

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Challenges - Continued

- Rollout and Communication
 - Update SOARCA public website
 - Update Communication Plan
 - Finalize Information Brochure
 - Conduct Regional Briefings - December 2010
 - Brief external stakeholders
 - Release draft NUREG for 60-day public review and comment period - January 2011
 - Conduct public meetings and webinars – January and February 2011