

**American Nuclear Society
Risk-Informed Standards Consensus (RISC) Committee
Meeting Minutes
November 14, 2005
9:00 am – 5:00 pm, Aerospace Center
Washington, DC**

Members Present: Robert Bari, *Brookhaven National Lab (RISC Chair)*; Richard Black, *U.S. DOE*; Robert Budnitz, *LLNL*; William E. Burchill, *Texas A & M Univ.*; Allen Camp, *Sandia National Lab*; Mary Drouin, *US NRC*; John Gaertner, *EPRI*; Dennis Henneke, *Duke Power Co.*; Kenneth Kiper, *FPL Energy Co.*; Paul Amico, *SAIC*; M. K. (Ravi) Ravindra, *ABS Consulting, Inc.*; Gene Hughes, *ETRANCO*; Biff Bradley, *NEI*; Fred Emerson, *General Electric*; Barbara Baron, *Westinghouse*; Stanley Levinson, *Framatome ANP, Inc./AREVA*.

Members Absent: Bill Stillwell, *So. Texas Nuclear Operating Co.*; Y. F. Khalil, *Yale Univ.*; Wayne Holmes, *HSB Prof. Loss Control*; Rick Hill, *ERIN Engineering & Research Inc.*

Others Present: Mary Beth Gardner, *ANS Staff Liaison*; Prasad Kadambi, *ANS Standards Board Chair*; James F. Mallay, *NRMCC*; Ian Wall, *Consultant*; Rick Grantom, *South Texas Project NOC (Chair CNRM)*; Sid Bernsen, *Consultant*; Jeff Mitman, *US NRC*

1. Bob Bari, Chair, opened the meeting at 9:00 am and introductions were made. The meeting agenda was approved.
2. Meeting minutes of the April 13, 2005, RISC meeting were approved. The meeting minutes of the joint ANS/ASME meeting held on April 14, 2005 were accepted.
3. Bari reviewed the RISC membership and declared there was a balance of interested represented at this meeting.
4. **Nomination of RISC Vice Chair** – Amico reported that an ad hoc group of RISC was appointed by the RISC Chair and consisted of Paul Amico, Allen Camp, and John Gaertner. Through email communication the group discussed the appointment of a vice chair, and determined that Bill Burchill could best serve in the position of Vice Chair, with the intent to replace Bob Bari as Chair of RISC, when Bari's term ends. Because Burchill was not currently a member of RISC, the RISC members approved Burchill as a member of RISC. Following his approval to RISC, Burchill was nominated to serve as Vice-Chair of RISC. The nomination was approved and seconded, and the RISC members present unanimously approved Burchill's appointment.

It was noted that Bob Bari's term as RISC Chair ends on December 31, 2005. The transition will begin from Bari to Burchill shortly thereafter, and Bari will support Burchill as necessary for a few months.

5. Status of Writing Group Efforts

A. External Hazards – Ravindra. Ravi Ravinda, Chair of the ANS-58.21 working group, reviewed the revisions made to the document with the committee. He indicated that the proposed revision addresses the NRC comments submitted as well as the NEI comments, as well as the Hope Creek Seismic PRA review done. Most comments received were believed to address the clarity and usefulness of the standard, and the working group believes it has carefully followed the ASME Addendum B formatting in the proposed revision.

Ravindra also indicated that the revision could not endorse the LLNL and EPRI studies as they are too old; they left that aspect up to the user. The Hope Creek reviewers also indicated the studies are too old. He also noted that the peer review was not done for all aspects of the IPEEE. The Hope Creek peer review also suggested a few trial applications to fully test the requirements. It was stated that the revised standard states that the user should use the most recent information available.

Budnitz, a member of the working group, indicated that the group didn't want to endorse any of the existing curves anywhere within the standard and the user must demonstrate that any new information does not make a difference to their situation. The owner of the PRA has the burden of proof. Mary Drouin added that the PRA owner should be responsible to ensure that the data they're using is the most up-to-date data.

Ravindra reiterated to the RISC that the standard does not require that the curves be updated. There is commentary within the revised standard that tells the user where to go for updated information. The discussion then led to whether or not a trial use of the standard would help the user. The NRC indicated that it will reissue DG 1138, but will not bring it into Regulatory Guide 1.200 App. C in June 2006. It was stated that DG 1138 is just Appendix C. When asked if a trial use would help the NRC, the response was yes because they will now be revising DG 1138, and the NRC would comment on the trial use.

The committee then asked what the implication for trial use is based on the RISC's positive or negative vote. NRC indicated that timing is no longer a problem. After much discussion, the committee felt that it should wait to determine whether or not to release the revision for trial use until the RISC committee knows the feedback from the ballot that is currently out. As a result, the **RISC approved the following recommendation:**

Extend the ballot due date for release for trial use to January 31.

B. Fire PRA – Henneke. Dennis Henneke, working group chair of the ANS Fire PRA standard provided a brief overview of the composition of the working group and the review team that has been working on the standard since the process began. Henneke indicated that the working group agreed in October on comment resolution to the third draft document issued in May to RISC, and that a fourth draft of the standard is expected to be sent to the review team in December. Comments are expected back from the review team by January, so it is anticipated that the standard should be ready to go to RISC for balloting as well as out for public comment sometime in February 2006. This schedule assumes that there will be no major comments received from the review group. It was noted that major comments are possible, as Appendix A (new) has been added to the document. Appendix A provides detail on older Fire PRA methods and how those methods may meet the standard, if done correctly. Appendix A is a non-mandatory appendix.

The committee questioned whether the appendix could go into another document so as not to hold up the standard's process any longer, should it require further revision. It was the sense of the group that it was ok to include Appendix A in the standard, since it does not relieve the user of the obligation of meeting all the requirements in the standard.

Pilots were then discussed. It was noted that Duke Power and Nine Mile could be ready to pilot a fire PRA in about a year.

C. Low Power/Shutdown – Kiper. Ken Kiper, working group chair, provided an overview for RISC of the five-year effort that has brought the work to where it is today. Kiper indicated that after five years, there are still additional substantive comments to be resolved, significant differences in expectations exist among the reviewers, and it appears there remains a lengthy process to produce an acceptable standard for the PRA community. As a result, the following recommendations have been made for RISC consideration:

1. reduce the scope of the stand by focusing on PRA elements and separating out the QLRA
2. initiate a series of guidance documents for LPSD PRA methodology
3. endorse a framework of LPSD standard
4. address other miscellaneous issues

Kiper then explained each recommendation noted above.

Recommendation #1 – separate out the qualitative risk assessment sections of the LPSD standard and incorporate them into a different standard. Based on this recommendation, all comments relating to sections 4.7, 4.8, and Appendix C would be categorized as NOT ACCEPTED, since these sections would be deleted. This could also impact other sections.

Recommendation #2 – a number of comments received address the lack of guidance (the “how to”) on specific technical issues related to LPSD PRA. As a result it is suggested that a set of detailed guidance documents be developed to address the PRA methodology as it applies to low power and shutdown conditions. As a result, some comments would be categorized as NOT ACCEPTED where the working group considers the comment to be more appropriate to a guidance document. Kiper then provided a list of possible guidance documents needed.

Recommendation #3 – several comments address outage-specific risk assessment vs. an average risk assessment for LPSD. The currently envisioned applications focus on outage-specific assessments. As a result, the working group recommends endorsing a specific framework for the LPSD standard based on an average risk model. Also, methods issues (e.g., how to calculate average LPSD risk, etc.) would be addressed in a future guidance document described in recommendation #2. The proposed framework for the LPSD PRA standard would be a fully quantified, average risk model for all plant operating states except for full power.

Recommendation #4 – several additional concerns were discussed. The first issue concerned the inclusion of external events in a LPSD standard. The working group believes that external events are included consistent with the PINS scope statement. It was also suggested that the title be modified to be consistent with the ASME standard. The working group response is that the title is consistent with the PINS document. This issue will become moot when the LPSD is integrated into a master standard.

6. LPSD Ad Hoc Committee Report – Camp. After Kiper completed his presentation, Bob Bari explained that he had appointed a subcommittee to peer review the recommendations made by the LPSD working group and asked Allen Camp to chair the subcommittee. The members of the subcommittee consisted of Allen Camp, John Gaertner, Mary Drouin, Stanley Levinson, and David Finnicum (with Rupert Weston). Camp was then asked to lead the discussion. Camp asked the RISC members to follow the discussion using the handouts provided that address each issue separately.

Issue #1 - addresses how the QLRA should be handled. Gaertner expanded on the proposed resolution for Issue #1. Many RISC members felt that if the QLRA were placed elsewhere in another standard, the likelihood of it ever being published was minimal. Many felt that the industry needs guidance in this area,

noting that qualitative models are all over the map, and contain much inconsistency. It is believed that a standard on this item alone would be beneficial, but most were not confident that the QLRA would ever come back into a standard if taken out now.

Ken Kiper added that the current working group is composed of quantitative-oriented people, and that a new working group would need to be identified in order to write the qualitative work. A number of RISC members voiced that it would be a mistake to issue this standard as two separate standards.

The RISC members queried staff (Gardner) if ANS can issue a draft for trial use with “placeholders” available in some sections of a draft, indicating that the placeholders would contain information on a particular topic. Gardner indicated she would investigate this option and get back to the Chair.

After considerable discussion, the following motion was made:

1. The standard should be maintained with both the qualitative and quantitative components.
2. A subcommittee of qualitative experts be appointed to the subcommittee
3. If a way can be found to issue the quantitative part for trial use with the placeholders identifying the qualitative text is to come later, that is the preferred way of proceeding with the current draft.

The motion was seconded, and a vote was taken, with 13 members in favor of the motion, and 1 negative vote. The motion passed.

Mary Drouin requested that the minutes reflect her objection to the three parts of this motion being handled together as one motion. Her preference is to treat each part as a separate motion.

Issue #2 - A number of comments addressed the lack of guidance on specific technical issues related to LPSD PRA. The subcommittee agreed that the standard is not the vehicle for such guidance, but it is clear that such guidance does not exist in any coherent form. The working group recommends that a detailed guidance document be developed to address the application of PRA methodology to low power and shutdown conditions. Thus some comments are NOT accepted if the working group considers the comment to be more appropriate to a guidance document rather than the standard.

The RISC members then addressed the recommendations of the subcommittee separately specific to this issue.

Recommendation #1 – Consistent with other PRA standards, previous guidance from RISC, and the anticipated guidance from the coordinating committee, the LPSD standards should focus on the “what” and not the “how to.” The subcommittee then

recommended that additional detailed guidance not be added within the standard. A motion was made to accept this recommendation, and was seconded. Bari did a count of the vote: In Favor of the motion: 12; Opposed to the motion: 1. The motion passed.

Recommendation #2 – The subcommittee agree that additional guidance is needed for PRA practitioners. It endorsed the idea of developing a separate guidance document. After discussion, a motion was made and seconded to approve the recommendation as stated, with the understanding that RISC is not committing to sponsor the guidance document. A vote was taken, as passed, with 12 voting in favor of the motion, and two abstentions.

Recommendation #3 – This recommendation addressed the continued progress of the standard and the completion of a guidance document. After lengthy discussion, the following motion was made and seconded:

The LPSD standard should be held up pending completion of a guidance document. It should not be issued for trial use, and a pilot activity not be initiated.

The motion was defeated by a vote of 9 against the motion, and 4 in favor.

Because there were a number of RISC members that had to leave early in the afternoon, Bob Bari then moved the agenda around, and deferred the subcommittee's final resolution of the LPSD standard to later in the afternoon.

6. **Nuclear Risk Management Coordinating Committee – Burchill.** Bill Burchill presented a summary of the outcome of the NRMCC meeting held on September 28, 2005. He reviewed the four motions that pertained to RISC and are contained in the minutes of that meeting. The main thrust was on how and on what schedule RISC and ASME CRNM move forward with the integration standard for Level 1 PRAs.
7. **Coordination with ASME on Level 1 Requirements – Grantom.** Rick Grantom and Sid Bernsen both represented ASME/CRNM via conference call. A new alternative approach to the development of the Integrated Standard was outlined by Grantom. This approach would result in the four Level 1 standards remaining largely intact and in the development of a new first volume which would contain a road map and generic requirements from the existing four standards. The details (schedule and structure) of this approach need to be worked out by a newly formed committee from CRNM and RISC. RISC representatives to this committee are Ravi Ravindra and Mary Drouin. Ken Kiper and Dennis Henneke (or representatives from their writing groups) would be consultants to this committee and would be kept informed of its progress. RISC discussed the pros and cons of this alternative relative to the original approach to integration that was discussed last April with CRNM in New Orleans. Ken Kiper noted that it may take as much as an additional five years to have the LPSD standard ready for integration. Paul Amico noted that it would be too much of an

activity to simultaneously ballot the Fire PRA and LPSD PRA standards and a new integration standard.

8. LPSD – Next Steps (resumed). The RISC turned its attention back to Policy Issue #3 on outage specific assessment versus a time-averaged risk assessment for LPSD operating states. After much technical discuss on the merits of both approaches the following motion was passed:

The LPSD standard should be revised to include a section on the requirements for development of LPSD PRA as a configuration risk management (CRM) model for outage-specific applications. The motion was made by Gene Hughes and seconded by Dennis Henneke. The motion passed with 10 votes in favor and one abstention.

9. The RISC then returned to the Nuclear Risk Management Coordinating Committee discussion of earlier – Burchill. The NRMCC requested that RISC respond to question with regard to schedules for release of its standards as they relate to the development of the integration standard. RISC developed responses and these are being forwarded by Bari to Mallay and Budnitz for the NRMCC meeting on November 16, 2005.
10. Status of Levels 2 and 3 Standards – Bari. Bob Bari presented a brief report on the progress of these standards. A second meeting of the Level 3 group will occur at the ANS Winter Meeting on November 15, 2005. The first meeting of the Level 2 group was held in conjunction with PSA '05 in September 2005. There is much enthusiasm for progress on these standards by the very capable writing groups that are being proposed.
11. Other Business – Mary Drouin mentioned the interest on the part of the NRC to sponsor a workshop next summer on the currently published PRA standards (ANS-58.21 and the ASME standard). This should be coordinated with ASME and Drouin anticipated that 100 people would attend from the NRC.
12. There being no further business for discussion, the meeting adjourned at 5:00 pm.

Respectfully submitted,

Mary Beth Gardner, ANS staff liaison

Approved 2/21/06 via email

