SUMMARY OF MITIGATING SYSTEMS PERFORMANCE INDEX (MSPI)
PRA QUALITY TASK GROUP MEETING
November 3, 2004
9:30 a.m. - 2:30 p.m.

Attendees

1. Bill Stillwell
2. Don Dube
3. Gareth Parry
4. Jeff Gabor
5. Jim Trapp
6. John Thompson
7. Michele Laur
8. Mike Cheok
9. Tom Houghton

Meeting Notes

The following documents were passed out at the start of the meeting:

- Final Meeting Agenda
- Memorandum from Gareth Parry, dated October 20, 2004, "Identification of Issues of Importance for MSPI"
- Email from Don Dube, dated October 28, 2004, "Additional Issues of Importance for MSPI from the SPAR Model/Plant PRA Model Comparisons"
- Truncation Limit Effect on MSPI slide and email from Don Dube, dated October 29, 2004

The purpose of the meeting was to discuss progress in defining the PRA quality required to support implementation of MSPI. The meeting focused on discussions of:

- Revised issues lists (see handouts listed above),
- Variability in treatment of issues even when the Standard is met.
- Identification of which PRA standard requirements addressed these issues, and what capability category would be appropriate
- A practical approach to defining what demonstration of PRA quality is required for the MSPI application.

Task group members agree that, with some modifications resulting from the observations by Don Dube, that the list of issues identified is essentially complete.

As the group discussed specific issues, a recurrent overarching theme continued to rise to the surface of the discussion - variability and its impact on MSPI. Task group members agreed that even when different PRAs meet the requirements of the ASME PRA standard, there can still be variability in the approaches used that can influence the input to the MSPIs. This variability can manifest itself as model inconsistency (e.g., taking credit or not taking credit for equipment

operation, recovery actions, etc.), truncation limit variability (potentially resulting in the screening of important equipment) and methods variability (e.g., different approaches to estimating HEPs, etc.). In the absence of prescriptive standards this variability is unavoidable. Recognizing the role of the MSPI as an index, but not a precise measure of changes on CDF, the concern of the NRC is that an inappropriate reduction in the Birnbaum importance measure for a system would result in a corresponding increase in the number of failures that would be needed to result in a change of risk significance category (color). It was generally agreed that the group should attempt to provide some recommendation for a process a licensee should use to demonstrate that any variability would not significantly impact the MSPI. This would require documentation of the the particular modeling approach used by the licensee, and might include the performance of limited sensitivity studies. It was observed that the most of the issues discussed were given attention during licensee peer reviews. As a minimum, for those issues, proper disposition of the facts and observations (F&Os) made by the peer review is needed to remove inappropriate variability.

There was some discussion of which supporting requirements were pertinent to the issues list. This developed into a discussion of what was needed for the base PRA, and in particular whether this was to be interpreted as primarily a capability category I or II application, and how the adequacy of the base PRA should be demonstrated. The current status is that all licensee PRAs have been peer reviewed, but very few have taken the next step and performed the self assessment identified in NEI-00-02 (the Peer Review Process) and in RG 1.200 as necessary to close the gap between what was addressed in the peer review and what is addressed in the ASME standard. Furthermore, the self assessment process in the NEI-00-02 only addresses the gap between capability category II and the peer review. Some group members expressed concern that, if a full self assessment of the base case PRA were to be required prior to initial application of MSPI, the full implementation could be severely impacted since the resource to perform these assessments can be extensive. The group agreed to explore a more practical approach that would require a self assessment of the critical items and resolution of significant peer reviewer F&Os to determine whether this would be an acceptable approach given the degree of resolution required of the MSPI, the existence of the backstop, and the maintenance of the SDP process for single failures.

The group agreed that they would prepare a draft letter report of their recommendations by early December. To this end, they agreed to meet November 30. The group agreed that its recommendations should address licensee documentation requirements and the NRC actions to assure technical adequacy of the licensee PRA for MSPI application.

Action Items

1. M. Cheok and G. Parry to develop a table of capability category assignments to the supporting requirements of the ASME standard for the MSPI application, and transmit to the group for review.
2. G. Parry to prepare a draft report for the November 30 meeting.
3. G. Parry to provide a strawman approach to dealing with variability with respect to HEPs. This would hopefully provide a basis upon which to develop guidance for addressing other issues.
4. Jeff Gabor and Bill Stillwell to provide an assessment, based on their involvement with peer reviews, of which areas of PRAs were typically found not to be areas of concern

(this is necessary for the determination of whether the approach of not requiring a full self-assessment of the base PRA is acceptable).