STABILIZING THE PRA QUALITY EXPECTATIONS AND REQUIREMENTS

Public Meeting

February 24, 2004

BACKGROUND

- SRM dated 12/18/03 “Stabilizing the PRA Quality Expectations and Requirements”
- Directs staff to develop action plan to:
  - Engage stakeholders and define practical strategy for implementation of a phased approach to PRA quality
  - Discuss resolution of technical issues

PURPOSE OF MEETING

- To present NRC staff's understanding of the phased approach introduced in the SRM
- To collect feedback from stakeholders

PURPOSE OF THE SRM

- Commission's objectives:
  - Move industry in the direction of better, more complete PRAs
  - Introduce efficiencies into the staff's review of risk-informed applications
  - Clarify expectations for 10CFR50.46 and 10CFR50.69 rulemakings
  - To support the goals of continued near-term progress in enhancing safety through the use of available methods while striving for increased effectiveness and efficiency in the longer term

APPROACH IN THE SRM

- Adopts a phased approach to achieving an appropriate quality for licensee PRAs for NRC's risk-informed regulatory decisionmaking
- Directs the staff to develop an action plan to:
  - Define a practical strategy for implementation
  - Address the resolution of technical issues
    - Model uncertainty
    - Seismic and other external events
    - Human performance issues

THE PHASED APPROACH

- For each application type (e.g., risk-informed ISI, 10CFR50.69), what phase we are in is determined by the availability of the PRA guidance documents (including industry consensus standards, industry guidance documents, regulatory guides) needed to generate the results required for that application and establish that they are of sufficient quality.
- Schedule for transition between phases is driven by the completion of the relevant guidance documents

PHASE 1

- We are currently in phase 1 for most applications
- PRA quality judged only in the context of what is needed for the application - no requirement for the review of the base PRA in toto
- All contributors to risk are to be addressed
- Contributors to risk not in the scope of the PRA model are addressed in a number of ways including qualitative arguments, bounding analysis, and restricting the scope of application

PHASE 2

- An application type (“issue-specific”) approach to PRA quality
- PRA quality judged only in the context of what is needed for the application - no requirement for the review of the base PRA in toto
- All significant operational modes and initiating event types applicable to the issue are to be included in the PRA scope
- Significance of an operational mode or initiating event type is determined by whether taking it into consideration could change the decision substantially

PHASE 2 (Cont'd)

- To be in phase 2, guidance must exist for
  - Use of PRA in making the decision
  - Assessment of the quality of the PSA used to support the application
- All parts of the PRA required for an application need to meet the guidance and standards
- The ASME Standard, in chapter 3, allows for only those requirements needed for the application to be assessed

PHASE 2 (Cont'd)

- What could this mean for 50.69?
  - The NEI-00-04 categorization process allows for the use of non-PRA methods. SSCs relied on in non-PRA methods are out of scope of 50.69
  - Currently RG 1.200 together with a Reg Guide endorsing NEI-00-04 would qualify it as a phase 2 application for those licensees using only a level 1and limited level 2 (LERF) internal events PRA at full power
  - However, for a licensee using in addition a fire PRA, this would remain as a phase 1 application until a standard for a fire PRA is completed and addressed in RG 1.200

PHASE 3

- All guidance documents needed to achieve Phase 3 are scheduled to be completed by December 31, 2008
- Phase 3 is achieved when each licensee develops a base PRA to conform to all the existing Standards in sufficient depth to address all currently envisioned applications

PHASE 4

- Phase 4 will be reached when a PRA has been developed to the extant state-of-the-art
- It is recognized that reaching this goal will be resource intensive

OTHER ISSUES TO BE ADDRESSED IN THE PLAN

- Binning of applications into focus areas
  - Operational applications
  - Licensing basis changes
  - Rulemaking
- Resolution of technical issues and relationship to other staff initiatives, e.g., treatment of uncertainty in decision-making

STATUS

- Interoffice (NRR/RES) working group established
- Next public meeting 3/24/04
- ACRS briefings 3/25/04 & 4/15/04
- Plan due to Commission 7/04