Review of TWG 3 Project Plan

NRC Public Meeting
October 1, 2008

NEI
NUCLEAR ENERGY INSTITUTE

Problem Statement 1 – Evaluation of Digital Systems in PRA

- ISG Issued in August
- Industry finds review guidance acceptable
- Industry considers this problem statement closed and resolved

PRA Problem Statement #2 – Application of Risk Information

- The Issues
  - How can risk insights be applied in the design and review of digital systems?
  - Which areas are the most promising for application of risk insights?
- Status/concerns
  - Need to continue dialogue between industry and NRC to ensure that methods and constraints for applying risk insights are mutually agreed upon
    - PS #2 and #3 work needs to be concurrent
  - Industry awaiting NRC comments on white paper on risks and benefits of expansion of automated DAS functions
    - Industry supports expanding scope of the automated DAS where it is shown to have a significant safety benefit
    - Need to be able to determine where that safety benefit is and is not seen

NEI

PRA Problem Statement #2 – Application of Risk Information

- Proposed Actions/Project Plan Updates
  - Conclude analysis of risks and benefits of the expansion of automated DAS functions
    - Anticipating NRC comments on white paper
      - Request NRC staff comments on evaluation of the benefits and risks of the proposed automated DAS
      - Request information on which of the three main insights, if any, the NRC staff disagrees with and why
    - Industry to respond to industry and NRC comments with a revised white paper
    - NRC develop draft regulatory guidance
    - NRC/Industry to conduct review/comment/resolution process
    - Timely resolution is important to industry

NEI

PRA Problem Statement #2 – Application of Risk Information

- Proposed Actions/Project Plan Updates (continued)
  - Agree upon an application for demonstration on a limited-scope pilot plant
    - Technical specifications
    - Performance monitoring
    - Risk-informed D3 evaluations
  - NRC develop draft regulatory guidance
  - NRC/Industry to conduct review/comment/resolution process

NEI

PRA Problem Statement #2 – Application of Risk Information

- Proposed Actions/Project Plan Updates (continued)
  - Develop Simplified/screening techniques for generating risk insights
    - Identification of key plant features that keep risk from I&C failures low
    - Identification of accident sequences and functions most affected by I&C CCF
    - Identification of attributes most important in maintenance of acceptable risk profile
      - Digital system attributes
      - Plant system attributes
  - NRC develop draft regulatory guidance
  - NRC/Industry to conduct review/comment/resolution process

NEI

PRA Problem Statement #3 – State of the Art

- The Issues
  - Suitability of traditional methods to model digital systems
  - Questions about modeling digital systems posed in April 29 ACRS letter
- Status/concerns
  - NRC concerns about applicability of traditional methods to the modeling of digital systems remain
  - ACRS letter posed several questions that need to be answered to continue this work
  - NRC's research plan in flux; short-term industry and NRC actions necessary to complement RES work

NEI

PRA Problem Statement #3 – State of the Art

- Proposed Actions/Project Plan Updates
  - Industry requests formal NRC comments on
    - July 2007 white paper on modeling digital systems
    - May 2008 matrix comparing July 2007 white paper with draft PS #1 ISG and draft NUREG on traditional methods
  - Demonstrate applicability of traditional methods in the modeling of digital systems

PRA Problem Statement #3 – State of the Art

- Proposed Actions/Project Plan Updates (continued)
  - Industry to draft white paper addressing questions raised in ACRS letter
  - Industry to respond to ACRS letter at ACRS subcommittee meeting
  - Industry undertaking of research projects, such as modeling of RPS system, using traditional methods
  - NRC develop draft regulatory guidance

NEI

Suggested Process for Issue Resolution

- Future meetings of D3 and Risk TWGs to discuss technical issues, resolutions and regulatory guidance (SRP, Reg. Guide, etc.)
- LIC-200 for SRP updates
  - Defines “new staff positions”
  - Regulatory analysis per LIC-400 for new staff positions
    - Show significant safety benefit
    - Value impact analysis
    - Support CRGR review
- Reviews by Public, ACRS, CRGR, OGC, etc.
- Proposed actions/project plan updates
  - Incorporate process steps in project plan
  - Detailed definition of NRC and industry actions in project plan

NEI