Simulated ITAAC Closure and Verification Demonstration Project Lessons Learned

March 31, 2011

Agenda

- Lessons Learned
  - Southern Nuclear (Paulo Albuquerque)
    - Communication
    - IT infrastructure
    - Inspections
    - ITAAC Closure Letters
  - Westinghouse (Brian Bedford/ Thom Ray)
    - ITAAC Surge Investigation
    - ITAAC Surge Mitigation
    - D-RAP

Communication

- There is not a clear way to receive feedback from NRC on the non-acceptance of ITAAC Completion Letters (ICL's)
- There is not a clear process for providing status of NRC ITAAC Closure Letter review

IT Infrastructure

- Region II will be utilizing the technical expertise from NRC Headquarters during construction inspections. A process for the licensee to make electronic information available to NRC region II office as well as NRC headquarters should be developed.

- A review process should be established for ITAAC CR's to assure they have been adequately closed prior to submittal of the ITAAC Closure Letter.

- Existing PI&R systems are sufficient for ITAAC-related activities, but technology could be optimized for more efficient tracking and reporting.

Inspections

- Inspection Planning is critical to both the Licensee and NRC

Prior to NRC Inspection

- Provide ITAAC Plan
  - ***Develop and make plan available***
- Provide Technical Documentation
  - ***Include Proprietary Information***
  - ***Develop a method for sharing this information with both NRC Region II and Headquarters***

During the Inspection

- Coordinate with Region II the need for making technical information available to headquarters to support a Region II inspection

ITAAC Closure Letters

- ITAAC Closure Letter review should verify proper ICL content and rely upon prior NRC inspections and technical reviews for closure determination.
- ITAAC Closure Letters should list Principal Completion Documents as references (available for inspection).
- The Closure Letter Determination Basis must ultimately provide enough detail for a knowledgeable person to conclude the ITA was performed and the Acceptance Criteria met.
  - Stating that an ITA was performed and referencing the results is not sufficient. The ITA methodology should be described at a conceptual level. Ensure that ITA information is clearly described in the determination bases.

ITAAC Closure Letters

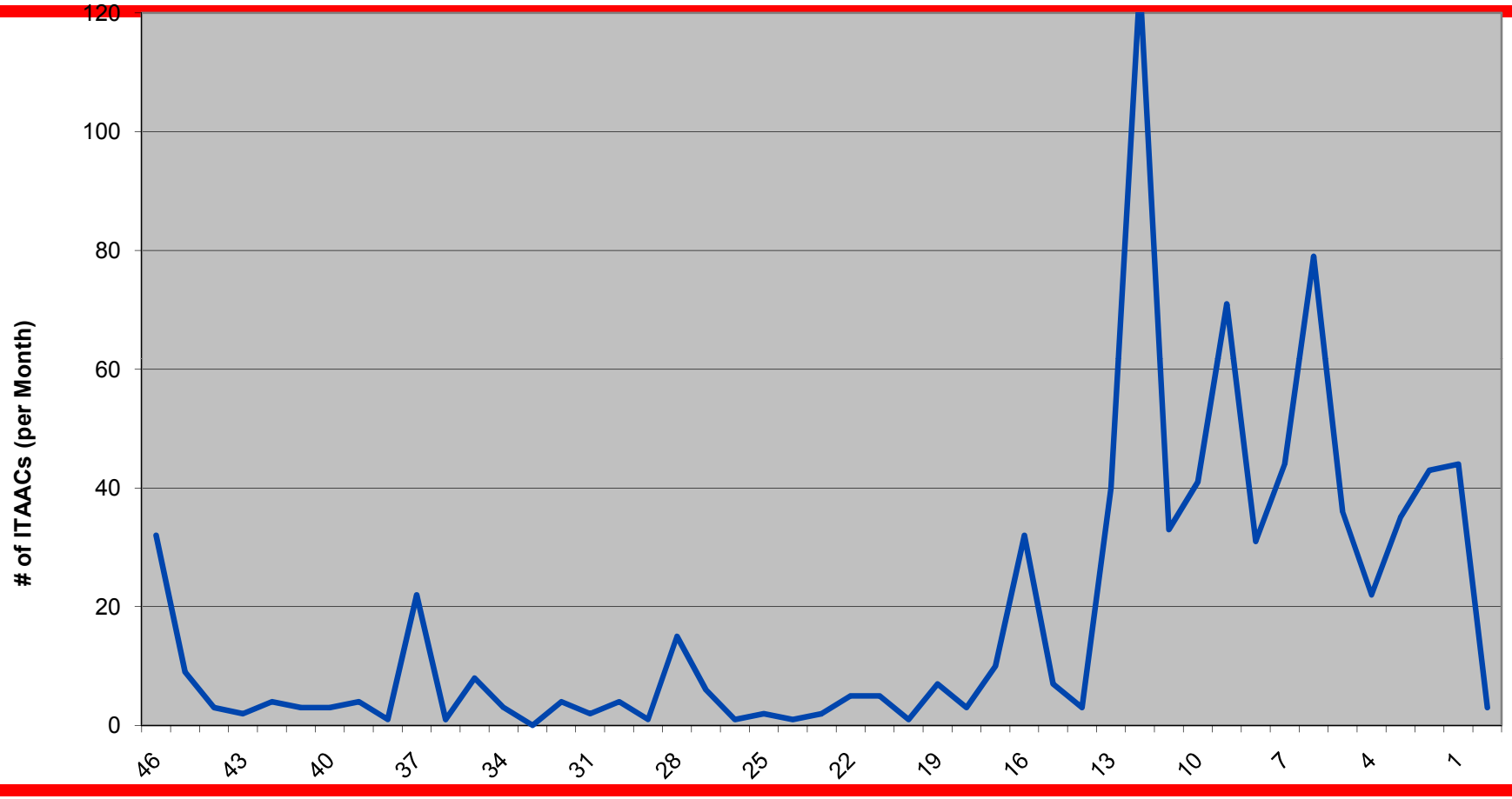
- NEI 08-01 Appendix D provides guidance on Closure Letter preparation
  - The D-1 Template and D-x examples guide the format, content, and level of detail
  - The letter content must be confirmed by the actual ITAAC wording and DCD definitions, and the “sufficient information for a knowledgeable person” standard.
  - Review/Revise 08-01 Appendix D Examples for consistency
- Partial ITAAC closure may be useful in some situations, but presents administrative challenges requiring special attention.

ITAAC Closure Letters

- Industry should add 5 ICL's accepted and verified by NRC during this project to upcoming revision of NEI 08-01.

- Functional Arrangement ICL's should be further discussed by the industry and NRC.

ITAAC Surge (per unit)



ITAAC Surge Investigation

- The ITAAC Completion Surge that occurs late in the project is significant, and requires special attention.
- Overall, the ITAAC Surge is based on the construction sequence, and cannot be significantly reduced.
- Detailed Analysis of the ITAAC surge will yield minor schedule improvements. Categorizing ITAAC by type is most productive.

ITAAC Surge Mitigation

- Although the Surge in ITAAC Completion cannot be significantly reduced, its impact can be mitigated
- Many of the ITAAC very late in construction are:
  - Reference ITAAC, which should not require significant effort to complete or review
  - The Pre-Operational tests, which have a well understood process and a high level of NRC Inspector involvement.
- Early planning and documentation of ITAAC can flatten the “manpower curve” for completing the ITAAC.
- Continual Interaction on ITAAC Closure is imperative up-to and through the ITAAC Surge

D-RAP

- Each D-RAP is specific to the design center and the closure path for each D-RAP ITAAC should be discussed with the NRC prior to work to close out the D-RAP ITAAC.

- The D-RAP ITAAC will not fall under the ITAAC maintenance guidance because it is a snap-shot in time (most likely right after issuance of the COL). Once the ITAAC closure letter is issued and the Analysis is inspected and found to be acceptable the design of the systems and design control of those systems remains in place throughout construction and design changes do not require the closure letter to be updated.

D-RAP

- The objective of the D-RAP is to design reliability into the plant and to maintain the AP1000 reliability consistent with the NRC-established PRA safety goals. The AP1000 Design Reliability Assurance Program (D-RAP) is implemented as an integral part of the AP1000 design process to provide confidence that reliability is designed into the plant and that the important reliability assumptions made as part of the AP1000 probabilistic risk assessment (PRA) will remain valid.
- The D-RAP ITAAC will be to ensure that the PRA important components/systems have been designed in accordance with the appropriate quality assurance design controls.
  - The AP1000 ITAAC is based on risk importance of components, and the AP1000 Engineering Analysis will prove that the systems, components and the function of those components are designed with the appropriate quality controls.

Questions/Comments