
Meeting Design ITAAC After Issuance of a COL

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The Ideal...

- Design certification applicant provides a complete and final design. NRC certifies.
- COL applicant references the certified design and provides site specific information and operational programs. NRC licenses.
- Licensee constructs the plant and completes ITAAC. NRC verifies.

The Reality: Ideal not achieved (for designs currently certified)

- Rapidly changing technology would render some aspects of a design obsolete when licensee was ready to construct
- Design certification vendor did not provide level of design detail sufficient to make safety finding for variety of reasons
- Enter - Design Acceptance Criteria

Design Acceptance Criteria

- A set of prescribed limits, parameters, procedures, and attributes upon which the NRC relies in making a final safety determination to support a design certification.
- Must be verified as part of the inspections, tests, analyses, and acceptance criteria (ITAAC) performed to demonstrate that the as-built facility conforms to the certified design.

What Areas Have DAC?

- Radiation Shielding (ABWR only)
- Piping
- Instrumentation and Control
- Human Factors Engineering

Future Potential Reality

(Designs currently under review)

- Vendors and COL applicants working on applications jointly
 - Previously, vendors had no COL applicants to work with
 - Current design certification applications reviews:
 - Developed and reviewed in conjunction with COL applications
 - Fewer departures expected
 - These and other factors may reduce use of DAC for design certifications under review

DAC Process Options

- Option A: Resolve through Design Certification process (amendment)
 - Staff reviews design to resolve DAC
 - Tier 2 is updated to reflect the design without DAC
 - Rulemaking is performed to certify amended design
- Option B: Resolve before license is issued
 - Staff reviews design to resolve DAC
 - Departures submitted to reflect design without DAC
- Option C: Meet after license is issued
 - Staff inspects to verify design ITAAC met
 - Amendment submitted to reflect license without DAC

Construction ITAAC Associated with Design ITAAC

- Even though design ITAAC resolved or met, corresponding construction ITAAC remains
 - Must be met during construction
 - Subject to opportunity for public hearing
- If construction and design ITAAC combined, cannot resolve or meet design ITAAC until construction ITAAC met

Option C: Meet After License is Issued

- Must be met by each licensee referencing design certification rule
 - ❑ Finality is only achieved using Option A
 - ❑ Subject to opportunity for hearing for each plant referencing that particular design
 - ❑ SCOLs may take advantage of past precedents
 - ❑ Changes subject to 10 CFR 52.98, Finality of COL

Option C: NRC Finding

- Finding that NRC makes is not a safety finding
 - Safety finding was made during certification
 - Verification that design ITAAC has been met
 - Inspection activity with technical staff support
 - NRC IMC 2504: 08.03 Engineering Design Verification
 - “...inspections...after COL will be for those portions of a licensee’s implementation of the process for conformance with design acceptance criteria...”

Option C: Level of Detail

- Level of detail needed to resolve design ITAAC in Options A and B or meet design ITAAC in Option C is identical
 - Brings design information to level that which staff would have resolved all safety issues during design certification review
 - Processes are different

Option C: Timing

- NRC Inspections related to design ITAAC generally expected to occur after license issued
 - May or may not be during construction
 - COL applicant should submit schedule to support design ITAAC Inspection
- Once inspections completed, licensee informs NRC that certain design ITAAC have been meet
 - Must have separate design and construction ITAAC
 - NRC follows ITAAC process regardless of whether licensee meeting design or construction ITAAC

Option C: Documentation

- NRC documents inspection findings in inspection report
 - Similar to reports for construction ITAAC
 - Will have technical staff support
- Licensee submits letter when it verifies that design ITAAC met
 - Indicates basis for meeting ITAAC
- NRC reviews inspection record to verify that ITAAC has been met
 - May conduct additional inspections if needed
- Licensee submits amendment to license
 - NRC issues safety evaluation report

Summary

- NRC has 3 options to address DAC
 - Vendor resolve in an amended certification (finality)
 - Applicant resolve prior to issuance of a COL
 - Licensee meet before or during construction
- Level of detail needed to resolve or meet design ITAAC identical for 3 options
- Licensees using Option C will be subject to NRC inspection of design ITAAC
- Amendment to reflect license without DAC

Questions?