

D-RAP ITAAC Wording

6-25-10

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RAP ISG Section A.8 wording (current draft)

A.8 ITAAC for D-RAP

The application should specify an ITAAC for the D-RAP that provides reasonable assurance that the plant is designed and will be constructed consistent with the key assumptions and risk insights for the within-scope SSCs. The COL holder would confirm the adequacy of the D-RAP prior to initial fuel load. Acceptance criteria for D-RAP ITAAC would ensure that documentation exists for the following:

- a. for the within-scope SSCs, identification and description of the reliability assurance activities that are accomplished prior to initial fuel load
- b. confirmation that these activities provide reasonable assurance that the plant is designed and constructed consistent with the key assumptions (including reliability and availability assumptions in the PRA, when applicable) and risk insights for the within-scope SSCs

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Model D-RAP ITAAC (NRC proposed 5-13-10)

- **Design Commitment:**
For structures, systems, and components within the scope of the reliability assurance program (RAP SSCs), the design is consistent with risk insights and assumptions.
- **Inspections, Tests, and Analyses:**
An analysis will demonstrate that the initial design of all RAP SSCs (for procurement and installation) has been completed in accordance with the D-RAP.
- **Acceptance Criteria:**
The initial design of all RAP SSCs has been subject to the applicable reliability assurance activities of the D-RAP.

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Potential Issues

- Wording in the model ITAAC may be interpreted by others to require inspections/verifications of **all** items on the RAP SSC list (vs. a programmatic review).
- Use of the term "initial design" may not be consistently interpreted.
- Overall wording does not directly imply a programmatic review.
- Some design centers have already submitted RAP ITAAC wording.

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Proposed Solutions

Modify Section A.8 of the ISG as follows:

A.8 ITAAC for D-RAP

The application should specify an ITAAC for the D-RAP that provides reasonable assurance that the plant is designed consistent with the key assumptions and risk insights for the within-scope SSCs. The COL holder would confirm the adequacy of the D-RAP prior to initial fuel load.

Acceptance criteria for D-RAP ITAAC would ensure that controls are in place to provide reasonable assurance that the plant is designed consistent with the key assumptions (including reliability and availability assumptions in the PRA, when applicable) and risk insights for the within-scope SSCs.

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D-RAP ITAAC Model proposed solution (EPR)

- **Design Commitment:**

The design of systems, structures, and components is consistent with key assumptions and insights for SSCs within the scope of the Design Reliability Assurance Program (DRAP).

- **Inspection, Test, Analyses:**

An inspection of the implementation of the DRAP will be conducted.

- **Acceptance Criteria:**

The inspection report confirms the implementation of the DRAP controls such that the design for SSCs within the scope of DRAP maintains reliability and availability assumptions.

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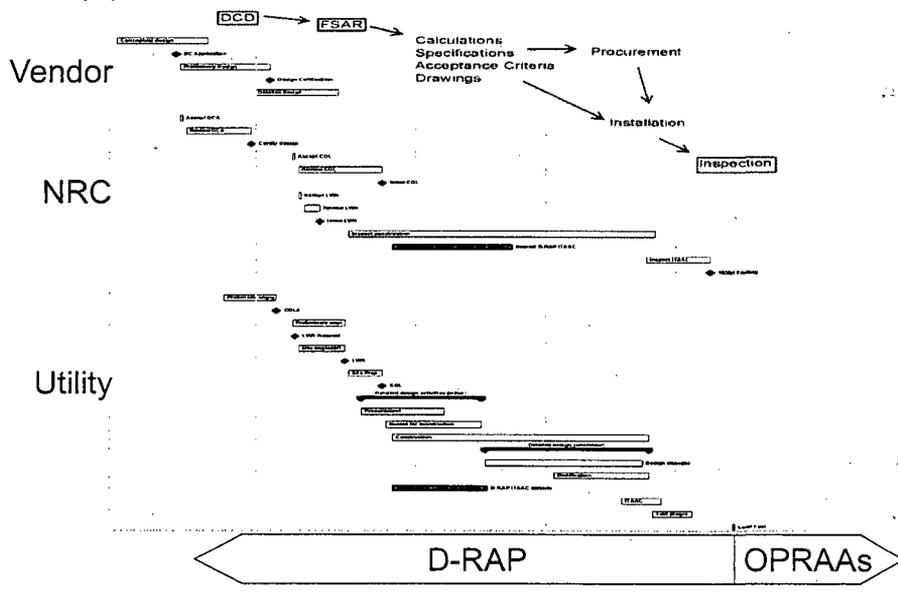
D-RAP ITAAC

Public Meeting with
UniStar, AREVA, and NEI

June 25, 2010

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RAP Timeline





ITAAC Expectations

D-RAP activities ensure that design as issued is faithful to the licensed design (D-RAP ITAAC)

Other D-RAP activities will ensure that the plant as built will be faithful to the design as issued for

- Procurement
- Fabrication
- Construction



Model D-RAP ITAAC

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
For structures, systems, and components within the scope of the reliability assurance program (RAP SSCs), the design is consistent with risk insights and key assumptions.	An analysis will demonstrate that the initial design of all RAP SSCs (for procurement and installation) has been completed in accordance with the D-RAP.	The initial design of all RAP SSCs has been subject to the applicable reliability assurance activities of the D-RAP.



SRP Definitions for Tier 1

SRP 14.3, Appendix A, Part IV, Section 1

A. *Definitions.* This section defines terms used in Tier 1 that could be subject to various interpretations. The intent is to be consistent and as closely aligned as possible with the terminology in the SSAR, in common industry use, industry codes and standards, and NRC regulations, and guidance. Thus, should questions on terminology arise, these references would aid in understanding the intent of the information in Tier 1.



Inspection

x. ...*Inspection* mean[s] visual observations, physical examinations, or reviews of records based on visual observation or physical examination that compare the **structure, system, or component condition** to one or more **design commitments**. Examples include walkdowns, configuration checks, measurements of dimensions, or nondestructive examinations. [emphasis added]

Analysis

- ii. *Analysis* means a calculation, mathematical computation, or engineering or technical evaluation. Engineering or technical evaluations could include, but are not limited to, comparisons with operating experience or design of similar structures, systems or components.

Initial Design

Plain English, not a term of art

- Purchase specifications for RAP SSCs
- Construction drawings for RAP SSCs
- Supporting calculations
- **ITAAC need not address**
 - Revisions or design changes
 - Test acceptance criteria, setpoints, calibration data, etc.

All RAP SSCs

Objective

- Demonstrate that 100% of RAP scope as defined in the COL is addressed in detailed design that was prepared according to the appropriate D-RAP assurance activities.

Programmatic Review

- Program described in DCD and COLA
- Audited prior to COL
- Inspected during construction

Changes in Scope

- Essential elements of D-RAP ensure the capture of items that become risk-significant SSCs after COL issuance due to modifications or new information
- ITAAC not needed to ensure additions to scope occur

ITAAC Wording

- Wording in the model is only one acceptable example.
- Applicants are not expected to copy the language, but are free to amend if they choose.
- Maintain emphasis on demonstrating that appropriate reliability activities controlled the detailed design of RAP SSCs.
- Ensure that closure of D-RAP ITAAC is practicable.