

Digital I&C Design Acceptance Criteria (DAC) Implementation

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Key Issues

- **Application and DAC/ITAAC Expectations**
- **Process Options for DAC Implementation**
- **ITAAC Closeout through Inspection Process**

Expectations for a Quality DC Application

- Sufficient information to demonstrate Digital I&C design and implementation capability
- In conjunction with documents submitted on the docket, a DAC submittal should detail how the Digital I&C design will meet regulatory criteria
- ITAAC should demonstrate that the “as-built” configuration meets the Digital I&C design
- Schedule for DAC and ITAAC submittal/implementation; the schedule must consider impact on related COL activities (simulator completion, operator training, etc.)
- Unambiguous

- ***A quality submittal translates into fewer RAIs and a smoother ITAAC closeout process***

Life Cycle Process

Life Cycle Activity Groups	Planning Activities	Requirements Activities	Design Activities	Implementation Activities	Integration Activities	Validation Activities	Installation Activities	Operation & Maintenance Activities
Software Management Plan Software Development Plan Software QA Plan Integration Plan Installation Plan Maintenance Plan Training Plan Operations Plan Software Safety Plan Software V&V Plan Software CM Plan	Requirements Specification	Design Specification Hardware & Software Architecture	Code Listings	System Build Documents			Operations Manuals Installation Configuration Tables Maintenance Manuals Training Manuals	Change Safety Analysis V&V Change Report CM Change Report
	Requirements Safety Analysis V&V Requirements Analysis Report CM Requirements Report	Design Safety Analysis V&V Design Analysis Report CM Design Report	Code Safety Analysis V&V Implementation Analysis & Test Report CM Implementation Report	Integration Safety Analysis V&V Integration Analysis & Test Report CM Integration Report	Validation Safety Analysis V&V Validation Analysis & Test Report CM Validation Report	Installation Safety Analysis V&V Installation Analysis & Test Report CM Installation Report		

Process planning

Design outputs

Process implementation

Note: A separate document is not required for each topic identified; however, project documentation should encompass all of the topics.

Methods to Address DAC Closure (Implementation)

- (1) Applicant amends DCA to include DAC implementation information**
- (2) Applicant submits COLA that includes DAC implementation information**
- (3) Applicant submits DAC implementation information after COL issuance**

A Topical Report submittal can be the mechanism to support each method

DAC Submittal through DCA Amendment

- DAC review remains in the licensing process
- Provides for appropriate breadth and depth review

DAC Submittal as Part of COLA

- DAC review remains in the licensing process
- In the review schedule, COLAs are following close behind DCAs; this impacts the staff review resources

DAC Submittal After COL Issuance

- COL is issued with unresolved DAC items
- DAC implementation information is submitted as it becomes available
- DAC implementation is verified as part of design inspection

Topical Report Submittal

- Facilitates a timely review by the staff
- Licensing process is familiar to applicants
- Staff can review DAC information as it becomes available
- Places DAC back into licensing space vs. dependence on inspection

Topical Report vs Inspection of DAC

- COL holders can simply incorporate an approved Topical Report via 10CFR52.08(b) (or equivalent process)
- In inspection process, COL holder is subject to inspection issues, findings, etc.

ITAAC Closeout

- Life Cycle stages beyond Design would be addressed as ITAAC (created from DAC)
- Regional-based inspection would verify (with DE support)
- Can be enhanced with quality DC/COL application and DAC submittal

Summary

- NRO Staff expects quality COL applications and Digital I&C DAC submittals
- NRO Staff has a viable approach for Digital I&C DAC review and closeout
- There are tangible benefits to applicants in adopting this approach

**Questions?
and/or
Discussion**