



**RIC 2009
Design Acceptance Criteria:
Searching for Acceptance**

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Purpose of DAC

- Allows NRC Reasonable Assurance Conclusions in Special Areas
 - Areas where as-built or as-procured design information is required
 - Piping
 - Radiation Protection
 - Areas subject to rapidly evolving technology
 - I&C
 - HFE

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Challenges

- Design Certification Finality Applied to Design Process in These Areas
- Establishing and Implementing Process for Closure
 - When?
 - What?
 - Who?
 - How?
- Maintaining Standardization

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DAC Closure Challenges—When?

- Timing for Closure
 - Prior to COL Issuance
 - DCD Amendment
 - R-COL Application
 - S-COL Application
 - Following COL Issuance
 - Issues

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DAC Closure Challenges—What?

- Level of Detail Required for NRC to Reach a Reasonable Assurance Conclusion
 - Piping ASME Design Reports
 - I&C Hardware Functional and System Design Documents
 - I&C Software Functional and Performance Requirements Design Documents

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DAC Closure—What?

Piping

- Closure of DAC
 - ASME NCA-3550 compliant Design Reports
 - HELB Analysis
- Engineering Design Verification Process
 - Detailed design implementation
 - May be used to confirm licensee's implementation of DAC
- Critical Challenge is Level of Detail

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DAC Closure—What?

Instrumentation & Controls

- I&C DAC are Life-Cycle Phased
 - Planning, requirements, and design activities
 - Closure documents can be submitted either at the end of each Phase or following completion of the Design Activities
 - Hardware and Software Activities

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DAC Closure—What?

I&C Challenges

- Processes Vary across Platforms
- Level of Detail
- Understanding NRC Expectations
- Quality of Submittals
- NRC Inspections
- Communication of Process to NRC
Early and Often is Critical

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DAC Closure—What?

HFE

- HFE DAC are Programmatic
 - NUREG-0711, Revision 2
 - HFE Design Development Process defined in the DCD
 - Verified through the ITAAC at various phases of design development and implementation
 - Critical Challenges are Schedule for Implementation and Communication

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DAC Closure—Who?

- Design is implemented by the Plant Designer but....
- Formal DAC Closure Options
 - DC Holder (through DCD Amendment)
 - R-COL Applicant or Licensee
 - During COL application review
 - Post-COL issuance
 - S-COL Applicant or Licensee
 - May require Exemption

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R-COL DAC Closure—How?

- Present Design Information to NRC Inspectors and Technical Reviewers
- NRC Feedback
- Submittal of DAC ITAAC Completion Notification Letter
- NRC Acceptance
- Results in DAC Closure

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Progress

- NRC/Industry Interactions
 - RG 1.206
 - NRC/Industry Task Force Efforts
 - Design-Centered Working Group Meetings
 - Numerous NRC/Designer Interactions including Engineering Design Verifications
 - NEI 08-01, “Industry Guideline for the ITAAC Closure Process Under 10CFR52”

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Searching for Acceptance....

Success Hinges on:

- Clear Definition and Understanding of Detailed Criteria for Closure
- Agreement on Implementation Process
- Establishing a Manageable and Maintainable Schedule for Design Completion Activities
- Early and Often Communication
- Future COL Applications Benefit from Eliminating DAC either through DCD or COL Reviews

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