
AP1000 Design Certification Amendment Acceptance Review

October 11, 2007



Objectives

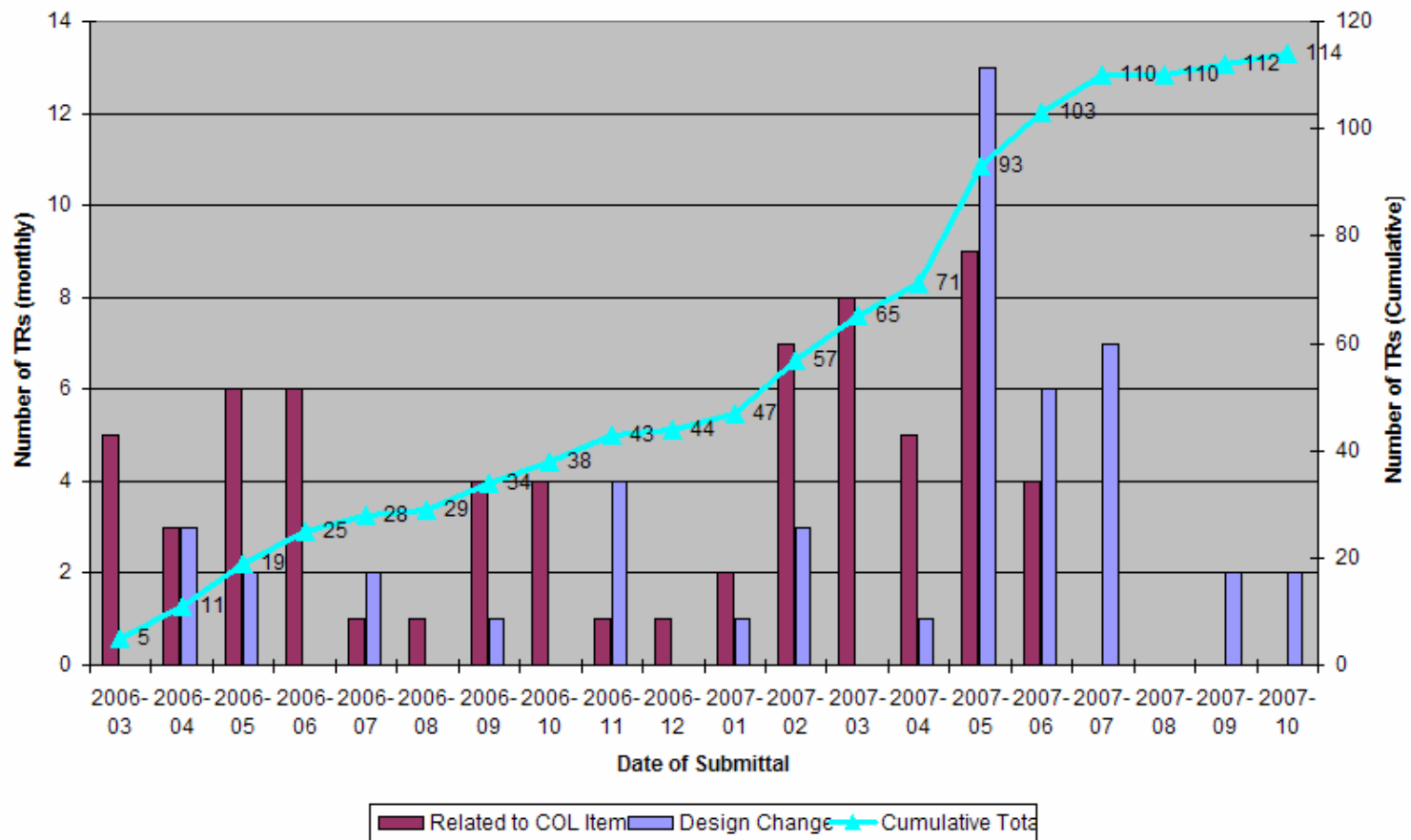
- Discuss NRC-Identified Issues
 - Outstanding TRs
 - Technical Report Issues
 - Process Issues
- Provide DCD Revision 16 Bases
 - TR links
 - Process overview
- Managing DCD Impacts Going Forward (TR 134)
- Actions to Allow Docketing and Schedule Development

Technical Report Status

- 141 Technical Reports Submitted as of October 11, 2007
 - 114 Initial TRs
 - 27 Revisions to incorporate RAI responses and NRC Feedback
- 11 Outstanding TRs

Technical Report Submittals

AP1000 TRs Submitted to NRC (excluding Revisions)



Remaining Technical Reports

- Remaining TRs supporting DCD Revision 16
 - TR 80, Chapter 7 I&C Revision (submitted Oct 10)
 - TR 115, High Frequency Seismic (planned for Oct 19)
- R-COLA Support TRs (planned for submittal prior to BLN COLA Submittal)
 - TR 134, DCD Impacts to Support COLA Standardization
 - TR 138, ISI/IST to Support COLA ISI/IST Program
 - TR 136, EOF COL Item Partial Closure
 - TR 141, RG Conformance
- TR 126, Nuclear Island Response to Aircraft Impact (not required for DC amendment or R-COLA docketing)

Technical Report Subjects

- 63 to address COL Information Items
- 47 to justify design changes that impact DCD content
- 2 to address standardization for COLA content
- TR 135 provides SAMDA confirmation for design certification amendment
- TR 134 provides DCD Post-Revision 16 impacts to support COLA standardization

Technical Report Process

- Basis Established
 - COL Information Item
 - Approved Design Change Proposal (DCP)
 - Changes impacting DCD not limited to those requiring prior NRC approval
- DCP Process (Configuration Control Board)
 - Change Description
 - Technical Justification
 - Safety Evaluation (10 CFR 52 VIII Criteria plus some additional considerations)

Technical Report Process (cont'd)

- TR Process
 - Author drafts TR (template, checklist)
 - Internal Review/Verification
 - Red Team Review
 - Westinghouse Red Team (including management previously involved on AP600 and AP1000 Red Team)
 - NuStart Review—Minimum of two member reviews
 - NRC Submittal (Document Sign-off, Completed Author Checklist)
- Design and Documentation Process
 - Established Westinghouse Process used
 - Process Reviewed/Audited by NRC



Technical Report Process (cont'd)

- TR Content
 - Description
 - Technical Justification
 - DCD Markups
 - Regulatory Analysis
- Lessons-learned
 - AP600/AP1000 Design Certification
 - Red Team Consistency across TRs, RAIs, and Revision 16
 - Corrective Actions where Appropriate



Revision 16 Process

- Incorporate Technical Report DCD Markups into an Overall Revision
- COL Information Items and Design Changes included in Revision 16 to Facilitate Standardization
- Editorial/Consistency Changes
 - Tier 2, no safety-impact
 - Tier 1 and Tier 2* covered in a TR to provide regulatory justification
- Technical Reports Primarily used to Provide Technical and Regulatory Justification

DCD Content Based on Regulatory Criteria
And Guidance, as well as Precedents

NRC Status of TR Reviews

- Approximately 500 RAIs received
 - Varying levels of safety/regulatory significance
 - 460 responses provided
 - Less than 40 still outstanding
 - Approximately 120 resulting in TR revisions
 - Approximately 60 resulting in DCD revisions
- No Sufficiency Issues

NRC Status of TR Reviews (July 2007 NRC Letter)

- 15 TRs NRC staff “Technical Review Complete”
- RAIs issued on approximately 34 TRs
- 4 TRs not accepted
 - TR 1—Construction Schedule
 - TR 26—WEC developing GSI 191 Additional supporting information
 - TR 71A—WEC revising to indicate partial COL Information Item closure
 - Plant Security Plan—WEC revising to reflect site-specific
- Approximately 60 TRs with No RAIs/No Review status



NRC Examples of Technical Issues

TR	Issue	WEC Action	Category
105—General Arrangements	Insufficient justification of shield building changes on safety	TR revised and submitted; additional regulatory and technical justification added	Additional information required.
16 and 62—EQ by Experience	Insufficient examples and methodology detail	Evaluate importance of EQ by experience	Level of detail issue
103—Misc Changes	Spent fuel rack capacity calculation	TR revised and submitted; detailed calc on file at Rockville office	Additional information required.
26—Containment Debris	Downstream effects, chemical effects (NRC letter)	WEC provide response	Industry safety concern (GSI 191). Need for near-term staff interaction.

NRC Technical Issues Areas Where Design Not Completed

TR	Issue	WEC Action	Category
34—RCP	Hx design not available, leading to pump stresses being unavailable		Level of detail for reasonable assurance conclusion. Need for further staff interaction.
84--HFE Verification and Validation	NRC requesting final V&V documents		DAC—Need for staff interaction to evaluate progressive design development. No intent to provide ALL information prior to docketing.

NRC Technical Issues

Areas where design not completed

TR	Issue	WEC Action	Category
8--LBB	Need for revised seismic spectra		Closed for hard-rock sites; soil spectra being evaluated by staff.
6 and 7—As-built COL item and Piping hazard analysis		Piping DAC meeting	Level of detail for reasonable assurance conclusion. Need for further staff interaction.

NRC Technical Issues Inconsistent Information

TR	Issue	WEC Action	Category
33 and 36 reactor coolant materials	TRs had inconsistent material reference	Confirm impact on Revision 16.	Minor error correction; CAP item.

NRC Technical Issues

Process Issues

Issue	DCWG Position	Actions
Changes not requiring prior NRC review per 10CFR52 included in Revision 16	Review as part of design certification amendment to achieve standardization	Completed evaluation and revision of “roll-up” TRs to provide additional technical and regulatory justification. Level of justification consistent with regulatory guidance and precedence. NRC action to review revised TRs.
Roadmap not providing for NRC staff needs		NRC staff should clarify objectives and functionality requirements for their use of the roadmap. Westinghouse will respond with increased functionality of roadmaps

Westinghouse Assessment of Issues

- Required for docket and schedule development
 - TR 80 (complete)
 - TR 103 and 105 safety assessments (complete)
 - Pressurizer safety analysis RAI response (complete)
- Sufficient for docket and schedule development but needs interaction
 - Resolution of level of detail differences
 - Soil seismic spectra reconciliation
 - Discussion of licensing alternatives (e.g., DAC)



Post-Revision 16 Configuration Control

- DCD Impacts Post-Revision 16 Identified
 - Editorial/Consistency Impacts
 - Subsequent RAIs and Technical Report Impacts
 - COLA Standardization Impacts
- Strategy for Managing the Impacts Proposed to NRC at June 19, 2007 Kickoff Meeting
- Result is TR 134, DCD Impacts to Support COLA Standardization

TR 134

Documents the Post-Revision 16 Impacts

- Brief Summary
- Editorial or Technical?
- Regulatory Significance (NRC approval required?)
- Cause—TR, RAI, COLA, New Regulation
- Section Impacted
- Reference for Technical and Regulatory Justification as Appropriate
- DCD Markups with Revision Bars and Cross-Reference

Example Impact Entry

DCD Section	Issue	TR Reference	RAI	Cause	Regulatory Impact
4.4.7	TR APP-GW-GLR-059 not consistently included in Revision 16 of the DCD. Section 4.4.7 will be revised to include the consistency change.	APP-GW-GLR-059	NA	Editorial	NA

Example Impact Entry

DCD Section	Issue	TR Reference	RAI	Cause	Regulatory Impact
1.1.7	NRC feedback requiring applicant-specific Construction Schedule in COLA	APP-GW-GLR-036	NRC Letter	Regulatory	COL Information Item 1.1-1 not closed in Revision 16. Addressed in COLAs.

Discussion Topics

- Design Certification Amendment Sufficiency Review Initiation
- DC Amendment Application Docket and Schedule Issuance
- COLA Sufficiency Review Initiation and relationship to DC Sufficiency Review/Docketing
- COLA Docket and Schedule Issuance
- DC Rulemaking Schedule to Support COL Schedule