



U.S. NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

New Reactor Applications: NRC Review Challenges

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November 19, 2008



OVERVIEW

- Applications and Schedules
- Hearing Activity
- Budgets and Resource Availability

Status: New Reactor Applications

- Reviews Completed
 - 4 Designs Certified
 - 3 Early Site Permits Approved
- Applications Received
 - 17 Combined License Applications
 - 3 Design Certification Applications
 - 1 Design Certification Amendment
 - 1 Early Site Permit Application



Application Review Schedules

- Enterprise Project Management
- Acceptance Review
- Detailed Technical Review
- Change Management Process

Microsoft Enterprise Project Management (EPM)

- Information Technology Infrastructure
- Tools to Plan, Schedule, & Manage Work
 - COL, DC, And ESP
- Resource + Schedule Planning and Tracking
- Project Schedules
 - Individual Tasks (1500+)
 - Contents: Review Phase, SRP Section, Hours, Start/Finish Dates, Resources, Gantt Chart
- Status Updates
 - Resources Status Respective Tasks
 - Pre-defined Increments (30, 60, ... %)

Acceptance Review

- 10 CFR 2.101(a) and NRO Office Instruction
- Scope: Completeness + Technical Sufficiency
- Schedule and Resources
 - Regulatory Issue Summary (RIS) 2007-08
 - Application-specific
 - Tasks at the Branch Level
 - Duration ~60 Days
- Staff / Applicant Interactions
- Formal Decision Process
- Outcome: Decision Re Docketing
[Federal Register Notices]



TAC	Task Name	Work	Duration	Start	Finish	Resource Names
	GRANDGULF Acceptance Review					
	Sixty-Day Acceptance Review Period					
	Financial Review by NRR					
	NRR/DPR/PFPB Acceptance Review					
	Staff Review of Applicant's Financial Submittal					
	NRR Financial Branch Chief Completes and Issues Acceptance Review Memo					
	Safety Review by Branches, PMs, and NSIR					
	CHPB Acceptance Review					
	CHPB - Staff Completeness Check and Technical Sufficiency Review					
	CHPB - Branch Chief Completes and Issues Acceptance Review Memo					
	CQVB Acceptance Review					
	CQVB - Staff Completeness Check and Technical Sufficiency Review					
	CQVB - Branch Chief Completes and Issues Acceptance Review Memo					
	NSIR-LIB and FEMA Acceptance Review					
	NSIR-LIB Review of Onsite EP					
	NSIR-LIB - Staff Completeness Check and Technical Sufficiency Review					
	FEMA Review of Offsite EP					
	NRC forwards Offsite EP Information to FEMA					
	FEMA Offsite EP - Check Completeness and Technical Sufficiency Review					
	FEMA Provides Acceptance Review Results to NSIR-LIB					
	Envir Rpt - Check Consistency and Technical Sufficiency					
	Distribute Envir Rpt to Contractor					
	Envir Rpt RENV and RAP Technical Oversight					
	Envir Rpt Contractor Staff Review					
	Envir Rpt Contractor Team Leader Review					
	Envir PM Review of Contractor Conclusions					
	RAP Branch Chief Completes and Issues Acceptance Review Memo					
	Acceptance Decision					
	DNRL Projects PMs Compile Results and Prepare Draft Decision Letter					
	DNRL Projects BC Reviews and Concurs Acceptance Decision					
	DNRL Deputy Director and Acceptance Decision					
	Acceptance Letter, Press Release, and FRN Completed and Issued					

Detailed Technical Review

- COL Scope: Safety + Environmental Review
 - Safety: 6 Phases (Include ACRS) – Safety Evaluation Report
 - Environmental: 4 Phases – Final Environmental Impact Statement
 - Mandatory Hearing
 - Commission COL Decision
- Schedule and Resources
 - SRP-based Technical Review
 - Application-specific
 - Duration ~33 Months [E.G., R-COLA/S-COLA, Application Quality, Applicant-specific Review Issues, Agency Priorities]
- Managed Reserve
 - ~3 Months (60 Work Days)
 - Accommodate Uncertainty In Baseline Schedule Estimates
 - Applied to Safety & Environmental Reviews



Detailed Technical Review (cont)

- Public Milestone Schedule – Post-docketing
- Detailed Review Schedule
 - Tasks at the Standard Review Plan “X.Y.Z” Level
 - Developed Early in Phase 1
 - Interactive Sharing with Applicant
 - Posted on Public Website (e.g., North Anna)
- Staff / Applicant Interactions
 - Requests For Additional Information (RAIs)
 - Review Schedule – Constructive Feedback



Detailed Technical Review Plan & Schedule

- Complete acceptance review
- Issue schedule for detailed technical review
- 6-Phase Safety Review
 - Phase 1 – Complete issuance of requests for additional information
 - Phase 2 – Complete safety evaluation report with open items
 - Phase 3 – ACRS review of safety evaluation report with open items
 - Phase 4 – Complete advanced final safety evaluation report
 - Phase 5 – ACRS review of advance final safety evaluation report
 - Phase 6 – issue final safety evaluation report
- 4-Phase Environmental Review
 - Phase 1 – Issue Environmental Impact Statement (EIS) summary report
 - Phase 2 – Issue Draft EIS to Environmental Protection Agency (EPA)
 - Phase 3 – Issue responses to public comments on Draft EIS
 - Phase 4 – Issue Final EIS to EPA
- Hearing
- Commission decision on issuance of license with conditions
- Verification of regulation with ITAAC
- Commission decision on loading fuel

North Anna Schedule

- Acceptance review completed – January 28, 2008
- Schedule issued – February 27, 2008
- 6-Phase Safety Review
 - Phase 1 – August 2008
 - Phase 2 – April 2009
 - Phase 3 – July 2009
 - Phase 4 – March 2010
 - Phase 5 – July 2010
 - Phase 6 – August 2010
- 4-Phase Environmental Review
 - Phase 1 – August 2008
 - Phase 2 – December 2008
 - Phase 3 – June 2009
 - Phase 4 – December 2009
- Hearing - TBD
- Commission decision on issuance of license with conditions - TBD
- Verification of regulation with ITAAC - TBD
- Commission decision on loading fuel - TBD



Project Details: ESBWR_NORTHANNA_RCOL

07/01/2008

Task Name	Work	Start	Finish
ESBWR_NORTHANNA_RCOL	77467	02/15/2008	07/06/2011
Acceptance Decision / Proceed with Review	0	02/18/2008	02/18/2008
Safety Review	49677	02/18/2008	08/25/2010
Phase 1 - PSER and RAIs	14113	02/18/2008	08/21/2008
Phase 1 Support	800	02/19/2008	08/20/2008
P1 - PSER and RAI Preparation	13313	02/18/2008	08/21/2008
P1 - 2.0 Site Characteristics	1991	02/19/2008	08/21/2008
P1 - 2.0 Technical Review	1873	02/19/2008	07/17/2008
P1 - 2.0 Site Char and Param - PSER and RAIs Prepared	24	02/19/2008	07/17/2008
P1 - 2.1.1 Site Location and Desc - PSER and RAIs Prepared	15	02/19/2008	06/17/2008
P1 - 2.1.2 Excl Area Authority and Control - PSER and RAIs Prepared	15	02/19/2008	06/17/2008
P1 - 2.0 RAI Issuance	118	03/14/2008	08/21/2008
P1 - 2.0 PSER and RAI Input Complete	0	07/17/2008	07/17/2008
P1 - 2.0 RAI Processing	90	03/14/2008	08/04/2008
P1 - 2.0 OGC review and comment resolution of final RAIs	16	08/05/2008	08/18/2008
P1 - 2.0 Issuance of Final RAI Letter to Applicant	12	08/19/2008	08/21/2008
P1 - 2.0 Complete	0	08/21/2008	08/21/2008
P1 - 4.0 Reactor	140	02/19/2008	07/07/2008
P1 - 4.0 Technical Review	52	02/19/2008	06/06/2008
P1 - 4.2 Fuel System Design - PSER and RAIs Prepared	8	02/19/2008	06/06/2008
P1 - 4.3 Nuclear Design - PSER and RAIs Prepared	8	02/19/2008	05/27/2008
P1 - 4.4 Thermal and Hydraulic Design - PSER and RAIs Prepared	8	02/19/2008	05/27/2008

Change Management Process

- Formal Documented Process
- Identify, Implement, and Track Changes to Project Schedules
- “Significance” of Change Determines Management Involvement
[Project Manager, Division-level, Office-level]
- Resource Management Board
 - NRO Deputy Division Directors (Additional Offices as Appropriate)
 - Awareness and Coordination
- Decision Process
- Documentation & Communication

Levels of Change Management

Level	Decision Authority	Impact of Change
1	NRO Office Director	Delay of Public Milestone
2	DNRL Deputy Director	Use of Managed Reserve
3	Lead Project Manager	Use of Float

Hearing Activity

- Contentions admitted in Vogtle ESP, North Anna COL, Bellefonte COL, and Harris COL proceedings
- Petitions to intervene due Nov 17 for Vogtle COL and Nov 25 for Calvert Cliffs
- Staff (and Applicant) appealing Harris admission

BUDGET AND RESOURCES

- NRC is operating under a Continuing Resolution (CR)
- Anticipate minimal impact to New Reactor Program with a CR of less than 6 month duration
- CR beyond Mar 31--resource availability for new reactor reviews will be guided by Commission SRM (November 6, 2006)



QUESTIONS ?