
AP1000 Design Center Resources and Schedules for COL Reviews

AP1000 DCWG Meeting
April 10, 2008

Purpose

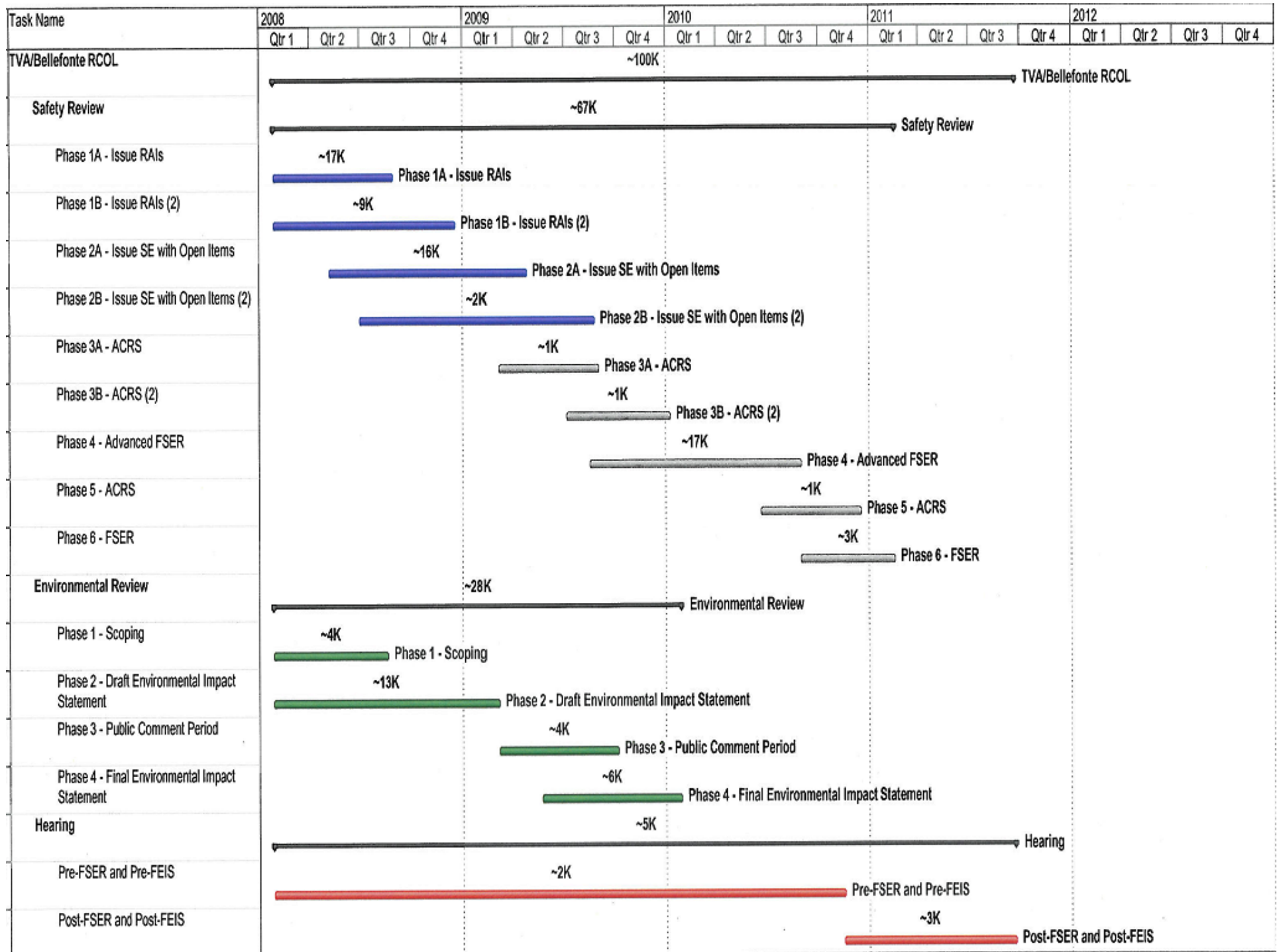
- Provide current, best estimates of resources required for the R-COL and S-COL review
 - Allows industry to align resources to support effective and efficient review
- Provide details of the critical schedule drivers
 - Enhances mutual understanding

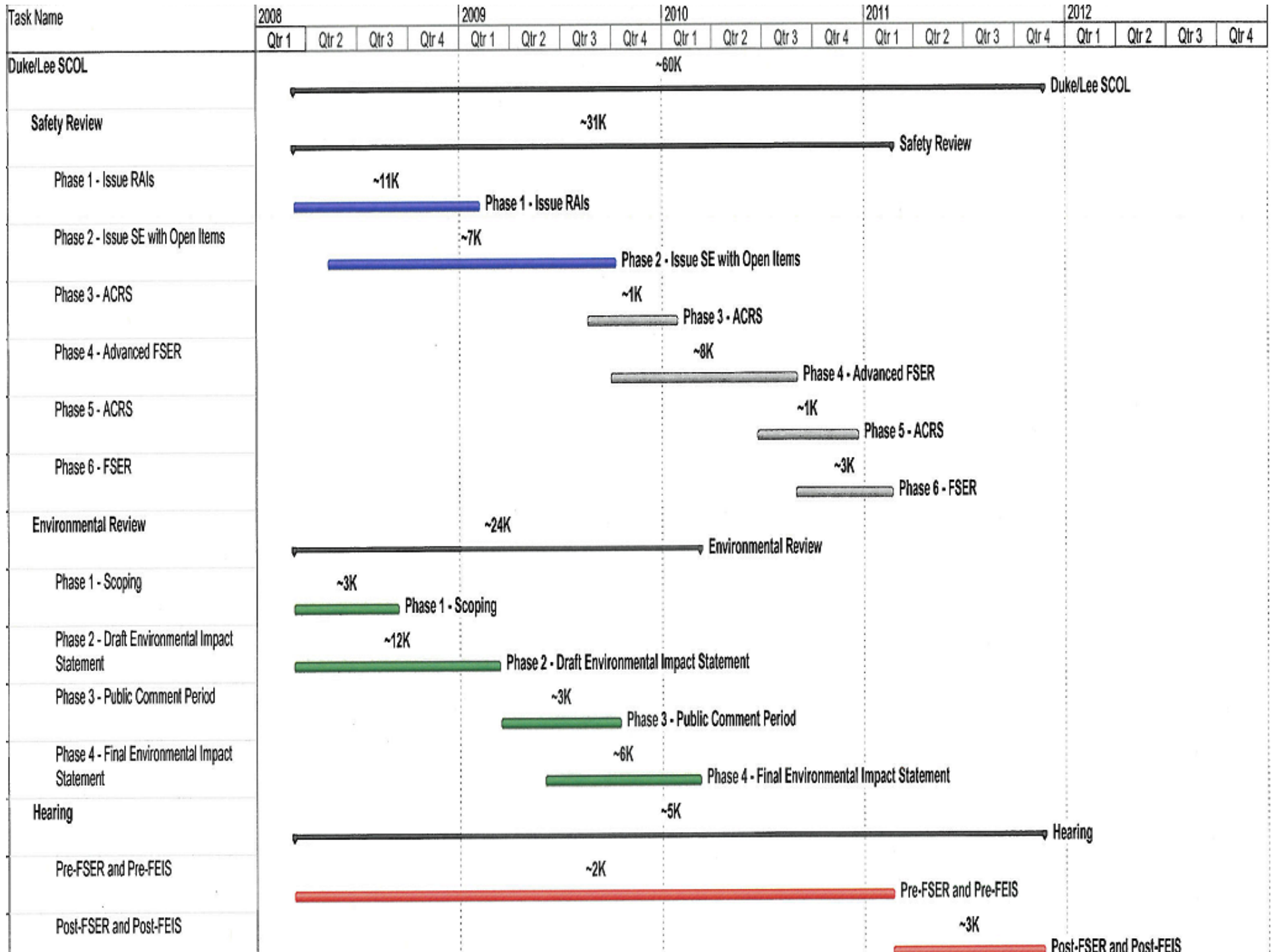
How schedules are developed...

- Start with the COL template, which includes durations and resources
- Adjust resources and durations to reflect the specific application
- Assign reviewers (including contractors)
- Adjust start dates and/or durations as needed (e.g., receipt of review material, balancing of other projects, use of contractors)

Important Concepts

- **All budgeted activities have equal priority**
- Amount of resources do not always align with duration
- Schedules are front-end loaded to resolve issues early
- DCA → RCOL → SCOL
- These are resource estimates





Chapter breakouts

CHAPTER	PHASE 1			PHASE 2		
	W - DCA	TVA - RCOL	Lee - SCOL	W - DCA	TVA - RCOL	Lee - SCOL
1	0	200	100	200	400	300
2	600	9000	5000	400	2000	2000
3	7000	4000	900	6000	3000	800
4	700	200	0	400	300	0
5	800	800	0	800	700	0
6	1000	600	200	1000	1000	100
7	1000	100	0	600	100	0
8	200	600	200	200	600	200
9	2000	900	200	1000	1000	200
10	200	400	100	300	400	100
11	200	600	600	400	900	400
12	400	600	600	300	500	400
13	800	3000	1000	700	2000	1000
14	1000	1000	700	1000	1000	700
15	1000	600	0	900	600	0
16	300	2000	500	600	1000	400
17	200	400	200	400	600	200
18	2000	400	200	1000	600	100
19	2000	1000	100	1000	1000	100
TOTAL	21400	26400	10600	17200	17700	7000

RCOL Review Effort Focus

- Chapter
 - Review focus (not a comprehensive list!)
 - IBR, standard, site-specific
 - Level of resources
 - Duration for each phase

RCOL Review Effort Focus

■ Chapter 1

- ❑ Financial qualifications, USIs/GSIs, SRP and RGs
- ❑ Mix of standard and site specific
- ❑ P1: ~200 hours; 1/28/08 – 8/8/08
- ❑ P2: ~400 hours; 7/7/08 – 1/7/09

■ Chapter 2

- ❑ Site safety (meteorology, hydrology, seismology, etc.)
 - ❑ Site specific
 - ❑ P1: ~9000 hours; 1/28/08 – 11/26/08
 - ❑ P2: ~2000 hours; 8/11/08 – 4/28/09
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RCOL Review Effort Focus

■ Chapter 3

- missile protection, dynamic effects, seismic design, mechanical systems and components, environmental qualification, reactor internals, piping systems and supports, ISI program
- Mix of IBR, standard and site specific
- P1: ~4000 hours; 1/28/08 – 7/31/08
- P2: ~3000 hours; 9/2/08 – 12/30/08

RCOL Review Effort Focus, cont'd.

- Chapter 4
 - Minimal review
 - IBR
 - P1: ~200 hours; 1/28/08 – 5/30/08
 - P2: ~300 hours; 7/1/08 – 11/14/08
- Chapter 5
 - IST program, RV surveillance program
 - Mix of IBR and standard
 - P1: ~800 hours; 1/28/08 – 6/24/08
 - P2: ~700 hours; 7/16/08 – 11/19/08
- Chapter 6
 - containment cleanliness, control room habitability
 - Mix of IBR, standard and site specific
 - P1: ~600 hours; 1/28/08 – 7/16/08
 - P2: ~1000 hours; 7/21/08 – 12/11/08

RCOL Review Effort Focus, cont'd.

- Chapter 7
 - Minimal review
 - IBR
 - P1: ~100 hours; 1/28/08 – 6/24/08
 - P2: ~100 hours; 8/11/08 – 11/19/08
- Chapter 8
 - offsite power systems
 - Mix of IBR, standard and site specific
 - P1: ~600 hours; 1/28/08 – 5/9/08
 - P2: ~600 hours; 7/7/08 – 10/14/08
- Chapter 9
 - water systems, fire protection
 - Mix of IBR, standard and site specific
 - P1: ~900 hours; 1/28/08 – 7/16/08
 - P2: ~1000 hours; 7/21/08 – 12/29/08

RCOL Review Effort Focus, cont'd.

- Chapter 10
 - steam and power systems
 - Mix of IBR, standard and site specific
 - P1: ~400 hours; 1/28/08 – 6/3/08
 - P2: ~400 hours; 7/21/08 – 10/28/08
- Chapter 11
 - waste management systems
 - Mix of IBR, standard and site specific
 - P1: ~600 hours; 1/28/08 – 8/8/08
 - P2: ~900 hours; 6/24/08 – 1/7/09
- Chapter 12
 - radiation protection, ALARA
 - Mix of IBR, standard and site specific
 - P1: ~600 hours; 1/28/08 – 8/8/08
 - P2: ~500 hours; 6/24/08 – 1/7/09

RCOL Review Effort Focus, cont'd.

- Chapter 13
 - organization, training, emergency planning, security, fitness for duty
 - Mix of standard and site specific
 - P1: ~3000 hours; 1/28/08 – 8/5/08
 - P2: ~2000 hours; 7/1/08 – 12/29/08
 - Chapter 14
 - startup testing, ITAAC
 - Mix of IBR and standard
 - P1: ~1000 hours; 1/28/08 – 6/24/08
 - P2: ~1000 hours; 8/11/08 – 11/29/08
 - Chapter 15
 - Minimal
 - IBR
 - P1: ~600 hours; 1/28/08 – 6/3/08
 - P2: ~600 hours; 7/16/08 – 11/6/08
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RCOL Review Effort Focus, cont'd.

- Chapter 16
 - bracketed information
 - Mix of IBR and standard
 - P1: ~2000 hours; 3/7/08 – 8/7/08
 - P2: ~1000 hours; 9/29/08 – 1/6/09
 - Chapter 17
 - QA programs
 - Mix of IBR, standard and site specific
 - P1: ~400 hours; 1/28/08 – 6/3/08
 - P2: ~600 hours; 7/21/08 – 10/28/08
 - Chapter 18
 - staffing, human performance monitoring
 - Mix of IBR, standard and site specific
 - P1: ~400 hours; 1/28/08 – 6/24/08
 - P2: ~600 hours; 8/11/08 – 11/19/08
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RCOL Review Effort Focus, cont'd.

- Chapter 19
 - external events
 - IBR and site-specific
 - P1: ~1000 hours; 1/28/08 – 6/24/08
 - P2: ~1000 hours; 7/16/08 – 11/19/08

R-COL Critical Path...phase 1 (current schedule assumptions)

- Chapter 2 – Seismology (2.5.1 and 2.5.2)
 - RAI response expected May 14, 2008
 - Staff review and development of all RAIs by October 21, 2008 (may be revised)
- Chapter 2 – Hydrology (2.4)
 - Inspection of SOCH code (complete)
 - Submittal of white paper on April 1, 1008
 - Site visit on week of April 21, 2008
 - Orientation session during week of May 5, 2008
 - Staff review and development of all RAIs by October 1, 2008 (may be revised)

R-COL Critical Path...phase 1

- Chapter 2 final RAI review and processing
 - 11 days for technical branch chief review, projects review, teleconference with applicant
 - 10 days for OGC review and resolution
 - 3 days for administrative processing
 - Results in all chapter 2 RAIs issued by November 26, 2008
 - 15 days of managed reserve results in December 18, 2008 date

Phase 2 – Development and Issuance of SE with Open Items

- SE with Open Item Completion
 - Licensing Assistant review - 5 days
 - Projects review - 5 days
 - Division Director review – 10 days
 - OGC review – 10 days
 - Resolution of comments – 6 days
 - OGC review – 3 days
 - Final issuance – 3 days
 - P2A: ~400 hours; 1/7/09 – 3/10/09
 - P2B: ~400 hours; 4/28/09 – 6/26/09
 - Managed reserve – 35 days

Feedback...Questions...

- Questions, comments, concerns in alignment with the purposes of this meeting are welcome
- Keep the important concepts in mind:
 - All budgeted activities have equal priority
 - Conduct of the review is consistent across design centers
 - Actual review durations and cost reflect the specifics of the application