



Communication Plan For
Expansion of 4-Phase Safety Review Process
to All Subsequent Combined Licenses (SCOLs)
and
Optimization of 6-Phase Review process to
Design Certification

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Agenda

- Background
- COL Application Review Process
- 4-Phase Review Process to SCOLs
- Expansion of 4-Phase Review Process to SCOLs
- Current Design Certification Review Process
- Optimization of 6-Phase Review Process to Design Certification

Background--Design-Centered Review Approach (DCRA)

- Design Certification (DC) Reviews
 - NRC approval of a final standard design for a nuclear power facility
 - Codified as Appendix to 10 CFR 52
 - Majority of safety issues resolved through DC review process
- Reference COL (RCOL) Application Reviews
 - Staff ensures the “incorporation by reference” of the DC is adequate and appropriate
 - Staff reviews standard material that applies to the entire design center (e.g., operational programs)
 - Staff reviews site specific material (e.g., emergency planning, hydrology)
- SCOL Application Reviews
 - Staff ensures SCOL application conforms to standard language in RCOL application
 - Staff reviews site specific material

Application Review Process

- Phase 1: Issue Requests for Additional Information (RAIs)
- Phase 2: Review RAI responses and develop Safety Evaluation Report with Open Items (SER w/ OIs)
- Phase 3: ACRS Review of SER w/ OIs
- Phase 4: Develop Advanced SER with no open items
- Phase 5: ACRS Review of Advanced SER
- Phase 6: Develop Final SER
- Hearings

4-Phase COL Application Review Process

- **Near Term Goal**

- Reduce staff resources without affecting the quality of staff review

- **Long Term Goal**

- Reduce SCOL application review time without affecting the quality of staff review

4-Phase COL Application Review Process

- Phase A: Issue RAIs and supplemental RAIs
 - Combination of “old” phases 1 and 2
- Phase B: Develop Advanced SER with no Open Items
 - Identical to “old” phase 4
- Phase C: ACRS review of Advanced SER
 - Identical to “old” phase 5
- Phase D: Develop Final SER
 - Identical to “old” phase 6

Pilot on AP1000 SCOL (Summer site)

Staff to brief ACRS on any significant issue

ID	Task Name	Q3 '08	Q4 '08	Q1 '09	Q2 '09	Q3 '09	Q4 '09	Q1 '10	Q2 '10	Q3 '10	Q4 '10	Q1 '11	Q2 '11	Q3 '11	Q4 '11	Q1 '12
1	AP 1000 SUMMER SCOL - Six Phase	[Redacted]														
2	Safety Review	[Redacted]														
3	Phase 1 - PSER and RAIs	[Blue bar from Q3 '08 to Q2 '09]														
4	Phase 2 - SER with Ois	[Blue bar from Q1 '09 to Q2 '10]														
5	Phase 3 - ACRS Review of SER with OI	[Blue bar from Q1 '10 to Q2 '10]														
6	Phase 4 - Advanced SER with No OI	[Blue bar from Q2 '09 to Q4 '10]														
7	Phase 5 - ACRS Review of Advanced SER with No OI	[Blue bar from Q3 '10 to Q1 '11]														
8	Phase 6 - FSER with No OI	[Blue bar from Q4 '10 to Q2 '11]														
9																
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11																
12																
13																
14																
15	AP 1000 SUMMER SCOL - Four Phase	[Redacted]														
16	Safety Review	[Redacted]														
17	Phase 1 - PSER and RAIs	[Blue bar from Q3 '08 to Q2 '09]														
18	Phase 2 - Advanced SER with No OI	[Blue bar from Q1 '09 to Q3 '10]														
19	Phase 3 - ACRS Review of Advanced SER with No OI	[Blue bar from Q2 '10 to Q1 '11]														
20	Phase 4 - FSER with No OI	[Blue bar from Q3 '10 to Q4 '10]														

Expansion of 4-Phase Review Process to SCOLs

- NRO has decided to expand the pilot to potentially include all SCOLs currently submitted to the NRC:
 - Improvements of an existing process with little downside
 - Reduces resources required for SCOL reviews without affecting quality
 - Enhances NRO’s ability to accomplish our work with the current budget
 - Enhances NRO’s ability to manage workload peaks
 - With recent receipt of many SCOLs, it is beneficial to develop their initial schedules on the 4-Phase model
- As with original pilot (Summer), schedule for the expanded pilot SCOLs reviews are not expected to have shortened durations

Expansion of 4-Phase Review Process to SCOLs

Challenges

- Planning
- Resolving staff issues
- Ensuring ACRS involved early
- Measuring success

Expansion of 4-Phase Review Process to SCOLs

Challenge: Planning

Will be phased in incrementally in the following sequence

- Applications that have been recently submitted will have their initial schedule as a 4-phase review
- Applications currently under a 6-phase review will be converted as scheduling resources allow
- Some SCOL schedules may not be converted to a 4-phase review, depending on the status of the current review (expected to be a small number)

Expansion of 4-Phase Review Process to SCOLs

Challenge: Resolving Staff's Issues

- Ability of applicants to resolve safety issues in two rounds of RAIs
- Completion of the Advanced SER with no OIs will be impacted

Expansion of 4-Phase Review Process to SCOLs

Challenge: Ensuring ACRS involved early

- Currently ACRS interacts with staff
 - By attending NRO status meetings
 - By attending Design Centered Working Group public meetings
 - Receiving correspondence between staff and applicants
 - Meeting with ACRS to discuss the impacts of 4-phase review on planned interactions with ACRS
- Developing process and criteria to ensure that issues are identified that would benefit from early interaction with ACRS

Expansion of 4-Phase Review Process to SCOLs

Challenge: Measuring success

- Developing measures for effectiveness and efficiency of the 4-phase program
- The measures developed for the Summer-only pilot compared results on that review to other SCOL reviews

Expansion of 4-Phase Review Process to SCOLs

Since the transition from 6-Phase to 4-Phase Review Schedule for a SCOLA will take considerable time the following process will be utilized to continue the review of SCOLAs:

Phase 1 = Phase A

Phase 2 = Supplemental RAIs

Phase 3 = Meet with ACRS on site- specific issues

Phase 4 = Phase B (Advanced Final SER without Open Items)

Phase 5 = Phase C (ACRS Meeting on Advanced Final SER)

Phase 6 = Phase D (Final SER)

Design certification Review Process

Design Certification Review Process

- Phase 1: Issue Requests for Additional Information (RAIs)
- Phase 2: Review RAI responses and develop Safety Evaluation Report with Open Items (SER w/ OIs)
- Phase 3: ACRS Review of SER w/ OIs
- Phase 4: Develop Advanced SER with no open items
- Phase 5: ACRS Review of Advanced SER
- Phase 6: Develop Final SER
- Rulemaking

Optimization of 6-Phase Review Process to Design Certification

The current 6-Phase review for US EPR and US APWR assumes completion of Entire SER (W/OI) prior to any interaction with ACRS

NRC has decided to use the same approach for the issuance of the US EPR and US APWR SER (W/OI) for each chapter to support multiple ACRS meetings (similar to ESBWR certification review process)

- It eliminates the requisite (complete SER with open items) prior to ACRS interaction
- It allows the NRC to start work earlier in completing chapters
- It could potentially shorten overall design certification review schedule

Optimization of 6-Phase Review Process to Design Certification

Transition from the end of Phase 2 to the Beginning of Phase 4 will be as follows:

- ACRS meetings will be scheduled to support the completion of each chapter in the SER w/OI (this has already been completed).
- Once the SER w/OI for each chapter has received concurrence, it will be issued to the public. This document will be used to support the ACRS meeting on that chapter.

Optimization of 6-Phase Review Process to Design Certification

- After the chapter is issued, the Phase 4 chapter schedule will be rebaselined. Factors considered in rebaselining the chapter schedule should include number of open items and resource availability. The schedule may be adjusted as necessary to consider ACRS comments.
- When the last SER w/OI for a chapter issued, Phase 2 will end.
- The overall Phase 4-6 schedule will be reassessed after the last ACRS meeting in Phase 3 and will be adjusted, if necessary.

Questions?