

NRC Meeting – Breakout Session  
Chapter 2 Change Summary for STP 3 & 4 COLA Revision 3

**NOTE: For Chapter 2 Sections not listed there are no significant changes.**

**2.0 Site Characteristics**

- Table 2.0-2 revised to show design basis flood level as 40 feet MSL
- $\chi/Q$  values revised to reflect changes in Section 2.3S.4.

**2.1S.2 Exclusion Area Authority and Control**

- Figure 2.1S-3, "Site Area Map," revised to reflect changes in Section 2.3S.4 for exclusion area boundary and  $\chi/Q$ .

**2.2S.3 Evaluation of Potential Accidents**

- Explosion analysis methodology described in new Appendix A
- Minor corrections and clarifications in response to RAIs

**2.3S.1 Regional Climatology**

- Description of extreme winds, precipitation and tornadoes revised or clarified in response to RAIs

**2.3S.2 Local Meteorology**

- Impact and consequences of new UHS design added

**2.3S.3 Onsite Meteorological Measurements Program**

- Minor clarifications and additions in response to RAIs

**2.3S.4 Short-Term Atmospheric Diffusion Estimates for Accident Releases**

- Onsite and offsite dispersion ( $\chi/Q$ ) estimates revised to reflect changes in release point assumptions and boundaries in response to RAIs

**2.3S.5 Long-Term Atmospheric Dispersion Estimates for Routine Releases**

- Assumptions (e.g., EAB and LPZ distances) modified and or clarified for ( $\chi/Q$ ) estimates in response to RAIs

**2.4S.2 Floods**

- Design Basis Flood revised to 40.0 feet MSL based on re-analysis of MCR breach in Section 2.4S.4

**2.4S.3 Probable Maximum Flood (PMF) on Streams and Rivers**

- Minor clarifications and revisions in response to RAIs

**2.4S.4 Potential Dam Failures**

- MCR Embankment Breach Analysis updated based on a more credible breach size
- Design basis flood reduced to 40.0 ft MSL

**2.4S.6 Probable Maximum Tsunami**

- Probable maximum tsunami event re-analyzed consistent with NUREG CR-6966 and latest guidance

**2.4S.8 Cooling Water Canals and Reservoirs**

- Clarifications to MCR freeboard analysis in response to RAI

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**2.4S.10 Flooding Protection Requirements**

- Design basis flood reduced to 40.0 ft MSL consistent with changes in Section 2.4S.4 for MCR breach re-analysis

**2.4S.12 Groundwater**

- Completed Commitment 2.4S-2 to collect groundwater levels through December 2007 and update the COLA. Part 3 ER Section 2.3.1 also revised as a result of this update.
- Completed Commitment #6 to validate the assumption used in FSAR Subsection 2.4S.12 for the postulated upper shallow aquifer pathway concerning discharge to Kelly Pond.
- Completed Commitment # 8 to evaluate and update plotted contour maps provided in FSAR Subsection 2.4S.12 considering that proposed plant structures and footings could penetrate the lower shallow aquifer.
- Included new Three-Dimensional Numerical Groundwater Flow Model
- Added clarification of effects of unlined MCR as a local recharge source to the Shallow Aquifer at the site
- Added details related to the release exposure point and pathway evaluation

**2.4S.13 Accidental Releases of Radioactive Liquid Effluents in Ground and Surface**

- Added additional detail related to accidental releases of radioactive liquid effluents in ground
- Added additional detail related to accidental releases of radioactive liquid effluents for direct releases to surface waters

**2.5S.1 Basic Geologic and Seismic Information**

- Added details and clarification related to growth faults in site vicinity in response to RAIs.

**2.5S.2 Vibratory Ground Motion**

- Added details related to Middle America Trench Seismic Hazard Sensitivity
- Updated information describing the Seismic Wave Transmission Characteristics of the Site including shear-wave velocity profiles
- Completed Commitment 2.5S-1 requirement to include Resonant Column Torsional (RCT) Testing results in the FSAR

**2.5S.4 Stability of Subsurface Materials and Foundations**

- Completed Commitment 2.5S-2 and 3H-2 and added analysis results of additional subsurface investigation performed to support relocation of UHS basins, RSW Pump Houses, RSW Tunnels, and Diesel Generator Fuel Oil Storage Vaults
- Completed Commitment 2.5S-1 requirement to add bedrock shear wave velocity profiles
- Added Liquefaction Assessment of Clayey Soils including assessment of Factor of Safety Values
- Updated static stability, bearing capacity, and settlement calculations and evaluations

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### **Related changes to Chapter 3**

- Primary changes for Chapter 3
  - Control Building/Reactor Building Soil-Structure Interaction (SSI) methodology and analysis (Shear Wave Velocity Departure) (Section 3A)
  - UHS SSI methodology and analysis (Section 3H)
  - Incorporation of RAI Responses
- SSI methodology and analysis provided in Section 3A for Control Building and Reactor Building
- SSI methodology and analysis provided in Section 3H for Plant Specific Safety-Related Structures (e.g., UHS)
- SSI results (using SASSI2000 program) submitted 9/29/2009 (letter U7-C-STP-NRC-090153)
- SSI analysis results (using SASSI2000 program) for all six soil cases plus two cases (cracked concrete case and sidewall case) expected to be submitted 11/24/2009
- SSI analysis results (using SASSI2000 program) supporting the UHS design (e.g., rebar information) expected to be submitted 12/31/2009
- Initial responses to the remaining Phase 1 RAIs expected to be submitted 10/08/2009

### **Summary of Chapter 3 changes:**

- 3.1 I&C terminology changes
- 3.4 RAI responses incorporated (03.04.01-5, 03.04.01-7, and 02.04.04-9 S1A)
- 3.7 Deletes previous SHAKE analysis results since the results of the detailed site specific SSI analysis are being reported in Section 3A, and RAI response incorporated (03.07.01-2)
- 3.9 RAI 03.09.03-2 response incorporated
- 3.13 I&C terminology changes
- 3A Site-specific SSI analysis supporting the Shear Wave Velocity Departure STP DEP T1 5.0-1 (minimum 1,000 ft/sec requirement), and RAI 03.07.01-2 response incorporated
- 3B Relocation of proprietary information to Part 10 and Administrative change, and RAI responses incorporated (RAI 06.02.01.01.C-5, RAI 06.02.01.01.C-6)
- 3C RAI 03.07.01-8 response incorporated
- 3H Changes to address the structural analysis and design of the UHS basin, RSW Pump House, and RSW Piping Tunnel, changes to reflect the methodology used for determination of lateral soil pressure, and RAI responses incorporated (02.03.01-5, 03.07.01-13, 03.08.01-2, and 03.08.04-3)
- 3I I&C terminology changes
- 3M Minor corrections

### **Discussion and Questions**