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September 21, 2012

U. S. Nuclear Regulatory Commission
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Washington, DC 20555
ATTN: David B. Matthews, Director
Division of New Reactor Licensing

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 3 AND 4
DOCKET NUMBERS 52-034 AND 52-035
UPDATES TO THE INTEGRATED SEISMIC CLOSURE PLAN AND THE INTEGRATED HYDROLOGY CLOSURE PLAN

Dear Sir:

On April 16, 2012, Luminant submitted an Integrated Seismic Closure Plan (ISCP) that combined certain actions and data arising from the Comanche Peak Units 3 and 4 Phase 2 hydrology and seismic reviews along with changes required by revisions to the US-APWR standard plant design (ML12109A154). On April 27, 2012, Luminant submitted an Integrated Hydrology Closure Plan (IHCP) to resolve the issues remaining from the June 2011 hydrology audit and the March 2012 hydrology public meeting (ML12122A037). Luminant has updated both plans and submits them herein.

The updated plans are based on the recently finalized design enhancements for the US-APWR standard plant structures (ML12248A005), on site-specific design changes being made to address the standard plant changes, and on site-specific changes to further enhance the seismic design of site-specific structures. In general, the approach and issues identified in the original closure plans remain unchanged. The submittal schedules and COLA impacts have been updated, the strategy for addressing Requests for Additional Information has been revised, and action items from previous public meetings have been addressed.

Should you have any questions regarding the updates, please contact Don Woodlan (254-897-6887, Donald.Woodlan@luminant.com) or me. There are no commitments in this letter.

I state under penalty of perjury that the foregoing is true and correct.

Executed on September 21, 2012.

Sincerely,

Luminant Generation Company LLC

Rafael Flores for

D090
NRO

Attachments: 1. Comanche Peak Nuclear Power Plant Units 3 and 4 Update 1 to the Integrated Seismic Closure Plan
2. Comanche Peak Nuclear Power Plant Units 3 and 4 Update 1 to the Integrated Hydrology Closure Plan

Electronic distribution w/attachments:

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Attachment 1

Comanche Peak Nuclear Power Plant Units 3 and 4
Update 1 to the Integrated Seismic Closure Plan

Comanche Peak Nuclear Power Plant Units 3 and 4

Update 1 to the Integrated Seismic Closure Plan

Purpose and Scope

This document serves as an update to the Integrated Seismic Closure Plan (ISCP) Revision 0 (R0). Portions of R0 are retained, other portions are replaced (superseded) and others are supplemented as described below. This section (Purpose and Scope) supplements R0. Supplemental and replacement information is shown in ***Bold-Italics***.

Mitsubishi Heavy Industries (MHI) in collaboration with the DCWG has enhanced the standard plant design to include the segment of the essential service water pipe tunnel (ESWPT) between the reactor building (R/B) and turbine building (T/B) foundations (now referred to as the standard plant Essential Service Water Pipe Chase [ESWPC] to distinguish it from the site-specific ESWPT). The following design modifications will be incorporated into the DCD that directly affect the site-specific design.

- ***Integration of the south portion of the ESWPT into the south side of the R/B complex foundation***
- ***Increased distance between the R/B complex and the T/B***
- ***Thicker R/B complex south wall and other structural and arrangement changes as a result of the Aircraft Impact Assessment Reevaluation***

This update to the ISCP addresses the impact of these standard plant design revisions on the site-specific design. Luminant and MHI have developed an integrated approach to controlling these design changes to ensure that the changes are coordinated in an efficient manner, and that the impacts of the changes and the interactions between the changes are carefully considered. In conjunction with these standard plant changes, the following new site-specific modifications will be incorporated into the CPNPP design to address the standard plant changes and to enhance the seismic design of the site-specific structures.

- ***Increased the distance between the Power Source Fuel Storage Vaults (PSFSVs) and the T/B***
- ***Increased the distance between the PSFSVs and the south portions of the ESWPT***
- ***Integration of the north portions of the ESWPT into the south side of the UHS Related structures***
- ***Integration of the two west UHS Related structures (C and D) on a single foundation in lieu of separate foundations with a separation***
- ***Integration of the two east UHS Related structures (A and B) on a single foundation in lieu of separate foundations with a separation***
- ***Revised arrangements of the expansion joints for the ESWPT and between the PSFSVs and the Power Source buildings***
- ***Revised dimensions for select segments of the ESWPT***

In general, the approach and issues identified in Revision 0 of the ISCP remain unchanged. This update to the ISCP includes:

- ***Updated schedule of submittals***

- ***Updated table of COLA impacts***
- ***Resolution of applicable issues identified in the May 24, 2012 public meeting on ISCP Rev 0***
- ***Updated strategy on NRC Requests for Additional Information***

The ISCP addresses the following seismic issues:

Site-specific (updated to resolve May 24, 2012, meeting issue)

- Impact of changing the post-construction groundwater level (GWL) including assessment of stability and structural integrity of structures
- ***Site-specific Structures Stability Redesign – Luminant has identified enhancements to the site-specific structures to increase their stability. These enhancements include:***
    - ***Adjacent UHS Related structures placed on a common basemat with integral ESWPT segment***
    - ***Removal of ESWPT shear keys***
    - ***Reduced ESWPT height***
    - ***Increased PSFSV basemat dimensions***
- The new EPRI guidance on earthquake sources in the Central and Eastern United States (CEUS)
- Impact of considering structure-soil-structure interaction effect
- SASSI subtraction methodology for analyses of embedded foundations by use of the modified subtraction method
- Updates to responses to RAI No. 5798 (CP RAI #221) and RAI No. 5947 (CP RAI #226)
- Submittal of the response to RAI No. 6266 (CP RAI #247)

Standard Plant (unchanged)

- Identify subsections of the COLA, in particular FSAR Chapter 3 and related Appendices, which are impacted by changes in standard plant design
- Provide a mark-up of the COLA where changes to standard plant configuration or numerical results occur (e.g., FSAR Appendix 3NN)
- Assess the standard plant design to determine which aspects of the DCD design impact the site-specific design for standard plant structures and site-specific structures, and identify the CPNPP products which are impacted (e.g., require confirmation, reanalysis or updating, FSAR Appendices 3KK, 3NN, and 3LL)

Licensing Strategy (updated to reflect revised dates)

The licensing strategy for the order of the analyses of site-specific and standard plant structures is to perform the analyses for the site-specific structures first followed by the site dependent analyses for

the standard plant structures. The order of work takes into account the amount of work and available resources to perform the work. The order of analyses is as follows:

- Develop an evaluation of the Nuclear Island (NI) Complex which shows that the site-specific SSI analysis results of the NI Complex are enveloped by DCD SSI analysis results (***November*** 2012)
- Perform the site-specific SSI and SSSI analyses of the site-specific structures (***June*** 2013)
- Perform a site-specific SSI analysis of the embedded NI Complex using the modified subtraction method (***August*** 2013)

Other COLA Impacts (updated to resolve May 24, 2012, meeting issues)

The ISCP addresses the following activities based on the impacts from the standard plant design changes to the remainder of the COLA:

- Identify parts of the COLA which need to be revised to show new standard plant structure configuration and provide a markup
- Identify any analyses that need to be revised to reflect the new standard plant structure configuration and prepare revisions to those analyses
- ***Impact on FSAR Section 17.4 – Luminant has confirmed that there are no impacts from the ISCP on the D-RAP description in Section 17.4 of the CP COLA.***
- ***Impact on ITAAC – Luminant has identified impacts to ITAAC Table A.3-2 and Figure A.3-1. These impacts are described in the COLA Impacts table attached to this letter.***
- ***ITAAC for Backfill – Luminant is still discussing the need for ITAAC for backfill that is placed laterally adjacent to seismic Category I structures and will update the ITAAC if needed to reflect these ITAAC***

Schedule of Submittals *(replaces same section in ISCP R0)*

Luminant plans to provide COLA changes in Update Tracking Reports (UTRs) as the work progresses. Luminant's schedule has been created by integrating the changes caused by hydrology issues and seismic issues ***described in the previous ISCP and IHCP letters***. The changes resulting from this ISCP will be provided in five UTRs as information becomes available.

- **November *2012*** – Evaluation of the ***Reactor building (R/B)*** Complex which shows that the site-specific SSI analysis results of R/B Complex are enveloped by DCD SSI analysis results
- ***February 2013 – ITAAC Revision 3 UTR Revision 1 will contain the updates described in the attached table of COLA impacts***
- ***February 2013*** - FSAR Revision 3 UTR Revision 0 will contain:
  - Updates to the plot plan (Sections 1.2, 2.1, ***2.3, and Appendix 3K***)
  - Atmospheric dispersion (Sections ***2.0*** and 2.3)
  - Aircraft hazards (Section 3.5)
  - ***Unit Switchyard Layout (Section 8.2)***

  - Grounding and lightning protection and ***HVAC electric load changes*** (Section 8.3)
  - ***ESW system updates to reflect revised plant layout (Section 9.2)***
  - HVAC (Section 9.4)
  - Fire protection (Sections 9.5.1 and 9A)
  - Radiation protection (Section 12.3)
- ***March 2013*** - ER Revision 3 UTR Revision 0 will contain the updates described in the attached table of COLA impacts
- ***April 2013*** - FSAR Revision 3 UTR Revision 1 will contain:
  - Updates to reflect the updated EPRI guidance for the earthquake sources in the CEUS (Section 2.5 and 2.0)
  - Main control room habitability (Section 6.4)
- ***June 2013*** - FSAR Revision 3 UTR Revision 2 will contain:
  - ***Updated DCD interface requirements (Section 1.8)***
  - ***Description of ESWPC (Sections 3.4 and 3.6)***
  - Updated site-specific seismic analyses (Sections 3.7 and 3.8, Appendices 3KK, 3LL, and 3MM)
  - ***DCD Interface for ESW system (Section 9.2)***
  - ***Changes related to the updated HAE (Section 13.6)***
  - Updated responses to RAI 221 and 226 (updated site-specific seismic analyses)
  - Response to RAI 247 (updated site-specific seismic analyses)
  - ***A separate letter will submit updates to the Physical Security Plan and High Assurance Evaluation***
- ***August 2013*** - FSAR Revision 3 UTR Revision 3 will contain:
  - The site-specific analysis of the ***R/B*** complex (Sections 3.7 and 3.8 and Appendix 3NN).
  - PRA (Section 19.1)

COLA Impacts *(updated and replaced)*

Luminant has updated the previous review of the COLA to identify any additional impacts that the newly defined seismic work will have on the COLA content. The attached table provides a summary of the planned changes and includes the UTR or letter in which Luminant expects to submit those changes. Luminant will revise this information as the DCD and COLA seismic work progresses. ***In numerous locations, NI or NI complex has been changed to R/B Complex to be consistent with the terminology used in the DCD. For many sections, more specificity has been added by identifying the tables and figures which are impacted.***

RAIs *(updated and replaced)*

Luminant intends to update and submit the RAIs directly impacted by the ISCP as noted above (RAIs 221, 226 and 247). ***Luminant is performing a review of the previously submitted RAIs in FSAR sections 2.5, 3.7 and 3.8 to provide the NRC an assessment and categorization of the previous responses. Luminant intends to complete the assessment by November 16, 2012, and provide it to the NRC.***

Basis Documents *(updated and replaced)*

An updated list of affected basis documents and their completion dates has been created and Luminant plans to provide the list to the NRC in separate correspondence.

ISCP Updates (unchanged)

Luminant will keep the NRC informed of changes and updates to this ISCP.

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
General for all Sections and UTRs:	***Check descriptions of R/B complex, PCCV, CIS, R/B, PS/Bs, ESWPC and A/B. Due to combined basemat, the terms R/B complex should be used where appropriate. Clarify ESWPC (Pipe Chase) vs. ESWPT (Pipe Tunnel) where needed. Dates have been removed from this table and are shown for the respective documents in the "Schedule of Submittals" section of this plan.***		
COLA Part 2, Final Safety Analysis Report			
FSAR Section 1.2	Figures 1.2-1R and 1.2-201 through 1.2-210	Revise figures to reflect revised seismic design methodology and new common basemat arrangement ***Note: RAI 243 also committed to provide update to Figures 1.2-203 through 1.2-210 under this UTR.***	UTR R0
FSAR Section 1.8	***Table 1.8-1R,*** ***Table 1.8-201***	***Revise table to reflect changes made to DCD Table 1.8-1 to reflect site-specific interfaces with respect to the revised R/B Complex.*** ***Revise Table 1.8-201 to incorporate DCD COL Item wording changes for ESWPT and new common basemat arrangement changes***	***UTR R2***
FSAR Section 2.0	Table 2.0-1R	Revise 'Geology, Seismology, and Geotechnical Engineering,' 'Atmospheric Dispersion Factors for Onsite Locations,' and 'Vibratory Ground Motion' information to reflect revised DCD and COLA seismic information ***Note: X/Q values to be updated based on DCD receptor/source location changes***	UTR R0 UTR R1
FSAR Section 2.1	Figure 2.1-201	Revise to reflect common foundation and the new plant layout	UTR R0

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
FSAR Section 2.3	Figure 2.3-380	Revise to reflect common foundation and the new plant layout	UTR R0
FSAR Section 2.3	Table 2.3-338, ***Table 2.3-339***	***Revise Table 2.3-338 to reflect changes in receptors and sources*** ***Revise Table 2.3-339 to update X/Q values***	UTR R0
FSAR Subsections 2.4.2, 2.4.3, 2.4.12, 2.4.13, 2.5.4, and 2.5.5	***See IHCP***		
FSAR Subsection 2.5.1	All section text, figures and tables	Update with new Central Eastern US (CEUS) seismicity catalog as well as post 2009 earthquakes and human induced events	UTR R1
FSAR Subsection 2.5.2.1	All section text, figures and tables	Update with new CEUS seismicity catalog as well as post-2009 earthquakes and human induced events	UTR R1
FSAR Subsection 2.5.2.2	All section text, figures and tables	Revise to replace EPRI-SOG with CEUS model parameters	UTR R1
FSAR Subsection 2.5.2.3	All section text, figures and tables	Revise based on changes in Subsection 2.5.2.2	UTR R1
FSAR Subsection 2.5.2.4	All section text, figures and tables	Revise based on new calculated Uniform Hazard Spectra (UHS) PSHA results	UTR R1

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
FSAR Subsection 2.5.2.6	All section text, figures and tables	Recalculate GMRS and FIRS based on new foundation configuration, and input control elevations	UTR R1
FSAR Subsection 2.5.3	All section text, figures and tables	Update with new seismicity catalog (CEUS) as well as post-2009 earthquakes and human induced events	UTR R1
FSAR Subsection 3.4.1.3	***All section text***	***Add the description regarding the ESWPC***	***UTR R2***
FSAR Subsection 3.5.1.6	Aircraft Hazards	Revise evaluation due to the change of the plant layout	UTR R0
FSAR Subsection 3.6.1.3	***All section text***	***Add the description regarding the ESWPC***	***UTR R2***

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
FSAR Sections 3.7, and 3.7.1.1	Foundation input response spectra (FIRS) ***Figures 3.7-201*** ***Figure 3.7-202*** ***Figure 3.7-203*** ***Site-Specific Horizontal SSE and FIRS Acceleration Values and Control Points Table 3.7-201*** ***Site-Specific Vertical SSE and FIRS Acceleration Values and Control Points Table 3.7-202***	Revise FIRS and Figure 3.7-201, ***-202 and -203*** to reflect the new foundation elevation of common ***R/B*** Complex structures for PS/Bs, R/B, A/B, and ***ESWPC*** and to address the new CEUS input (i.e., PSHA revision will revise all input profiles and FIRS)	UTR R2
FSAR Subsection 3.7.1.2	Damping Value	Revise analysis description to reflect common ***R/B*** Complex basemat description	UTR R2
FSAR Subsection 3.7.1.3	***Major Dimensions of Seismic Category I Structures*** Table 3.7.1-3R	Revise foundations, dimensions, and notes to reflect common ***R/B*** Complex basemat	UTR R2
FSAR Subsection 3.7.2.1	Seismic Analysis Method ***Table 3.7.2-1R***	***Revise to reflect updates in seismic analyses methodology, the new plant layout and common R/B Complex basemat***	UTR R2

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
FSAR Subsection 3.7.2.4.1	Site Specific Analysis of Standard Plant ***Table 3.7-201***	Revise text to reflect common ***R/B*** Complex basemat structures. Update the ***soil dynamic properties*** to reflect the new water level and new foundation level as applicable ***Add discussion about site-specific soil pressure loads.*** Revise water table ***evaluation and add discussion about the water fluctuation effects*** ***Revise text to reflect FE model for A/B (now R/B complex) and T/B***	UTR R2
FSAR Subsection 3.7.2.8	Interaction of Non-Category I Structures with Seismic Category I Structures	Revise text to reflect common ***R/B Complex*** basemat structures. Add ***discussion about*** site-specific SSSI analyses and ***evaluations*** as applicable	UTR R2
FSAR Subsection 3.7.4.1	Comparison with Regulatory Guide 1.12	Location of seismic monitor description is modified to reflect ***changes due to the new*** common basemat ***R/B Complex*** structures	UTR R2
FSAR Subsection 3.8.4.1.3 ***3.8.4.1.3.1*** ***3.8.4.1.3.2*** ***3.8.4.1.3.3***	ESWPT, UHSRS, PSFSVs and Other Site-Specific Structures ***Figure 3.8-201 through 3.8-214***	Revise Figure 3.8-201 to reflect the common basemat ***R/B Complex*** structures, ***UHS basin common foundation changes, addition of ESWPC,*** and redesign of PSFSV access Revise Figure ***3.8-201*** through 214 to accommodate the ***updated, plant layout, and*** structural design for new ground water table as applicable ***Note: RAI 243 also committed to provide update to figure 13.8-206, 3.8-208, 3.8-209 and 3.8-211 under this UTR***	UTR R2

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
FSAR Subsection 3.8.5.1.3.2	***UHSRS Foundation***	***Update to reflect combined basins AB and CD on common foundation with integrated ESWPT segments***	***UTR R2***
FSAR Subsection 3.8.5.4.4	Settlement	Update as required to reflect impact of revised settlement analyses	UTR R2
FSAR Subsection 3.8.5.5	Sliding/overturning and Bearing Pressure ***Tables 3.8-202 and 3.8-203***	Update sliding/overturning analyses results in Table 3.8-203 based on updated water level Bearing pressures Table 3.8-202 based on updated water level and reflect the new combined basemat for ***R/B complex and integral ESWPC***	UTR R2
FSAR Appendix 3K.1	***Figure 3K-201***	***Revise to reflect common foundation and the new plant layout***	***UTR R0***
FSAR Appendix 3KK.2	UHSRS SSI Model ***Figure 3KK-1***	Update the text and Figure 3KK-1 to reflect the combined two adjacent ***basin structures complex and integrated ESWPT segments*** ***Add discussion on SSSI effect for adjacent UHSRS*** ***Add discussion on basin water elevation effects***	UTR R2
FSAR Appendix 3KK.3	UHSRS SSI results ***Figure 3KK-2 Tables 3KK-3 through 3KK-7 and 3KK-9***	***Revise Shear Force in Figure 3KK-2*** Update the analysis result and Tables 3KK-3 through 3KK-7 and 3KK-9 to reflect the updated ground water elevation ***and new UHSRS configuration with combined adjacent basins*** ***Extend the maximum SSI cut-off frequencies for embedded models up to 50 Hz for UB profile***	UTR R2

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
FSAR Appendix 3KK.4	UHSRS SSI ISRS *Figure 3KK-3*	Revise In-Structure Response Spectra (ISRS) in Figure 3KK-3	UTR R2
FSAR Appendix 3KK.5	References	Update ACS SASSI from 2.2 to 2.3.0	UTR R2
FSAR Appendix 3LL.1	***Introduction***	***Update the text to describe the new ESWPT configuration and segments reflecting the new plant layout and combined basemat for R/B Complex***	***UTR R2***
FSAR Appendix 3LL.2	SSI model for ESWPT ***Figures 3LL.1 through 3LL-6***	Update the text and figures to reflect the redesign of PSFSV ***basemat*** ***Update the text to reflect the combined basemat for R/B Complex*** ***Add discussions on SSSI effect and ground water fluctuation effect for ESWPT***	UTR R2
FSAR Appendix 3LL.3	ESWPT SSI results ***Tables 3LL.9 through 3LL-17***	Update the analysis result and Tables to reflect the updated ***design, ESWPT configuration and*** ground water elevation Extend the maximum SSI cutoff frequencies for embedded models up to 50 Hz ***for UB profiles*** ***Add SSSI and ground water fluctuation effects for ESWPT*** ***Update component forces and moments.***	UTR R2
FSAR Appendix 3LL.4	ESWPT SSI ISRS ***Figure 3LL-7***	Revise In-Structure Response Spectra (ISRS) in Figures	UTR R2

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
FSAR Appendix 3LL.5	References	Update ACS SASSI from 2.2 to 2.3.0	UTR R2
FSAR Appendix 3MM.2	SSI model for PSFSV	Update the text and figures to reflect the redesign of PSFSV as necessary Add ***discussion*** on SSSI effect for PSFSV	UTR R2
FSAR Appendix 3MM.3	PSFSV SSI results ***Figure 3MM-2***	Update the analysis result and Tables to reflect the updated ground water elevation Extend the maximum SSI cutoff frequencies for embedded models up to 50 Hz ***for UB profile*** Revise Shear Force in ***Figure 3MM-2***	UTR R2
FSAR Appendix 3MM.4	PSFSV SSI ISRS ***Figure 3MM-3***	Revise In-Structure Response Spectra (ISRS) in Figure ***3MM-3***	UTR R2
FSAR Appendix 3MM.5	References	Update ACS SASSI from 2.2 to 2.3.0	UTR R2
FSAR Appendix 3NN.1	SSI model for ***R/B Complex***	Update the text to reflect the combined basemat for ***R/B Complex and integral ESWPC (CIS, PCCV, R/B, ESWPC and East and West PS/Bs)***	UTR R3

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
FSAR Appendix 3NN.2	SSI model for ***R/B Complex***	Update the text to reflect the combined basemat for ***R/B Complex and integral ESWPC (CIS, PCCV, R/B, ESWPC and East and West PS/B's)*** Add SSSI effect for ***R/B Complex***	UTR R3
FSAR Appendix 3NN.3	***R/B Complex*** SSI input ***Tables 3NN-3 and 3NN-7***	Update the text to reflect the combined basemat ***for R/B Complex, increased south wall thickness, and integral ESWPC*** ***Update Table 3NN-3 to show coordinates for integral ESWPC*** ***Update Table 3NN-7 to incorporate increased concrete strength requirements and modeling of concrete cracking***	UTR R3
FSAR Appendix 3NN.4	***R/B Complex*** SSI model	Update the analysis result and Tables to reflect the updated ***R/B Complex configuration and*** ground water elevation ***Add discussion on SSSI effects***	UTR R3
FSAR Appendix 3NN.5	***R/B Complex*** SSI model ***Figure 3NN-16 through 3NN-27***	Revise In-Structure Response Spectra (ISRS) in figures ***Add comparison of site-specific design earth pressures with standard design earth pressures***	UTR R3
FSAR Appendix 3NN.6	***References***	***Update ACS SASSI from 2.2 to 2.3.0***	***UTR R3***

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
FSAR Section 6.4	Subsections 6.4.4.1 and 6.4.4.2	Check or update calculations for MCR habitability analysis due to the Standard Design plant layout and yard arrangement based on potential changes to HVAC capacity (Ch. 9.4), locations of chemicals and MCR intake, and X/Q changes ***Note: The variation of chemical locations and MCR intake due to the new GA has impacts on the toxic gas evaluation (Ch. 6.4.4.2)***	***UTR R1***
FSAR Section 8.2	***Figures 8.2-207 and -208 Unit Switchyard Layout***	***Revise figures to reflect the new plant layout***	***UTR R0***
FSAR Section 8.3	***Table 8.3.1-4R*** ***Figure 8.3.1-1R*** Figure 8.3.1-201 (Figures of Ground Grid and Lightning Protection System)	***Revise Electrical Load Distribution Lists due to HVAC system change if applicable*** ***Revise one line diagram due to HVAC system change*** ***Revise to reflect common foundation and the new plant layout***	UTR R0
FSAR Section 9.2	***Subsection 9.2.1.2.2.1***	***Revise calculated system head losses of ESW piping***	***UTR R0***
FSAR Section 9.2	***Subsection 9.2.1.2.2.5***	***Clarify reference to ESWPT that is COL applicant responsibility***	***UTR R2***

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
FSAR Section 9.4	Table 9.4-201 (Heat specification)	Revised table to update site-specific HVAC capacities for new plant layout ***Note: The variation of floor area, etc., due to the new GA have impacts on the HVAC capacities***	UTR R0
FSAR Sections 9.5 and 9A	Figures 9.5.1-202 and ***9A-46***	***Revise to reflect common foundation and the new plant layout*** ***Note: RAI 243 also committed to provide update to figure 9A-201 under this UTR. Also, there are no Fire Hazard impacts due to DCD layout change on the UHS, RAT and UAT fire hazard analysis***	UTR R0
FSAR Section 12.3	Figures 12.3-1R and 12.3-201	Revise to reflect ***common foundation and*** the new plant layout	UTR R0
FSAR Section 13.6	Section text as needed	Update to FSAR Section 13.6 due to Part 8 ***HAE Basis document revision***	***UTR R2***

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
FSAR Section 19.1	***Section 19.1.5 text and Table 19.1.205***	***Revise external events risk evaluations, to be consistent with other FSAR Chapters*** ***Note: The input required from FSAR Ch 2 is as follows*** ***2.4.2 Flood*** ***2.4.3 PMF*** ***2.4.12 Ground Water*** ***Note: The input required from FSAR Ch 3 is as follows*** ***3.5.1.6 Aircraft Hazards*** ***If there are changes in subsections other than sections such as 2.1, 2.2 and 6.4, the information will be necessary for the external events risk evaluation*** ***Also, if site specific issues such as configuration, seismicity, fire hazards or flood impact of UHS are different from DCD, additional assessment in Chapter 19 will be required***	***UTR R3***
COLA Part 3, Environmental Report			
ER Section 2.1	Figure 2.1-1	Revise to reflect common foundation and the new plant layout	ER UTR R0
ER Section 2.3	Figures 2.3-26 and 2.3-27	Revise to reflect common foundation and the new plant layout	ER UTR R0
ER Section 2.7	***Sections 2.7.3.2 and 2.7.4.2 text and tables and Tables 2.7-119 through 2.7-135.***	***Update based on DCD receptor/source location changes***	ER UTR R0

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
ER Section 3.1	Figure 3.1-1	Revise to reflect common foundation and the new plant layout	ER UTR R0
ER Section 3.4	Figure 3.4-3	Revise to reflect common foundation and the new plant layout	ER UTR R0
ER Section 4.1	Figure 4.1-1	Revise to reflect common foundation and the new plant layout	ER UTR R0
ER Section 5.4	***Tables 5.4-12 through 5.4-15 and Tables 5.4-26 and 5.4-27***	Update based on DCD receptor/source location changes	ER UTR R0
ER Section 6.3	Figure 6.3-1	Revise to reflect common foundation and the new plant layout	ER UTR R0
COLA Part 8, Physical Security Plan			
Part 8	Security Plan and HAE	Update HAE to reflect updated plant layout and response to RAI 234 ***Update Loss of Large area (LOLA) due to plant Explosions or Fire, Mitigative Strategies Description and Plans***	Separate letter
COLA Part 10, ITAAC			

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
Part 10 Appendix A.3 Site Specific Structures	*A.3 Site Specific Structures* *A.3.1 Design Description*	*Revise text in the last paragraph to reflect changes in the standard plant structural configuration*	*ITAAC UTR R1*
Part 10 Appendix A.3 Site Specific Structures	*A.3.1.2 ESWPT*	*Revise text to reflect changes in the standard plant structural configuration*	*ITAAC UTR R1*
Part 10 Appendix A.3 Site Specific Structures	*A.3.1.3 PSFSV*	*Revise text to reflect changes in structure of PSFSV, if any, in conjunction with standard plant structures*	*ITAAC UTR R1*
Part 10 Appendix A.3 Site Specific Structures	*Table A.3-1*	*Revise text in ITAAC #11 DC, ITA and AC to include the ESWPC*	*ITAAC UTR R1*

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	UTR Submittal to NRC
Part 10 Appendix A.3 Site Specific Structures	*Table A.3-2 Definition of Wall thickness for Safety-Related Structures: ESWPT*	*Revise Floor Elevation or Elevation Range and Concrete Thickness to reflect changes, if any, in conjunction of standard plant structures*	*ITAAC UTR R1*
Part 10 Appendix A.3 Site Specific Structures	*Figure A.3-1 General Arrangement Plan of UHSRS, ESWPT, and PSFSV Identifying Internal Flood Barriers*	*Revise to reflect common foundation and the new plant layout*	*ITAAC UTR R1*

Attachment 2

Comanche Peak Nuclear Power Plant Units 3 and 4
Update 1 to the Integrated Hydrology Closure Plan

Comanche Peak Nuclear Power Plant Units 3 and 4

Update 1 to the Integrated Hydrology Closure Plan

Purpose and Scope

This product serves as a supplement to the Integrated Hydrology Closure Plan (IHCP) Revision 0 (R0). Portions of R0 are retained, other portions are replaced (superseded) and others are supplemented as described below. This section (Purpose and Scope) supplements R0. Supplemental and replacement information is shown in ***Bold-Italics***.

Mitsubishi Heavy Industries (MHI) in collaboration with the DCWG has enhanced the standard plant design to include the segment of the essential service water pipe tunnel (ESWPT) between the reactor building (R/B) and turbine building (T/B) foundations. The following design modifications will be incorporated into the DCD that directly affect the site-specific hydrology analysis.

- ***Integration of the south portion of the ESWPT into the south side of the R/B complex foundation***
- ***Increased distance between the R/B complex and the T/B***

This update to the IHCP addresses the impact of these standard plant design revisions on the site-specific hydrology analysis. In general, the approach and issues identified in Revision 0 of the IHCP remain unchanged. This update to the IHCP includes:

- ***Updated projected dates for Luminant and NRC interaction***
- ***Updated schedule of submittals***
- ***Resolution of the issue identified in the May 24, 2012, public meeting on IHCP Rev 0***
- ***Updated table of COLA impacts***
- ***Updated strategy on NRC Requests for Additional Information***

The IHCP addresses the following site-specific hydrology issues:

Surface Water (unchanged)

- Update to reflect plant layout and grading and drainage (G&D) changes
- Provide electronic AutoCAD G&D drawings with one foot elevation changes
- Provide quantitative and qualitative justification where water surface elevations exceed the maximum flood level allowed by the standard plant
- Provide a table that explicitly describes the sensitivity analysis of the integrative HEC-RAS model. The table will include outputs, boundary conditions, and channel transfer information.
- Utilize interpolation in all regions of the HEC-RAS model and perform a sensitivity analysis. Water levels that are most conservative will be selected.
- Update scour and erosion calculations to reflect final design of site
- Provide a table that contains a range of appropriate Manning's Roughness Coefficient values from literature, the values selected for use, and physical basis for the value utilized
- Explain the source of the Probable Maximum Precipitation (PMP) rates used in the analysis in order to address a discrepancy between the value used by Luminant and the one used by NRC in their confirmatory analysis.

- Confirm FSAR Subsection 2.4.10 flooding protection requirements based on Subsection 2.4.2 changes.
- Submit a supplement to RAI 139-4309 Question 02.04.02-2 when the probable maximum water surface level analysis and the erosion and scouring potential analysis are updated.

Groundwater (unchanged)

- Develop a MODFLOW-type model to determine post-construction groundwater level
- Determine a bounding groundwater level (GWL) value to use in seismic assessments
- Determine a final GWL value based on final site design
- Define the range of fill and cap properties (hydraulic conductivity and porosity) in the model and confirm that the conservative end of the range is selected for each type of calculation being performed by the model (e.g., determining GWL versus tank leakage flow paths)
- Maintain consistency with FSAR Section 2.5
- Describe in sufficient detail the locations of the existing and engineered fills
- Describe in the FSAR how the engineered fill and ground caps will be maintained
- Ensure recharges and drainage ditches have been accounted for in the model
- Submit a supplement to RAI 147-4314 Question 02.04.12-8 when the MODFLOW model, GWL, seismic foundation levels, etc. are updated and complete.

Accidental Release of Radioactive Liquid Effluents (updated to resolve 5/24 meeting issue)

- Use the MODFLOW-type model developed to model groundwater horizontal and vertical flow paths
- ***Clearly explain how MODFLOW/MODPATH outputs will be used as inputs into RESRAD***
- Re-verify key parameters used (e.g., porosity, conductivity and path length) based on literature searches and standard text books or testing results
- Clarify the parameters chosen for the two existing fill areas taking into consideration that very few core borings are available in the existing fill areas
- Utilize RESRAD to analyze contaminant concentrations to verify they are below the effluent concentration limits prior to the leakage reaching Squaw Creek Reservoir (SCR) and/or the Twin Mountains Formation
- If leakage into the SCR and/or the Twin Mountains Formation is assessed, use an appropriate model to project the plume and determine contaminant concentrations at receptor locations
- Document the release point from the BAT tank
- Submit a supplement to RAI 145-4315 Questions 02.04.13-5,-6, and -7

Modeling in general (unchanged)

- Provide the input and output files used for the calculations

- Include sensitivity analyses to justify the reasonableness of the results
- Document the limitations of the models and assumptions made

Stability of subsurface materials and foundation (unchanged)

- Update RAI 233 and FSAR Subsection 2.5.4 and 2.5.5 on settlement and bearing capacity, stability of slopes, and lateral earth pressure to maintain consistency with revised GWL

Licensing Strategy (updated)

The licensing strategy is to continue interactions with the NRC throughout this effort using draft material. Currently, Luminant believes interaction in the form of conference calls or public meetings would continue to be beneficial for the MODFLOW model, surface hydrology analysis, groundwater hydrology analysis, and the RESRAD model for the tank failure analysis. It is anticipated that Luminant will request to interface with the NRC staff as follows:

- **October 11, 2012** - MODFLOW model (scheduled public meeting)
- **December, 2012 – January, 2013** - Surface Hydrology
- **December, 2012 – January, 2013** - Accidental Release of Radioactive Liquid Effluents

Schedule of Submittals (replaces same section in IHCP R0)

Luminant plans to provide COLA changes in supplemental RAI responses as the work progresses. Luminant's schedule has been created by integrating the changes caused by seismic issues and hydrology issues listed above. The changes resulting from this IHCP will be provided in four RAI response supplements as information becomes available.

- **January 2013** – Supplemental response to RAI 147, revised FSAR Subsection 2.4.12, and input/output files to MODFLOW model
- **March 2013** – Supplemental response to RAI 145, revised FSAR Subsection 2.4.13, and input/output files to RESRAD model
- ***April 2013*** – Supplemental response to RAI 139, revised FSAR Subsection 2.4.2, updated grading and drainage figures, revised surface water calculation package and HEC-RAS input/output files, revised erosion potential calculation package and HEC-RAS input/output files
- ***May 2013*** – Supplemental response to RAI 233, revised FSAR Subsection 2.5.4 and 2.5.5, and updated settlement and bearing capacity, stability of slopes, and lateral earth pressure analysis

COLA Impacts (updated and replaced)

Luminant has updated the previous review of the COLA to identify any additional impacts that the newly defined seismic work will have on the COLA content related to hydrology. The attached table provides a summary of the planned changes and includes the RAI or UTR in which Luminant expects to submit those changes.

RAIs (supplements IHCP R0)

Luminant intends to update and submit the RAIs directly impacted by the IHCP as noted above (RAIs 139, 145, 147, and 233). Luminant is performing a review of the previously submitted RAIs in FSAR sections 2.4 and part of 2.5 to provide the NRC an assessment and categorization of the previous responses. Luminant intends to complete the assessment by November 16, 2012, and provide it to the NRC.

Basis Documents (updated and replaced)

An ***updated*** list of affected basis documents and their completion dates ***has been*** created and Luminant plans to provide the list to the NRC in separate correspondence.

IHCP Updates (unchanged)

Luminant will keep the NRC informed of changes and updates to this IHCP.

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	RAI/UTR Submittal to NRC
General for all Sections and UTRs:	***Check descriptions of R/B complex, PCCV, CIS, R/B, PS/Bs, ESWPC and A/B. Due to combined basemat, the terms R/B complex should be used where appropriate. Clarify ESWPC (Pipe Chase) vs. ESWPT (Pipe Tunnel) where needed. Dates have been removed from this table and are shown for the respective documents in the "Schedule of Submittals" section of this plan.***		
COLA Part 2, Final Safety Analysis Report			
FSAR Section 2.0	***Table 2.0-1R***	***Revise 'Hydrologic Engineering' to reflect revised DCD and COLA hydrology information*** ***Note: Max Groundwater level and surface water level will be updated***	***RAI 147*** ***RAI 139***
FSAR Subsection 2.4.3	Figures 2.4.3-209	Revise to reflect changes to grading and drainage plan and wind wave calculation 013 revision as necessary.	RAI 139
FSAR Subsection 2.4.2, & 2.4.3	Subsections 2.4.2 and 2.4.3, Table 2.4.2-207, Table 2.4.2-208, Table 2.4.2-209, Figures 2.4.2-202, 2.4.2-206, 2.4.2-207.	Revised text, tables and figures for Surface Hydrology issues resulting from changes to calculations 036, 037 and 013 and to reflect common foundation and the new plant layout ***and changes in the grading and drainage.***	RAI 139
FSAR Subsection 2.4.12	Figures 2.4.12-208; 2.4.12-210; 2.4.12-212 thru 2.4.12-216, Table 2.4.12-211	Revise figures, tables, and text to reflect common foundation and the new plant layout and changes in the excavation plan and grading and drainage plan. FSAR changes based on GWL and/or path for BAT Failure Analysis.	RAI 147
FSAR Subsection 2.4.13	Section 2.4.13, Figure 2.4.13-201, Table 2.4.13-202 thru 2.4.13-211	Revise figures, tables, and text to reflect common foundation and the new plant layout. FSAR text changes based on GWL and/or path for BAT Failure Analysis. Update tank failure concentration amounts in the fill and Squaw Creek Reservoir.	RAI 145

Attachment – COLA Impacts

COLA Part and Section	Summary of Affected Contents of R-COLA	Summary of Planned Revisions to Content	RAI/UTR Submittal to NRC
FSAR Subsection 2.5.4	Section 2.5.4, Figures 2.5.4-201 thru 2.5.4-203; 2.5.4-212 thru 2.5.4-217; 2.5.4-242 thru 2.5.4-244 2.5.4-246 thru 2.5.4-261	***Revise text, tables and figures to reflect new groundwater level.***	RAI 233
FSAR Subsection 2.5.5	Section 2.5.5, Figures 2.5.5-201 and 2.5.5-204 thru 2.5.5-219	***Revise text, tables and figures to reflect new groundwater level.***	RAI 233
COLA Part 3, Environmental Report			
ER Section 2.3	Subsection 2.3.1.5.6 and Table 2.3-31	Revise figures, tables, and text to reflect common foundation and the new plant layout. FSAR text changes based on GWL and/or path for BAT Failure Analysis.	RAI 147