

August 1, 2013

**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application**

Part 2

FSAR Revision 3

Update Tracking Report

Revision 2

Revision History

Revision	Date	Update Description
-	6/28/2012	COLA Revision 3 Transmittal See Luminant Letter no. TXNB-12023 Date 6/28/2012
-	05/16/2012	Updated Chapters: Ch. 8, 13 See Luminant Letter no. TXNB-12013 Date 05/16/2012 Incorporated responses to following RAIs No. 249, 255
-	05/31/2012	Updated Chapters: Ch. 9, 14, 19 See Luminant Letter no. TXNB-12016 Date 05/31/2012 Incorporated responses to following RAIs No. 248, 251
-	6/13/2012	Updated Chapters: Ch. 3, 6, 9 See Luminant Letter no. TXNB-12021 Date 6/13/2012 Incorporated responses to following RAIs No. 52 Supplemental 01, 240 Supplemental 01, 244 Supplemental 01
-	6/21/2012	Updated Chapters: Ch. 3, 9, 14 See Luminant Letter no. TXNB-12022 Date 6/21/2012 Incorporated responses to following RAIs No. 254, 257
-	7/20/2012	Updated Chapters: Ch. 14 See Luminant Letter no. TXNB-12026 Date 7/20/2012

		Incorporated responses to following RAIs No. 256
-	7/24/2012	Updated Chapters: Ch. 13 See Luminant Letter no. TXNB-12027 Date 7/24/2012 Incorporated responses to following RAIs No. 261
-	8/29/2012	Updated Chapters: Ch. 9 See Luminant Letter no. TXNB-12030 Date 8/29/2012 Incorporated responses to following RAIs No. 243 S01
-	9/10/2012	Updated Chapters: Ch. 3, 9, 14 See Luminant Letter no. TXNB-12031 Date 9/10/2012 Incorporated responses to following RAIs No. 251 S01, 252 S01
-	9/14/2012	Updated Chapters: Ch. 1, 2, 3, 8, 9, 11, 19 See Luminant Letter no. TXNB-12032 Date 9/14/2012 Incorporated responses to following RAIs No. 250
-	9/24/2012	Updated Chapters: Ch. 3, 9, 14 See Luminant Letter no. TXNB-12034 Date 9/24/2012 Incorporated responses to following RAIs No. 254 S01, 257 S01
-	9/26/2012	Updated Chapters: Ch. 1, 3 See Luminant Letter no. TXNB-12035 Date 9/26/2012 Incorporated responses to following RAIs No. 262
-	11/12/2012	Updated Chapters: Ch. 9, 14 See Luminant Letter no. TXNB-12036 Date 11/12/2012 Incorporated responses to following RAIs No. 252 S02, 254 S02, 257 S02
-	12/03/2012	Updated Chapters: Ch. 1, 9, 14

		See Luminant Letter no. TXNB-12041 Date 12/03/2012 Incorporated responses to following RAIs No. 251 S02
-	12/06/2012	Updated Chapters: Ch. 9, 10, 11, 12 See Luminant Letter no. TXNB-12042 Date 12/06/2012 Incorporated responses to following RAIs No. 135 S04
-	12/18/2012	Updated Chapters: Ch. 9 See Luminant Letter no. TXNB-12043 Date 12/18/2012 Incorporated responses to following RAIs No. 266
-	12/18/2012	Updated Chapters: Ch. 19 See Luminant Letter no. TXNB-12043 Date 12/18/2012 Incorporated responses to following RAIs No. 267
-	12/18/2012	Updated Chapters: Ch. 19 See Luminant Letter no. TXNB-12043 Date 12/18/2012 Incorporated responses to following RAIs No. 264
-	12/18/2012	Updated Chapters: Ch. 1, 19 See Luminant Letter no. TXNB-12043 Date 12/18/2012 Incorporated responses to following RAIs No. 268
-	12/18/2012	Updated Chapters: Ch. 3, 9 See Luminant Letter no. TXNB-12043 Date 12/18/2012 Incorporated responses to following RAIs No. 265
-	01/17/2013	Updated Chapters: Ch. 1, 6 See Luminant Letter no. TXNB-13001 Date 01/17/2013 Incorporated responses to following RAIs No. 271

-	03/04/2013	Updated Chapters: Ch. 1, 6 See Luminant Letter no. TXNB-13005 Date 03/04/2013 Incorporated responses to following RAIs No. 272
-	03/04/2013	Updated Chapters: Ch. 9 See Luminant Letter no. TXNB-13006 Date 03/04/2013 Incorporated responses to following RAIs No. 243 S02
-	03/04/2013	Updated Chapters: Ch. 8 See Luminant Letter no. TXNB-13007 Date 03/04/2013 Incorporated responses to following RAIs No. 9 S03
0	2/26/2013	Updated Chapters: Ch 1, 2, 3, 8, 9, 12
-	04/29/2013	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-13013 Date 04/29/2013 Incorporated responses to following RAIs No. 147 S01, 147 S04
1	05/10/2013	Updated Chapters: Ch 2, 6, 8, 9, 19
-	5/13/2013	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-13016 Date 5/13/2013 Incorporated responses to following RAIs No. 139 S03
-	5/28/2013	Updated Chapters: Ch. 13 See Luminant Letter no. TXNB-13017 Date 5/28/2013 Incorporated responses to following RAIs No. 270
-	5/28/2013	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-13018 Date 5/28/2013 Incorporated responses to following RAIs No. 145 S02

-	6/18/2013	Updated Chapters: Ch. 3 See Luminant Letter no. TXNB-13019 Date 6/18/2013 Incorporated responses to following RAIs No. 275
2	8/1/2013	Updated Chapters: Ch. 1, 2, 3, 8, 9, 13

Chapter 1

Chapter 1 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.03.02-9	Table 1.8-201 (Sheets 4, 6, 10, 21 of 71) Table 1.9-201 (Sheet 12 of 12) Table 1.9-206 (Sheet 1 of 2)	1.8-15 1.8-17 1.8-21 1.8-32 1.9-15 1.9-24 [1.9-25]	Response to RAI No. 250 Luminant Letter no.TXNB-12032 Date 09/14/2012	Revised to incorporate RG 1.221.	-
RCOL2_03.06.01-1	Table 1.8-201 (Sheets 7, 8 of 71)	1.8-18 1.8-19	Response to RAI No. 262 Luminant Letter no.TXNB-12035 Date 9/26/2012	Revised COL 3.6(1) and COL 3.6(4).	-
RCOL2_09.02.01-9 S02	Table 1.8-201 (Sheet 39 of 71)	1.8-50	2 nd Supplemental Response to RAI No. 251 Luminant Letter no.TXNB-12041 Date 12/03/2012	Change the wording to address the need of COL evaluation for a void detection system.	-
RCOL2_19-24	Table 1.8-201 (Sheets 68, 70, 71 [68, 70, 72] of 71 [72])	1.8-79, 1.8-81, 1.8-82 [1.8-79, 1.8-81, 1.8-83]	Response to RAI No. 268 Luminant Letter no.TXNB-12043 Date 12/18/2012	Clarified resolution of combined license items on site specific information.	-
RCOL2_19-25	Table 1.8-201 (Sheet 70 [71] of 71 [72])	1.8-81 [1.8-82]	Response to RAI No. 268 Luminant Letter no.TXNB-12043 Date 12/18/2012	Included updated FSAR reference locations.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_06.02.02-5	Table 1.8-201 (Sheet 26 of 71[72])	1.8-37	Response to RAI No. 271 Luminant Letter no.TXNB-13001 Date 01/17/2013	Added FSAR Location and Resolution Category for COL Item 6.2(6).	-
RCOL2_06.02.02-6	Table 1.8-201 (Sheet 26 of 71 [72])	1.8-37	Response to RAI No. 272 Luminant Letter no.TXNB-13005 Date 03/04/2013	COL Item 6.2(5) location made more specific (Section 6.2.2.3 to Section 6.2.2.3.2)	-
CTS-01506	Figure 1.2-1R	1.2-5 1.2-6	Consistency with DCD as described in Letter. TXNB-12033 (ML12268A413) and TXNB-12038 (ML12334A026)	Figure was updated to reflect standard plant and site-specific layout	0
CTS-01506	Figure 1.2-201	1.2-8	Consistency with DCD as described in Letter. TXNB-12033 (ML12268A413) and TXNB-12038 (ML12334A026)	Figure was updated to reflect standard plant and site-specific layout and general arrangement design changes.	0
CTS-01507	Figure 1.2-202	1.2-9	Design change as described in Letter TXNB-12033 (ML12268A413)	Figure was revised to reflect the integration of the north portions of the ESWPT into the south side of the UHSRS	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01507	Figures 1.2-203 through 1.2-210	1.2-10 through 1.2-17	Design change as described in Letter TXNB-12033 (ML12268A413), TXNB-12038 (ML12334A026), and TXNB-12030 (ML12243A456)	<p>Figures were revised to reflect:</p> <p>Integration of the north portions of the ESWPT into the south side of the UHSRS.</p> <p>Integration of adjacent UHSRS (C and D) and (A and B) on a single foundation.</p> <p>ESW Pump House layout changes described in responses to RAIs 243 S01 and 254 S03.</p> <p>Addition of an ESW Pipe Removal Shaft to the ESWPT Segment integrated to UHSRS C and D</p>	0
CTS-01532	ACRONYMS AND ABBREVIATION	1-xxi	Acronym added for consistency with new Fukushima changes.	"NTTF" was added.	2
CTS-01532	Table 1.8-201 (Sheet 1[2] of 71[74]) 1.9.6	1.8-12 [1.8-14 1.8-15] 1.9-3 [1.9-4]	Reflection of COL items designated by the US-APWR DCD update tracking report, MUAP-11021, Rev. 4 (ML13154A292)	COL items 1.9(2) through 1.9(7) were added.	2

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01532	APPENDIX 1A (new)	New pages after 1.10-10 [1A-i 1A-1]	Consistency with DCD	Appendix 1A was added consistent with DCD Appendix 1A.	2
CTS-01532	1.9.5.2 (new) APPENDIX 1B (new)	1.9-3 New pages after 1.10-10 [1B-i, 1B-ii 1B-1 through 1B-36]	Addition of Fukushima-related actions	1.9.5.2 and Appendix 1B were added.	2

*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

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ACRONYMS AND ABBREVIATIONS (Continued)

NR	neutron reflector
NRC	U.S. Nuclear Regulatory Commission
NRCA	non-radiological controlled area
NRDS	non-radioactive drain system
NS	non-seismic
NSSS	nuclear steam supply system
<u>NTTF</u>	<u>Near-Term Task Force</u>
NUMARC	Nuclear Management and Resources Council
NUREG	NRC Technical Report Designation (Nuclear Regulatory Commission)
O/B	outside building
OBE	operating-basis earthquake
OC	operator console
OD	outside diameter
ODCM	offsite dose calculation manual
ODSCC/IGA	outside diameter stress corrosion cracking/intergranular attack
OECD	Organization for Economic Cooperation and Development
OEM	original equipment manufacturer
OEPS	onsite electrical power system
OER	operating experience review
O/H	overhead
OHLHL	overhead heavy load handling system
OLM	on-line maintenance
OLTC	on-load tap changer
OMCS	off-microwave communication system
OMS	operation and monitoring system
Oncor	Oncor Electric Delivery Company LLC
OP	over-pressure
OP Δ T	over power delta-T
OPC	overspeed protection controller
OPDMS	on-line power distribution monitoring system
OPS	offsite power system
OPSDS	onsite power system distribution system
O-RAP	operational reliability assurance program
ORE	occupational radiation exposure

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Resolution of Combined License Items for Chapters 1 - 19

COL Item No.	COL Item	FSAR Location	Resolution Category
<u>COL 1.9(2)</u>	<u>The COL Applicant is to address site-specific strategies to mitigate beyond design basis external events per guidance in NRC Order EA 12-049, including, but not limited to: 1) evaluation of site-specific external hazards 2) protection of portable equipment 3) acquisition, staging, or installing of equipment 4) maintenance and testing of portable equipment 5) procedures and guidance and training on mitigation of beyond-design-basis external events</u>	<u>1.9.5.2 Appendix 1B</u>	<u>1a 2</u>
<u>COL 1.9(2)-1</u>	<u>Evaluation of site-specific external hazards</u>	<u>1.9.5.2 Appendix 1B Table 2.0-1R 2.3.1.2 2.4.2 2.4.3 2.5.2</u>	<u>3a</u>
<u>COL 1.9(2)-2</u>	<u>Protection of portable equipment</u>	<u>1.9.5.2 Appendix 1B</u>	<u>1a 2</u>
<u>COL 1.9(2)-3</u>	<u>Acquisition, staging, or installing of equipment for strategies for BDB events</u>	<u>1.9.5.2 Appendix 1B</u>	<u>1a</u>
<u>COL 1.9(2)-4</u>	<u>Maintenance and testing of portable equipment</u>	<u>1.9.5.2 Appendix 1B 13.2.1.1.4 13.5.2.2</u>	<u>1a 2</u>

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Table 1.8-201 (Sheet 3 of 74)

Resolution of Combined License Items for Chapters 1 - 19

COL Item No.	COL Item	FSAR Location	Resolution Category
<u>COL 1.9(2)-5</u>	<u>Procedures and guidance and training on mitigation of beyond-design-basis external events</u>	<u>1.9.5.2 Appendix 1B 13.2.1.1.4 13.5.2.2</u>	<u>1b 2</u>
<u>COL 1.9(3)</u>	<u>The COL Applicant is to address protection from beyond design basis external flood for site-specific SSCs that is required to implement the baseline coping strategies for a beyond design basis external flood as specified in NEI 12-06.</u>	<u>1.9.5.2 Appendix 1B 3.4.1.2 3.4.1.4</u>	<u>3a</u>
<u>COL 1.9(4)</u>	<u>The COL Applicant is to address SFP level instrumentation maintenance procedure development and perform training as specified in NRC Order EA-12-051.</u>	<u>1.9.5.2 Appendix 1B 13.2.1.1.4 13.5.2.2 Table 13.4-201</u>	<u>1a 2</u>
<u>COL 1.9(5)</u>	<u>The COL Applicant is to address development of EOPs, SAMGs, and EDMGs which incorporate lessons learned from TEPCO's Fukushima-Daiichi Nuclear Power Plant Accident as addressed in SECY-12-0025.</u>	<u>1.9.5.2 Appendix 1B 13.5.2.1 13.5.2.2</u>	<u>2</u>
<u>COL 1.9(6)</u>	<u>The COL Applicant is to address enhancement of offsite communication system specified in Recommendation 9.3 in Enclosure 7 to SECY-12-0025.</u>	<u>1.9.5.2 Appendix 1B 9.5.2.2.2.2 9.5.2.2.5.1</u>	<u>3a</u>
<u>COL 1.9(7)</u>	<u>The COL Applicant is to address staffing for large scale natural event as specified in Recommendation 9.3 in Enclosure 7 to SECY-12-0025.</u>	<u>1.9.5.2 Appendix 1B 13.3.2 13.3.5</u>	<u>1a</u>

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NRC Bulletins and NRC Generic Letters as of December 12, 2007. The table contains columns for the generic issue document (including number, title, and date), language excerpted from the document that communicates the substance of the issue, CPNPP Units 3 and 4 Comments on applicability, and references to the relevant subject matter in the CPNPP Units 3 and 4 FSAR.

1.9.5.2 Conformance with SECY-12-0025

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Add the following paragraph after the last paragraph in DCD Subsection 1.9.5.2.

CP COL 1.9(1)
CP COL 1.9(2)
CP COL 1.9(2)-1
CP COL 1.9(2)-2
CP COL 1.9(2)-3
CP COL 1.9(2)-4
CP COL 1.9(2)-5
CP COL 1.9(3)
CP COL 1.9(4)
CP COL 1.9(5)
CP COL 1.9(6)
CP COL 1.9(7)

Site-specific responses to the NRC Fukushima Near-Term Task Force (NTTF) recommendations and applicable guidance (including related orders issued but not applicable to CPNPP Units 3 and 4) are summarized in Appendix 1B to the FSAR Chapter 1.

Appendix 1B to FSAR Chapter 1 also compiles CPNPP Units 3 and 4 actions that have been or will be taken to incorporate lessons learned from the Fukushima events. Table 1B-201 in Appendix 1B provides a cross reference of all the NTTF recommendations to the sections in the CPNPP Units 3 and 4 FSAR, the US-APWR DCD and MUAP-13002. Table 1B-202 in Appendix 1B summarizes the post-COL commitments and programs of CPNPP Units 3 and 4 that incorporate the NTTF recommendations.

1.9.6 Combined License Information

Replace the content of **DCD Subsection 1.9.6** with the following.

CP COL 1.9(1) **1.9(1) Conformance with regulatory guidance**

*This COL item is addressed in **Section 1.9, Subsections 1.9.1 through 1.9.4, and Tables 1.9-201 through 1.9-220.***

CP COL 1.9(2) **1.9(2) Mitigation of BDB external events**

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*This COL item is addressed in **Subsection 1.9.5.2 and Appendix 1B (1B.4.2).***

CP COL 1.9(2)-1 **1.9(2)-1 Evaluation of site-specific external BDB hazards**

*This COL item is addressed in **Subsection 1.9.5.2, Appendix 1B (1B.2.1 and 1B.4.2), Table 2.0-1R, Subsections 2.3.1.2, 2.4.2, 2.4.3 and 2.5.2***

CP COL 1.9(2)-2 **1.9(2)-2 Protection of portable equipment used in strategies for BDB external events**

*This COL item is addressed in **Subsection 1.9.5.2 and Appendix 1B (1B.4.2).***

CP COL 1.9(2)-3 **1.9(2)-3 Acquisition, staging or installing equipment for strategies for BDB events**

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This COL item is addressed in Subsection 1.9.5.2 and Appendix 1B (1B.4.2).

CP COL 1.9(2)-4 **1.9(2)-4 Maintenance and testing of portable equipment used in strategies for BDB events**

This COL item is addressed in Subsection 1.9.5.2, Appendix 1B (1B.4.2) and Subsections 13.2.1.1.4 and 13.5.2.2.

CP COL 1.9(2)-5 **1.9(2)-5 Procedures, guidance and training on strategies to mitigate BDB external events**

This COL item is addressed in Subsection 1.9.5.2, Appendix 1B (1B.4.2) and Subsections 13.2.1.1.4 and 13.5.2.2.

CP COL 1.9(3) **1.9(3) Protection of SSCs for baseline coping strategies from BDB external flood**

This COL item is addressed in Subsection 1.9.5.2, Appendix 1B (1B.2.1 and 1B.4.2), and Subsections 3.4.1.2 and 3.4.1.4.

CP COL 1.9(4) **1.9(4) SFP level instrumentation maintenance procedure development and training**

This COL item is addressed in Subsection 1.9.5.2, Appendix 1B (1B.7.1), Table 13.4-201, and Subsections 13.2.1.1.4 and 13.5.2.2.

CP COL 1.9(5) **1.9(5) Address EOPs, SAMGs and EDMGs addressed in SECY-12-0025**

This COL item is addressed in Subsection 1.9.5.2, Appendix 1B (1B.8.1) and Subsections 13.5.2.1 and 13.5.2.2

CP COL 1.9(6) **1.9(6) Enhancement of offsite communications specified in SECY-12-0025**

This COL item is addressed in Subsection 1.9.5.2, Appendix 1B (1B.9.3.1.1) and Subsections 9.5.2.2.2.2 and 9.5.2.2.5.1.

CP COL 1.9(7) **1.9(7) Address staffing for large scale natural events specified in SECY-12-0025**

This COL item is addressed in Subsection 1.9.5.2, Appendix 1B (1B.9.3.1.2) and Subsections 13.3.2 and 13.3.5.

The applicable requirements of 10 CFR 30, 40, 70, 73 and 74 regarding emergency protection and preparedness, security, non-licensed staff training and fire protection program elements that will be in place prior to receipt of byproduct, source or special nuclear material are located in **Subsections 12.2.1.1.10, 13.5.2.2, 13.6, and Tables 1.9-220 and 13.4-201.**

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APPENDIX 1A
INDEX OF TIER2* INFORMATION

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1A **INDEX OF TIER 2* INFORMATION**

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This appendix of the referenced DCD is incorporated by reference.

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APPENDIX 1B

FUKUSHIMA NEAR TERM TASK FORCE RECOMMENDATIONS

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<u>Number</u>	<u>Title</u>
1B-201	Cross Reference to Standard Plant
1B-202	Summary of Post-COL Commitment and Programs for NTTF Recommendations

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CP SUP 1B(1)

1B FUKUSHIMA NEAR TERM TASK FORCE RECOMMENDATIONS

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1B.0 INTRODUCTION

Following the Fukushima event, the NRC formed a Fukushima Near-Term Task Force (NTTF). The NTTF published its recommendations on July 12, 2011, in SECY-11-0093, "Near-Term Report and Recommendation for Agency Actions Following the Events in Japan" (Reference 1B-2). Each of the recommendations from the NTTF Report is addressed below and the "1B" subsection numbers correspond with the recommendation numbers.

In SECY-11-0137, "Prioritization of Recommended Actions To Be Taken in Response to Fukushima Lessons Learned," dated October 3, 2011 (Reference 1B-4), the NRC staff grouped the recommendations into three tiers – Tier 1, Tier 2, and Tier 3.

Additional recommendations, which the NRC staff added in SECY-12-0025, "Proposed Orders and Requests for Information in Response to Lessons Learned from Japan's March 11, 2011, Great Tohoku Earthquake and Tsunami" dated February 17, 2012 (Reference 1B-5), are also addressed in the subsection below.

Additional insights regarding several recommendations are contained in Order EA-12-049, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design Basis External Events" (Reference 1B-7), in Order EA-12-051, "Issuance of Order to Modify Licenses with regard to Reliable Spent Fuel Pool Instrumentation" (Reference 1B-8) and in the "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54 (f) regarding Recommendations 2.1, 2.3, and 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident" issued on March 12, 2012 (Reference 1B-9). Although these orders and letter are not directly applicable to CPNPP Units 3 and 4, the insights have been considered in developing the responses below.

The strategies and design enhancements of the US-APWR to incorporate lessons learned from the accidents at TEPCO's Fukushima Dai-ichi Nuclear Power Station, and the requirements/recommendations issued after the disaster by the US NRC as presented in the referenced DCD, including MUAP-13002 (see Reference 1B-12), are incorporated by reference with the departures and/or supplements as identified below.

1B.1.0 NTTF 1.0 - Clarify the Regulatory Framework

Recommendation 1 from the NTTF report reads:

The Task Force recommends establishing a logical, systematic, and coherent regulatory framework for adequate protection that appropriately balances defense-in-depth and risk considerations.

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CPNPP Units 3 and 4 Response

See recommendations 1.1, 1.2, 1.3 and 1.4 below:

1B.1.1 **NTTF 1.1**

The NTTF Report made the following Recommendation:

- 1.1 *Draft a Commission policy statement that articulates a risk-informed defense-in-depth framework that includes extended design-basis requirements in the NRC's regulations as essential elements for ensuring adequate protection.*

CPNPP Units 3 and 4 Response

This recommendation is applicable to NRC not to CPNPP Units 3 and 4; however, CPNPP Units 3 and 4 will comply with applicable new requirements, as necessary, once they are issued.

1B.1.2 **NTTF 1.2**

The NTTF Report made the following Recommendation:

- 1.2 *Initiate rulemaking to implement a risk-informed, defense-in-depth framework consistent with the above recommended Commission policy statement.*

CPNPP Units 3 and 4 Response

This recommendation is applicable to NRC not to CPNPP Units 3 and 4; however, CPNPP Units 3 and 4 will comply with applicable new requirements, as necessary, once they are issued.

1B.1.3 **NTTF 1.3**

The NTTF Report made the following Recommendation:

- 1.3 *Modify the Regulatory Analysis Guidelines to more effectively implement the defense-in-depth philosophy in balance with the current emphasis on risk-based guidelines.*

CPNPP Units 3 and 4 Response

This recommendation is applicable to NRC not to CPNPP Units 3 and 4; however, CPNPP Units 3 and 4 will comply with applicable new requirements, as necessary, once they are issued.

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1B.1.4 NTTF 1.4

The NTTF Report made the following Recommendation:

- 1.4 *Evaluate the insights from the IPE and IPEEE efforts as summarized in NUREG-1560, "Individual Plant Examination Program: Perspectives on Reactor Safety and Plant Performance," issued December 1997, and NUREG-1742, "Perspectives Gained from the Individual Plant Examination of External Events (IPEEE) Program," issued April 2002, to identify potential generic regulations or plant-specific regulatory requirements.*

CPNPP Units 3 and 4 Response

This recommendation is applicable to NRC not to CPNPP Units 3 and 4; however, CPNPP Units 3 and 4 will comply with applicable new requirements, as necessary, once they are issued.

1B.2.0 NTTF 2.0 - Seismic and Flooding Protection

The NTTF Report made the following Recommendation:

The Task Force recommends that the NRC require licensees to reevaluate and upgrade as necessary the design-basis seismic and flooding protection of SSCs for each operating reactor.

CPNPP Units 3 and 4 Response

See recommendation 2.1, 2.2 and 2.3 below

1B.2.1 NTTF 2.1 - Seismic and flood hazard reevaluations (Tier 1)

The NTTF Report made the following Recommendation:

- 2.1 *Order licensees to reevaluate the seismic and flooding hazards at their sites against current NRC requirements and guidance, and if necessary, update the design basis and SSCs important to safety to protect against the updated hazards.*

In RAI 6527 (CP RAI #261) to CPNPP Units 3 and 4 (Reference 1B-10), the NRC staff requested the following:

- a) Evaluate the potential impacts of the newly released CEUS-SSC model, with potential local and regional refinements as identified in the CEUS-SSC model, on the seismic hazard curves and the site-specific ground motion response spectra (GMRS)/foundation input response spectra (FIRS).*

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For re-calculation of the probabilistic seismic hazard analysis (PSHA), please follow either the cumulative absolute velocity (CAV) filter or minimum magnitude specifications outlined in Attachment 1 to Seismic Enclosure 1 of the March 12, 2012 letter " Request for information pursuant to Title 10 of the Code of Federal Regulations 50.54(f) regarding Recommendations 2.1, 2.3, and 9.3, of the near-term task force review of insights from the Fukushima Dai-Ichi accident."

b) In your response, please identify the method you selected from the above choices to perform the evaluation. Modify and submit the site-specific GMRS and FIRS changes, as necessary, given the evaluation performed in part (a) above. Provide the basis supporting your position.

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CP COL 1.9(2)-1

The seismic hazard at the CPNPP site was re-evaluated using the central and eastern United States CEUS Seismic Source Characterization (CEUS-SSC) model as described in NUREG-2115 and the results are provided in FSAR Table 2.0-1R and Section 2.5, "Geology, Seismology, and Geotechnical Engineering." Per Subsection 2.5.1.2.5.10.3, a minimum magnitude of 5.0 was used to recalculate the PSHA. FSAR Subsection 2.5.2 "Vibratory Ground Motion" addresses the re-evaluated Ground Motions Response Spectra (GMRS) and Foundation Input Response Spectra (FIRS) for the CPNPP Units 3 and 4.

CP COL 1.9(3)

With regard to flood hazard evaluation, FSAR Subsection 2.4.2.2 discusses the site-specific BDB external flood elevation, and FSAR Subsections 3.4.1.2 and 3.4.1.4 address protection from the BDB external flood.

1B.2.2 NTTF 2.2 - Ten-year confirmation of seismic and flooding hazards (dependent on Recommendation 2.1) (Tier 3)

The NTTF Report made the following Recommendation:

2.2 Initiate rulemaking to require licensees to confirm seismic hazards and flooding hazards every 10 years and address any new and significant information. If necessary, update the design basis for SSCs important to safety to protect against the updated hazards.

CPNPP Units 3 and 4 Response

This recommendation is applicable to NRC not to CPNPP Units 3 and 4; however, CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

1B.2.3 NTTF 2.3 - Seismic and Flooding Walkdowns

1B.2.3.1 NTTF 2.3.1 - Seismic Walkdowns (Tier 1)

The NTTF Report made the following Recommendation:

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2.3 Order licensees to perform seismic and flood protection walkdowns to identify and address plant-specific vulnerabilities and verify the adequacy of monitoring and maintenance for protection features such as watertight barriers and seals in the interim period until longer term actions are completed to update the design basis for external events.

The order described by SECY-12-0025 and issued on March 12, 2012 (Reference 1B-5) directed licensees to take the following actions:

Perform seismic walkdowns in order to identify and address plant specific degraded, non-conforming, or unanalyzed conditions and verify the adequacy of strategies, monitoring, and maintenance programs such that the nuclear power plant can respond to external events. The walkdown will verify current plant configuration with the current licensing basis, verify the adequacy of current strategies, maintenance plans, and identify degraded, non-conforming, or unanalyzed conditions.

CPNPP Units 3 and 4 Response

This order is not applicable to CPNPP Units 3 and 4 as this request has been applied only to the licensees of operating reactors.

1B.2.3.2 NTTF 2.3.2 - Flooding Walkdowns (Tier 1)

The NTTF Report made the following Recommendation:

2.3 Order licensees to perform seismic and flood protection walkdowns to identify and address plant-specific vulnerabilities and verify the adequacy of monitoring and maintenance for protection features such as watertight barriers and seals in the interim period until longer term actions are completed to update the design basis for external events.

The order described by SECY-12-0025 and issued on March 12, 2012 (Reference 1B-5) directed licensees to take the following actions:

- Perform flood protection walkdowns using an NRC-endorsed walkdown methodology.
- Identify and address plant-specific degraded, non-conforming, or unanalyzed conditions as well as cliff-edge effects through the corrective action program and consider these findings in the Recommendation 2.1 hazard evaluations, as appropriate.
- Identify any other actions taken or planned to further enhance the site flood protection.
- Verify the adequacy of programs, monitoring and maintenance for protection features, and.

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- Report to the NRC the results of the walkdowns and corrective actions taken or planned.

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CPNPP Units 3 and 4 Response

This order is not applicable to CPNPP Units 3 and 4 as this request has been applied only to the licensees of operating reactors.

1B.3.0 NTTF 3.0 - Potential enhancements to the capability to prevent or mitigate seismically induced fires and floods (long-term evaluation) (Tier 3)

The NTTF Report made the following Recommendation:

The Task Force recommends, as part of the longer term review, that the NRC evaluate potential enhancements to the capability to prevent or mitigate seismically induced fires and floods.

CPNPP Units 3 and 4 Response

This recommendation is applicable to NRC, not to CPNPP Units 3 and 4; however, CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

1B.4.0 NTTF 4.0 - Station Blackout Mitigation

The NTTF Report made the following Recommendation:

The Task Force recommends that the NRC strengthen SBO mitigation capability at all operating and new reactors for design-basis and beyond-design-basis external events.

CPNPP Units 3 and 4 Response

See recommendations 4.1 and 4.2 below.

1B.4.1 NTTF 4.1 - Station blackout regulatory actions (Tier 1)

The NTTF Report made the following Recommendation:

4.1 Initiate rulemaking to revise 10 CFR 50.63 to require each operating and new reactor licensee to (1) establish a minimum coping time of 8 hours for a loss of all ac power, (2) establish the equipment, procedures, and training necessary to implement an "extended loss of all ac" coping time of 72 hours for core and spent fuel pool cooling and for reactor coolant system and primary containment integrity as needed, and (3) preplan and prestage offsite resources to support uninterrupted core and spent fuel pool cooling, and reactor coolant system and containment integrity as

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needed, including the ability to deliver the equipment to the site in the time period allowed for extended coping, under conditions involving significant degradation of offsite transportation infrastructure associated with significant natural disasters.

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In SECY-11-0137 (Reference 1B-4), it was proposed to engage stakeholders in support of rulemaking activities to enhance the capability to maintain safety through a prolonged SBO. The SECY-11-0137 mentioned these activities would include the development of the regulatory basis, a proposed rule, and implementing guidance consistent with the rulemaking process and schedule established in SECY-11-0032, "Consideration of Cumulative Effects of Regulation in the Rulemaking Process" (Reference 1B-1).

CPNPP Units 3 and 4 Response

See CPNPP Units 3 and 4 response to the NTTF recommendation 4.2 in the next Section.

1B.4.2 NTTF 4.2 - Equipment covered under Title 10 of the Code of Federal Regulations (10CFR) 50.54(hh)(2) - Mitigation Strategies for Beyond-Design-Basis External events (Tier 1)

The NTTF Report made the following Recommendation:

4.2 Order licensees to provide reasonable protection for equipment currently provided pursuant to 10 CFR 50.54(hh)(2) from the effects of design-basis external events and to add equipment as needed to address multiunit events while other requirements are being revised and implemented.

NRC issued the following requirements via EA 12-049 (reference 1B-7) to the licensees of operating reactors as of March 12, 2012:

- (1) Licensees shall develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment and SFP cooling capabilities following a beyond-design-basis external event.
- (2) These strategies must be capable of mitigating a simultaneous loss of all alternating current (ac) power and loss of normal access to the ultimate heat sink and have adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on a site subject to this Order.
- (3) Licensees must provide reasonable protection for the associated equipment from external events. Such protection must demonstrate that there is adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on a site subject to this Order.
- (4) Licensees must be capable of implementing the strategies in all modes.

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(5) Full compliance shall include procedures, guidance, training, and acquisition, staging, or installing of equipment needed for the strategies.

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In RAI 6929 (CP RAI #269) Question 01.05-4 to CPNPP Units 3 and 4 (Reference 1B-11), the NRC staff requested the following:

The NRC staff has been directed by the Commission to implement the Fukushima Near-Term Task Force Recommendations, as presented in SECY-12-0025, "Proposed Orders and Requests for Information in Response to Lessons Learned from Japan's March 11, 2011, Great Tohoku Earthquake and Tsunami", dated February 12[17], 2012. This request for additional information specifically addresses Recommendation 4.2 on Mitigating Strategies, as described in Attachment 2 to Order EA-12-049. The NRC staff understands that MHI intends to include a new COL item that would require a COL referencing the US-APWR design to implement actions to address these provisions, and that you would propose a license condition. In your response, please specifically include in the text of any proposed license condition the extent of your commitment to follow the guidance in JLD-ISG-21012-01, or any alternative approaches.

CPNPP Units 3 and 4 Response

CP COL 1.9(2) Provision (1) of EA-12-049: CPNPP Units 3 and 4 incorporate by reference the design changes in the US-APWR DCD Chapters 3, 7, 8, 9 and 10 and
CP COL 1.9(2)-1 descriptions in MUAP-13002 (Reference 1B-12), while evaluation of site-specific external hazard is described in CPNPP Units 3 and 4 FSAR Sections 2.3.1.2,
CP COL 1.9(2)-2 2.4.2 and 2.5.2, 3.4.1.2, 3.4.1.4 and Table 2.0-1R. Regarding development of site-specific guidance and strategies, CPNPP Units 3 and 4 will develop and
CP COL 1.9(2)-3 implement site-specific procedures and guidance prior to initial fuel load. (See Table 1B-202 item 1).

CP COL 1.9(2)-4 Provision (2) of EA-12-049: CPNPP Units 3 and 4 incorporate by reference the
CP COL 1.9(2)-5 description changes in the US-APWR DCD Chapters 8 and MUAP-13002.

CP COL 1.9(3) Provision (3) of EA-12-049: CPNPP Units 3 and 4 incorporate by reference the
description in MUAP-13002. Regarding provisions of the portable equipment
portion in provision (3) of EA-12-049, CPNPP Units 3 and 4 will develop
site-specific strategies prior to initial fuel load. (See Table 1B-202 item 1).

Provision (4) of EA-12-049: CPNPP Units 3 and 4 incorporate by reference the
description in the US-APWR DCD including MUAP-13002.

Provisions (1) to (4) of EA-12-049: FSAR Chapter 8 tables and figures include the
design information as needed to address the standard plant design and
site-specific design needed to address these provisions.

Provision (5) of EA-12-049: CPNPP Units 3 and 4 FSAR Sections 13.2.1.1.4,
13.5.2.1 and 13.5.2.2 include descriptions regarding implementation of the
procedure and training provisions of this order (see Table 1B-202 item 1), while a

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license condition that describes the required actions with respect to mitigation strategies (including equipment acquisition, staging, or installation) ensures the actions are taken prior to initial fuel load.

1B.5.0 NTTF 5.0 - Containment Hardened Vents

The NTTF Report made the following Recommendation:

The Task Force recommends requiring reliable hardened vent designs in BWR facilities with Mark I and Mark II containments.

CPNPP Units 3 and 4 Response

See recommendations 5.1 and 5.2 below.

1B.5.1 NTTF 5.1 - Reliable hardened vents for Mark I and Mark II containments (Tier 1)

The NTTF Report made the following Recommendation:

5.1 Order licensees to include a reliable hardened vent in BWR Mark I and Mark II containments.

CPNPP Units 3 and 4 Response

This recommendation is not applicable to CPNPP Units 3 and 4.

1B.5.2 NTTF 5.2 - Reliable hardened vents for other containment designs (long-term evaluation) (Tier 3)

The NTTF Report made the following Recommendation:

5.2 Reevaluate the need for hardened vents for other containment designs, considering the insights from the Fukushima accident. Depending on the outcome of the reevaluation, appropriate regulatory action should be taken for any containment designs requiring hardened vents.

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

1B.6.0 NTTF 6.0 - Hydrogen control and mitigation inside containment or in other buildings (long-term evaluation) (Tier 3)

The NTTF Report made the following Recommendation:

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The Task Force recommends, as part of the longer term review, that the NRC identify insights about hydrogen control and mitigation inside containment or in other buildings as additional information is revealed through further study of the Fukushima Dai-ichi accident.

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

1B.7.0 NTTF 7.0 - Spent fuel pool makeup capability and instrumentation (7.1, 7.2, 7.3, 7.4, and 7.5)

The NTTF Report made the following Recommendation:

The Task Force recommends enhancing spent fuel pool makeup capability and instrumentation for the spent fuel pool.

CPNPP Units 3 and 4 Response

See recommendations 7.1, 7.2, 7.3, 7.4 and 7.5 below.

1B.7.1 NTTF 7.1 - Spent Fuel Pool Instrumentation (Tier 1)

The NTTF Report made the following Recommendation:

7.1 Order licensees to provide sufficient safety-related instrumentation, able to withstand design-basis natural phenomena, to monitor key spent fuel pool parameters (i.e., water level, temperature, and area radiation levels) from the control room.

NRC issued the following requirements to operating plant licensees and combined license holders via EA 12-051 dated March 12, 2012 (reference 1B-8).

Licensee requires reliable indication of the water level in associated spent fuel storage pools capable of supporting identification of the following pool water level conditions by trained personnel: (1) level that is adequate to support operation of the normal fuel pool cooling system, (2) level that is adequate to provide substantial radiation shielding for a person standing on the spent fuel pool operating deck, and (3) level where fuel remains covered and actions to implement make-up water addition should no longer be deferred.

1.0 The spent fuel pool level instrumentation shall include the following design features:

1.1 Arrangement: The spent fuel pool level instrument channels shall be arranged in a manner that provides reasonable protection of the level indication function against missiles that may result from damage to the structure over the spent

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fuel pool. This protection may be provided by locating the safety-related instruments to maintain instrument channel separation within the spent fuel pool area, and to utilize inherent shielding from missiles provided by existing recesses and corners in the spent fuel pool structure.

1.2 Qualification: The level instrument channels shall be reliable at temperature, humidity, and radiation levels consistent with the spent fuel pool water at saturation conditions for an extended period.

1.3 Power supplies: Instrumentation channels shall provide for power connections from sources independent of the plant alternating current (ac) and direct current (dc) power distribution systems, such as portable generators or replaceable batteries. Power supply designs should provide for quick and accessible connection of sources independent of the plant ac and dc power distribution systems. On-site generators used as an alternate power source and replaceable batteries used for instrument channel power shall have sufficient capacity to maintain the level indication function until offsite resource availability is reasonably assured.

1.4 Accuracy: The instrument shall maintain its designed accuracy following a power interruption or change in power source without recalibration.

1.5 Display: The display shall provide on-demand or continuous indication of spent fuel pool water level.

2. The spent fuel pool instrumentation shall be maintained available and reliable through appropriate development and implementation of a training program. Personnel shall be trained in the use and the provision of alternate power to the safety-related level instrument channels.

In RAI 6527 (CP RAI #261) (Reference 1B-10) Question 01.05-2 to CPNPP Units 3 and 4, the NRC staff requested the following:

By letter dated May 16, 2012, (ML12124A036), the NRC staff informed you that the NRC staff has been directed by the Commission to implement the Fukushima Near-Term Task Force recommendations contained in SECY-12-0025, "Proposed Orders and Requests for Information in Response to Lessons Learned from Japan's March 11, 2011, Great Tohoku Earthquake and Tsunami" dated February 17, 2012. This request for additional information (RAI) specifically addresses Recommendation 7.1, "Reliable Spent Fuel Pool Instrumentation." The NRC staff requests that you address each of the provisions for monitoring key spent fuel pool parameters as described in the March 12, 2012 Order, EA-12-051 (ML12054A679), including any proposals for changes to your current application.

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Provision 1 of EA-12-051: CPNPP Units 3 and 4 incorporate by reference the design changes in the US-APWR DCD Chapter 9 that address spent fuel pool level instrumentation.

CP COL 1.9(4)

Provision 2 of EA-12-051: FSAR Sections 13.2.1.1.4 and 13.5.2.2 include descriptions regarding implementation of the procedure and training requirements of Recommendation 7.1 and applicable training will be implemented 18 months prior to initial fuel load. (See Table 1B-202 item 2).

1B.7.2 **NTTF 7.2 (Tier 2)**

The NTTF Report made the following Recommendation:

7.2 Order licensees to provide safety-related ac electrical power for the spent fuel pool makeup system.

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 incorporate by reference safety-related ac electrical power configuration for the refueling water recirculation pumps in the spent fuel pool makeup system as described in the US-APWR DCD Section 9.1.3.2 and Table 3.2-2.

1B.7.3 **NTTF 7.3 (Tier 2)**

The NTTF Report made the following Recommendation:

7.3 Order licensees to revise their technical specifications to address requirements to have one train of onsite emergency electrical power operable for spent fuel pool makeup and spent fuel pool instrumentation when there is irradiated fuel in the spent fuel pool, regardless of the operational mode of the reactor.

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with the new requirements, as necessary, once they are issued.

1B.7.4 **NTTF 7.4 (Tier 2)**

The NTTF Report made the following Recommendation:

7.4 Order licensees to have an installed seismically qualified means to spray water into the spent fuel pools, including an easily accessible connection to supply the water (e.g., using a portable pump or pumper truck) at grade outside the building.

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CPNPP Units 3 and 4 incorporate by reference the US-APWR DCD Table 3.2-2, Figure 9.1.3-1 and Subsections 9.1.3.2 and 9.1.3.3.2 to conform to the recommendation.

1B.7.5 NTTF 7.5 (Tier 2)

The NTTF Report made the following Recommendation:

7.5 *Initiate rulemaking or licensing activities or both to require the actions related to the spent fuel pool described in detailed recommendations 7.1–7.4.*

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with the new requirements, as necessary, once they are issued.

1B.8.0 NTTF 8.0 - Strengthening and integration of emergency operating procedures, severe accident management guidelines (SAMGs), and extensive damage mitigation guidelines (Tier 1)

The NTTF Report made the following Recommendation:

The Task Force recommends strengthening and integrating onsite emergency response capabilities such as EOPs, SAMGs, and EDMGs.

CPNPP Units 3 and 4 Response

See recommendations 8.1, 8.2, 8.3 and 8.4 below.

1B.8.1 NTTF 8.1 - Orders to Integrate Programs and Guidance (Tier 1)

The NTTF Report made the following Recommendation:

8.1 *Order licensees to modify the EOP technical guidelines (required by Supplement 1, "Requirements for Emergency Response Capability," to NUREG-0737, issued January 1983 (GL 82-33), to (1) include EOPs, SAMGs, and EDMGs in an integrated manner, (2) specify clear command and control strategies for their implementation, and (3) stipulate appropriate qualification and training for those who make decisions during emergencies.*

CPNPP Units 3 and 4 Response

CP COL 1.9(5)

CPNPP Units 3 and 4 have addressed this recommendation in NTTF 4.2 in response to EA-12-049. CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

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1B.8.2 NTTF 8.2 - Standard Technical Specification Administrative Controls

The NTTF Report made the following Recommendation:

8.2 *Modify Section 5.0, "Administrative Controls," of the Standard Technical Specifications for each operating reactor design to reference the approved EOP technical guidelines for that plant design.*

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

1B.8.3 NTTF 8.3 - Licensee Technical Specifications

The NTTF Report made the following Recommendation:

8.3 *Order licensees to modify each plant's technical specifications to conform to the above changes.*

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

1B.8.4 NTTF 8.4 - Realistic Training and Exercises

The NTTF Report made the following Recommendation:

8.4 *Initiate rulemaking to require more realistic, hands-on training and exercises on SAMGs and EDMGs for all staff expected to implement the strategies and those licensee staff expected to make decisions during emergencies, including emergency coordinators and emergency directors.*

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

1B.9.0 NTTF 9.0 - Emergency Plans for Prolonged SBO and Multiunit Events

The NTTF Report made the following Recommendation:

The Task Force recommends that the NRC require that facility emergency plans address prolonged SBO and multiunit events.

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CPNPP Units 3 and 4 Response

See recommendations 9.1, 9.2, 9.3 and 9.4 below.

1B.9.1 NTTF 9.1 - Emergency preparedness (EP) enhancements for prolonged station blackout (SBO) and multiunit events (dependent on availability of critical skill sets) (Tier 3)

The NTTF Report made the following Recommendation:

9.1 Initiate rulemaking to require EP enhancements for multiunit events in the following areas:

- personnel and staffing
- dose assessment capability
- training and exercises
- equipment and facilities

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

1B.9.2 NTTF 9.2 - Emergency preparedness (EP) enhancements for prolonged station blackout (SBO) and multiunit events (dependent on availability of critical skill sets) (Tier 3)

The NTTF Report made the following Recommendation:

9.2 Initiate rulemaking to require EP enhancements for prolonged SBO in the following areas:

- communications capability
- ERDS capability
- training and exercises
- equipment and facilities

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

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1B.9.3 **NTTF 9.3 - Emergency preparedness**

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The NTTF Report made the following Recommendation:

9.3 Order licensees to do the following until rulemaking is complete:

- Determine and implement the required staff to fill all necessary positions for responding to a multiunit event.
- Add guidance to the emergency plan that documents how to perform a multiunit dose assessment (including releases from spent fuel pools) using the licensee's site-specific dose assessment software and approach.
- Conduct periodic training and exercises for multiunit and prolonged SBO scenarios. Practice (simulate) the identification and acquisition of offsite resources, to the extent possible.
- Ensure that EP equipment and facilities are sufficient for dealing with multiunit and prolonged SBO scenarios.
- Provide a means to power communications equipment needed to communicate onsite (e.g., radios for response teams and between facilities) and offsite (e.g., cellular telephones, satellite telephones) during a prolonged SBO.
- Maintain ERDS capability throughout the accident.

In RAI 6527 (CP RAI #261) (Reference 1B-10) Question 01.05-3 to CPNPP Units 3 and 4, the NRC staff requested the following:

By letter dated May 16, 2012, (ML12124A036), the NRC staff informed you that the NRC staff has been directed by the Commission to implement the Fukushima Near-Term Task Force recommendations contained in SECY-12-0025. "Proposed Orders and Requests for Information in Response to Lessons Learned from Japan's March 11, 2011, Great Tohoku Earthquake and Tsunami" dated February 17, 2012. This request for additional information (RAI) specifically addresses Recommendation 9.3, "provisions for enhancing emergency preparedness." The NRC staff requests that you address each of the provisions for enhancing emergency preparedness as described in Enclosure 7 of SECY-12-0025, including any proposals for changes to your current application.

CPNPP Units 3 and 4 Response

See 1B.9.3.1, 1B.9.3.2 and 1B.9.3.3 below.

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1B.9.3.1 NTTF 9.3.1 - Emergency preparedness regulatory actions (communication and staffing) (Tier 1)

1B.9.3.1.1 NTTF 9.3.1.1 - Emergency preparedness regulatory actions (communication) (Tier 1)

The section on Communications in Enclosure 7 to SECY-12-0025 (Reference 1B-5) requested the following information from licensees:

1. Provide an assessment of the current communications systems and equipment used during an emergency event to identify any enhancements that may be needed to ensure communications are maintained during a large scale natural event meeting the conditions described above. The assessment should:
 - Identify any planned or potential improvements to existing on-site communications systems and their required normal and/or backup power supplies.
 - Identify any planned or potential improvements to existing offsite communications systems and their required normal and/or backup power supplies.
 - Provide a description of any new communications system(s) or technologies that will be deployed based upon the assumed conditions described above, and
 - Provide a description of how the new and/or improved systems and power supplies will be able to provide for communications during a loss of all ac power.
2. Describe any interim actions that have been taken or are planned to be taken to enhance existing communications systems power supplies until the communications assessment and the resulting actions are complete.
3. Provide an implementation schedule of the time needed to conduct and implement the results of the communications assessment.

CPNPP Units 3 and 4 Response

With respect to the onsite communications system aspects of SECY-12-0025 (Reference 1B-5) Enclosure 7 Recommendation 9.3 (Communications section) provision 1, CPNPP Units 3 and 4 incorporates by reference the design changes in the US-APWR DCD to enhance emergency preparedness for a beyond design-basis (BDB) external event associated with simultaneous loss of all ac power as described in the US-APWR DCD Subsections 9.5.2.1.1, 9.5.2.2.2.4, 9.5.2.2.3 and 9.5.2.6.

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CP COL 1.9(6)

Offsite communications system aspects of provision 1 are described in CPNPP Units 3 and 4 FSAR Subsections 9.5.2.2.2.2 and 9.5.2.2.5.1.

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The request for interim actions of provision 2 is not applicable to CPNPP Units 3 and 4 because the actions associated with this recommendation will be completed prior to initial fuel load.

Provision 3, offsite communications improvements identified by this evaluation that are applicable to CPNPP Units 3 and 4 will be implemented prior to full participation exercise milestone (see Table 1B-202 item 8).

1B.9.3.1.2 NTTF 9.3.1.2 - Emergency preparedness regulatory actions (staffing) (Tier 1)

The Section on Staffing in Enclosure 7 to SECY-12-025 (Reference 1B-5) requested the following information from licensees:

1. Provide an assessment of the on-site and augmented staff needed to respond to a large scale natural event meeting the conditions described above. This assessment should include a discussion of the on-site and augmented staff available to implement the strategies as discussed in the emergency plan and/or described in plant operating procedures. The following functions are requested to be assessed:
 - How on-site staff will move back-up equipment (e.g., pumps, generators) from alternate on-site storage facilities to repair locations at each reactor as described in the order regarding the NTTF Recommendation 4.2. It is requested that consideration be given to the major functional areas of NUREG-0654, Table B-1 such as plant operations and assessment of operational aspects, emergency direction and control, notification/communication, radiological accident assessment, and support of operational accident assessment, as appropriate.
 - New staff or functions identified as a result of the assessment.
 - Collateral duties (personnel not being prevented from timely performance of their assigned functions).
2. Provide an implementation schedule of the time needed to conduct the onsite and augmented staffing assessment. If any modifications are determined to be appropriate, please include in the schedule the time to implement the changes.
3. Identify how the augmented staff would be notified given degraded communications capabilities.

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4. Identify the methods of access (e.g., roadways, navigable bodies of water and dockage, airlift, etc.) to the site that are expected to be available after a widespread large scale natural event.
5. Identify any interim actions that have been taken or are planned prior to the completion of the staffing assessment.
6. Identify changes that have been made or will be made to your emergency plan regarding the on-shift or augmented staffing changes necessary to respond to a loss of all ac power, multi-unit event, including any new or revised agreements with offsite resource providers (e.g., staffing, equipment, transportation, etc.).

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CPNPP Units 3 and 4 Response

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With respect to provisions 1, 2, 3, 4 and 6 of SECY-12-0025 (Reference 1B-5), Enclosure 7 Recommendation 9.3 (Staffing section), CPNPP Units 3 and 4 FSAR Section 13.3 states that the staffing evaluation will be completed in accordance with the NEI 12-01 and its findings implemented including any needed modifications, and the evaluation results submitted to the NRC before the full participation exercise (see Table 1B-202 item 3).

The request for interim actions described in provision 5 is not applicable to CPNPP Units 3 and 4 because the actions associated with this recommendation will be completed prior to initial fuel load.

1B.9.3.2 **NTTF 9.3.2 - Emergency preparedness regulatory actions (Tier 2) (the remaining portions of Recommendation 9.3, with the exception of Emergency Response Data System (ERDS) capability addressed in Tier 3)**

The NTTF Report made the following Recommendation:

9.3 Order licensees to do the following until rulemaking is complete:

- Add guidance to the emergency plan that documents how to perform a multiunit dose assessment (including releases from spent fuel pools) using the licensee's site-specific dose assessment software and approach.
- Conduct periodic training and exercises for multiunit and prolonged SBO scenarios. Practice (simulate) the identification and acquisition of offsite resources, to the extent possible.
- Ensure that EP equipment and facilities are sufficient for dealing with multiunit and prolonged SBO scenarios.

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CPNPP Units 3 and 4 have addressed this recommendation in NTTF 4.2 in response to EA-12-049, provision (5).

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1B.9.3.3 NTTF 9.3.3 - ERDS capability (related to long-term evaluation Recommendation 10) (Tier 3)

The NTTF Report made the following Recommendation:

- *Maintain ERDS capability throughout the accident.*

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 comply with the recommendation by enhancing power supply capability throughout the accident to plant communication systems, including ERDS, as described in the US-APWR DCD Subsections 9.5.2.1.1 and 9.5.2.6, which are incorporated by reference.

1B.9.4 NTTF 9.4 - ERDS Modernization

The NTTF Report made the following Recommendation:

9.4 *Order licensees to complete the ERDS modernization initiative by June 2012 to ensure multiunit site monitoring capability.*

In SECY-11-0124 (Reference 1B-3), the NRC staff concluded that additional regulatory action is not necessary at this time to ensure implementation of the ERDS modernization.

CPNPP Units 3 and 4 Response

As the NRC staff concluded in SECY-11-0124 (Reference 1B-3), that additional regulatory action is not necessary at this time, CPNPP Units 3 and 4 will not take any action.

1B.10.0 NTTF 10.0 - Additional EP topics for prolonged SBO and multiunit events (long-term evaluation) (Tier 3)

The NTTF Report made the following Recommendation:

The Task Force recommends, as part of the longer term review, that the NRC should pursue additional EP topics related to multiunit events and prolonged SBO.

CPNPP Units 3 and 4 Response

See recommendations 10.1, 10.2 and 10.3 below.

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1B.10.1 NTTF 10.1 - Protective Equipment

The NTTF Report made the following Recommendation:

10.1 Analyze current protective equipment requirements for emergency responders and guidance based upon insights from the accident at Fukushima.

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with the new requirements, as necessary, once they are issued.

1B.10.2 NTTF 10.2 - Command and Control

The NTTF Report made the following Recommendation:

10.2 Evaluate the command and control structure and the qualifications of decisionmakers to ensure that the proper level of authority and oversight exists in the correct facility for a long-term SBO or multiunit accident or both.

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

1B.10.3 NTTF 10.3 - Evaluate ERDS

The NTTF Report made the following Recommendation:

10.3 Evaluate ERDS to do the following:

- Determine an alternate method (e.g., via satellite) to transmit ERDS data that does not rely on hardwired infrastructure that could be unavailable during a severe natural disaster.
- Determine whether the data set currently being received from each site is sufficient for modern assessment needs.
- Determine whether ERDS should be required to transmit continuously so that no operator action is needed during an emergency.

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

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1B.11.0 NTTF 11.0 - EP topics for decision-making, radiation monitoring, and public education (long-term evaluation) (Tier 3)

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The NTTF Report made the following Recommendation:

The Task Force recommends, as part of the longer term review, that the NRC should pursue EP topics related to decisionmaking, radiation monitoring, and public education.

CPNPP Units 3 and 4 Response

See recommendations 11.1, 11.2, 11.3 and 11.4 below.

1B.11.1 NTTF 11.1 - Enhanced Onsite Resources

The NTTF Report made the following Recommendation:

11.1 *Study whether enhanced onsite emergency response resources are necessary to support the effective implementation of the licensees' emergency plans, including the ability to deliver the equipment to the site under conditions involving significant natural events where degradation of offsite infrastructure or competing priorities for response resources could delay or prevent the arrival of offsite aid.*

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

1B.11.2 NTTF 11.2 - Decisionmaking Framework

The NTTF Report made the following Recommendation:

11.2 *Work with FEMA, States, and other external stakeholders to evaluate insights from the implementation of EP at Fukushima to identify potential enhancements to the U.S. decisionmaking framework, including the concepts of recovery and reentry.*

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

1B.11.3 NTTF 11.3 - Real-time Radiation Monitoring

The NTTF Report made the following Recommendation:

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11.3 Study the efficacy of real-time radiation monitoring onsite and within the EPZs (including consideration of ac independence and real-time availability on the Internet).

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CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

1B.11.4 NTTF 11.4 - Training

The NTTF Report made the following Recommendation:

11.4 Conduct training, in coordination with the appropriate Federal partners, on radiation, radiation safety, and the appropriate use of KI in the local community around each nuclear power plant.

CPNPP Units 3 and 4 Response

CPNPP Units 3 and 4 will comply with new requirements, as necessary, once they are issued.

1B.12.0 NTTF 12.0 - NRC Reactor Oversight Process and Staff Training

The NTTF Report made the following Recommendation:

The Task Force recommends that the NRC strengthen regulatory oversight of licensee safety performance (i.e., the ROP) by focusing more attention on defense-in-depth requirements consistent with the recommended defense-in-depth framework.

CPNPP Units 3 and 4 Response

See recommendations 12.1 and 12.2 below.

1B.12.1 NTTF 12.1 - Reactor Oversight Process modifications to reflect the recommended defense-in-depth framework (dependent on Recommendation 1) (Tier 3)

The NTTF Report made the following Recommendation:

12.1 Expand the scope of the annual ROP self assessment and biennial ROP realignment to more fully include defense-in-depth considerations.

The NRC staff proposed in SECY-12-0095 (Reference 1B-6) that the staff would defer action on Recommendation 12.1 until the Commission has provided staff guidance regarding Recommendation 1.

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CPNPP Units 3 and 4 Response

As the NRC staff proposed in SECY-12-0095 that the staff would defer action on Recommendation 12.1 until the Commission has provided staff guidance regarding Recommendation 1, CPNPP Units 3 and 4 takes no action.

1B.12.2 **NTTF 12.2 - Staff training on severe accidents, resident inspector training on SAMGs (dependent on Recommendation 8) (Tier 3)**

The NTTF Report made the following Recommendation:

12.2 Enhance NRC staff training on severe accidents, including training resident inspectors on SAMGs.

CPNPP Units 3 and 4 Response

As this recommendation is applicable only to the NRC, CPNPP Units 3 and 4 takes no action.

1B.13 **Additional Recommendations**

1B.13.1 **Additional Recommendation 3 Basis of Emergency Planning Zone Size**

In SECY-12-0095, NRC staff proposed the following plan:

The staff plans a longer-term action that is already being evaluated by existing activities. The staff will use insights from the current Level 3 PRA study as well as information obtained from the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) assessment to inform the evaluation of the potential impacts that a multiunit event may have on the EPZ. Such insights would be primarily related to understanding the sensitivity of the calculated offsite health consequences to various modeling assumptions.

The staff will use the results of the Level 3 PRA and the UNSCEAR assessment to inform the process of evaluating the EPZ basis.

CPNPP Units 3 and 4 Response

As this recommendation is applicable only to the NRC, CPNPP Units 3 and 4 takes no action.

1B.13.2 **Additional Recommendation 4 Prestaging of Potassium Iodide beyond 10 miles**

In SECY-12-0095, NRC staff proposed the following plan:

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The issue of whether KI should be distributed beyond the 10-mile EPZ will be evaluated within ongoing efforts to address issues surrounding the use of KI. The staff plans to review information obtained from studies proposed by the Japanese Government and will propose any changes to policy regarding KI.

Using existing resources, the staff will continue to monitor and evaluate the population health studies proposed by the Japanese Government.

CPNPP Units 3 and 4 Response

As this recommendation is applicable only to the NRC, CPNPP Units 3 and 4 takes no action.

1B.13.3 Additional Recommendation 5 Transfer of Spent Fuel to Dry Cask Storage

In SECY-12-0095, NRC staff proposed the following plan:

The staff plans to undertake the following activities:

- Complete research including the SFPSS (Spent Fuel Pool Scoping Study), human reliability analysis for mitigation, and effects associated with increased fuel handling activities associated with loading and movement of casks to enhance its understanding of spent fuel safety.
- Evaluate the research stated above and other lessons learned from Tier 1 and 2 items on the staff's current understanding of spent fuel safety in accordance with the Commission Safety Goals and existing NRC studies and analyses.
- Gather stakeholder input, including from both the ACRS and public, on the results of its research and any potential regulatory actions.
 - Develop a regulatory analysis for any potential new or revised regulatory action.
 - Provide a recommendation on the need for any regulatory action to the Commission.

The staff does not currently have sufficient information regarding the scope of all of the additional research needed to develop a detailed schedule with milestones.

CPNPP Units 3 and 4 Response

As this recommendation is applicable only to the NRC, CPNPP Units 3 and 4 takes no action.

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1B.14 **References**

- 1B-1 SECY-11-0032. Consideration of Cumulative Effects of Regulation in the Rulemaking Process. March 2, 2011.
- 1B-2 SECY-11-0093. Near-Term Report and Recommendation for Agency Actions Following the Events in Japan. July 12, 2011.
- 1B-3 SECY-11-0124. Recommended Actions to be Taken Without Delay from the Near-term Task Force Report. September 9, 2011.
- 1B-4 SECY-11-0137. Prioritization of Recommended Actions to Be Taken in Response to Fukushima Lessons Learned. October 3, 2011.
- 1B-5 SECY-12-0025. Proposed Orders and Requests for Information in Response to Lessons Learned from Japan's March 11, 2011, Great Tohoku Earthquake and Tsunami. February 17, 2012.
- 1B-6 SECY-12-0095. Tier 3 Program Plans and 6-Month Status Update in Response to Lessons Learned from Japan's March 11, 2011, Great Tohoku Earthquake and Subsequent Tsunami. July 13, 2012.
- 1B-7 Order EA-12-049. Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events. March 12, 2012.
- 1B-8 Order EA-12-051. Order Modifying Licenses With Regard to Reliable Spent Fuel Pool Instrumentation. March 12, 2012.
- 1B-9 NRC Request for Information Pursuant to 50.54(f) Recommendations 2.1, 2.3, and 9.3. March 12, 2012.
- 1B-10 Request for Additional Information No. 6527, COLA, Revision 2, RAI Letter Number 261. June 25, 2012.
- 1B-11 Request for Additional Information No. 6929, COLA, Revision 2, RAI Letter Number 269. December 13, 2012.
- 1B-12 MUAP-13002. US-APWR Evaluation and Design Enhancement to Incorporate Lessons Learned from TEPCO's Fukushima Dai-ichi Nuclear Power Station Accident. Rev.0, March 2013.

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<u>NTTF No.</u>	<u>Description</u>	<u>FSAR Section</u>	<u>DCD Section</u>	<u>MUAP-13002 Section</u>
<u>1.0</u>	<u>Clarify the Regulatory Framework</u>	<u>1B.1.0</u>	----	----
<u>1.1</u>	<u>Draft a Commission policy statement that articulates a risk-informed defense-in-depth framework that includes extended design-basis requirements in the NRC's regulations as essential elements for ensuring adequate protection.</u>	<u>1B.1.1</u>	----	----
<u>1.2</u>	<u>Initiate rulemaking to implement a risk-informed defense-in-depth framework consistent with the above recommended Commission policy statement.</u>	<u>1B.1.2</u>	----	----
<u>1.3</u>	<u>Modify the Regulatory Analysis Guidelines to more effectively implement the defense-in-depth philosophy in balance with the current emphasis on risk-based guidelines.</u>	<u>1B.1.3</u>	----	----
<u>1.4</u>	<u>Evaluate the insights from the IPE and IPEEE efforts as summarized in NUREG-1560, "Individual Plant Examination Program: Perspectives on Reactor Safety and Plant Performance," issued December 1997, and NUREG-1742, "Perspectives Gained from the Individual Plant Examination of External Events (IPEEE) Program," issued April 2002, to identify potential generic regulations or plant-specific regulatory requirements.</u>	<u>1B.1.4</u>	----	----

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<u>2.0</u>	<u>Seismic and Flooding Protection</u>	<u>1B.2.0</u>	<u>----</u>	<u>----</u>
<u>2.1</u>	<u>Seismic and flood hazard reevaluations</u>	<u>1.9.5.2</u> <u>1B.2.1</u> <u>Table 2.0-1R</u> <u>2.3.1.2</u> <u>2.4.2</u> <u>2.4.3</u> <u>2.5.2</u> <u>3.4.1.2</u> <u>3.4.1.4</u>	<u>1.9.5.2</u> <u>1.9.6</u> <u>Table 1.9.5-8</u>	<u>5.1.1</u> <u>5.3.1</u> <u>5.3.2</u>
<u>2.2</u>	<u>Ten-year confirmation of seismic and flooding hazards</u>	<u>1.9.5.2</u> <u>1B.2.2</u>	<u>1.9.5.2</u> <u>Table 1.9.5-8</u>	<u>5.3.3</u>
<u>2.3</u>	<u>Seismic and Flooding Walkdowns</u>	<u>1B.2.3</u>	<u>----</u>	<u>5.3.4</u>
<u>2.3.1</u>	<u>Seismic Walkdowns</u>	<u>1B.2.3.1</u>	<u>----</u>	<u>5.3.4</u>
<u>2.3.2</u>	<u>Flooding Walkdowns</u>	<u>1B.2.3.2</u>	<u>----</u>	<u>5.3.4</u>
<u>3.0</u>	<u>Potential enhancements to the capability to prevent or mitigate seismically induced fires and floods (long-term evaluation)</u>	<u>1B.3.0</u>	<u>----</u>	<u>5.3.5</u>
<u>4.0</u>	<u>Station Blackout Mitigation</u>	<u>1B.4.0</u>	<u>----</u>	<u>----</u>
<u>4.1</u>	<u>Station blackout regulatory actions</u>	<u>1.9.5.2</u> <u>1B.4.1</u>	<u>1.9.5.2</u> <u>Table 1.9.5-8</u>	<u>5.1.2</u>

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<u>NTTF No.</u>	<u>Description</u>	<u>FSAR Section</u>	<u>DCD Section</u>	<u>MUAP-13002 Section</u>
<u>4.2</u>	<u>Equipment covered under Title 10 of the Code of Federal Regulations (10CFR) 50.54(hh)(2) - Mitigation Strategies for Beyond-Design-Basis External Events</u>	<u>1.9.5.2</u> <u>1B.4.2</u> <u>3.4.1.2</u> <u>3.4.1.4</u> <u>13.2.1.1.4</u> <u>13.5.2.1</u> <u>13.5.2.2</u>	<u>1.9.5.2</u> <u>Table 1.9.5-5</u> <u>Table 1.9.5-8</u> <u>1.9.6</u>	<u>5.1.2</u> <u>6.1</u> <u>6.3</u> <u>6.4</u> <u>6.5</u> <u>6.6</u> <u>6.7.3</u> <u>6.8</u> <u>6.9.2</u>
<u>5.0</u>	<u>Containment Hardened Vents</u>	<u>1B.5.0</u>	<u>----</u>	<u>----</u>
<u>5.1</u>	<u>Reliable hardened vents for Mark I and Mark II containments</u>	<u>1.9.5.2</u> <u>1B.5.1</u>	<u>1.9.5.2</u> <u>Table 1.9.5-8</u>	<u>5.3.6</u>
<u>5.2</u>	<u>Reliable hardened vents for other containment designs (long-term evaluation)</u>	<u>1B.5.2</u>	<u>----</u>	<u>5.3.7</u>
<u>6.0</u>	<u>Hydrogen control and mitigation inside containment or in other buildings (long-term evaluation)</u>	<u>1B.6.0</u>	<u>----</u>	<u>5.3.8</u>
<u>7.0</u>	<u>Spent fuel pool makeup capability and instrumentation</u>	<u>1B.7.0</u>	<u>----</u>	<u>----</u>
<u>7.1</u>	<u>Spent Fuel Pool Instrumentation</u>	<u>1.9.5.2</u> <u>1B.7.1</u> <u>13.2.1.1.4</u> <u>13.5.2.2</u> <u>Table 13.4-201</u>	<u>1.9.5.2</u> <u>Table 1.9.5-6</u> <u>Table 1.9.5-8</u> <u>1.9.6</u>	<u>5.1.3</u> <u>6.7.1</u> <u>6.7.2</u>

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<u>NTTF No.</u>	<u>Description</u>	<u>FSAR Section</u>	<u>DCD Section</u>	<u>MUAP-13002 Section</u>
<u>7.2</u>	<u>Order licensees to provide safety-related ac electrical power for the spent fuel pool makeup system.</u>	<u>1.9.5.2 1B.7.2</u>	<u>1.9.5.2 Table 1.9.5-8</u>	<u>5.2.1</u>
<u>7.3</u>	<u>Order licensees to revise their technical specifications to address requirements to have one train of onsite emergency electrical power operable for spent fuel pool makeup and spent fuel pool instrumentation when there is irradiated fuel in the spent fuel pool, regardless of the operational mode of the reactor.</u>	<u>1.9.5.2 1B.7.3</u>	<u>1.9.5.2 Table 1.9.5-8</u>	<u>5.2.1</u>
<u>7.4</u>	<u>Order licensees to have an installed seismically qualified means to spray water into the spent fuel pools, including an easily accessible connection to supply the water (e.g., using a portable pump or pumper truck) at grade outside the building.</u>	<u>1.9.5.2 1B.7.4</u>	<u>1.9.5.2 Table 1.9.5-8</u>	<u>5.2.1</u>
<u>7.5</u>	<u>Initiate rulemaking or licensing activities or both to require the actions related to the spent fuel pool described in detailed recommendations 7.1–7.4.</u>	<u>1.9.5.2 1B.7.5</u>	<u>1.9.5.2 Table 1.9.5-8</u>	<u>5.2.1</u>
<u>8.0</u>	<u>Strengthening and integration of emergency operating procedures, severe accident management guidelines (SAMGs), and extensive damage mitigation guidelines</u>	<u>1.9.5.2 1B.8.0 13.5.2.1 13.5.2.2</u>	<u>1.9.5.2 Table 1.9.5-8 1.9.6</u>	<u>5.1.4 6.9.1</u>
<u>8.1</u>	<u>Orders to Integrate Programs and Guidance</u>	<u>1B.8.1</u>	<u>----</u>	<u>----</u>
<u>8.2</u>	<u>Standard Technical Specification Administrative Controls</u>	<u>1B.8.2</u>	<u>----</u>	<u>----</u>

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<u>NTTF No.</u>	<u>Description</u>	<u>FSAR Section</u>	<u>DCD Section</u>	<u>MUAP-13002 Section</u>
<u>8.3</u>	<u>Licensee Technical Specifications</u>	<u>1B.8.3</u>	<u>----</u>	<u>----</u>
<u>8.4</u>	<u>Realistic Training and Exercises</u>	<u>1B.8.4</u>	<u>----</u>	<u>----</u>
<u>9.0</u>	<u>Emergency Plans for Prolonged SBO and Multiunit Events</u>	<u>1B.9.0</u>	<u>----</u>	<u>----</u>
<u>9.1</u>	<u>Emergency preparedness (EP) enhancements for prolonged station blackout (SBO) and multiunit events (dependent on availability of critical skill sets)</u>	<u>1B.9.1</u>	<u>----</u>	<u>5.3.9</u>
<u>9.2</u>	<u>Emergency preparedness (EP) enhancements for prolonged station blackout (SBO) and multiunit events (dependent on availability of critical skill sets)</u>	<u>1B.9.2</u>	<u>----</u>	<u>5.3.10</u>
<u>9.3</u>	<u>Emergency preparedness regulatory actions</u>	<u>1B.9.3</u>	<u>----</u>	<u>5.2.2</u>
<u>9.3.1</u>	<u>Emergency preparedness regulatory actions (communication and staffing)</u>	<u>1.9.5.2</u> <u>1B.9.3.1</u>	<u>----</u>	<u>5.1.5</u>
<u>9.3.1.1</u>	<u>Emergency preparedness regulatory actions (communication)</u>	<u>1.9.5.2</u> <u>1B.9.3.1.1</u> <u>9.5.2.2.2.2</u> <u>9.5.2.2.5.1</u>	<u>1.9.5.2</u> <u>Table 1.9.5-7</u> <u>Table 1.9.5-8</u> <u>1.9.6</u>	<u>5.1.5.1</u> <u>6.10.1</u>
<u>9.3.1.2</u>	<u>Emergency preparedness regulatory actions (staffing)</u>	<u>1.9.5.2</u> <u>1B.9.3.1.2</u> <u>13.3.2</u> <u>13.3.5</u>	<u>1.9.5.2</u> <u>Table 1.9.5-7</u> <u>Table 1.9.5-8</u> <u>1.9.6</u>	<u>5.1.5.2</u> <u>6.10.2</u>
<u>9.3.2</u>	<u>Emergency preparedness regulatory actions</u>	<u>1B.9.3.2</u>	<u>----</u>	<u>5.2.2</u>

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<u>NTTF No.</u>	<u>Description</u>	<u>FSAR Section</u>	<u>DCD Section</u>	<u>MUAP-13002 Section</u>
<u>9.3.3</u>	<u>ERDS capability (related to long-term evaluation Recommendation 10)</u>	<u>1B.9.3.3</u>	<u>9.5.2.1.1</u> <u>9.5.2.6</u>	<u>5.3.11</u>
<u>9.4</u>	<u>ERDS Modernization</u>	<u>1B.9.4</u>	----	----
<u>10.0</u>	<u>Additional EP topics for prolonged SBO and multiunit events (long-term evaluation)</u>	<u>1B.10.0</u>	----	<u>5.3.12</u>
<u>10.1</u>	<u>Protective Equipment</u>	<u>1B.10.1</u>	----	----
<u>10.2</u>	<u>Command and Control</u>	<u>1B.10.2</u>	----	----
<u>10.3</u>	<u>Evaluate ERDS</u>	<u>1B.10.3</u>	----	----
<u>11.0</u>	<u>EP topics for decision-making, radiation monitoring, and public education (long-term evaluation)</u>	<u>1B.11.0</u>	----	<u>5.3.13</u>
<u>11.1</u>	<u>Enhanced Onsite Resources</u>	<u>1B.11.1</u>	----	----
<u>11.2</u>	<u>Decisionmaking Framework</u>	<u>1B.11.2</u>	----	----
<u>11.3</u>	<u>Real-time Radiation Monitoring</u>	<u>1B.11.3</u>	----	----
<u>11.4</u>	<u>Training</u>	<u>1B.11.4</u>	----	----
<u>12.0</u>	<u>NRC Reactor Oversight Process and Staff Training</u>	<u>1B.12.0</u>	----	----
<u>12.1</u>	<u>Reactor Oversight Process modifications to reflect the recommended defense-in-depth framework (dependent on Recommendation 1)</u>	<u>1B.12.1</u>	----	<u>5.3.14</u>

**Comanche Peak Nuclear Power Plant, Units 3 & 4
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**Table 1B-201 (Sheet 7 of 7)
Cross Reference to Standard Plant**

CTS-01532

<u>NTTF No.</u>	<u>Description</u>	<u>FSAR Section</u>	<u>DCD Section</u>	<u>MUAP-13002 Section</u>
<u>12.2</u>	<u>Staff training on severe accidents, resident inspector training on SAMGs (dependent on Recommendation 8)</u>	<u>1B.12.2</u>	<u>----</u>	<u>5.3.15</u>
<u>AR 3</u>	<u>Basis of Emergency Planning Zone Size</u>	<u>1B.13.1</u>	<u>----</u>	<u>5.3.16</u>
<u>AR 4</u>	<u>Prestaging of Potassium Iodide beyond 10 miles</u>	<u>1B.13.2</u>	<u>----</u>	<u>5.3.17</u>
<u>AR 5</u>	<u>Transfer of Spent Fuel to Dry Cask Storage</u>	<u>1B.13.3</u>	<u>----</u>	<u>5.3.18</u>

Notes:

1. The cross-referenced sections of the DCD and MUAP-13002 frequently reference additional sections of the DCD or MUAP. This table does not capture these additional cross-references.
2. The COL Items related to Fukushima responses are provided in DCD Subsection 1.9.6.
3. DCD references are Tier 2 unless noted otherwise.

**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
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**Table 1B-202 (Sheet 1 of 3)
Summary of Post-COL Commitment and Programs for NTTF Recommendations**

CTS-01532

<u>Item</u>	<u>Description</u>	<u>Source</u>	<u>FSAR Section</u>	<u>Implementation Milestone</u>	<u>Implementation Requirement</u>
1	<u>Site-specific strategies to mitigate beyond design basis external events including:</u> <ul style="list-style-type: none"> - <u>Protection of portable equipment</u> - <u>Acquisition, staging, or installing of equipment</u> - <u>Maintenance and testing of portable equipment</u> - <u>Procedures and guidance and training on mitigation of BDB external events</u> 	<u>NTTF 4.0, 4.1, 4.2</u> <u>EA-12-049</u> <u>NEI 12-06</u>	<u>1B.4.0</u> <u>1B.4.1</u> <u>1B.4.2</u> <u>1B 9.3.2</u> <u>13.2.1.1.4</u> <u>13.5.2.1</u> <u>13.5.2.2</u>	<u>Prior to initial fuel load</u>	<u>License Condition</u> <u>RAI 6929</u> <u>(CP RAI #269)</u>
2	<u>SFP level instrumentation maintenance procedure development and perform training.</u>	<u>NTTF 7.1</u> <u>EA-12-051</u> <u>NEI 12-02</u>	<u>1B.7.1</u> <u>13.2.1.1.4</u> <u>13.5.2.2</u> <u>Table 13.4-201</u>	<u>18 months prior to initial fuel load</u>	<u>Commitment for procedures</u> <u>RAI 6527</u> <u>(CP RAI #261)</u> <u>Question 01.05-2</u> <u>See Table 13.4-201, item 12, for training (License Condition)</u>

**Comanche Peak Nuclear Power Plant, Units 3 & 4
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**Table 1B-202 (Sheet 2 of 3)
Summary of Post-COL Commitment and Programs for NTTF Recommendations**

CTS-01532

<u>Item</u>	<u>Description</u>	<u>Source</u>	<u>FSAR Section</u>	<u>Implementation Milestone</u>	<u>Implementation Requirement</u>
<u>3</u>	<u>Staffing assessment regarding onsite and augmented staffing to address a BDB external event. Complete assessment, implement results and submit report to NRC.</u>	<u>NTTF 9.3 Item 1</u> <u>SECY-12-0025</u> <u>NEI 12-01</u>	<u>1B.9.3.1.2</u> <u>13.3.2</u> <u>13.3.5</u>	<u>Prior to first full participation exercise</u>	<u>License Condition</u> <u>RAI 6527</u> <u>(CP RAI #261)</u> <u>Question 01.05-3</u>
<u>4</u>	<u>Procedures and guidance and training on mitigation of beyond-design-basis external events.</u>	<u>NTTF 4.2</u> <u>EA-12-049 Item 5</u>	<u>13.2.1.1.4</u> <u>13.5.2.2</u>	<u>Prior to first full participation exercise</u>	<u>Commitment</u>
<u>5</u>	<u>Develop EOPs, SAMGs and EDMGs which incorporate lessons learned from TEPCO's Fukushima-Daiichi Nuclear Power Plant Accident.</u>	<u>NTTF 8</u>	<u>13.5.2.1</u> <u>13.5.2.2</u>	<u>Prior to first full participation exercise</u>	<u>Commitment</u>

**Comanche Peak Nuclear Power Plant, Units 3 & 4
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**Table 1B-202 (Sheet 3 of 3)
Summary of Post-COL Commitment and Programs for NTTF Recommendations**

CTS-01532

<u>Item</u>	<u>Description</u>	<u>Source</u>	<u>FSAR Section</u>	<u>Implementation Milestone</u>	<u>Implementation Requirement</u>
<u>6</u>	<u>Submit a Flex Integrated Plan to the NRC that will be consistent with the design of the US-APWR, the US-APWR Fukushima technical document, and the guidance provided by JLD-ISG-2012-01 and NEI 12-06.</u>	<u>Item 5 of Attachment 2 to EA-12-049</u>	<u>NA</u>	<u>At least six months prior to the first full participation exercise</u>	<u>Commitment</u>
<u>7</u>	<u>Submit a final report to the NRC confirming full compliance with Item 5 of Attachment 2 to Order EA-12-049.</u>	<u>Letter TXNB-13001 [ML13022A107], dated January 17, 2013</u>	<u>NA</u>	<u>Prior to initial fuel load</u>	<u>Commitment</u>
<u>8</u>	<u>Conduct and implement the results of a communications assessment.</u>	<u>NTTF 9.3 Item 1</u>	<u>9.5.2.2.2.2 9.5.2.2.5.1</u>	<u>Prior to first full participation exercise</u>	<u>Commitment</u>

Chapter 2

Chapter 2 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.03.02-9	Table 2.0-1R (Sheet[s] 1, [2] of 13) 2.3.1.2.2 2.3.2.3	2.0-2 [2.0-2, 2.0-3] 2.3-13 2.3-37	Response to RAI No. 250 Luminant Letter no.TXNB-12032 Date 09/14/2012	Revised to incorporate RG 1.221.	-
CTS-01514	Table 2.0-1R (Sheets 3, 4,5,6 of 13)	2.0-4 2.0-5 2.0-6 2.0-7	Consistency with DCD as described in Letter. TXNB-12033 (ML12268A413)	Updated to reflect revised X/Q values.	0
CTS-01514	Table 2.3-338 (Sheets 1,3 of 3)	2.3-244 2.3-246	Consistency with DCD as described in Letter. TXNB-12033 (ML12268A413)	Updated to reflect revised source and receptor locations.	0
CTS-01514	Table 2.3-339 (Sheet 1 of 2)	2.3-247	Consistency with DCD as described in Letter. TXNB-12033 (ML12268A413)	Updated to reflect revised X/Q values.	0
CTS-01513	Figure 2.1-201 2.3-380	- -	Consistency with DCD as described in Letter. TXNB-12033 (ML12268A413)	Updated to reflect standard plant and site-specific layout.	0
RCOL2_02.04.12-9 S04	Acronyms and Abbreviations	2-lxi 2-lxv 2-lxvi	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Section was revised to reflect new acronyms and abbreviations used in the groundwater elevation and pathways analysis description.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.12-9 S04	Table 2.0-1R (Sheet 8 of 13)	2.0-9	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Table updated to describe site-specific groundwater levels.	-
RCOL2_02.04.12-9 S04	2.4.12.3 2.4.12.3.1 2.4.12.3.1.1 2.4.12.3.1.1.1 (New Subsection) 2.4.12.3.1.1.2 (New Subsection) 2.4.12.3.1.1.3 (New Subsection) 2.4.12.5	2.4-78 2.4-79 2.4-79 through 2.4-82 2.4-82 through 2.4-85 2.4-85 2.4-86 through 2.4-88	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Section was revised to reflect updates to the maximum groundwater elevation and pathways.	-
RCOL2_02.04.12-9 S04	Table 2.4.12-208 (Sheets 1, 2 of 2)	2.4-230 2.4-231	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Table was revised to reflect updates to the groundwater monitoring wells installation details.	-
RCOL2_02.04.12-9 S04	Table 2.4.12-211	2.4-239	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Table was revised to reflect updated results of the groundwater pathways analysis.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.12-9 S04	Figure 2.4.12-212	-	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Figure was revised to reflect updated results of the groundwater pathways analysis.	-
RCOL2_02.04.12-9 S04	Figure 2.4.12-213	-	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Figure was revised to reflect updated results of the groundwater pathways analysis.	-
RCOL2_02.04.12-9 S04	Figure 2.4.12-214	-	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Figure was revised to reflect updated vertical release pathway.	-
RCOL2_02.04.12-9 S04	Figure 2.4.12-215	-	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Figure was updated to show comparison between pre and post construction surface topography.	-
RCOL2_02.04.12-9 S04	Figure 2.4.12-216	-	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Figure was added to show cut and engineered fill buildup areas.	-
RCOL2_02.04.12-9 S04	Figure 2.4.12-217	-	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Figure was updated to reflect the updated post-construction groundwater conceptual model.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.12-9 S04	Figure 2.4.12-218	-	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Figure was added showing post-construction surface topography.	-
RCOL2_02.04.12-9 S04	Figure 2.4.12-219 (Sheets 1, 2 of 2)	-	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Figure was added to show MODFLOW model grid.	-
RCOL2_02.04.12-9 S04	Figure 2.4.12-220	-	4 th Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Figure was added to reflect results of the groundwater pathways analysis.	-
RCOL2_02.04.12-12 S01	Acronyms and Abbreviations	2-ixvi	Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Section was revised to reflect new acronyms and abbreviations used in the groundwater elevation and pathways analysis description.	-
RCOL2_02.04.12-12 S01	2.4.12.2.4 2.4.12.5	2.4-73 through 2.4-76 2.4-86	Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Sections were updated to reflect updated groundwater well monitoring results.	-
RCOL2_02.04.12-12 S01	Table 2.4.12-209 (Sheets 1 through 3 of 3)	2.4-232 through 2.4-234	Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Table was revised to reflect updated groundwater monitoring results.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.12-12 S01	Table 2.4.12-213 (New Table)	2.4-240	Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Table was added to show average rate of rise in non-equilibrium groundwater monitoring wells.	-
RCOL2_02.04.12-12 S01	Figure 2.4.12-208	-	Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Figure was update to reflect new site layout and plot plan.	-
RCOL2_02.04.12-12 S01	Figure 2.4.12-209 (Sheets 1 through 20 of 20)	-	Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Figure was updated to reflect latest groundwater monitoring results (adding 40 more sheets)	-
RCOL2_02.04.12-12 S01	Figure 2.4.12-210 (Sheets 1 through 4 of 4)	-	Supplemental Response to RAI No. 147 Luminant Letter no.TXNB-13013 Date 4/29/2013	Figure was updated to reflect new site layout and plot plan and updated groundwater monitoring results (adding 2 more sheets)	-
CTS-01521	Table 2.0-1R (Sheet 9 of 13 [10 of 13])	2.0-10 [2.0-11]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Updated table entry to reflect revisions to Section 2.5	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.1	2.5-2	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.1.1.4	2.5-16	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.1.1.4.2	2.5-20 [2.5-21]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.1.1.4.2.3	2.5-23	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.1.1.4.3	2.5-23 [2.5-24]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.1.1.4.3.4.2	2.5-28 through 2.5-29	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.1.1.4.3.6	2.5-30	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.1.1.4.3.6.1	2.5-30 [2.5-31]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.1.1.4.3.6.1.1 through 2.5.1.1.4.3.6.1.2	2.5-31 through 2.5-40	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.1.1.4.3.6.2	2.5-40 through 2.5-41	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.1.1.4.3.7	2.5-41	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.1.1.4.3.7.1	2.5-41 through 2.5-42 [2.5-43]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.1.1.4.3.7.2	2.5-43	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.1.1.4.3.7.3	2.5-43 through 2.5-44 [2.5-45]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.1.2.5.1	2.5-55 [2.5-56]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.1.2.5.2	2.5-56	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.1.2.5.6	2.5-58 [2.5-59]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.1.2.5.10.1	2.5-60 [2.5-61]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.1.2.5.10.2.3	2.5-64 [2.5-65]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.1.2.5.10.3	2.5-64 [2.5-65]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Figure 2.5.1-213	-	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Figure was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	Figure 2.5.1-215	-	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Figure was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Figure 2.5.1-230	-	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Figure was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2	2.5-66	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.2	2.5-67 [2.5-68]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.1	2.5-68	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.1.1	2.5-68 2.5-69	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.2.1.2	2.5-69 through 2.5-71 [2.5-72 through 2.5-74]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.1.3	2.5-71 [2.5-74]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.1.3.1	2.5-72 2.5-73 [2.5-74 through 2.5-77]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.2.1.3.2	2.5-73 through 2.5-75 [2.5-77 through 2.5-80]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.2	2.5-75 through 2.5-77 [2.5-80 through 2.5-82]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.2.1	2.5-77, 2.5-78 [2.5-82 through 2.5-84]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.2.2.1.1	2.5-78, 2.5-79 [2.5-84 through 2.5-85]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.2.1.2	2.5-79, 2.5-80 [2.5-85 through 2.5-87]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.2.1.3	2.5-80 2.5-81 [2.5-87 2.5-88]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.2.2.1.4 through 2.5.2.2.2.6	2.5-81 through 2.5-84 [2.5-88 through 2.5-99]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.3	2.5-93 2.5-94 [2.5-99 through 2.5-101]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.4	2.5-94 [2.5-101]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.2.4.1	2.5-94, 2.5-95 [2.5-101 through 2.5-102]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.4.2	2.5-95, 2.5-96 [2.5-102 2.5-103]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.4.2.1	2.5-96, 2.5-97 [2.5-103 through 2.5-104]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.2.4.2.2	2.5-97 [2.5-105 2.5-105]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.4.2.2.1 through 2.5.2.4.2.3.4	2.5-97 through 2.5-113 [2.5-106 through 2.5-121]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.4.3	2.5-113, 2.5-114 [2.5-122 2.5-123]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.2.4.4	2.5-114 through 2.5-117 [2.5-123 through 2.5-127]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.5	2.5-117, 2.5-118 [2.5-127, 2.5-128]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.5.1	2.5-118, 2.5-119 [2.5-128 and 2.5-129]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.2.5.2.1	2.5-119, 2.5-120 [2.5-129 through 2.5-131]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.5.2.2	2.5-121 [2.5-131]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.5.2.3	2.5-121 through 2.5-123 [2.5-132 through 2.5-134]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.2.6.1	2.5-123 2.5-124 [2.5-134, 2.5-135]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.6.1.1	2.5-124 Through 2.5-126 [2.5-135 through 2.5-137]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.6.1.2	2.5-126 [2.5-138]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.2.6.2	2.5-127 through 2.5-129 [2.5-139 through 2.5-142]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.2.6.2 (New Subsection 2.5.2.6.3)	2.5-129 [2.5-143 through 2.5-144]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.3.1	2.5-130 2.5-131 [2.5-145] 2.5-146]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	2.5.3.2	2.5-131 Through 2.5-131 [2.5-146 2.5-147]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.3.3	2.5-134 [2.5-149]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised due to CEUS and CPNPP layout update.	1
CTS-01521	2.5.7	2.4-242 2.5-246 2.5-249 Through 2.5-252 2.5-255 2.5-256 2.5-259 [2.5-257 2.5-261, 2.5-264 through 2.5-267, 2.5-270 2.5-271, 2.5-274, 2.5-275]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Section was revised to remove unused references and due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	Table 2.5.2-201	2.5-299 through 2.5-304 [2.5-315 through 2.5-324]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-202	2.5-305 2.5-306 [2.5-325 through 2.5-328]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-203	2.5-307 2.5-308 [2.5-329 through 2.5-332]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	Table 2.5.2-204	2.5-309 [2.5-333 through 2.5-334]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-205	2.5-310 [2.5-335 through 2.5-336]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-206	2.5-311 [2.5-337 through 2.5-338]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	Table 2.5.2-207	2.5-312 2.5-313 [2.5-339 through 2.5-341]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-208	2.5-314 [2.5-342 through 2.5-343]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-209	2.5-315 [2.5-344 through 2.5-345]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	Table 2.5.2-210	2.5-316 [2.5-346 through 2.5-347]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-211	2.5-317 [2.5-348]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-212	2.5-318 [2.5-349 through 2.5-355]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	Table 2.5.2-213	2.5-319 [2.5-356 through 2.5-357]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-214	2.5-320 2.5-321 [2.5-358 through 2.5-361]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-215	2.5-322 2.5-323 [2.5-362 through 2.5-365]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	Table 2.5.2-216	2.5-324 [2.5-366 through 2.5-368]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-217	2.5-325 [2.5-369 through 2.5-371]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-218	2.5-326 [2.5-372 through 2.5-374]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	Table 2.5.2-219	2.5-327 [2.5-375 through 2.5-377]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-220	2.5-328 [2.5-378]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-221	2.5-329 [2.5-379 through 2.5-381]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	Table 2.5.2-222	2.5-330 [2.5-382]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Table 2.5.2-223	2.5-331 [2.5-383 through 2.5-385]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Table was revised due to CEUS and CPNPP layout update.	1
CTS-01521	Tables 2.5.2-224 through 2.5.2-237	2.5-332 through 2.5-351 [2.5-386 through 2.5-405]	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Tables were deleted due to CEUS and CPNPP layout update.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01521	<p>Figures 2.5.2-201 through 259</p> <p>New Figures 2.5.2-260 through 277</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Figures are located in UTR files 2, 3, and 4 of 4.</p> </div>	-	To reflect plant layout changes and inclusion of EPRI-CEUS Seismic Catalog, as described in both the Luminant ISCP Letter ML12268A41 and Fukushima RAI 261 response ML12207A599.	Figures were revised due to CEUS and CPNPP layout update.	1
RCOL2_02.04.02-2 S03	Table 2.0-1R (Sheet 8 of 13)	2.0-9	3 rd Supplemental Response to RAI No. 139 Luminant Letter no.TXNB-13016 Date 5/13/2013	Table revised to update maximum flood level.	-
RCOL2_02.04.02-2 S03	<p>2.4.2.1</p> <p>2.4.2.2</p> <p>2.4.2.3</p>	<p>2.4-18</p> <p>2.4-18 through 2.4-20</p> <p>2.4-21 through 2.4-25</p>	3 rd Supplemental Response to RAI No. 139 Luminant Letter no.TXNB-13016 Date 5/13/2013	Section revised to update probable maximum precipitation (PMP), probable maximum flood (PMF), and two year coincident wind wave elevation and its effects.	-
RCOL2_02.04.02-2 S03	<p>2.4.3</p> <p>2.4.3.1</p> <p>2.4.3.3</p> <p>2.4.3.4</p> <p>2.4.3.5</p> <p>2.4.3.6</p>	<p>2.4-26</p> <p>2.4-27 2.4-28</p> <p>2.4-29 through 2.4-31</p> <p>2.4-31 2.4-32</p> <p>2.4-32</p> <p>2.4-33</p>	3 rd Supplemental Response to RAI No. 139 Luminant Letter no.TXNB-13016 Date 5/13/2013	Section revised to update water elevation values and regulation guidelines referenced.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.02-2 S03	2.4.4.1	2.4-44 through 2.4-50	3 rd Supplemental Response to RAI No. 139 Luminant Letter no.TXNB-13016 Date 5/13/2013	Section revised to update breach flow values and overtopping elevation	-
	2.4.4.3	2.4-51 2.4-52			
RCOL2_02.04.02-2 S03	2.4.5	2.4-53	3 rd Supplemental Response to RAI No. 139 Luminant Letter no.TXNB-13016 Date 5/13/2013	Section revised to update PMF, maximum flood level, and elevation reference.	-
	2.4.7	2.4-57			
	2.4.10	2.4-61			
	2.4.14	2.4-122			
	2.4.16	2.4-127 2.4-132			
RCOL2_02.04.02-2 S03	Table 2.4.2-205	2.4-157	3 rd Supplemental Response to RAI No. 139 Luminant Letter no.TXNB-13016 Date 5/13/2013	Tables have been revised to update PMP values, runoff values, surface water elevations, supercritical velocities.	-
	Table 2.4.2-206	2.4-158			
	Table 2.4.2-207 (Sheets 1, 2 of 2)	2.4-159 2.4-160			
	Table 2.4.2-208	2.4-161			
	Table 2.4.2-209	2.4-162			
RCOL2_02.04.02-2 S03	Table 2.4.3-201	2.4-163	3 rd Supplemental Response to RAI No. 139 Luminant Letter no.TXNB-13016 Date 5/13/2013	Tables have been revised to update watershed PMP values, watershed subbasin characteristics, and Snyder's unit hydrograph characteristics.	-
	Table 2.4.3-202	2.4-164			
	Table 2.4.3-203 (Sheets 1 through 3 of 3)	2.4-165 through 2.4-167			
	Table 2.4.3-204	2.4-168			
	Table 2.4.3-205 (Sheets 1 through 3 of 3)	2.4-169 through			

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
	Table 2.4.3-207 Table 2.4.3-208 Table 2.4.3-209 Table 2.4.3-210	2.4-171 2.4-173 2.4-174 2.4-175 2.4-176			
RCOL2_02.04.02-2 S03	(New tables) Table 2.4.3-211 Table 2.4.3-212 Table 2.4.3-213 Table 2.4.3-214 Table 2.4.3-215	2.4-176	3 rd Supplemental Response to RAI No. 139 Luminant Letter no.TXNB-13016 Date 5/13/2013	Tables have been added providing: watershed hourly PMP estimates for the four basins and SCR watershed hourly PMP estimates.	-
RCOL2_02.04.02-2 S03	Figure 2.4.2-202 Figure 2.4.2-203 Figure 2.4.2-204 Figure 2.4.2-205 Figure 2.4.2-206 Figure 2.4.2-207	-	3 rd Supplemental Response to RAI No. 139 Luminant Letter no.TXNB-13016 Date 5/13/2013	Figures revised to reflect: latest site grading and drainage plan, update supercritical flow locations, and update PMP depth curves. Figures 2.4.2-205 has been deleted.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.02-2 S03	Figure 2.4.3-202 Figure 2.4.3-203 Figure 2.4.3-204 Figure 2.4.3-205 Figure 2.4.3-207 Figure 2.4.3-208 Figure 2.4.3-209	-	3 rd Supplemental Response to RAI No. 139 Luminant Letter no.TXNB-13016 Date 5/13/2013	Figures were revised to include storm centers, update the sub-basin schematic, update PMF flow and elevation hydrographs, and critical fetch length. Figures 2.4.3-203 and 2.4.3-204 were deleted.	-
RCOL2_02.04.02-2 S03	Figure 2.4.3-211 Figure 2.4.3-212 Figure 2.4.3-213 Figure 2.4.3-214 Figure 2.4.3-215 Figure 2.4.3-216 Figure 2.4.3-217	-	3 rd Supplemental Response to RAI No. 139 Luminant Letter no.TXNB-13016 Date 5/13/2013	Figures have been revised to update Snyder's unit hydrographs for basins 1-4. Figures 2.4.3-211 and 2.4.3-212 have been deleted.	-
RCOL2_02.04.02-2 S03	Figure 2.4.3-219 Figure 2.4.3-220 Figure 2.4.3-221	-	3 rd Supplemental Response to RAI No. 139 Luminant Letter no.TXNB-13016 Date 5/13/2013	Figures have been added showing overall watershed two-thirds temporal distribution for Basins 1-4.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
	Figure 2.4.3-222 Figure 2.4.3-223				
RCOL2_02.04.02-2 S03	Figure 2.4.4-203	-	3 rd Supplemental Response to RAI No. 139 Luminant Letter no.TXNB-13016 Date 5/13/2013	Figure revised to update water surface elevation at Brazos River.	-
RCOL2_02.04.13-5 S02	Acronyms and Abbreviations	2-ix	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Revised to add the Acronyms: contaminated zone (CZ) and Effluent Concentration Limits (ECL)	-
RCOL2_02.04.13-5 S02	2.4.13	2.4-89	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Section revised to include conceptual vertical movement of groundwater to the nearest surfacewater body and aquifer.	-
RCOL2_02.04.13-5 S02	2.4.13.1	2.4-89 2.4-90 2.4-91 2.4-92	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Section revised to correct editorial errors and remove unnecessary acronyms.	-
CTS-01535	2.4.13.1	2.4-91	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Removed unnecessary abbreviation "(NE)" from second sentence of first paragraph.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01536	2.4.13.1	2.4-91	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Revised text to reflect change in Figure number from 2.4.12-207 to 2.4.12-208 in third paragraph.	-
RCOL2_02.04.13-5 S02	2.4.13.2	2.4-92 through 2.4-94	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Section revised to describe the two pathways (vertical & horizontal) that were considered in the postulated tank failure evaluated using RESRAD-OFFSITE.	-
RCOL2_02.04.13-5 S02	2.4.13.3 2.4.13.4 2.4.13.4.1	2.4-94 2.4-95 2.4-95 2.4-96 2.4-96 2.4-97	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Subsections were deleted and topics included in these sections were incorporated into 2.4.13.2	-
RCOL2_02.04.13-5 S02	2.4.13.4.2	2.4-97 through 2.4-103 2.4-103 through 2.4-107	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Subsections were deleted and topics included in these sections were incorporated into 2.4.13.2	-
RCOL2_02.04.13-5 S02	2.4.13.2.1 2.4.13.2.1.1 2.4.13.2.1.2 2.4.13.2.2 (New sections)	2.4-103	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Section added to describe the shortest and fastest horizontal flow paths and the vertical flow path.	-
RCOL2_02.04.13-5 S02	2.4.13.5 2.4.13.5.1 2.4.13.5.2	2.4-107 through 2.4-111 2.4-111 2.4-112 2.4-112	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Subsections were deleted and topics included in these sections were incorporated into 2.4.13.2	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
	2.4.13.5.3 2.4.13.5.4 2.4.13.5.5 2.4.13.5.6 2.4.13.5.7	through 2.4-114 2.4-114 through 2.4-116 2.4-116 through 2.4-117 2.4-117 2.4-117 through 2.4-119 2.4-119 through 2.4-121			
RCOL2_02.04.13-5 S02	2.4.13.3 (New section)	2.4-121	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Subsection included to provide a summary of the limiting and bounding pathways chosen for releases.	-
RCOL2_02.04.13-7 S02	2.4.16	2.4-131	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Subsection was revised to remove reference 2.4-297.	-
RCOL2_02.04.13-5 S02	Table 2.4.13-202 (Sheets 1, 2 of 2)	2.4-242 2.4-243	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Table was revised to show the Radionuclide Concentrations and Unity Values for the Shortest Horizontal Flow Path Scenario.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.13-5 S02	Table 2.4.13-203	2.4-244	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Table was revised to show the Radionuclide Concentration and Unity Values for the Fastest Horizontal flow Path Scenario.	-
RCOL2_02.04.13-5 S02	Table 2.4.13-204 (Sheets 1, 2 of 2)	2.4-245 2.4-246	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Table was revised to show the Radionuclide Concentrations and Unity Values for the Vertical Flow Path Scenario.	-
RCOL2_02.04.13-5 S02	Table 2.4.13-205 (Sheets 1, 2 of 2)	2.4-247 2.4-248	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Table was revised to show a summary of the sensitivity analyses performed.	-
RCOL2_02.04.13-5 S02	Table 2.4.13-206 (Sheets 1, 2 of 2)	2.4-249 2.4-250	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Table was deleted.	-
RCOL2_02.04.13-5 S02	Table 2.4.13-207 (Sheets 1, 2 of 2)	2.4-251 2.4-252	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Table was deleted.	-
RCOL2_02.04.13-5 S02	Table 2.4.13-208 (Sheets 1, 2 of 2)	2.4-253 2.4-254	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Table was deleted.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.13-5 S02	Table 2.4.13-209 (Sheets 1, 2 of 2)	2.4-255 2.4-256	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Table was deleted.	-
RCOL2_02.04.13-5 S02	Table 2.4.13-210	2.4-257	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Table was deleted.	-
RCOL2_02.04.13-5 S02	Table 2.4.13-211	2.4-258	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Table was deleted.	-
RCOL2_02.04.13-5 S02	Table 2.4.13-212	2.4-259	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Table was deleted.	-
RCOL2_02.04.13-5 S02	Figure 2.4.13-201 through Figure 2.4.13-207	-	2 nd Supplemental Response to RAI No. 145 Luminant Letter no.TXNB-13018 Date 5/28/2013	Figure 2.4.13-201 was revised to update the release locations for the BAT and Horizontal Flow Paths (Fastest & Shortest). Figures 2.4.13-202 through 2.4.13-207 were deleted.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01532	Table 2.0-1R (Sheet 1, 2, 8,9,10 of 13) 2.3.1.2 2.4.2 2.4.2.2 2.4.3 2.5.2	2.0-2 2.0-3 2.0-9 2.0-10 [2.0-11] 2.3-9 2.4-17 2.4-20 2.4-26 [2.4-27] 2.5-66	To address site-specific strategies to mitigate beyond design basis external events per guidance in NRC Order EA-12-049, the DCD added a new COL item (COL 1.9(2)-1) which resulted in an impact to FSAR Ch. 2.	The applicable portions of FSAR Ch. 2 were updated to incorporate COL 1.9(2)-1 and address beyond design basis external events per guidance in NRC Order EA 12-049.	2
CTS-01542	2.4.3	2.4-26 [2.4-27]	Editorial correction	Corrected 749.09ft to 794.09ft.	2

*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

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**Table 2.0-1R (Sheet 1 of 13)
Key Site Parameters**

Meteorology			
	Parameter Description	Parameter Value	
		DCD	CPNPP 3 and 4
CP COL 2.3(1)	Normal winter precipitation roof load ⁽¹¹⁾	50 lb/ft ²	11.7 lb/ft ²
	Extreme winter precipitation roof load ⁽¹²⁾	75 lb/ft ²	37.8 lb/ft ²
	48-hr probable maximum winter precipitation (PMWP)	36 in	31 in
<u>CP COL 1.9(2)-1</u>	Tornado maximum wind speed	230 mph	230 mph
		184 mph maximum rotational	184 mph maximum rotational
		46 mph maximum translational	46 mph maximum translational
	Radius of maximum rotational speed	150 ft	150 ft
	Rate of Pressure drop	0.5 psi/s	0.5 psi/s
	Tornado maximum pressure drop	1.2 psi	1.2 psi
<u>CP COL 1.9(2)-1</u>	Tornado-generated missile spectrum and associated velocities	15 ft long schedule 40 steel pipe moving horizontally at 135 ft/s ⁽¹⁾	15 ft long schedule 40 steel pipe moving horizontally at 135 ft/s ⁽¹⁾
		4000 lb automobile moving horizontally at 135 ft/s ⁽¹⁾	4000 lb automobile moving horizontally at 135 ft/s ⁽¹⁾
		1 in diameter steel sphere moving horizontally at 26 ft/s ⁽¹⁾	1 in diameter steel sphere moving horizontally at 26 ft/s ⁽¹⁾
<u>CP COL 1.9(2)-1</u>	Extreme wind speed (other than in tornado_ and hurricane)	155 mph for 3-second gusts at 33 ft aboveground level based on 100-year return period, with importance factor of 1.15 for seismic category I and II structures	96 mph for 3-second gust wind speed at 33-ft aboveground based on 100-year return period

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**Table 2.0-1R (Sheet 2 of 13)
Key Site Parameters**

CP COL 1.9(2)-1	<u>Design-basis hurricane wind</u>	<u>160 mph for 3-second gusts at 33 ft. above ground level which corresponds to the exceedance frequency of 10⁻⁷ per year</u>	<u>145 mph for 3-second gusts at 33 ft. above ground level which corresponds to the exceedance frequency of 10⁻⁷ per year</u>	RCOL2_0 3.03.02-9 CTS-01532
CP COL 1.9(2)-1	<u>Hurricane-generated missile spectrum and associated velocities</u>	<u>15 ft. long Schedule 40 pipe moving horizontally at 102 ft/s or vertically at 85 ft/s</u>	<u>15 ft. long Schedule 40 pipe moving horizontally at 85 ft/s or vertically at 85 ft/s</u>	RCOL2_0 3.03.02-9 CTS-01532
<u>4000 lb automobile moving horizontally at 135 ft/s or vertically at 85 ft/s</u>		<u>4000 lb automobile moving horizontally at 114 ft/s or vertically at 85 ft/s</u>	RCOL2_0 3.03.02-9	
<u>1 in. diameter steel sphere moving horizontally at 89 ft/s or vertically at 85 ft/s</u>		<u>1 in. diameter steel sphere moving horizontally at 73 ft/s or vertically at 85 ft/s</u>	RCOL2_0 3.03.02-9	
CP COL 2.3(1)	Ambient design air temperature	1% annual exceedance maximum: 100°F dry bulb, 77°F coincident wet bulb, 81°F non-coincident wet bulb	1% annual exceedance maximum: 99°F dry bulb, 75°F coincident wet bulb, 78°F non-coincident wet bulb	
		0% exceedance maximum: 115°F dry bulb, 80°F coincident wet bulb, 86°F non-coincident wet bulb, historical limit excluding peaks <2 hr	0% exceedance maximum: 112°F dry bulb, 78°F coincident wet bulb, 83°F non-coincident wet bulb, historical limit excluding peaks <2 hr 100-year return period maximum: 115°F dry bulb, 78°F coincident wet bulb 86°F non-coincident wet bulb	

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**Table 2.0-1R (Sheet 8 of 13)
Key Site Parameters**

CP COL 2.3(2)	<p>Steam line break releases⁽⁸⁾</p> <p>0-8 hrs 8-24 hrs 1-4 days 4-30 days</p>	<p>1.9×10^{-2} s/m³ 1.1×10^{-2} s/m³ 7.1×10^{-3} s/m³ 4.7×10^{-3} s/m³</p>	See steam line break releases to Main Control Room intake (above) ⁽¹³⁾
	<p>Fuel handling area releases⁽⁷⁾</p> <p>0-8 hrs 8-24 hrs 1-4 days 4-30 days</p>	<p>1.1×10^{-3} s/m³ 6.7×10^{-4} s/m³ 4.3×10^{-4} s/m³ 2.8×10^{-4} s/m³</p>	See fuel handling area releases to Main Control Room intake (above) ⁽¹³⁾
Hydrologic Engineering			
CP COL 2.4(1)	Parameter Description	Parameter Value	
		DCD	CPNPP 3 and 4
<u>CP COL 1.9(2)-1</u>	Maximum flood (or tsunami) level	1 ft below plant grade	<p>793.66 ft msl for SCR 820.98 ft msl for a Local Intense Precipitation at units-3 and 4 site. <u>CPNPP Units 3 and 4 plant grade - 822 ft NAVD 88</u> <u>Local Intense Precipitation - 820.93 ft NAVD 88</u> <u>PMF with coincident wind waves - 811.09 ft NAVD 88</u> <u>PMF - 794.09 ft NAVD 88</u> PMF with coincident wind waves - 811.09 ft NAVD 88 Local Intense Precipitation - 820.93 ft NAVD 88 <u>PMF with coincident domino-type dam failure - 768.69 ft NAVD88</u></p>

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**Table 2.0-1R (Sheet 9 of 13)
Key Site Parameters**

CP COL 1.9(2)-1	Maximum rainfall rate (hourly)	19.4 in/hr for seismic category I and II structures	19.01 in/hr	CTS-01532
CP COL 1.9(2)-1	Maximum rainfall rate (short-term)	6.3 in/5 min for seismic category I and II structures	6.23 in/5 min	CTS-01532
CP COL 1.9(2)-1	Maximum groundwater level	1 ft below plant grade	1 ft below plant grade 804 ft msl between the internal ESWPT walls and R/B Complex 795 ft msl for portions adjacent to ESWPC 795 ft msl for areas external to ESWPT, including external ESWPT walls, Turbine Building, PSFSV, and UHSRS	RCOL2_02.04.12-9 S04 CTS-01532
Geology, Seismology, and Geotechnical Engineering				
CP COL 2.5(1)	Parameter Description	Parameter Value		
		DCD	CPNPP 3 and 4	
	Maximum slope for foundation-bearing stratum	20° from horizontal in untruncated strata	Layer C slopes at less than 10 degree across the footprint and the site area.	
	Safe-shutdown earthquake (SSE) ground motion	0.3 g peak ground acceleration	The SSE is the envelope of the GMRS and the minimum earthquake requirement of 10 CFR 50 Appendix S, based on the shape of the Certified Site Design Response Spectra (CSDRS) scaled down to a PGA of 0.1 g. The CSDRS is itself a modified RG 1.60 shape formed by shifting the control points at 9 Hz and 33 Hz to 12 Hz and 50 Hz, respectively.	

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**Table 2.0-1R (Sheet 10 of 13)
Key Site Parameters**

CP COL 1.9(2)-1

SSE (certified seismic design) horizontal ground response spectra	Regulatory Guide (RG) 1.60, enhanced spectra in high frequency range (see Figure 3.7.1-1)	The minimum DCD spectrum envelopes all four FIRS, down to frequencies of 0.5 Hz. Values of the horizontal 10^{-5} UHRS and FIRS are shown in Table 2.5.2-220 for the seven spectral frequencies. The DCD spectrum envelopes all FIRS down to frequencies of 0.5 Hz. Values of the horizontal 10^{-4} mean UHRS, 10^{-5} mean UHRS (both at GMRS/FIRS1/FIRS2 control elevations), and GMRS/FIRS1/FIRS2 are in Table 2.5.2-220 for seven spectral frequencies. Values for remaining FIRS are in Table 2.5.2-222.
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CP COL 1.9(2)-1

SSE (certified seismic design) vertical ground response spectra	RG 1.60, enhanced spectra in high frequency range (see Figure 3.7.1-2)	For vertical FIRS motions, the same considerations used for the GMRS were used for the FIRS. That is, as a conservative assumption the V/H ratio for the FIRS spectra is assumed to be equal to the V/H ratio from RG 1.60.
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CP COL 2.5(1)

Potential for surface tectonic deformation at site	None within the exclusion area boundary	No potential tectonic surface deformation has been identified at the site.
Subsurface stability – minimum allowable static bearing capacity	15,000 lb/ft ²	The minimum allowable bearing capacity of the foundation bearing stratum meets or exceeds the DCD requirement
Subsurface stability – minimum allowable dynamic bearing capacity, normal conditions plus SSE	60,000 lb/ft ²	The minimum allowable dynamic bearing capacity of the foundation bearing stratum meets or exceeds the DCD requirement
Subsurface stability – minimum shear wave velocity at SSE input at ground surface	1000 ft/s	The site stratigraphy has a measured velocity in excess of 1000 ft/sec

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and Caribbean Sea. Hurricanes strike the Texas coast an average of one every three yr. Inland, hurricanes cause damage due to high winds, including tornadoes, and flooding from excessive rainfall. Persons along the coast must also contend with storm tides ([Reference 2.3-202](#)).

Although tornadoes can occur anytime, most of them materialize during April, May, and June. In a normal year, about 130 tornadoes are sighted in Texas, 30 percent of which occur in May. On average, about 200 people are hurt and a dozen are killed annually by the tornadoes. Tornadoes are most likely to occur along and south of the Red River between Lubbock and Dallas; they are least likely in the Trans-Pecos. Thunderstorms occur in every month of the year, though least in winter. With an average of sixty thunderstorm days a year, East Texas is most susceptible to the severe localized phenomena fostered by the storm (hail, high winds, flash flooding). The mean annual number of thunderstorm days diminishes from east to west across Texas; the Trans-Pecos has only about forty such days each year. The lower Valley has fewer still (thirty). The peak hail frequency statewide is in May. Most hailstorms are short-lived, however, because the macroscale weather systems (such as squall lines) that generate hail move rapidly. Hailstones are usually largest in the High Plains, where hail the size of tennis balls-even baseballs-is not uncommon in the summer. Sunshine is most abundant in the extreme west, where El Paso receives an average of 80 percent of the total possible sunshine annually. Cloud cover is most prevalent along the coast, especially in the Upper Coast, where the mean annual sunshine amounts to only about 60 percent of possible sunshine hours ([Reference 2.3-202](#)).

Weather stations in the region surrounding the CPNPP site are shown on [Figure 2.3-207](#). The closest weather stations to the CPNPP site are: Dublin, Glen Rose, Cleburne, Benbrook, Dallas Fort Worth Airport, Dallas Love Field Airport, Mineral Wells Airport, Weatherford, and Stephenville. Based on data for the period 1971 – 2000 for Dallas Fort Worth Airport, Dallas Love Field Airport, Mineral Wells Airport, and Glen Rose the mean daily maximum temperature is 77.6°F and the mean daily minimum temperature is 54°F. The lowest daily minimum is -15°F and the highest daily maximum temperature is 115°F. The annual average precipitation is 34.6 in. Monthly data from these stations are given in [Tables 2.3-202](#) through [2.3-205](#). From data collected at the Dallas Fort Worth Airport, the Mineral Wells Airport, and the CPNPP site the typical wind direction for the region is from 147 degrees ([Figures 2.3-208](#) through [2.3-210](#)), the average wind speed is 10.5 mph. The frequency of snowfall in this region is so low that the average annual snowfall is near zero. The frequency of sleet and freezing rain is discussed in the following sections along with the regional dewpoint/relative humidity.

[CP COL 1.9\(2\)-1](#)

2.3.1.2 Regional Meteorological Conditions for Design and Operating Bases | [CTS-01532](#)

2.3.1.2.1 General

Meteorological data are presented in this subsection for severe weather phenomena such as hurricanes, tornadoes, thunderstorms, lightning, hail, high air

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CP COL 1.9(2)-1

2.4.2 Floods

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CP COL 2.4(1) Add the following at the end of **DCD Subsection 2.4.2**.

2.4.2.1 Flood History

Floods in Texas typically are associated with thunderstorms during the summer and hurricanes and tropical storms in the late summer through early fall. (Reference 2.4-228) Historical flooding in the Brazos River watershed above the site has been a result of precipitation runoff. There are no known historical floods due to dam failures, surges, seiches, tsunamis, ice jams, or landslides. Dam failures are discussed in Subsection 2.4.4. Surge and seiches are discussed in Subsection 2.4.5. Tsunamis are discussed in Subsection 2.4.6. Ice effects are discussed in Subsection 2.4.7. Landslides are discussed in Subsection 2.4.9. The maximum recorded water surface elevation associated with floods of record for all rivers and streams in the vicinity are significantly lower than the Comanche Peak Nuclear Power Plant (CPNPP) Units 3 and 4 site grade as discussed below.

The greatest known flood of the Brazos River occurred in 1876 prior to any monitoring. Therefore, quantitative data for this event do not exist (Reference 2.4-214). The USGS gage (08091000) on the Brazos River nearest to the site is located near Glen Rose, Texas just upstream of the confluence with the Paluxy River. Although there are no flood control dams upstream of the gage on the Brazos River, the gage is subject to regulation by Morris Sheppard Dam, completed in 1941 and impounding Possum Kingdom Lake, and De Cordova Bend Dam, completed in 1969 and impounding Lake Granbury. (Reference 2.4-222) The gage drainage area is 25,818 sq mi. The contributing drainage area of the gage is 16,252 sq mi (Reference 2.4-224) and the gage location is shown in Figure 2.4.2-201.

The peak flow measurement period of record for the gage 08091000 is from 1923 to the present. The maximum recorded water surface elevation of 603.58 ft msl occurred on April 28, 1990 and corresponded to a discharge of 79,800 cfs. The discharge was exceeded in 1991, 1981, 1957, and 1935. However, the recorded water surface elevations were less than the flood elevation occurring in 1990. The maximum recorded discharge of 97,600 cfs occurred on May 18, 1935 (Reference 2.4-224). The annual peak stage and discharge measurements for the period of record are provided in Table 2.4.2-201. The datum for USGS gage (08091000) is reported in North American Datum 1927 (NAD27) and National Geodetic Vertical Datum of 1929 (NGVD29).

The Paluxy River is a tributary of the Brazos River. A USGS gage (08091500) is located upstream of the confluence with the Squaw Creek tributary near Glen Rose, Texas. The gage drainage area is 410 sq mi (Reference 2.4-225) and the gage location is shown in Figure 2.4.2-201. The peak flow measurement period of record for the gage contains periodic measurements in 1908, 1918, and 1922 and is continuous from 1948 to the present. (Reference 2.4-220) The maximum recorded water surface elevation of 636.86 ft msl occurred on April 17, 1908 and

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the analysis. Runup is evaluated for slopes from 10:1 to vertical. Datum conversion is accounted for in the comparison to the site grade.

The summary results of the events evaluated to determine the worst potential flood are provided as follows:

- Probable maximum precipitation (PMP) on the total watershed and critical sub-watersheds, including seasonal variations and potential consequent dam failures, with a corresponding water surface elevation of ~~793.66 ft msl~~ 794.09 ft NAVD 88 (discussed in Subsection 2.4.3). RCOL2_02.0
4.02-2 S03
- Dam failures, including a postulated domino-type failures of three upstream dams coincident with the Probable Maximum Flood (PMF), with a corresponding water surface level of ~~760.68 ft msl~~ 768.69 ft NAVD 88 (discussed in Subsection 2.4.4). RCOL2_02.0
4.02-2 S03
- Two year coincident wind waves with a corresponding water surface level of ~~840.64 ft msl~~ 811.09 ft NAVD 88 (discussed in **Subsection 2.4.3**). RCOL2_02.0
4.02-2 S03

Specific analysis of Brazos River flood levels resulting from ocean front surges, seiches, and tsunamis is not required because of the inland location and elevation characteristics of the CPNPP site. Additional details are provided in **Subsections 2.4.5** and **2.4.6**. Snowmelt and ice effect considerations are unnecessary because of the temperate zone location of CPNPP. Additional details are provided in **Subsection 2.4.3** and **Subsection 2.4.7**. Flood waves from landslides into reservoirs required no specific analysis, in part because of the absence of major elevation relief. In addition, elevation characteristics of the vicinity relative to the associated water features, combined with limited slide volumes prohibit significant landslide induced flood waves. Additional details are provided in **Subsection 2.4.9**.

The maximum ~~flood level~~ water surface elevation at CPNPP Units 3 and 4 due to PMF is elevation ~~793.66 ft msl~~ 794.09 ft NAVD 88. This elevation would result from a PMP at CPNPP Units 3 and 4 on the Squaw Creek watershed, as described in **Subsection 2.4.3**. Coincident wind waves would create maximum waves of ~~16.98~~ 17 ft resulting in a design basis flood elevation of ~~840.64 ft msl~~ 811.09 ft NAVD 88 due to PMF. CPNPP Units 3 and 4 safety-related plant elevation is 822 ft ~~msl~~ NAVD 88, providing more than 10 ~~4~~ ft of freeboard ~~under the worst potential flood considerations~~. RCOL2_02.0
4.02-2 S03

RCOL2_02.0
4.02-2 S03

The maximum water surface elevation at CPNPP Units 3 and 4 due to local intense precipitation is 820.93 ft NAVD 88. This elevation would result from a local intense PMP, as described in Subsection 2.4.2.3. The design basis flood elevation due to local intense precipitation is 820.93 ft NAVD 88, providing more than 1 ft of freeboard relative to the grade elevation of 822 ft NAVD 88. The identification of critical flooding events in Subsection 2.4.2 and the detailed discussions in Subsection 2.4.3 include considerable conservatism. As a result, the design basis flood elevation of 821 ft NAVD 88 also meets the intent for the maximum water surface elevation for the beyond-design-basis flood level. CTS-01532

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CP COL 1.9(2)-1 **2.4.3 Probable Maximum Flood (PMF) on Streams and Rivers** | CTS-01532

CP COL 2.4(1) Add the following at the end of **DCD Subsection 2.4.3**.

The guidance in Appendix A of the U.S. Nuclear Regulatory Commission (NRC) Regulatory Guide 1.59 and in NUREG/CR-7046 was followed in determining the probable maximum flood (PMF) by applying the guidance of ANSI/ANS-2.8-1992 (**Reference 2.4-229**). ANSI/ANS-2.8-1992 was issued to supersede ANSI N170-1976, which is referred to by Regulatory Guide 1.59 and NUREG/CR-7046. ~~ANSI/ANS-2.8-1992 is the latest available standard.~~ | RCOL2_02.0
4.02-2 S03

The PMF was determined for the Squaw Creek watershed and routed through the SCR to determine a water surface elevation of ~~793.66 ft msl~~ 749.09 ft NAVD 88. The PMF for the Paluxy River watershed at the confluence with the Brazos River was also examined. The PMF for the Paluxy River and the Squaw Creek watersheds was combined with the Brazos River dam failure flood flow to determine any backwater effects that may affect the site. The Brazos River dam failure flood flow is described in **Subsection 2.4.4** and includes the PMF for the Brazos River. The resulting water surface elevation downstream of the Squaw Creek Dam is ~~764.11 ft msl~~ 769.11 ft NAVD 88. | RCOL2_02.0
4.02-2 S03
CTS-01542

The CPNPP Units 3 and 4 safety-related facilities are located at elevation 822 ft ~~msl~~ NAVD 88. Therefore, PMF on rivers and streams does not present any potential hazards for CPNPP Units 3 and 4 safety-related facilities. | RCOL2_02.0
4.02-2 S03

2.4.3.1 Probable Maximum Precipitation

The PMP is defined by HMR 51 (**Reference 2.4-218**) and HMR 52 (**Reference 2.4-219**). HMR 53 (**Reference 2.4-230**) may be used to derive seasonal estimates of the PMP. The PMP was determined for the Squaw Creek watershed and the combined Squaw Creek and Paluxy River watersheds to maximize the effects of flooding downstream of the SCR. Using the location of the watersheds, HMR 51 PMP charts are used to determine generalized estimates of the all-season PMP for drainage areas from 10 to 20,000 sq mi for durations from 6 to 72 hr. The resulting depth-area-duration (DAD) values are shown in **Table 2.4.3-201**.

HMR 52 is used to determine the aerial distribution of PMP estimates derived from HMR 51. The recommended elliptical isohyetal pattern from HMR 52, shown in **Figure 2.4.3-201**, is used for the watersheds. The watershed model, combining both watersheds, contains 4 subbasins and is shown in **Figure 2.4.3-202**. The watershed model is discussed in detail in **Subsection 2.4.3.3**.

HMR 52 computer software (**Reference 2.4-231**), developed by USACE, is used to determine the optimum storm size and orientation to produce the greatest PMP over the watersheds using the HMR 51 derived DAD table. Several storm centers were examined for each watershed to determine the critical storm center.

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CP COL 1.9(2)-1

2.5.2 Vibratory Ground Motion

CTS-01532

CP SUP2.5(2) Add the following after the content of **DCD Section 2.5.2**.

This subsection provides a detailed description of vibratory ground motion assessments, specifically the criteria and methodology for establishing the Ground Motion Response Spectra (GMRS) and Foundation Input Response Spectra (FIRS) for the Comanche Peak Nuclear Power Plant Units 3 and 4 (CPNPP Units 3 and 4). It includes the information needed to address DCD COL Item 2.5(1), which is incorporated by reference with the following variances and supplements. The development of the GMRS for CPNPP Units 3 and 4 follows a methodology consistent with the approach recommended in Regulatory Guide (RG) 1.208 and, therefore, satisfies the requirements set forth in Section 100.23, "Geologic and Seismic Siting Criteria," of Title 10, Part 100, of the Code of Federal Regulations (10 CFR 100), "Reactor Site Criteria." This subsection begins with a review of the approach outlined in RG 1.208 and is followed by these subsections:

CTS-01521

- Seismicity (**Subsection 2.5.2.1**)
- Geologic and Tectonic Characteristics of the Site and Region (**Subsection 2.5.2.2**)
- Correlation of Earthquake Activity with Seismic Sources (**Subsection 2.5.2.3**)
- PSHA and Controlling Earthquake (**Subsection 2.5.2.4**)
- Seismic Wave Transmission Characteristics of the Site (**Subsection 2.5.2.5**)
- Ground Motion and Site Response Analysis (**Subsection 2.5.2.6**).

RG 1.208 provides guidance on methods acceptable by the Nuclear Regulatory Commission (**Reference 2.5-369**) for satisfying the requirements of developing the site-specific GMRS, which in turn represents the first step in developing the Safe Shutdown Earthquake (SSE) ground motion levels as a characterization of the seismic hazard at CPNPP Units 3 and 4. The process outlined in RG 1.208 for determining the GMRS includes:

- The geological, geophysical, seismological, and geotechnical investigations of the site and site region, including the identification of seismic sources significant to seismic hazard at the site.
- The procedures for performing a Probabilistic Seismic Hazard Analysis (PSHA) and deaggregating mean hazard.
- Characterization of the seismic wave transmission characteristics of the site.

Chapter 3

Chapter 3 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.0 9.06-22 S01	3.9.6	3.9-2 [3.9-2, 3.9-3]	Supplemental Response to RAI No. 244 Luminant Letter no.TXNB-12021 Date 6/13/2012	Deleted references to NUREG-1482 Rev. 2.	-
	3.9.10	3.9-6			
RCOL2_14.03.07-38	3.8.4.1.3.2	3.8-6	Response to RAI No. 254 Luminant Letter no.TXNB-12022 Date 6/21/2012	Clarified design criteria.	-
RCOL2_09.02.05-25 S01	3.6.1.3	3.6-1	Supplemental 01 Response to RAI No. 252 Luminant Letter no.TXNB-12031 Date 09/10/2012	Added Table for site-specific high and moderate energy fluid systems.	-
	3.6.4	3.6-2			
	Table 3.6-201	3.6-3			
RCOL2_03.03.02-9	3.3	3.3-1	Response to RAI No. 250 Luminant Letter no.TXNB-12032 Date 09/14/2012	Revised to incorporate RG 1.221.	-
	3.3.2.1 (New Subsection)	3.3-2, 3.3-3			
	3.3.2.2.1 (New Subsection)				
	3.3.2.2.4				
	3.3.2.3				
	3.3.3				
	3.5.1.4 (New Subsection)	3.3-3 [3.3-4]			
	3.5.1.5	3.5-3			
	3.5.2	3.5-3 [3.5-4]			
	3.5.4				
3.7.3.9	3.5-5 [3.5-6]				
3.8.4.1.3.1	3.7-11				
3.8.4.1.3.2	3.8-4				

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
	3.8.4.4.3.2 Table 3.8-203 3.12.5.3.6 3.12.7 3LL.2	3.8-5 3.8-6 [3.8-5 through 3.8-7] 3.8-11 [3.8-11, 3.8-12] 3.8-21 3.12-1 3.12-2 3LL-1			
RCOL2_14.0 3.07-38 S01	Table 3.2-201 (Sheets 2, 3 of 3)	3.2-4 3.2-5	Supplemental Response to RAI No. 254 Luminant Letter no.TXNB-12034 Date 09/24/2012	Following SSCs for freeze protection are added to the table: - Drain lines from ESWS piping - ESW piping room unit heaters - UHS transfer piping room unit heaters	-
RCOL2_14.0 3.07-38 S01	Table 3D-201 (Sheets 4 through 11 of 11)	3D-5 through 3D-12	Supplemental Response to RAI No. 254 Luminant Letter no.TXNB-12034 Date 09/24/2012	Following SSCs for freeze protection are added to the table. - ESW piping room unit heaters - UHS transfer piping room unit heaters	-
RCOL2_03.06.01-1	3.6.1.3	3.6-1 [3.6-1 through 3.6-2]	Response to RAI No. 262 Luminant Letter no.TXNB-12035 Date 9/26/2012	Revised COL 3.6(1).	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.06.01-1	3.6.2.1	3.6-2 [3.6-3]	Response to RAI No. 262 Luminant Letter no.TXNB-12035 Date 9/26/2012	Revised COL 3.6(4).	-
RCOL2_09.05.04-1	3.8.4.1.3.1	3.8-5	Response to RAI No. 265 Luminant Letter no.TXNB-12043 Date 12/18/2012	Description for environmental conditions of ESWPT and a temporary ventilation system are added.	-
CTS-01515	3.5.1.6	3.5-4 [3.5-5]	Consistency with DCD and site-specific changes as described in Letter. TXNB-12033 (ML12268A413)	Updated aircraft hazards evaluation to reflect changes in plant layout.	0
CTS-01512	Figure 3K-201 [Sheet 1, 2 of 2]	3K-2 [3K-3]	Consistency with DCD and site-specific changes as described in Letter. TXNB-12033 (ML12268A413)	Overall General Arrangement plan replaced with the updated version; and minor editorial correction.	0
RCOL2_03.04.01-1	3.4.1.2	3.4-1	Response to RAI No. 275 Luminant Letter no.TXNB-13019 Date 6/18/2013	Revised 3.4.1.2 to address the failure of the outside tanks.	-
CTS-01532	ACRONYMS AND ABBREVIATIONS	3-ix	Design change as described in Luminant ISCP Letter ML12268A413	The acronym for essential service water pipe chase was added.	2
CTS-01532	3.4.1.2	3.4-1	Fukushima-related COL item COL 1.9(3)	Description for the BDB external flood evaluation was added.	2

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01539	3.4.1.3	3.4-2	Design change as described in Luminant ISCP Letter ML12268A413	Description for the flooding evaluation for the site-specific structures and ESWPC was added.	2
CTS-01532	3.4.1.4	3.4-2 [3.4-3]	Fukushima-related COL item COL 1.9(3)	Description for the BDB external flood evaluation was added.	2
CTS-01532	3.4.4	3.4-3 [3.4-4]	The reference is not used any more.	Reference 3.4-201 was deleted.	2
CTS-01532	3.4.4	3.4-3 [3.4-4]	Reference by the addition of Fukushima-related description to Subsection 3.4.1.2.	Reference 3.4-202 was added.	2
CTS-01541	3.5.1.6	3.5-4 [3.5-5]	Correction	Clarified definition of A, effective area of the plant, and corrected the calculated value of N, estimated annual number of aircraft operation	2

*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

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ACRONYMS AND ABBREVIATIONS

A/B	auxiliary building
AC/B	access building
ACI	American Concrete Institute
ARS	acceleration response spectra
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
BE	best estimate
CAV	cumulative absolute velocity
CCWS	component cooling water system
CFR	Code of Federal Regulations
COL	Combined License
COLA	Combined License Application
CPNPP	Comanche Peak Nuclear Power Plant
CSDRS	certified seismic design response spectra
DBFL	design-basis flooding level
DCD	Design Control Document
EQ	environmental qualification
EQSDS	equipment qualification summary data sheet
ESF	engineered safety features
ESW	essential service water
<u>ESWPC</u>	<u>essential service water pipe chase</u>
ESWPT	essential service water pipe tunnel
ESWS	essential service water system
FE	finite element
FIRS	foundation input response spectra
FW	feedwater
GMRS	ground motion response spectra
IEEE	Institute of Electrical and Electronic Engineers
ILRT	integrated leak rate test
ISI	inservice inspection
ISRS	in-structure response spectra
IST	inservice testing
LB	lower bound
LBB	leak before break
MCR	main control room
MOV	motor operated valve
MS	main steam
N/A	not applicable
NRC	U.S. Nuclear Regulatory Commission

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01539

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3.4 WATER LEVEL (FLOOD) DESIGN

This section of the referenced DCD is incorporated by reference with the following departures and/or supplements.

3.4.1.2 Flood Protection from External Sources

~~STD~~CP COL
3.4(1)

Replace the first sentence of the third paragraph in **DCD Subsection 3.4.1.2** with the following.

RCOL2_03.0
4.01-1

Entrances to all safety-related structures are above the design-basis ~~flooding level (DBFL) listed~~ flood elevations described in **Section 2.4**, and adequate sloped site grading and drainage prevents flooding caused by probable maximum precipitation (PMP). ~~or postulated failure of non-safety-related, non-seismic storage tanks located on-site~~ Entrances to all safety-related structures are also protected from flooding due to the failure of the outside tanks (such as the condensate storage tanks, refueling water storage auxiliary tank, demineralized water storage tanks, and fire water storage tanks) by the site's grading and drainage or installed curbs.

RCOL2_03.0
4.01-1

RCOL2_03.0
4.01-1

CP COL 3.4(5)

Replace the fourth paragraph in **DCD Subsection 3.4.1.2** with the following.

No site-specific flood protection measures such as levees, seawalls, floodwalls, site bulkheads, revetments, or breakwaters are applicable at CPNPP Units 3 and 4, since the plant is built above the ~~DBFL~~ design-basis flood elevations and has adequate site grading.

CTS-01532

CP COL 1.9(3)

The beyond-design-basis (BDB) flood elevation applied to the design of the site-specific structures of CPNPP Units 3 and 4 is described in Section 2.4.2. Since the design-basis flood elevations and the BDB flood elevation are equivalent, no further flood protection measure is applied to the site-specific structures for implementation of the baseline coping strategies as specified in NEI 12-06 (Reference 3.4-202).

CTS-01532

CP COL 3.4(4)

Replace the seventh paragraph in **DCD Subsection 3.4.1.2** with the following.

All seismic Category 1 buildings and structures below-grade are protected against the effects of flooding, including ground water. This protection is achieved by providing a water barrier on all exterior below-grade concrete members. The water barrier consists of providing waterstops at all below-grade construction

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joints in the exterior wall and base mats subjected to ground water seepage, and membrane waterproofing material at all below-grade exterior wall surfaces. The foundation slab water barrier system consists of crystalline waterproofing compound applied between the base mat and fill concrete/bedrock. The compound will either be spray applied or dry-shake to the fill concrete/bedrock. A cementitious membrane coating made out of a crystalline waterproofing compound is provided on the inside face of the UHS basin outermost walls and foundation slab, including the UHS sump pit, to prevent water migration from the UHS basin into the subgrade.

STD COL 3.4(3) Replace the last sentence in the ninth paragraph in **DCD Subsection 3.4.1.2** with the following.

Site-specific potential sources of external flooding such as the cooling tower, service water piping, or circulating water piping are not located near structures containing safety-related SSCs, with the exception of piping entering plant structures. The CWS enters only within the T/B, and any postulated pipe break is prevented from back-flowing into the safety-related R/B by watertight separation. Postulated pipe breaks near structures are prevented from entering the structures by adequate sloped site grading and drainage.

3.4.1.3 Flood Protection from Internal Sources

STD COL 3.4(7) Replace the last sentence in the last paragraph of **DCD Subsection 3.4.1.3** with the following.

Three site-specific ~~safety-related~~ structures (the UHSRS, the PSFSV, the ESWPT) and the essential service water pipe chase (ESWPC) have been evaluated for internal flooding concerns: ~~the UHSRS, the ESWPT, and the PSFSV~~. Other site-specific buildings and structures in the plant yard are designated as non safety-related. By definition, their postulated failure due to internal flooding or other postulated events do not adversely affect safety-related SSCs or required safety functions.

CTS-01539

Each of these ~~three~~ structures is configured with independent compartments, divisionally separated. Internal flooding of any one compartment and corresponding division will not prevent the system from performing required safety-related functions. Postulated flooding events such as those caused by moderate energy line break (~~MELB~~) or fire suppression system activation within one division will affect that respective division only. Flooding affecting one compartment will not affect adjacent areas.

CTS-01539

CTS-01539

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3.4.1.4 Evaluation of External Flooding

STD COL 3.4(2) Replace the last sentence in the last paragraph of **DCD Subsection 3.4.1.4** with the following.

As discussed in **Section 2.4**, the site-specific ~~DBFL~~designed-basis flood elevations do not exceed the maximum flood level for the standard plant design. Therefore, there are no static and/or dynamic flooding forces beyond those considered in the standard plant design.

CTS-01532

CP COL 1.9(3) As per subsection 3.4.1.2 discussion on BDB external flooding, no further evaluation of external flooding is required for determination of appropriate actions to protect the site-specific structures from a BDB external flooding.

CTS-01532

3.4.2 Analysis Procedures

STD COL 3.4(6) Replace the last paragraph of **DCD Subsection 3.4.2** with the following.

No site-specific physical models are used to predict prototype performance of hydraulic structures and systems, since there are no unusual design or configuration or design or operating bases involving thermal and erosion problems.

3.4.3 Combined License Information

Replace the content of **DCD Subsection 3.4.3** with the following.

STD COL 3.4(1) **3.4(1)** *Site-specific design of plant grading and drainage*

*This COL item is addressed in **Subsection 3.4.1.2**.*

STD COL 3.4(2) **3.4(2)** *DBFL applicability to site*

*This COL item is addressed in **Subsection 3.4.1.4**.*

STD COL 3.4(3) **3.4(3)** *Site-specific flooding hazards from engineered features*

*This COL item is addressed in **Subsection 3.4.1.2**.*

CP COL 3.4(4) **3.4(4)** *Additional ground water protection*

*This COL item is addressed in **Subsection 3.4.1.2**.*

CP COL 3.4(5) **3.4(5)** *DBFL and site-specific conditions*

*This COL item is addressed in **Subsection 3.4.1.2**.*

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STD COL 3.4(6) **3.4(6)** *Physical models for performance of hydraulic structures and systems*

*This COL item is addressed in **Subsection 3.4.2**.*

STD COL 3.4(7) **3.4(7)** *Protection from internal flooding*
CP COL 3.4(7)

*This COL item is addressed in **Subsection 3.4.1.3** and **3K.1**.*

3.4.4 References

Add the following reference after the last reference in **DCD Subsection 3.4.4**.

3.4-201 ~~*A Guide to the Use of Waterproofing, Dampproofing, Protective, and Decorative Barrier Systems for Concrete, ACI 515.1R-79, American Concrete Institute, Revised 1985*~~ Not used.

3.4-202 *Diverse and Flexible Coping Strategies (FLEX) implementation Guide, NEI 12-06 Revision 0, August 2012.*

CTS-01532

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A = Effective area of plant in square miles (combined effective area of Units 3 and 4) | CTS-01541

In order to maintain P_{FA} less than the order of 10^{-7} for both Units 3 and 4, the above equation is rearranged to solve for N using values of C , A and w determined below:

$$N = P_{FA} / (C \times A/w) = 19,30035,30017,600 \text{ operations per year} \quad | \text{CTS-01515}$$

| CTS-01541

NUREG-0800, SRP 3.5.1.6 provides a value of $C = 4 \times 10^{-10}$ for commercial aircraft. A table within SRP 3.5.1.6 also provides values for C for various distances up to 10 statute miles from the end of the runway, and notes data are not available for military aircraft greater than 5 statute miles from the end of runway. Since the probability of military crashes is otherwise similar or less than the probability of commercial air carriers within 5 statute miles of the end of runway, the value of $C = 4 \times 10^{-10}$ provides a conservative approach for determining the probability of in-route crashes on military airways. This methodology is also consistent with the determination for the probability of in-flight military aircraft crash in "The Annual Probability of an Aircraft Crash on the U.S. Department of Energy Reservation in Oak Ridge, Tennessee" (Reference 3.5-201), Subsection 3.3.1.

The effective area of each unit in the plant is conservatively determined as 0.090790 square miles (0.1980 square miles for the plant) from the sum of the aircraft shadow area (A_S), skid area (A_K), and footprint area (A_B), calculated using a bounding power block volume by enveloping the outer boundaries of the R/B_ complex, UHSRS, ESWPT and PSFSVs, access building (AG/B), AVB, power source buildings (PS/Bs), and T/B of 490600 ft wide by 650690 ft long by 230 ft high. | CTS-01541

| CTS-01515

| CTS-01515

$A_S = 230 \text{ ft} \times 650690 \text{ ft} = 149,500158,700 \text{ ft}^2$, where the shadow length is conservatively determined using a 45 degree angle from the tallest point of the power block, and the shadow width is equal to the widest dimension of the power block. | CTS-01515

$A_K = 0.6 \text{ miles (skid length)} \times 650690 \text{ ft} = 2,059,2002,185,920 \text{ ft}^2$, where the skid length for military aircraft is determined from Reference 3.5-201, and the width of skid is equal to the widest dimension of the power block. | CTS-01515

$A_B = 490600 \text{ ft} \times 650690 \text{ ft} = 318,500414,000 \text{ ft}^2$ as the total land occupied by the power block. | CTS-01515

The annual number of aircraft operations on military training route VR-158 noted in Subsection 2.2.2.7.2 confirms operations are less than 19,30035,30017,600 operations per year. Therefore, neither an air crash nor an air transportation accident is required to be considered as part of the design basis. | CTS-01515

| CTS-01541

Chapter 4

Chapter 4 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
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*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

Chapter 5

Chapter 5 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R

*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

Chapter 6

Chapter 6 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_06.04-15	6.4.4.2	6.4-2 6.4-3	Supplemental 01 Response to RAI No. 240 Luminant Letter no.TXNB-12021 Date 6/13/2012	Figure 1 was added to the response due to inadvertently omitted in the original response. No changed in FSAR due to Supplemental Response to RAI No. 240.	-
RCOL2_06.02.02-5	6.2.2.3.2 6.2.8	6.2-2 6.2-2 [6.2-3]	Response to RAI No. 271 Luminant Letter no.TXNB-13001 Date 01/17/2013	Added discussion of administrative programs to maintain RMI, fiber insulation, and aluminum within design-basis limits.	-
RCOL2_06.02.02-6	Table 6.2.2-2R (Sheet 7 of 22)	6.2-4	Response to RAI No. 272 Luminant Letter no.TXNB-13005 Date 03/04/2013	COL Item 6.2(5) location made more specific (Section 6.2.2.3 to Section 6.2.2.3.2)	-
RCOL2_06.02.02-7	6.2.2.3.2	6.2-1	Response to RAI No. 272 Luminant Letter no.TXNB-13005 Date 03/04/2013	Changes are made to CP 3/4 latent debris sampling program. Sampling in accordance with NEI 04-07 with exceptions noted. Exceptions are based on CP 1/2 operating experience.	-
CTS-01522	6.4.4.2	6.4-2	To reflect the new seismic layout design change.	The MCR intake elevation is updated.	1

*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

Chapter 7

Chapter 7 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R

*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

Chapter 8

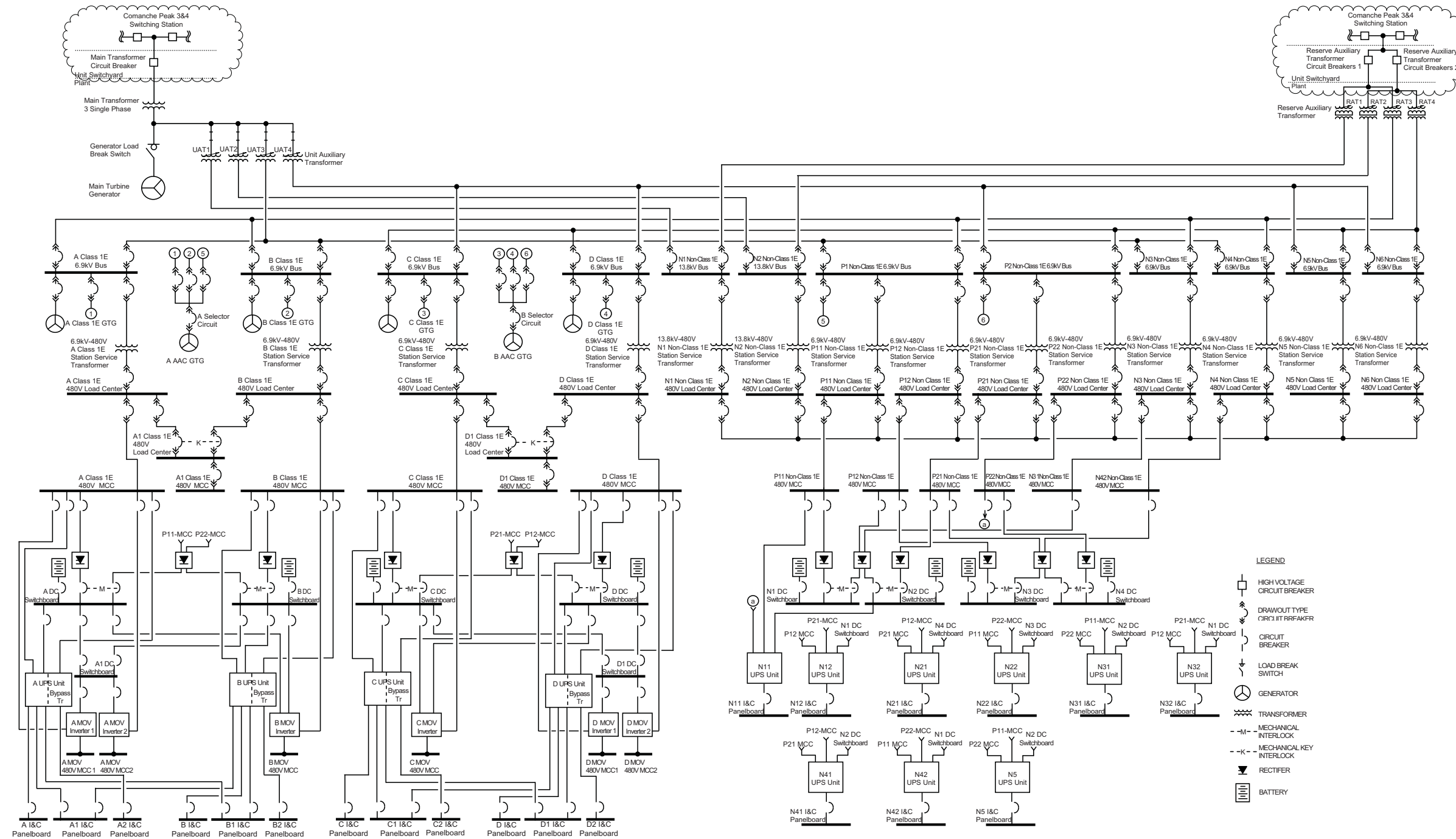
Chapter 8 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_08.01-3	8.1.2.1	8.1-1	Response to RAI No. 249 Luminant Letter no.TXNB-12013 Date 05/16/2012	Subsection 8.1.2.1 was revised to state that the switching station equipment shared between Units 3 and 4 includes the circuit breakers, and that no important to safety SSCs are shared between Units 3 and 4, under any operating scenario (normal or emergency).	-
RCOL2_03.03.02-9	8.2.1.2.1.1	8.2-4	Response to RAI No. 250 Luminant Letter no.TXNB-12032 Date 9/14/2012	Revised to incorporate RG 1.221.	-
RCOL2_08.01-2 S03	8.1.2.1	8.1-1 [8.1-1 through 8.1-2]	3 rd Supplemental Response to RAI No. 9 Luminant Letter No.TXNB-13007 Date 03/04/2013	Sentences of switching station moved to section 8.2.2.1 Applicable Criteria.	-
RCOL2_08.01-2 S03	8.2.2.1 (new section)	8.2-10 [8.2-10 through 8.2-11]	3 rd Supplemental Response to RAI No. 9 Luminant Letter No.TXNB-13007 Date 03/04/2013	Compliance to GDC 5 of Switching Station added to 8.2.2.1 Applicable Criteria.	-
CTS-01508	Figure 8.3.1-201	8.3-21	Revised to reflect common foundation and the new plant layout	Figure was updated to reflect standard plant and site-specific layout changes.	0
CTS-01508	Figure 8.2-207	8.2-31	Turbine Building and Electrical Building layout change. Figure was updated to reflect standard plant and	The road surrounding the Unit 3 and Unit 4 switchyard are changed. Other non-technical editorial changes are made such as removal of dimension line of the building.	1

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
			site-specific layout changes		
CTS-01508	Figure 8.2-208	8.2-32	Turbine Building and Electrical Building layout change. Figure was updated to reflect standard plant and site-specific layout changes	The road surrounding the Unit 3 and Unit 4 switchyard are changed. Other non-technical editorial changes are made such as removal of dimension line of the building.	1
CTS-01532	Figure 8.1-1R Table 8.3.1-4R (Sheet 1 through 4 of 4) Figure 8.3.1-1R (Sheet 1, 5, 6 of 7[8]) Figure 8.3.1-2R (Sheet 2 of 24)	8.1-2 [8.1-3] 8.3-6 through 8.3-9 8.3-10 through 8.3-12 8.3-13	Reflection of Fukushima-related electrical changes submitted by the US-APWR DCD update tracking report, MUAP-11021, Rev. 4 (ML13154A292)	- AAC selector circuit "Disconnecting Switch" replaced with "Circuit Breaker" - Enhanced PSMS Power Supply Configuration - Modification to the P1/P2 Non-Class 1E 6.9kV Bus Configuration - Removal of primary system power supply panel -Other related changes	2

*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

**Comanche Peak Nuclear Power Plant, Units 3 & 4
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CTS-01532

Figure 8.1-1R Simplified One Line Diagram Electric Power System

Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 2, FSAR
Table 8.3.1-4R (Sheet 1 of 4)
Electrical Load Distribution - Class 1E GTG Loading

A Class 1E GTG

Load	Quantity Installed	Rated Output [kW]	Load Input [kW]	Efficiency [%]	Power Factor [%]	Load Factor [%]	LOOP												
							LOCA Concurrent with a LOOP						Hot Shutdown			Cold Shutdown			
							Quantity	[kW]	[kVAR]	[kVA]	Quantity	[kW]	[kVAR]	[kVA]	Quantity	[kW]	[kVAR]	[kVA]	
A Safety Injection Pump	1	900	9500	905	85	95	1	9500	58958	1448059	0	-	-	-	0	-	-	-	CTS-01532
A Component Cooling Water Pump	1	610	64410	905	85	95	1	64410	400378	75818	1	64410	400378	7518	1	64410	400378	7518	
STD COL 9.2(6) A Essential Service Water Pump	1	650	68650	905	85	95	1	68650	42703	808765	1	68650	42703	808765	1	68650	42703	808765	
A Containment Spray/Residual Heat Removal Pump	1	400	42200	905	85	95	1	42200	26348	49771	0	-	-	-	1	42200	26348	49771	
A Charging Pump	1	820	86620	905	85	95	0	-	-	-	1	86620	53708	1049965	1	86620	53708	1049965	
A Class 1E Electrical Room Air Handling Unit Fan	4	80	80	85	80	95	4	80	68	112	4	80	68	112	4	80	68	112	
A Essential Chiller Unit	1	2960	324260	895	805	95	1	324260	243161	406306	1	324260	243161	406306	1	324260	243161	406306	
A Spent Fuel Pit Pump	1	230	25743	8905	80	95	0	-	-	-	1	(25743)	(19382)	(32203)	1	(25743)	(19382)	(32203)	
A Class 1E Electrical Room Air Handling Unit Electrical Heater	4	250	250	100	100	100	0	-	-	-	0	-	-	-	0	-	-	-	
A Pressurizer Heater (Back-up)	1	562	562	100	100	100	0	-	-	-	1	562	0	562	0	-	-	-	
STD COL 9.2(20) A Essential Service Water Pump Cooling Tower Fan	2	150	1658	8590	80	95	2	33617	25238	420396	2	33617	25238	420396	2	33617	25238	420396	CTS-01532
STD COL 9.2(20) Motor Control Centers (A&A1)	2						2	320328	19964	377385	2	270278	16834	318326	2	270278	16834	318326	
								650	670	670		620	634	634		620	634	634	RCOL2_14.0 3.07-38 S03
	Total							37713779	2441150	44954503		37773785	2095	44024410		36373645	2358070	43374345	
								3787	4355	4355		3839	1822	4249		3677	4220	4220	

(): This load is started by manually if GTG has necessary margin after completing automatic load sequence.

**Comanche Peak Nuclear Power Plant, Units 3 & 4
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Table 8.3.1-4R (Sheet 2 of 4)

**Electrical Load Distribution - Class 1E GTG Loading
B Class 1E GTG**

Load	Quantity Installed	Rated Output [kW]	Load Input [kW]	Efficiency [%]	Power Factor [%]	Load Factor [%]	LOOP												
							LOCA Concurrent with a LOOP						Hot Shutdown			Cold Shutdown			
							Quantity	[kW]	[kVAR]	[kVA]	Quantity	[kW]	[kVAR]	[kVA]	Quantity	[kW]	[kVAR]	[kVA]	
B Safety Injection Pump	1	900	950	905	85	95	1	950	58958	44481059	0	-	-	-	0	-	-	-	CTS-01532
B Component Cooling Water Pump	1	610	64410	905	85	95	1	64410	400378	7518	1	64410	400378	7518	1	64410	400378	7518	
B Essential Service Water Pump	1	650	68650	905	85	95	1	68650	42703	808765	1	68650	42703	808765	1	68650	42703	808765	
B Containment Spray/Residual Heat Removal Pump	1	400	42200	905	85	95	1	42200	26348	49771	0	-	-	-	1	42200	263248	49771	
B Emergency Feed Water Pump	1	590	47553	905	85	73	1	47553	29581	55933	1	47553	29581	55933	0	-	-	-	
B Class 1E Electrical Room Air Handling Unit Fan	4	80	89	85	80	95	4	89	68	442	4	89	68	442	4	89	68	442	
B Essential Chiller Unit	1	290	324260	895	805	95	1	324260	243161	405306	1	324260	243161	405306	1	324260	243161	405306	
A Spent Fuel Pit Pump	1	230	25743	8590	80	95	0	-	-	-	1	(25743)	(19382)	(32203)	1	(25743)	(19382)	(32203)	
B Class 1E Electrical Room Air Handling Unit Electrical Heater	4	250	250	400	400	400	0	-	-	-	0	-	-	-	0	-	-	-	
B Pressurizer Heater (Back-up)	1	562	562	100	100	100	0	-	-	-	1	562	0	562	0	-	-	-	
STD COL 9.2(20) B Essential Service Water Pump Cooling Tower Fan	2	150	1658	8590	80	95	2	33617	25238	420396	2	33617	25238	420396	2	33617	25238	420396	CTS-01532
STD COL 9.2(20) Motor Control Centers (B&A1)	2						2	320323 640	1959	377380 660	2	270273 610	16829	318324 624	2	270273 610	16829	318324 624	RCOL2_14.0 3.07-38 S03
Total								42464249 4230	2736 2426	50545057 4876		33863389 3462	4853 1590	39423945 3810		27712774 2847	4824 1557	33183324 3245	

(): This load is started by manually if GTG has necessary margin after completing automatic load sequence.

**Comanche Peak Nuclear Power Plant, Units 3 & 4
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Table 8.3.1-4R (Sheet 3 of 4)

**Electrical Load Distribution - Class 1E GTG Loading
C Class 1E GTG**

Load	Quantity Installed	Rated Output [kW]	Load Input [kW]	Efficiency [%]	Power Factor [%]	Load Factor [%]	LOOP												
							LOCA Concurrent with a LOOP				Hot Shutdown				Cold Shutdown				
							Quantity	[kW]	[kVAR]	[kVA]	Quantity	[kW]	[kVAR]	[kVA]	Quantity	[kW]	[kVAR]	[kVA]	
C Safety Injection Pump	1	900	9500	995	85	95	1	9500	58958	1448059	0	-	-	-	0	-	-	-	CTS-01532
C Component Cooling Water Pump	1	610	64410	995	85	95	1	64410	400378	7518	1	64410	400378	7518	1	64410	400378	7518	
STD COL 9.2(6) C Essential Service Water Pump	1	650	68650	995	85	95	1	68650	42703	808765	1	68650	42703	808765	1	68650	42703	808765	
C Containment Spray/Residual Heat Removal Pump	1	400	42200	995	85	95	1	42200	26348	49771	0	-	-	-	1	42200	26348	49771	
C Emergency Feed Water Pump	1	590	47553	995	85	73	1	47553	29581	55933	1	47553	29581	55933	0	-	-	-	
C Class 1E Electrical Room Air Handling Unit Fan	1	89110	89116	8590	80	95	1	89116	6887	142145	1	89116	6887	14245	1	89116	6887	14245	
C Essential Chiller Unit	1	2960	324260	895	805	95	1	324260	243161	405306	1	324260	243161	405306	1	324260	243161	405306	
B Spent Fuel Pit Pump	1	230	25743	8590	80	95	0	-	-	-	1	(25743)	(19382)	(32203)	1	(25743)	(19382)	(32203)	
C Class 1E Electrical Room Air Handling Unit Electrical Heater	4	250	250	100	100	100	0	-	-	-	0	-	-	-	0	-	-	-	
C Pressurizer Heater (Back-up)	1	562	562	100	100	100	0	-	-	-	1	562	0	562	0	-	-	-	
STD COL 9.2(20) C Essential Service Water Pump Cooling Tower Fan	2	150	1658	8590	80	95	2	33617	25238	420396	2	33617	25238	420396	2	33617	25238	420396	CTS-01532
STD COL 9.2(20) Motor Control Centers (C&D1)	2						2	320323 560	19987	377380 567	2	270273 520	16806	318324 531	2	270273 520	168106	318324 531	RCOL2_14.0 3.07-38 S03
Total								42464249 4266	2736 2441	50545057 4915		33863389 3488	1853 1654	39423945 3860		27712774 2873	18621	33183324 3299	

():This load is started by manually if GTG has necessary margin after completing automatic load sequence.

Comanche Peak Nuclear Power Plant, Units 3 & 4
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Table 8.3.1-4R (Sheet 4 of 4)
Electrical Load Distribution - Class 1E GTG Loading
D Class 1E GTG

Load	Quantity Installed	Rated Output [kW]	Load Input [kW]	Efficiency [%]	Power Factor [%]	Load Factor [%]	LOOP												
							LOCA Concurrent with a LOOP				Hot Shutdown				Cold Shutdown				
							Quantity	[kW]	[kVAR]	[kVA]	Quantity	[kW]	[kVAR]	[kVA]	Quantity	[kW]	[kVAR]	[kVA]	
D Safety Injection Pump	1	900	9500	905	85	95	1	9500	58958	1448059	0	-	-	-	0	-	-	-	CTS-01532
D Component Cooling Water Pump	1	610	64410	905	85	95	1	64410	400378	7518	1	64410	400378	7518	1	64410	400378	7518	
STD COL 9.2(6) D Essential Service Water Pump	1	650	68650	905	85	95	1	68650	42703	808765	1	68650	42703	808765	1	68650	42703	808765	
D Containment Spray/Residual Heat Removal Pump	1	400	42200	905	85	95	1	42200	26348	49771	0	-	-	-	1	42200	26348	49771	
DB Charging Pump	1	820	86620	905	85	95	0	-	-	-	1	86620	53708	1049965	1	86620	53708	1049965	
D Class 1E Electrical Room Air Handling Unit Fan	1	80110	89116	8590	80	95	1	89116	6887	14245	1	89116	6887	14245	1	89116	6887	14245	
D Essential Chiller Unit	1	2960	324260	895	805	95	1	324260	243161	405306	1	324260	243161	405306	1	324260	243161	405306	
B Spent Fuel Pit Pump	1	230	25743	8590	80	95	0	-	-	-	1	(257)43	(19382)	(32203)	1	(257)43	(19382)	(32203)	
D-Class 1E-Electrical-Room-Air-Handling-Unit-Electrical-Heater	4	250	250	100	100	100	0	-	-	-	0	-	-	-	0	-	-	-	
D Pressurizer Heater (Back-up)	1	562	562	100	100	100	0	-	-	-	1	562	0	562	0	-	-	-	
STD COL 9.2(20) D Essential Service Water Pump Cooling Tower Fan	2	150	1658	8590	80	95	2	33617	252238	420396	2	33617	25238	420396	2	33617	25238	420396	CTS-01532
STD COL 9.2(20) Motor Control Centers (D&D1)	2						2	320328	19995	377385	2	270278	16845	318326	2	270278	16845	318326	RCOL2_14.0 3.07-38 S03
								570		578		540		542		540		542	
								37713779	2441	44954503		37773785	2095	44024410		36373645	2358	43374345	
								3823	2168	4395		3875	1820	4281		3713	2068	4250	

() : This load is started by manually if GTG has necessary margin after completing automatic load sequence.

Comanche Peak Nuclear Power Plant, Units 3 & 4
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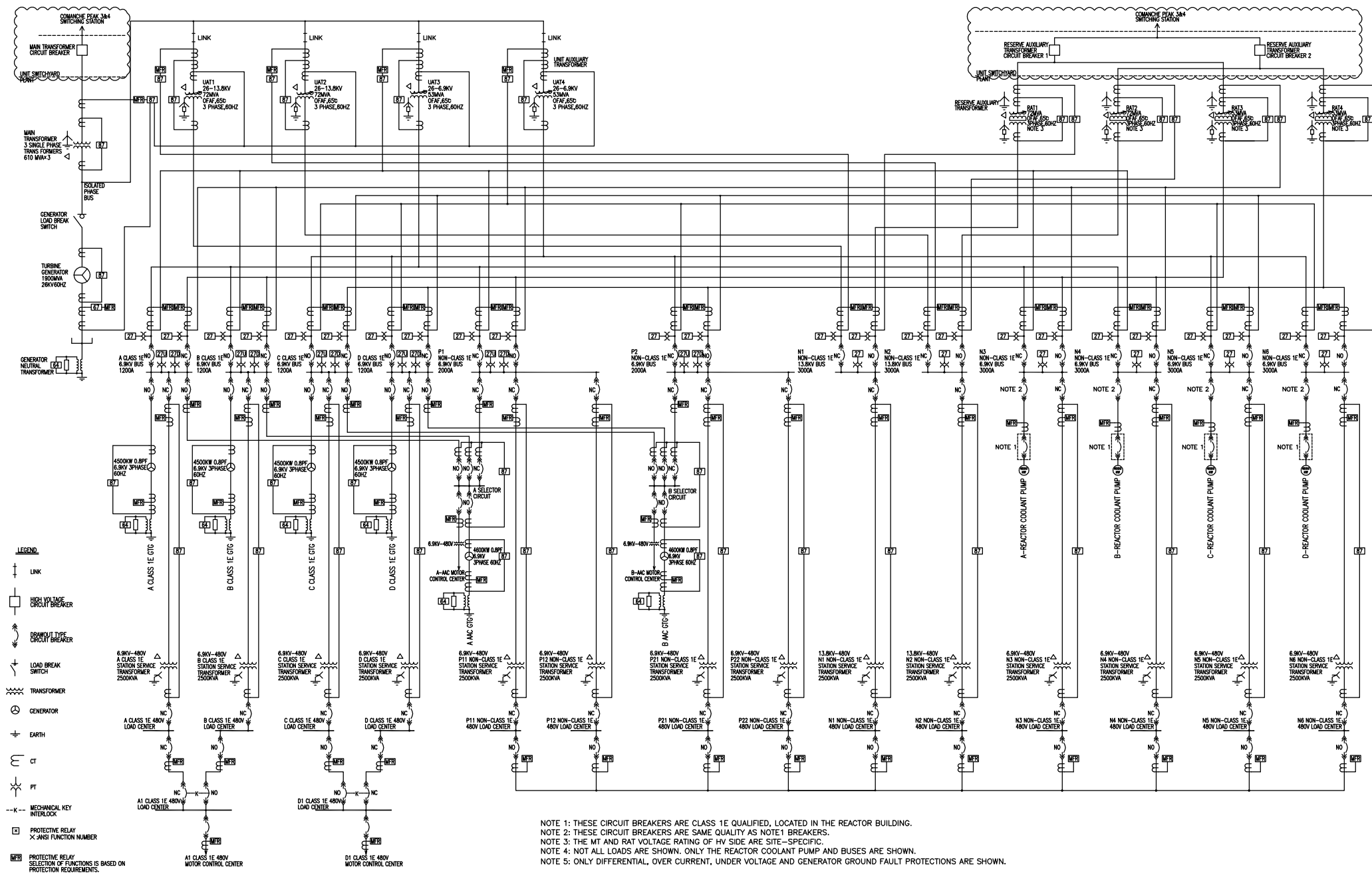
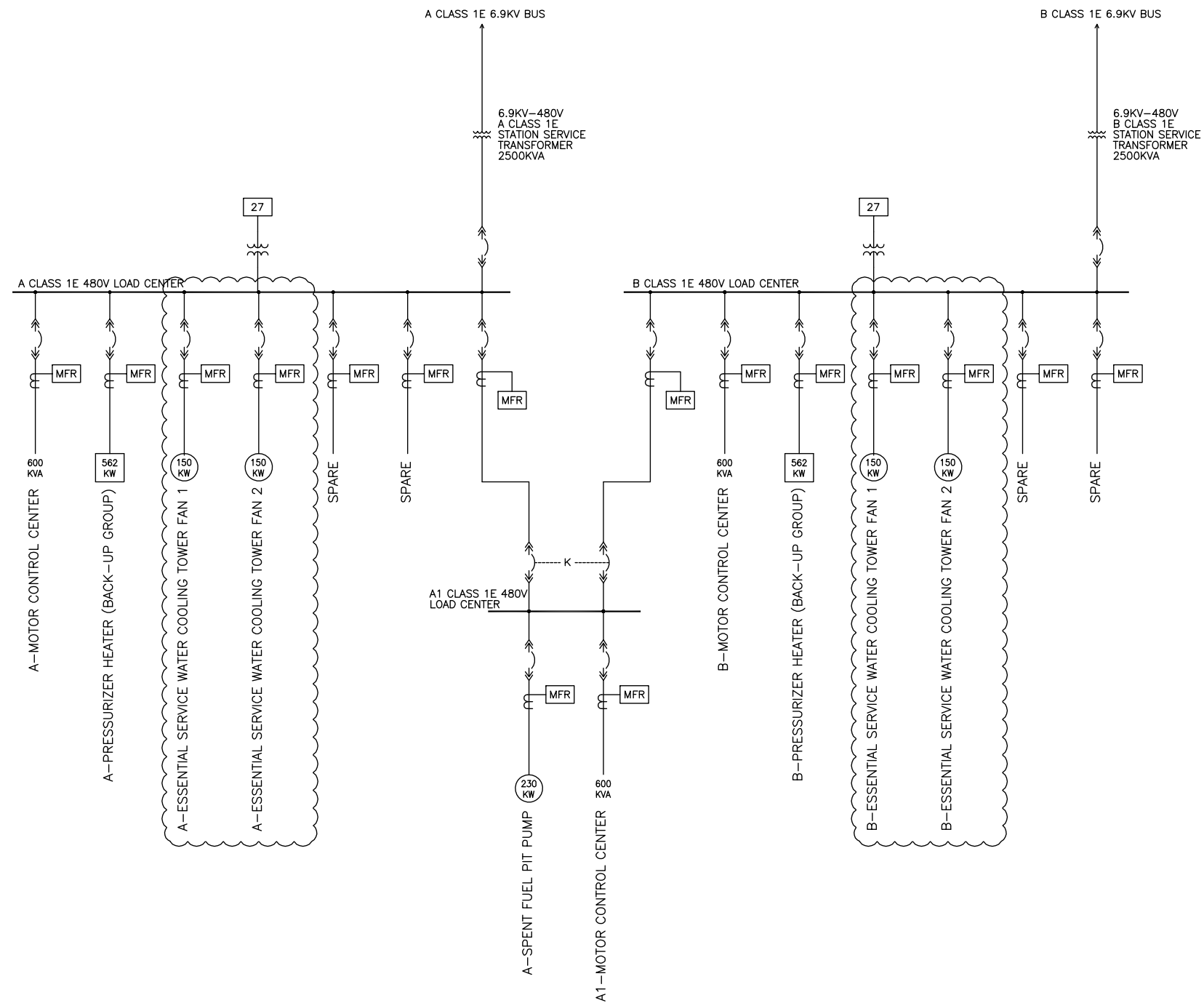


Figure 8.3.1-1R Onsite AC Electrical Distribution System (Sheet 1 of 78)
Main One Line Diagram

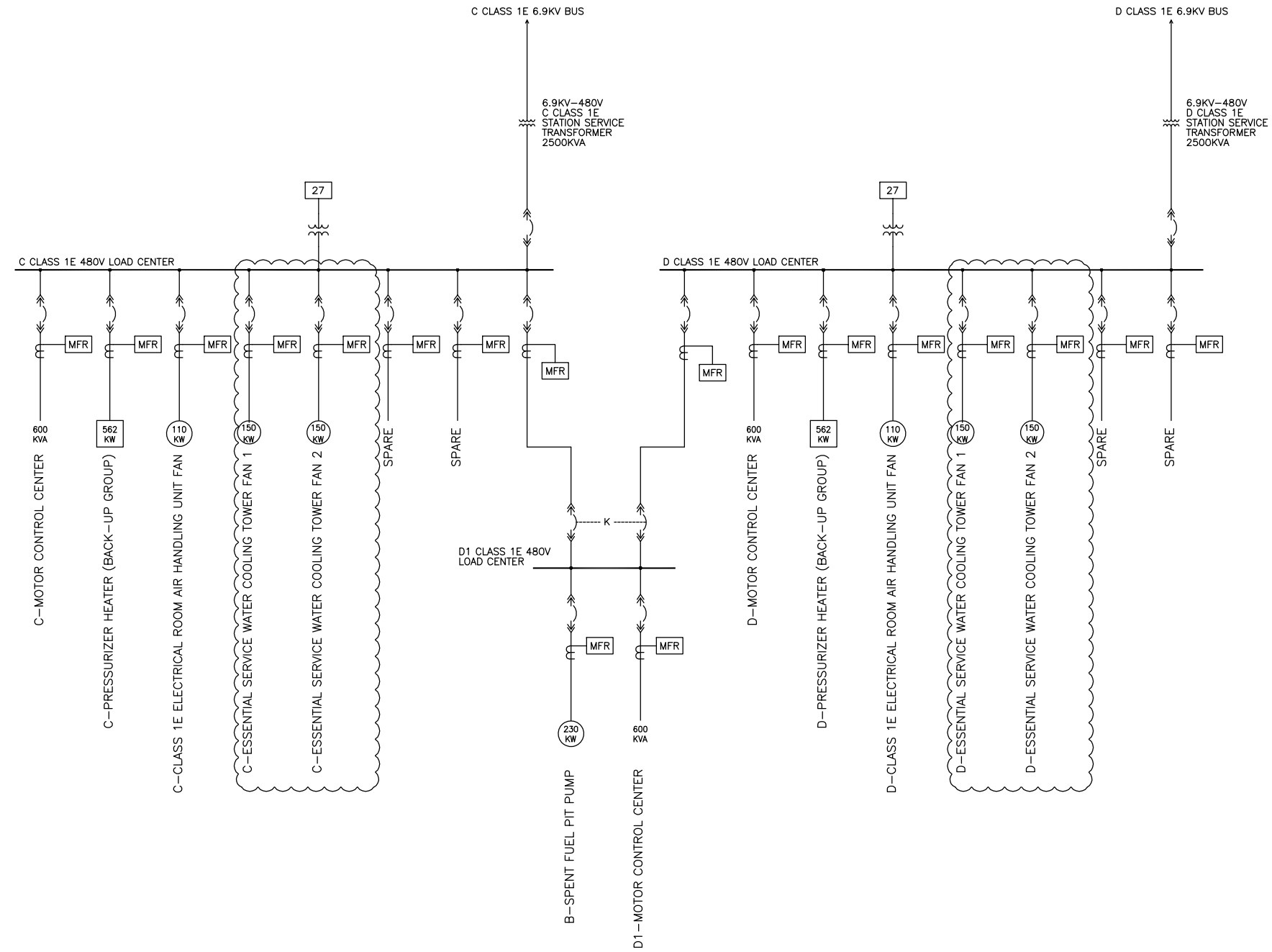
**Comanche Peak Nuclear Power Plant, Units 3 & 4
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**Figure 8.3.1-1R Onsite AC Electrical Distribution System (Sheet 5 of 78)
Class 1E 480V Buses A and B One Line Diagram**

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**Figure 8.3.1-1R Onsite AC Electrical Distribution System (Sheet 6 of 78)
Class 1E 480V Buses C and D One Line Diagram**

Comanche Peak Nuclear Power Plant, Units 3 & 4
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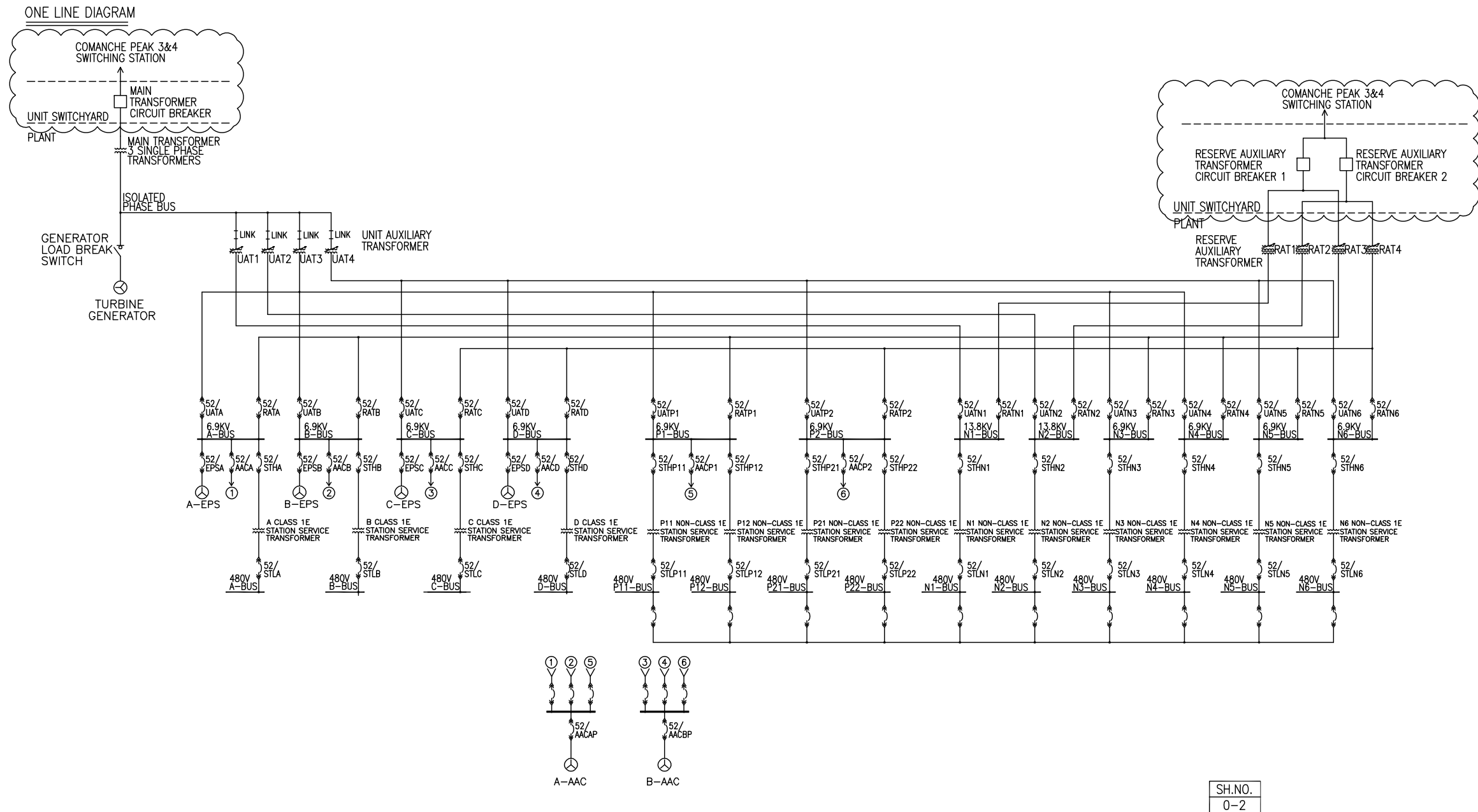


Figure 8.3.1-2R Logic Diagrams (Sheet 2 of 24)
One Line Diagram

Chapter 9

Chapter 9 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.02.01-7	9.2.1.3	9.2-5 [9.2-6]	Response to RAI No. 251 Luminant Letter no.TXNB-12016 Date 05/31/2012	Added discussion regarding CCW heat exchanger backflush procedure including valve alignment and identification as a maintenance outage train.	-
RCOL2_09.02.01-8	9.2.1.2.2.5	9.2-4	Response to RAI No. 251 Luminant Letter no.TXNB-12016 Date 05/31/2012	Revised to discuss the ESWS piping material and inspection.	-
RCOL2_09.02.01-9	9.2.5.5	9.2-21 [9.2-22 9.2-23]	Response to RAI No. 251 Luminant Letter no.TXNB-12016 Date 05/31/2012	Revised to clarify that level switches are utilized to prevent water hammer and are non safety-related.	-
RCOL2_09.0 1.05-1 S01	9.1.5.3 9.1.5 (New Section) 9.1.5.1(New Subsection) 9.1.5.3 (New Subsection) 9.1.5.4 (New Subsection) 9.1.5.6 (New Subsection) 9.1.6	9.1-1 [9.1-1 through 9.1-5] 9.1-2 [9.1-5]	Supplemental 01 Response to RAI No. 52 Luminant Letter no.TXNB-12021 Date 6/13/2012	The heavy load handling program description is enhanced to satisfy the requirements of COL item 9.1 (6).	-
RCOL2_14.03.07-38	9.2.5.2.1 9.2.5.3	9.2-12 [9.2-13] 9.2-18 [9.2-20]	Response to RAI No. 254 Luminant Letter no.TXNB-12022 Date 6/21/2012	Added design criteria for cooling tower spray nozzle sizing. Clarified design criteria.	-
RCOL2_14.02-21	9.2.5.2.1 9.2.5.2.2	9.2-12 [9.2-13] 9.2-15	Response to RAI No. 257 Luminant Letter no.TXNB-12022 Date 6/21/2012	Added discussion about UHS fan speed and direction. Added discussion	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
		[9.2-16]		about level switches.	
RCOL2_09.0 4.05-23 S01	9.4.5.3.6	9.4-6	Supplemental 01 RAI No. 243 Luminant Letter no.TXNB-12030 Date 08/29/2012	Added the design information about the wall separating the ESW pump room from the transfer pump room.	-
RCOL2_09.0 4.05-23 S01	Table 9.4-202	9.4-11	Supplemental 01 Response to RAI No. 243 Luminant Letter no.TXNB-12030 Date 08/29/2012	Changed the capacity of UHS ESW Pump House Ventilation System Equipment.	-
RCOL2_09.0 4.05-23 S01	9A.3.101 9A.3.102 9A.3.104 9A.3.105 9A.3.107 9A.3.108 9A.3.110 9A.3.111	9A-2 9A-3 9A-5 9A-6 9A-8 9A-9 9A-10 9A-12 9A-13	Supplemental 01 Response to RAI No. 243 Luminant Letter no.TXNB-12030 Date 08/29/2012	Changed or added fire protection design features for UHS basins, ESW pump rooms and transfer pump rooms.	-
RCOL2_09.02.01-9 S01	9.2.1.2.3.1 9.2.5.2.2 9.2.5.5	9.2-4 9.2-15 [9.2-17] 9.2-22 [9.2-25]	Supplemental 01 Response to RAI No. 251 Luminant Letter no.TXNB-12031 Date 9/10/2012	Removed description of level switches located in the UHS cooling tower riser piping.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.02.05-18 S01	9.2.5.2.1	9.2-12	Supplemental 01 Response to RAI No. 252 Luminant Letter no.TXNB-12031 Date 09/10/2012	Added description to discuss UHS cooling tower plume discharge.	-
RCOL2_03.03.02-9	9.2.5.2.1 9.2.5.2.2 9.4.5.3.6 9.4.5.4.6	9.2-12 [9.2-13] 9.2-15 [9.2-17] 9.4-7	Response to RAI No. 250 Luminant Letter no.TXNB-12032 Date 9/14/2012	Revised to incorporate RG 1.221.	-
RCOL2_14.0 3.07-38 S01	9.2.1.3 9.2.5.2.2 9.2.10	9.2-5 9.2-15 9.2-24	Supplemental Response to RAI No. 254 Luminant Letter no.TXNB-12034 Date 09/24/2012	Description is added regarding freeze protection of the UHS and ESWS. Table 9.2.5-201 is added for address of CP COL 9.2(19).	-
RCOL2_14.0 3.07-38 S01	Table 9.2.5-201 (New Table)	9.2-35	Supplemental Response to RAI No. 254 Luminant Letter no.TXNB-12034 Date 09/24/2012	New table is introduced to describe electric power division for clarification.	-
RCOL2_14.0 3.07-38 S01	Figure 9.2.5-1R (Sheets 1, 2 of 2)	9.2-38 9.2-39	Supplemental Response to RAI No. 254 Luminant Letter no.TXNB-12034 Date 09/24/2012	The figure is revised to show the newly introduced drain lines for freeze protection.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_14.0 3.07-38 S01	9.4.5.1.1.6 9.4.5.2.6	9.4-3 9.4-4 through 9.4-6	Supplemental Response to RAI No. 254 Luminant Letter no.TXNB-12034 Date 09/24/2012	Supply areas are added to the UHS ESW Pump House Ventilation System and to for freeze protection of the UHSS and ESWS.	-
RCOL2_14.0 3.07-38 S01	Table 9.4-202	9.4-11	Supplemental Response to RAI No. 254 Luminant Letter no.TXNB-12034 Date 09/24/2012	ESW piping room unit heaters and UHS transfer piping room unit heaters are added to the table.	-
RCOL2_14.0 3.07-38 S01	Table 9.4-203 (Sheet 3 of 6)	9.4-14	Supplemental Response to RAI No. 254 Luminant Letter no.TXNB-12034 Date 09/24/2012	ESW piping room unit heaters and UHS transfer piping room unit heaters are added to the table.	-
RCOL2_14.0 3.07-38 S01	Figure 9.4-201	9.4-18	Supplemental Response to RAI No. 254 Luminant Letter no.TXNB-12034 Date 09/24/2012	The figure is revised to add newly introduced dampers to inlets and exhausts of the ventilation system.	-
RCOL2_09.02.05-18 S02	9.2.5.2.1	9.2-12	Supplemental 02 Response to RAI No. 252 Luminant Letter no.TXNB-12036 Date 11/12/2012	Corrected vertical distance value for distance between UHS CT discharge and other intakes; Revised description to indicate pump house intakes on the south side take advantage of the prevailing wind direction.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.02.05-20 S02	9.2.5.2.2	9.2-15	Supplemental 02 Response to RAI No. 252 Luminant Letter no.TXNB-12036 Date 11/12/2012	Revised description to indicate that vortex is not a concern during simultaneous pump operation of ESWP and UHS Transfer Pump.	-
RCOL2_14.03.07-38 S02	9.2.1.3	9.2-5 [9.2-6]	Supplemental 02 Response to RAI No. 254 Luminant Letter no.TXNB-12036 Date 11/12/2012	Revised to include description that ESWPT is below grade and therefore freezing is not a concern.	-
RCOL2_09.02.01-9 S02	9.2.1.2.3.1 9.2.5.5 9.2.10	9.2-4 [9.2-4, 9.2-5] 9.2-21 [9.2-24] 9.2-25 [9.2-29]	Supplemental 02 Response to RAI No. 251 Luminant Letter no.TXNB-12041 Date 12/03/2012	Revise the location of the DCD reference location and add the evaluation of why void detection is not required. Change LMN from "STD COL 9.2(24) to STD COL 9.2(32)". Delete "9.2.5.5" from 9.2(32) Void dection system.	-
RCOL2_12.03-12.04-11 S04	9.2.6.2 (New section)	9.2-22	Supplemental 04 Response to RAI No. 135 Luminant Letter no.TXNB-12042 Date 12/6/2012	Revised to state that the CST for CPNPP Unit 3 is located on west side of Unit 3 as depicted on Figure 12.3-201, while the CPNPP Unit 4 CST is located on the east side of Unit 4, as depicted on Figure 12.3-202.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.0 4.05-26	Table 9.4-201 (Sheet 1 of 2)	9.4-9 [9.4-10]	Response to RAI No. 266 Luminant Letter no.TXNB-12043 Date 12/18/2012	MCR/Class 1E Electrical HVAC Equipment Room In-duct Heater Capacity "Non-heating" is added for Train A and D.	-
RCOL2_09.0 4.05-27	9.4.3.2.2	9.4-2	Response to RAI No. 266 Luminant Letter no.TXNB-12043 Date 12/18/2012	The LMN "CP COL 9.4(4)" and description of supplemental heating is added.	-
RCOL2_09.05.04-1	9.5.4.2.2.1	9.5-21	Response to RAI No. 265 Luminant Letter no.TXNB-12043 Date 12/18/2012	Temperature condition of PSFSV is added.	-
RCOL2_09.04.05-23 S02	9.3.3.2.3 (new section)	9.3-2 [9.3-2 through 9.3-3]	Supplemental S02 Response to RAI No. 243 Luminant Letter no.TXNB-13006 Date 03/04/2013	Design description of floor drain system and liquid detection system were added.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.04.05-23 S02	9.4.5.1.1.6	9.4-3	Supplemental S02 Response to RAI No. 243 Luminant Letter no.TXNB-13006 Date 03/04/2013	Temperature range was deleted.	-
	9.4.5.2.6	9.4-4 [9.4-5]		A sentence describing the Table 9.4-202 was added.	
	9.4.5.3.6	9.4-7			
	9.4.7	9.4-8 [9.4-9]		Table numbers were revised correspondence with a new table.	
RCOL2_09.04.05-23 S02	Table 9.4-202 (replaced table)	9.4-11 [9.4-12]	Supplemental S02 Response to RAI No. 243 Luminant Letter no.TXNB-13006 Date 03/04/2013	New table was added as Table 9.4-202 and table numbers were revised correspondence with this new table.	-
	Table 9.4-203[204] (Sheets 1, 5[7] of 6[8])	9.4-12, 9.4-16 [9.4-14, 9.4-20]			
CTS-01509	Table 9.4-201	9.4-9 9.4-10 [9.4-11]	To reflect impacts on heating and cooling capacity due to layout changes.	Heating and cooling capacity and in-duct heater capacity in Table 9.4-201 have been changed.	0
CTS-01517	Figure 9.5.1-202	9.5-148	Design change as described in Luminant ISCP Letter ML12268A413	Reflected new site plan.	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01516	9A.3	9A-1	Correction	Changed "Pumping Station" to "Pump House" in first bullet.	0
CTS-01518	9A.3	9A-1	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Added bullets ESW-Piping Room and UHS-Transfer Piping Room.	0
CTS-01518	9A.3	9A-2	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed the DCD Subsection to 9A.3.153.	0
CTS-01518	9A.3.101 [9A.3.201]	9A-2	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed Section 9A.3.101 to 9A.3.201 and changed title to FA7-201-01.	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01516	9A.3.101 [9A.3.201]	9A-2	Correction	Changed "exceed" to "exceeding"	0
CTS-01516	9A.3.101 [9A.3.201]	9A-2	Correction	Added 3.2.1.j.	0
CTS-01518	9A.3.101 [9A.3.201]	9A-2 [9A-3]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Deleted "The electrical circuits from other safety trains in this area will be protected by a one-hour fire rated wrap."	0
CTS-01518	9A.3.202 [New]	9A-3 and [9A-4]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Added new subsection 9A.3.202, FA7-201-02 A-ESW Piping Room	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01518	9A.3.102 [9A.3.203]	9A-3 [9A-5]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed Section 9A.3.102 to 9A.3.203 and changed fire area to FA7-202 to fire zone FA7-202-01.	0
CTS-01516	9A.3.102 [9A.3.203]	9A-3 [9A-5]	Correction	Changed "D" to "C or D."	0
CTS-01516	9A.3.102 [9A.3.203]	9A-3 [9A-5]	Correction	Changed "exceed" to "exceeding"	0
CTS-01516	9A.3.102 [9A.3.203]	9A-3 [9A-5]	Correction	Added 3.2.1.j.	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01518	9A.3.204 [New]	9A-4 [9A-6, 9A-7]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Added new Subsection 9A.3.204, FA7-202-02 A-UHS Transfer Piping Room.	0
CTS-01518	9A.3.103 [9A.3.205]	9A-4 [9A-7]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed section from 9A.3.103 to 9A.3.205 and changed fire area from FA7-203 to fire zone FA7-203-01.	0
CTS-01518	9A.3.104 [9A.3.206]	9A-5 [9A-8]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed section from 9A.3.104 to 9A.3.206 and changed fire area from FA7-204 to fire zone FA7-204-01.	0
CTS-01516	9A.3.104 [9A.3.206]	9A-5 [9A-8]	Correction	Changed "exceed" to "exceeding"	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01516	9A.3.104 [9A.3.206]	9A-5 [9A-9]	Correction	Added 3.2.1.j.	0
CTS-01518	9A.3.104 [9A.3.206]	9A-6 [9A-9]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Deleted "The electrical circuits from other safety trains in this area will be protected by a one-hour fire rated wrap."	0
CTS-01518	9A.3.207 [New]	9A-6 [9A-10, 9A-11]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Added new Subsection 9A.3.207, FA7-204-02 B-ESW Piping Room.	0
CTS-01518	9A.3.105 [9A.3.208]	9A-6 [9A-11]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed section from 9A.3.105 to 9A.3.208 and changed fire area from FA7-205 to fire zone FA7-205-01.	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01516	9A.3.105 [9A.3.208]	9A-6 [9A-11]	Correction	Changed "D" to "C or D."	0
CTS-01516	9A.3.105 [9A.3.208]	9A-6 [9A-11]	Correction	Changed "exceed" to "exceeding"	0
CTS-01516	9A.3.105 [9A.3.208]	9A-6 [9A-12]	Correction	Added 3.2.1.j.	0
CTS-01518	9A.3.209 [New]	9A-7 [9A-13, 9A-14]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Added new Subsection 9A.3.209, FA7-205-02 B-UHS Transfer Piping Room.	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01518	9A.3.106 [9A.3.210]	9A-7 [9A-14]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed section from 9A.3.106 to 9A.3.210 and changed fire area from FA7-206 to fire zone FA7-206-01.	0
CTS-01518	9A.3.107 [9A.3.211]	9A-8 [9A-15]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed section from 9A.3.107 to 9A.3.211 and changed fire area from FA7-207 to fire zone FA7-207-01.	0
CTS-01516	9A.3.107 [9A.3.211]	9A-8 [9A-15]	Correction	Changed "exceed" to "exceeding"	0
CTS-01516	9A.3.107 [9A.3.211]	9A-9 [9A-15]	Correction	Added 3.2.1.j.	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01518	9A.3.107 [9A.3.211]	9A-9 [9A-16]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Deleted "The electrical circuits from other safety trains in this area will be protected by a one-hour fire rated wrap."	0
CTS-01518	9A.3.212 [New]	9A-9 [9A-16, 9A-17, 9A-18]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Added new Subsection 9A.3.212, FA7-207-02 C-ESW Piping Room.	0
CTS-01518	9A.3.108 [9A.3.213]	9A-10 [9A-18]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed section from 9A.3.108 to 9A.3.213 and changed fire area from FA7-208 to fire zone FA7-208-01.	0
CTS-01516	9A.3.108 [9A.3.213]	9A-10 [9A-18]	Correction	Changed "A" to "A or B."	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01516	9A.3.108 [9A.3.213]	9A-10 [9A-18]	Correction	Changed "exceed" to "exceeding"	0
CTS-01516	9A.3.108 [9A.3.213]	9A-10 [9A-18]	Correction	Added 3.2.1.j.	0
CTS-01518	9A.3.214 [New]	9A-11 [9A-19, 9A-20]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Added new Subsection 9A.3.214, FA7-208-02 C-UHS Transfer Piping Room.	0
CTS-01518	9A.3.109 [9A.3.215]	9A-11 [9A-20]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed section from 9A.3.109 to 9A.3.215 and changed fire area from FA7-209 to fire zone FA7-209-01.	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01518	9A.3.110 [9A.3.216]	9A-12 [9A-21]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed section from 9A.3.110 to 9A.3.216 and changed fire area from FA7-210 to fire zone FA7-210-01.	0
CTS-01516	9A.3.110 [9A.3.216]	9A-12 [9A-21]	Correction	Changed "exceed" to "exceeding"	0
CTS-01516	9A.3.110 [9A.3.216]	9A-12 [9A-22]	Correction	Added 3.2.1.j.	0
CTS-01518	9A.3.110 [9A.3.216]	9A-13 [9A-23]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Deleted "The electrical circuits from other safety trains in this area will be protected by a one-hour fire rated wrap."	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01518	9A.3.217 [New]	9A-13 [9A-23, 9A-24]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Added new Subsection 9A.3.217, FA7-210-02 D-ESW Piping Room.	0
CTS-01516	9A.3.111 [9A.3.218]	9A-13 [9A-24]	Correction	Changed section from 9A.3.111 to 9A.3.218 and changed fire area from FA7-211 to fire zone FA7-211-01.	0
CTS-01516	9A.3.111 [9A.3.218]	9A-13 [9A-24]	Correction	Changed "A" to "A or B."	0
CTS-01516	9A.3.111 [9A.3.218]	9A-13 [9A-24]	Correction	Changed "exceed" to "exceeding"	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01516	9A.3.111 [9A.3.218]	9A-13 [9A-25]	Correction	Added 3.2.1.j.	0
CTS-01518	9A.3.219 [New]	9A-14 [9A-26, 9A-27]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Added new Subsection 9A.3.219, FA7-211-02 D-UHS Transfer Piping Room.	0
CTS-01518	9A.3.112 [9A.3.220]	9A-14 [9A-27]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed section from 9A.3.112 to 9A.3.220 and changed fire area from FA7-212 to fire zone FA7-212-01.	0
CTS-01518	9A.3.113 [9A.3.221]	9A-15 [9A-28]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed subsection 9A.3.113 to 9A.3.221	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01518	9A.3.114 [9A.3.222]	9A-17 [9A-29]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Changed subsection 9A.3.114 to 9A.3.222	0
CTS-01518	Table 9A-201 [Sheet 1,2 of 2]	9A-19 [9A-31, 9A-32]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Revised table to include new fire zones.	0
CTS-01518	Table 9A-202 (Sheet 1 through 25 of 25 [Sheet 1 through 33 of 33])	9A-20 – 9A-44 [9A-33 through 9A-65]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Revised summary sheets associated with Fire Areas FA7-201 through 212 to reflect new fire zone information Revised summary sheets for Fire Zones FA7-301-01 through 13 to reflect revised FHA section.	0
CTS-01518	Table 9A-203 [Sheet 1,2 of 2]	9A-45 [9A-66, 9A-67]	Design change as described in Supplemental Response to RAI No. 254 (ML12334A026) and the ISCP (ML 12268A413).	Revised table to include new fire zones.	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01519	Figure 9A-201	9A-46 [9A-68]	Design change as described in Luminant ISCP Letter ML12268A413 and Supplemental Responses to RAIs No. 243 (ML12243A456) and No. 254 (ML12334A026)	<p>Figure is revised to reflect:</p> <p>Integration of the north portions of the ESWPT into the south side of the UHSRS.</p> <p>Integration of adjacent UHSRS (C and D) and (A and B) on a single foundation.</p> <p>ESW Pump House layout changes described in responses to RAIs 243 S01 and 254 S03.</p> <p>New fire areas for ESW Piping Room and UHS Transfer Piping Room</p>	0
CTS-01519	Figure 9A-202	9A-47 [9A-69]	Design change as described in Luminant ISCP Letter ML12268A413 and Supplemental Responses to RAIs No. 243 (ML12243A456) and No. 254 (ML12334A026)	Revised roadway north of Transformer Yard.	0

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
MIC-03-09-00013	9.2.5.2.3	9.2-17 9.2-18 [9.2-20 9.2-21]	Consistency with DCD change	Updated heat loads to be consistent with associated DCD changes.	1
CTS-01529	9.2.5.3	9.2-18 [9.2-21]	Editorial correction	Replaced "type" with "types" in section 9.2.5.3.	1
CTS-01532	9.5.2.2.2 9.5.2.2.5.1	9.5-19 9.5-20	Address COL item, COL 1.9(6)	Description was added to address BDBEE design enhancement, including satellite telephone system, ENS transfer to satellite telephone system and external communication links list to satellite telephone links.	2
RCOL2_01.05-3 S01	9.5.2.2.2 9.5.2.2.5.1	9.5-19 9.5-20	Supplemental Response to RAI No. 261 Luminant Letter no.TXNB-13026 Date 8/1/2013	Description was added to address BDBEE design enhancement, including satellite telephone system, ENS transfer to satellite telephone system and external communication links list to satellite telephone links.	2

*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

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include telephone, radio frequency system, privately-owned microwave and fiber optic systems, broadband (internet), and personal cell phone.

9.5.2.2.2 Private Automatic Branch Telephone Exchange (PABX)

STD COL 9.5(4) Replace the third sentence in **DCD Subsection 9.5.2.2.2** with the following.
STD COL 9.5(5)

Access to commercial facilities such as central office trunk, utility's private network, and other offsite connections are provided through redundant and diverse routes as discussed in **Subsection 9.5.2.2.2.2** and **9.5.2.2.5.1**.

9.5.2.2.2.2 Emergency Telephones

STD COL 9.5(4) Add the following paragraphs to the end of the **DCD Subsection 9.5.2.2.2.2**.
STD COL 9.5(5)

Direct communications links (direct telephone) are provided to the NRC Operations Center, the State Emergency Operations Center, and the Central Emergency Operations Center. A crisis management radio system is provided which meets the intent of NUREG 0654 is discussed in **Subsection 9.5.2.2.5.2**.

The Emergency Notification System (ENS) capability is part of the Federal Telecommunication System (FTS) independent phone link, with extensions in the Main Control Room (MCR), Technical Support Center (TSC) and Emergency Operations Facility (EOF). The FTS extensions in the MCR, TSC and EOF are all part of the emergency communications capability of the Private Automatic Branch Telephone Exchange (PABX).

The ENS is connected through a local telephone company system through a switch that is located and maintained at the site. Power is provided from a non-safety related uninterruptible power supply (UPS) system capable of operating in the event of a LOOP. The design provides for the ENS to remain functional from the site to the NRC Operations Center in the event of a LOOP at the site and complies with the requirements of IE Bulletin 80-15. Upon failure of a local telephone company system, the ENS will transfer to the satellite telephone system described in Subsection 9.5.2.2.2.4.

CP COL 1.9(6)

CTS-01532
RCOL2_01.0
5-3 S01

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9.5.2.2.5.1 General

CP COL 9.5(4) Replace the first and second sentence of the first paragraph in **DCD Subsection 9.5.2.2.5.1** with the following.

Plant specific redundant external communication links include.

- Copper and fiber optic telephone circuits
- Microwave telephone links
- Fiber optic data links
- Emergency radio communication links
- Direct telephone links to utility operations centers, the NRC, and State and Local Emergency Operations facilities
- Satellite telephone links
- Personal cell phone links (no credit is taken but these links provide alternate links which allow for additional communication paths)

CP COL 1.9(6)

CTS-01532
RCOL2_01.0
5-3 S01

9.5.2.2.5.2 Emergency Communications

STD COL 9.5(6) Replace the second and third sentence of the second paragraph in **DCD**
STD COL 9.5(8) **Subsection 9.5.2.2.5.2** with the following.

The effectiveness of the overall emergency response plan is in conformance with the requirements of 10 CFR 50.47 (b)(8). Adequate communications equipment are provided and maintained to allow the control room to communicate with offsite personnel and organizations. Pursuant to the emergency response plan, the following equipment is tested.

- An inspection and test is performed of the TSC voice communication equipment.
- An inspection and test is performed of the operation support center voice communication equipment.
- An inspection and test is performed of the EOF voice communication equipment.
- A test is performed of the means for warning or advising onsite individuals of an emergency.

The offsite communications systems within the onsite Technical Support Center provide for emergency response following a design basis accident. During emergencies, the TSC is the primary onsite communication center for the communications to the control room, the operations support center and the NRC.

Chapter 10

Chapter 10 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_12.03-12.04-11 S04	10.4.8.2.1	10.4-7 through 10.4-8	Supplemental 04 Response to RAI No. 135 Luminant Letter no. TXNB-12042 Date 12/6/2012	Revised to refer to Figures 12.3-201 and 12.3-202	-

*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

Chapter 11

Chapter 11 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.03.02-9	11.4.2.3	11.4-3	Response to RAI No. 250 Luminant Letter no.TXNB-12032 Date 9/14/2012	Revised to incorporate RG 1.221.	-
RCOL2_12.03-12.04-11 S04	11.2.3.4	11.2-8	Supplemental 04 Response to RAI No. 135 Luminant Letter no.TXNB-12042 Date 12/6/2012	Clarified the description of the piping run for Unit 3 and Unit 4.	-

*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

Chapter 12

Chapter 12 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_12.03-12.04-11 S04	12.3.6	12.3-4	Supplemental 04 Response to RAI No. 135 Luminant Letter no.TXNB-12042 Date 12/6/2012	Added Figure 12.3-202.	-
RCOL2_12.03-12.04-11 S04	Table 12.3-201 (Sheets 1, 4 of 5)	12.3-6, 12.3-9	Supplemental 04 Response to RAI No. 135 Luminant Letter no.TXNB-12042 Date 12/6/2012	Clarified the description of the piping run for Unit 3 and Unit 4.	-
RCOL2_12.03-12.04-11 S04	Figure 12.3-201	12.3-12	Supplemental 04 Response to RAI No. 135 Luminant Letter no.TXNB-12042 Date 12/6/2012	Clarified the description of the piping run from the T/B to the yard.	-
RCOL2_12.03-12.04-11 S04	Figure 12.3-202 (New Figure)	[12.3-13]	Supplemental 04 Response to RAI No. 135 Luminant Letter no.TXNB-12042 Date 12/6/2012	Revised figure to show that it is now only applicable to CPNPP Unit 3 and added new figure for CPNPP Unit 4 yard piping routing and building penetration schematic.	-
CTS-01510	Figure 12.3-1R (Sheet 1 of 34)	12.3-11	Consistency with DCD as described in Letter. TXNB-12033 (ML12268A413)	Figure was updated to reflect standard plant and site-specific layout changes.	0

*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

Chapter 13

Chapter 13 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_13.04-6	Table 13.4-201 (Sheet 6 of 11)	13.4-7	Response to RAI No. 255 Luminant Letter no.TXNB-12013 Date 05/31/2012	Deleted 10 CFR 52.78 has as a Program Source for Item 11, Program Title, "Non licensed Plant Staff Training Program" in FSAR Table 13.4-201.	-
RCOL2_01.05-3	13.3.2 13.3.5 (new section)	13.3-1 13.3-2	Response to RAI No. 261 Luminant Letter no.TXNB-12027 Date 7/24/2012	Added evaluation of emergency staffing in accordance with NEI 12-01 Added reference to the NEI 12-01	-
RCOL2_13.06.01-60	13.6	13.6-1	Response to RAI No. 270 Luminant Letter no.TXNB-13017 Date 5/28/2013	Added a new paragraph to the end of Section 13.6	-
CTS-01532	13.2.1.1.2	13.2-2	Editorial correction	"Subsection" was changed to "Subsections".	2
CTS-01532	13.2.1.1.3 (New 13.2.1.1.4)	13.2-2	EA-12-049, Resolution of new COL items 1.9(2)-4, 1.9(2)-5 and 1.9(4)	Added a new section on training on mitigation of BDB external events	2

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_01.05-2 S01	13.2.1.1.3 (New 13.2.1.1.4)	13.2-2	Supplemental Response to RAI No. 261 Luminant Letter no.TXNB-13026 Date 8/1/2013	Added a new section on training on mitigation of BDB external events	2
RCOL2_01.05-3	13.3.2	13.3-1 [13.3-2]	Supplemental Response to RAI No. 261 Luminant Letter no.TXNB-13026 Date 8/1/2013	A paragraph was added on action regarding staffing reevaluation for BDB event.	2
CTS-01532	13.3.2	13.3-1 [13.3-2]	NTTF recommendation 9.3.1.2, Resolution of new COL item COL 1.9(7)	A paragraph was added on action regarding staffing reevaluation for BDB event.	2
R0COL2_01.05-3	13.3.4 (New 13.3.5)	13.3-2 [13.3-3]	Supplemental Response to RAI No. 261 Luminant Letter no.TXNB-13026 Date 8/1/2013	A section was added for reference.	2
CTS-01532	13.3.4 (New 13.3.5)	13.3-2 [13.3-3]	Associated change with resolution of new COL item COL 1.9(7)	A section was added for reference.	2
CTS-01532	Table 13.4-201 (Sheet 7 of 11)	13.4-8	Resolution of new COL item COL 1.9(4)	LMN STD COL 1.9(4) was added to Item 12.	2

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01532	13.5.2.1	13.5-4	NTTF recommendation 8, Resolution of new COL item COL 1.9(5)	A paragraph was added on action regarding EOP for BDB external events.	2
RCOL2_01.05-2 S01	13.5.2.2	13.5-5 [13.5-6]	Supplemental Response to RAI No. 261 Luminant Letter no.TXNB-13026 Date 8/1/2013	Paragraphs were added on action regarding development of procedures for maintenance, testing and calibration of SFP instruments.	2
CTS-01532	13.5.2.2	13.5-5 [13.5-6]	EA-12-049, EA-12-051, NTTF recommendation 8, Resolution of new COL items 1.9(2)-4, 1.9(2)-5, 1.9(4) and 1.9(5)	Paragraphs were added on action regarding development of procedures for maintenance, testing and calibration for SFP instruments, equipment for BDB events and emergency procedures.	2

*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

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senior management using the guidance provided by ACAD 08-001 (Ref. 13.2-202), "The Process for Initial Accreditation of Training in the Nuclear Power Industry." FSAR Figure 13.1-205 depicts anticipated milestone dates to support initial fuel load.

13.2.1.1.1 Licensed Plant Staff Training Program

Replace the content of **DCD Subsection 13.2.1.1.1** with the following.

The content of this subsection is discussed above.

13.2.1.1.2 Non-Licensed Plant Staff Training Program (to be verified during construction)

Replace the content of **DCD Subsection 13.2.1.1.2** with the following.

The content of this subsection is discussed above.

Add the following Subsections after **DCD Subsection 13.2.1.1.2**.

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13.2.1.1.3 Hazards Awareness Training

Workers and operators will receive initial and annual refresher training for protection from chemical hazards and confined space entry in accordance with 29 CFR 1910. As part of this training, operators receive training for response to toxic gas release events.

13.2.1.1.4 Training on Mitigation of Beyond-Design-Basis External Event

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CP COL 1.9(2)-4 Workers and operators will receive initial and refresher training for responding to beyond-design-basis (BDB) external events and multiunit events based on the criteria established for Emergency Planning. Training requirements are established that are necessary to maintain, calibrate, and test equipment and support the effective implementation of the EP exercise objectives.

CP COL 1.9(2)-5

CP COL 1.9(4) Licensed and non-licensed staff are trained in the use of the primary and backup SFP level instrument channels including the provision for alternate power. A training program is developed and implemented to maintain available and reliable the SFP level instrumentation.

RCOL2_01.0
5-2 S01

13.2.1.2 Coordination with Preoperational Tests and Fuel Loading

Replace the content of **DCD Subsection 13.2.1.2** with the following.

The content of this subsection is discussed above.

13.2.2 Applicable Nuclear Regulatory Commission Documents

Replace the content of **DCD Subsection 13.2.2** with the following.

The content of this subsection is discussed above.

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13.3 EMERGENCY PLANNING

This section of the referenced DCD is incorporated by reference with the following departures and/or supplements.

STD COL 13.3(1) Replace the fourth sentence of the first paragraph in the **DCD Subsection 13.3** with the following.

Interfaces of design features with site specific designs and site parameters are addressed in Combined License Application Part 5 “Emergency Plan”.

STD COL 13.3(7) Add the following paragraph to the end of **DCD Section 13.3**.

The description of the operation support center is provided in Combined License Application Part 5 “Emergency Plan”.

13.3.1 Combined License Application and Emergency Plan Content

CP COL 13.3(2) Replace the first and second sentence of the first paragraph in the **DCD Subsection 13.3.1** with the following.

The Emergency Plan for the CPNPP Units 3 and 4 is provided in Combined License Application Part 5 “Emergency Plan”. The Emergency Plan is developed in accordance with 10 CFR 50.47 Appendix E and 10 CFR 52.

STD COL 13.3(3) Replace the second paragraph in the **DCD Subsection 13.3.1** with the following.
STD COL 13.3(4)

Emergency classifications and action levels, and the security-related aspects of emergency planning are addressed in Combined License Application Part 5 “Emergency Plan”.

13.3.2 Emergency Plan Considerations for Multi-Unit Site

CP COL 13.3(5) Replace the sentence in the **DCD Subsection 13.3.2** with the following.

The interface between the Emergency Plan for CPNPP Units 3 and 4 and the Emergency Plan for CPNPP Units 1 and 2 is addressed in the CPNPP Units 3 and 4 Combined License Application Part 5 “Emergency Plan”.

CP COL 1.9(7) [Prior to the full participation exercise milestone in Table 13.4-201, an evaluation \(including staffing\) will be completed and implemented in accordance with NEI](#)

**RCOL2_01.0
5-3
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12-01 (Ref. 13.3-201), including changes to the Emergency Plan and FSAR, as necessary.

RCOL2_01.0
5-3

13.3.3 Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria

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CP COL 13.3(6) Replace the sentence in the **DCD Subsection 13.3.3** with the following.

Emergency planning inspections, tests, analyses, and acceptance criteria are addressed in the CPNPP Units 3 and 4 Combined License Application Part 5 “Emergency Plan” and are provided in the CPNPP Units 3 and 4 Combined License Application **Part 10** “ITAAC and ITAAC Closure”.

13.3.4 Combined License Information

Replace the content of **DCD Subsection 13.3.4** with the following.

STD COL 13.3(1) **13.3(1)** *Interfaces of design features with site specific designs and site parameters*
*This COL item is addressed in **Section 13.3**.*

CP COL 13.3(2) **13.3(2)** *Comprehensive emergency plan*
*This COL item is addressed in **Subsection 13.3.1**.*

STD COL 13.3(3) **13.3(3)** *Emergency classification and action level scheme*
*This COL item is addressed in **Subsection 13.3.1**.*

STD COL 13.3(4) **13.3(4)** *Security-related aspects of emergency planning*
*This COL item is addressed in **Subsection 13.3.1**.*

CP COL 13.3(5) **13.3(5)** *Multi-unit site interface plan depending on the location of the new reactor on, or near, an operating reactor site with an existing emergency plan*
*This COL item is addressed in **Subsection 13.3.2**.*

CP COL 13.3(6) **13.3(6)** *Emergency planning inspections, tests, analyses, and acceptance criteria*
*This COL item is addressed in **Subsection 13.3.3**.*

STD COL 13.3(7) **13.3(7)** *Operation support center*
*This COL item is addressed in **Section 13.3**.*

13.3.5 References

Add the following reference after the last reference in DCD Subsection 13.3.5.

RCOL2_01.0
5-3

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CP COL 1.9(7)

13.3-201

Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities, NEI 12-01, Revision 0, Nuclear Energy Institute, May 2012.

RCOL2_01.0
5-3
CTS-01532

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CP COL 13.4(1)

Table 13.4-201 (Sheet 7 of 11)

Operational Programs Required by NRC Regulation and Program Implementation

STD COL 13.6(1)

STD COL 1.9(4)

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section	Implementation	
				Milestone	Requirement
	For elements of Fire Protection Program, Security Program and Radiation Protection Program prior to full program implementation.	10 CFR 70.22		Prior to implementation of the program elements	10 CFR 70.22 (a)
12.	Reactor Operator Training Program	10 CFR 55.13 10 CFR 55.31 10 CFR 55.41 10 CFR 55.43 10 CFR 55.45	13.2.1	18 months prior to scheduled fuel load	License Condition
13.	Reactor Operator Requalification Program	10 CFR 50.34(b) 10 CFR 50.54(i) 10 CFR 55.59	13.2.1	Within 3 months after issuance of an operating license or the date the Commission makes the finding under 10 CFR 52.103(g)	10 CFR 50.54 (i-1)
14.	Emergency Planning	10 CFR 50.47 10 CFR 50, Appendix E	13.3	Full participation exercise conducted within 2 years of scheduled date for initial loading of fuel. Onsite exercise conducted within 1 year before the schedule date for initial loading of fuel.	10 CFR 50, Appendix E.IV.F.2a(ii) 10 CFR 50, Appendix E.IV.F.2a(ii)

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maintenance, and other instructions appropriate for operation of systems important to safety.

- General Plant Procedures - These procedures provide instructions for the integrated operation of the plant (e.g., startup, shutdown, power operation and load changing, process monitoring, fuel handling, maintenance, surveillance, and periodic testing).
- Abnormal Condition Procedures - These procedures specify operator actions for restoring an operating variable to its normal controlled value when it departs from its normal range, or restoring normal operating conditions following a transient. Such actions are invoked following an operator observation or an annunciator alarm indicating a condition that, if not corrected, could degenerate into a condition requiring action under an Emergency Operating Procedure.
- Emergency Operating Procedures (EOPs) – These procedures direct actions necessary for the operators to mitigate the consequences of transients and accidents that cause plant parameters to exceed reactor protection system or engineering safety feature actuation setpoints.

The Procedure Generation Package (PGP) will be developed and provided to the NRC at least three months prior to commencing formal operator training on the EOPs. The PGP will include a detailed description of the process for developing the Plant-Specific Technical Guidelines (P-STGs) from the US-APWR generic technical guidelines, a plant-specific writer's guide that details the specific methods for preparing the EOPs based on the P-STGs, a description of the program for verification and validation (V&V) of the EOPs and a brief description of the operator training program for the EOPs (See NUREG-0737, Supplement 1). The PGP development process also includes the identification of safety significant deviations from the generic technical guidelines (including the identification of additional equipment beyond that identified in the generic technical guidelines) and engineering evaluations or analyses as necessary to support the adequacy of each deviation. In accordance with the human factors program summarized in DCD Section 18.8, the PGP describes the process used to identify operator information and control requirements.

The EOPs are symptom-based with clearly specified entry and exit conditions. Transitions between and within the normal operating, alarm response, and abnormal operating procedures and the EOPs are appropriately laid out, well defined, and easy to follow (See Section 18.8). The use of human factored, functionally oriented, EOPs will improve human reliability and the ability to mitigate the consequence of a broad range of initiating events and subsequent multiple failures or operator errors, without the need to diagnose specific events.

CP COL 1.9(5)

The EOPs are developed with consideration given to mitigative features for beyond-design-basis (BDB) external events and multiunit events.

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The general objectives of the EOP V&V process are to ensure the EOPs:

- correctly reflect the generic technical guidelines
 - reflect the procedure writer's guide
 - are useable
 - correctly refer to controls, equipment and indications
 - provide language and level of information consistent with minimum staff qualifications and composition
 - provide a high level of assurance they will effectively guide the operator in mitigating transients and accidents.
- Alarm Response Procedures – These procedures guide operator actions for responding to plant alarms.

13.5.2.2 Maintenance and Other Operating Procedures

STD COL 13.5(7) Replace the content of **DCD Subsection 13.5.2.2** with the following.

The following maintenance and other operating procedures are classified as General Plant Procedures:

- Plant Radiation Protection Procedures - Detailed written and approved procedures and instructions are used to ensure that occupational radiation exposure is maintained ALARA. It is the responsibility of the Radiation and Industrial Safety Manager to prepare and maintain the plant radiation protection procedures and instructions. Careful administrative control of the use of these procedures and instructions ensures that a sound health physics philosophy becomes an integral part of station operation and maintenance.
- Emergency Preparedness Procedures - The Emergency Planning Manager is responsible for preparing and maintaining procedures that implement the protective measures outlined in the Emergency Plan. Procedures are established and maintained for the use of the primary and backup spent fuel pool instrument channels and for the equipment needed to mitigate BDB external events, including portable equipment. Emergency procedures including EOPs, SAMGs and EDMGs address BDB external events.
- Instrument Calibration and Test Procedures - The Director, Maintenance is responsible for preparing procedures and instructions for proper control and periodic calibration of plant measuring and test equipment to maintain accuracy within necessary limits and to confirm adequacy of calibration frequency. Specific procedures are prepared for surveillance tests performed on safety-related equipment and instrumentation. These

CP COL 1.9(2)-4
CP COL 1.9(2)-5
CP COL 1.9(4)
CP COL 1.9(5)

RCOL2_01.0
5-2 S01
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CP COL 1.9(2)-4

CP COL 1.9(4)

procedures have provisions for assuring measurement accuracies are adequate to keep safety parameters within operational and safety limits.

Processes and procedures are established and maintained for scheduling and implementing necessary testing, maintenance and calibration of the primary and backup spent fuel pool level instrument channels to maintain the instrument channels at the design accuracy and for equipment needed to mitigate BDB external events including portable equipment. A master surveillance schedule reflecting the status of all planned in-plant surveillance testing is maintained. Control measures exist to assure appropriate documentation, reporting, and evaluation of test results.

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RCOL2_01.0
5-2 S01

- Chemical/Radiochemical Control Procedures - The preparation of detailed, written, and approved chemical and radiochemical procedures and instructions are the responsibility of the Chemistry Manager. These procedures and instructions ensure primary and secondary side chemical/radiochemical quality, protection of component integrity, and promotion of efficient plant operation.
- Radioactive Waste Management Procedures - It is the responsibility of the Radiation and Industrial Safety Manager to prepare procedures and instructions for the operation of radioactive liquid, solid, and gaseous waste systems and provide guidance for collection, storage, processing, and discharge of these materials. Radioactive waste management is incorporated into these procedures to support the effort to minimize radiation exposure and precisely control the release of radioactive material to the environment.
- Maintenance and Modification Procedures - Maintenance or modification that may affect the functioning of safety-related SSCs are performed in accordance with applicable codes, bases, standards, design requirements, material specifications, and inspection requirements. Maintenance of safety-related equipment is pre-planned and performed in accordance with written procedures, written instructions, or drawings appropriate to the circumstances. Skills normally possessed by qualified maintenance personnel may not require detailed step-by-step delineation in a written procedure. It is the responsibility of the Director, Maintenance, to implement a maintenance program for safety-related mechanical and electrical equipment and instruments and controls.
- Material Control Procedures - The Director, Oversight, and Nuclear Overview, is responsible for preparing procedures and instructions for the proper procurement, documentation, and control of safety-related materials and components necessary for plant maintenance and modification. The procedures will be sufficiently detailed to ensure that purchased materials and components associated with safety-related structures or systems are as follows:
 - Purchased to specifications and codes that ensure performance at least equivalent to the original equipment.
 - Produced or fabricated under quality control that ensures performance at least equivalent to that of the original equipment.

Chapter 14

Chapter 14 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.02.01-6	14.2.12.1.113	14.2-5	Response to RAI No. 251 Luminant Letter no.TXNB-12016 Date 05/31/2012	Revised item A.2 to clarify that ESW pumps and UHS transfer pumps are demonstrated to have adequate NPSH and no vortex formation at minimum basin water level.	-
RCOL2_14.02-21	14.2.12.1.113	14.2-5 14.2-6 [14.2-7]	Response to RAI No. 257 Luminant Letter no.TXNB-12022 Date 6/21/2012	Clarified preoperational test objectives, methods, and acceptance criteria. Added preoperational test acceptance criteria for water hammer prevention.	-
RCOL2_14.02-20	14.2.12.1.113	14.2-5 through 14.2-6 [14.2-5 through 14.2-7]	Response to RAI No. 256 Luminant Letter no.TXNB-12026 Date 7/20/2012	An item is added to the UHSS preoperational test (14.2.12.1.113) to verify the ability of the UHS, in conjunction with the ESWS, CCWS, and RHRS, to cool down the RCS.	-
RCOL2_09.02.01-9 S01	14.2.12.1. 113	14.2-5 through 14.2-6 [14.2-5 through 14.2-7]	Supplemental 01 Response to RAI No. 251 Luminant Letter no.TXNB-12031 Date 9/10/2012	Removed description of level switches located in the UHS cooling tower riser piping.	-
RCOL2_14.02-21 S01	14.2.12.1.113	14.2-6	Supplemental Response to RAI No. 257 Luminant Letter no.TXNB-12034 Date 9/24/2012	An items is added to the UHSS preoperational test (14.2.12.1.113) to verify the function of the newly added drain valves for freeze protection.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.02.05-20 S02	14.2.12.1.113	14.2-5 14.2-6	Supplemental 02 Response to RAI No. 252 Luminant Letter no.TXNB-12036 Date 11/12/2012	Revised UHS Preoperational Test to include simultaneous operation of ESWP and UHS Transfer Pump with no interfering vortices.	-
RCOL2_14.02-21 S02	14.2.12.1.113	14.2-6 [14.2-7]	Supplemental 02 Response to RAI No. 257 Luminant Letter no.TXNB-12036 Date 11/12/2012	Corrected to remove reference to electrical heat tracing.	-
RCOL2_09.02.01-9 S02	14.2.12.1.113	14.2-5, 14.2-6 [14.2-5 through 14.2-7]	Supplemental 02 Response to RAI No. 251 Luminant Letter no.TXNB-12041 Date 12/03/2012	Revise the description about water hammer/voids in the spray header or nozzles.	-

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Chapter 15

Chapter 15 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
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Chapter 16

Chapter 16 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
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Chapter 17

Chapter 17 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
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*Page numbers for the attached marked-up pages may differ from the revision 3 page numbers due to text additions and deletions. When the page numbers for the attached pages do differ, the page number for the attached page is shown in brackets.

Chapter 18

Chapter 18 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
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Chapter 19

Chapter 19 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_19-19	19.1.5	19.1-9	Response to RAI No. 248 Luminant Letter no.TXNB-12016 Date 05/31/2012	Information for extreme wind bounding assessment added for LPSD and at power operation.	-
RCOL2_19-19	Table 19.1-205 (Sheets 24 through 25 of 35)	19.1-74 through 19.1-75	Response to RAI No. 248 Luminant Letter no.TXNB-12016 Date 05/31/2012	Information added to address risk from extreme winds.	-
RCOL2_03.03.02-9	19.1.5 Table 19.1-205 (Sheet 12, 16, 24 of 35) Table 19.1-206 (Sheet 2 of 2)	19.1-6 19.1-62 19.1-66 19.1-74 19.1-87	Response to RAI No. 250 Luminant Letter no.TXNB-12032 Date 9/14/2012	Revised to incorporate RG 1.221.	-
RCOL2_19-23	19.2.6.4 19.2.6.6	19.2-4	Response to RAI No. 267 Luminant Letter no.TXNB-12043 Date 12/18/2012	Updated values from using more recent dollar values in calculation.	-
RCOL2_19-21	19.1.5	19.1-9, 19.1-10	Response to RAI No. 264 Luminant Letter no.TXNB-12043 Date 12/18/2012	Clarified screening criteria used for external events and results of screening.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_19-21	Table 19.1-205 (Sheets 24 through 25 of 35)	19.1-74 through 19.1-75	Response to RAI No. 264 Luminant Letter no.TXNB-12043 Date 12/18/2012	Updated wording on extreme wind screening discussion.	-
RCOL2_19-22	19.1.5	19.1-5 through 19.1-6, 19.1-10	Response to RAI No. 264 Luminant Letter no.TXNB-12043 Date 12/18/2012	Clarified results of external flooding screening.	-
RCOL2_19-22	Table 19.1-205 (Sheets 27 through 31 of 35)	19.1-77 through 19.1-81	Response to RAI No. 264 Luminant Letter no.TXNB-12043 Date 12/18/2012	Updated wording on external flooding screening discussion.	-
RCOL2_19-24	19.1.2.3 (New Subsection)	19.1-2 [19.1-3]	Response to RAI No. 268 Luminant Letter no.TXNB-12043 Date 12/18/2012	Clarified expectations on requirements to demonstrate technical adequacy.	-
RCOL2_19-24	19.1.4.1.2	19.1-4 [19.1-5, 19.1-6]	Response to RAI No. 268 Luminant Letter no.TXNB-12043 Date 12/18/2012	Capture requirements to update PRA following construction to capture changes.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_19-24	19.3.3	19.3-1 [19.3-1, 19.3-2]	Response to RAI No. 268 Luminant Letter no.TXNB-12043 Date 12/18/2012	Update FSAR location references for PRA update requirements.	-
RCOL2_19-25	19.1 19.1.1.2.1 19.1.1.3.1 (New Subsection) 19.1.1.3.2 (New Subsection)	19.1-1 19.1-1 19.1-1 [19.1-2] 19.1-1 [19.1-2]	Response to RAI No. 268 Luminant Letter no.TXNB-12043 Date 12/18/2012	Updated and expanded FSAR section cross-references for risk informed applications.	-
RCOL2_19-25	19.1.7 (New Subsection)	19.1-13 [19.1-14, 19.1-15]	Response to RAI No. 268 Luminant Letter no.TXNB-12043 Date 12/18/2012	Updated and expanded FSAR section cross-references for risk informed applications.	-
RCOL2_19-25	Table 19.1-207 (Sheets 1, 2 of 2) (New Table)	19.1-89 [19.1-91, 19.1-92]	Response to RAI No. 268 Luminant Letter no.TXNB-12043 Date 12/18/2012	Updated and expanded FSAR section cross-references for risk informed applications.	-

Change ID No.	Section	FSAR Rev. 3 Page	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_19-25	19.3.3	19.3-1	Response to RAI No. 268 Luminant Letter no.TXNB-12043 Date 12/18/2012	Updated and expanded FSAR section cross-references for risk informed applications.	-
DCD_16-117	Table 19.1-119R (Sheets 19, 34)	19.1-21 19.1-36	Response to RAI No. 161 MHI Letter No. UAP-HF-12022 Date 02/08/2012	Incorporated new key insights regarding administrative controls for AAC and demineralized water storage tank during atpower operation and SIS during LPSD operation	-
DCD_19-494	Table 19.1-119R (Sheet 34)	19.1-36	Response to RAI No. 669 MHI Letter No. UAP-HF-12023 Date 02/08/2012	Incorporated a new key insight regarding administrative controls for SIS during LPSD operation	-
CTS-01528	19.2.6.6 Table 19.2-9R	19.2-4 19.2-6	Consistency with RAI 267 Luminant Letter no.TXNB-12043 Date 12/18/2012	Maximum averted cost and SAMA benefit values at the corresponding discount rates were updated.	1

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