June 7, 2011

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

Part 2

FSAR Revision1

Update Tracking Report

Revision 8

(Non-Security Related Version)

Revision History

Revision	Date	Update Description
-	11/20/2009	COLA Revision 1 Transmittal See Luminant Letter no. TXNB-09074 Date 11/20/2009
-	10/15/2009	Updated Chapters: Ch. 2, 3, 11 See Luminant Letter no. TXNB-09054 Date 10/15/2009 Incorporated responses to following RAIs: No. 30, 31, 33, 35, 36
-	10/19/2009	Updated Chapters: Ch. 2, 3, 5, 11, 13 See Luminant Letter no. TXNB-09055 Date 10/19/2009 Incorporated responses to following RAIs: No. 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50,
-	10/21/2009	Updated Chapters: Ch. 2, 9 See Luminant Letter no. TXNB-09057 Date 10/21/2009 Incorporated responses to following RAIs: No. 51, 52, 53
-	10/26/2009	Updated Chapters: Ch. 3, 5 See Luminant Letter no. TXNB-09058 Date 10/26/2009 Incorporated responses to following RAIs: No. 54, 55, 56, 57, 58, 59
-	10/28/2009	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-09059 Date 10/28/2009 Incorporated responses to following RAIs: No. 19
-	10/30/2009	Updated Chapters: Ch. 2, 3, 5, 9 See Luminant Letter no. TXNB-09060 Date 10/30/2009

		Incorporated responses to following RAIs: No. 61, 62, 63, 64, 65
-	11/5/2009	Updated Chapters: Ch. 3, 13 See Luminant Letter no. TXNB-09061 Date 11/5/2009 Incorporated responses to following RAIs: No. 66, 67, 68, 69, 71
-	11/5/2009	Updated Chapters: Ch. 5, 12, 14 See Luminant Letter no. TXNB-09062 Date 11/5/2009 Incorporated responses to following RAIs: No. 85, 86, 87, 89
-	11/11/2009	Updated Chapters: Ch. 2, 3, 14 See Luminant Letter no. TXNB-09063 Date 11/11/2009 Incorporated responses to following RAIs: No. 72, 73, 74, 75
-	11/11/2009	Updated Chapters: Ch. 1, 2, 3, 9, 12, 14 See Luminant Letter no. TXNB-09064 Date 11/11/2009 Incorporated responses to following RAIs: No. 90, 91, 93, 94, 95, 96, 97, 98, 99, 100, 120
-	11/12/2009	Updated Chapters: Ch. 6, 13 See Luminant Letter no. TXNB-09066 Date 11/12/2009 Incorporated responses to following RAIs: No. 76, 77, 78
-	11/13/2009	Updated Chapters: Ch. 3, 17 See Luminant Letter no. TXNB-09065 Date 11/13/2009

		Incorporated responses to following RAIs: No. 79, 80, 84
-	11/13/2009	Updated Chapters: Ch. 2, 3 See Luminant Letter no. TXNB-09067 Date 11/13/2009 Incorporated responses to following RAIs: No. 101, 102, 103, 104, 105, 106, 107, 110, 111, 112, 113, 114, 115,
-	11/16/2009	Updated Chapters: Ch. 1, 11, 12 See Luminant Letter no. TXNB-09068 Date 11/16/2009 Incorporated responses to following RAIs: No. 116, 117, 118, 119
-	11/18/2009	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-09072 Date 11/18/2009 Incorporated responses to following RAIs: No. 32
-	11/20/2009	Updated Chapters: Ch. 9 See Luminant Letter no. TXNB-09071 Date 11/20/2009 Incorporated responses to following RAIs: No. 109,124
-	11/24/2009	Updated Chapters: Ch. 2, 3 See Luminant Letter no. TXNB-09073 Date 11/24/2009 Incorporated responses to following RAIs: No. 60
-	12/9/2009	Updated Chapters: Ch. 17 See Luminant Letter no. TXNB-09077 Date 12/9/2009

		Incorporated responses to following RAIs: No. 92
-	12/10/2009	Updated Chapters: Ch. 3 See Luminant Letter no. TXNB-09078 Date 12/10/2009 Incorporated responses to following RAIs: No. 108
-	12/14/2009	Updated Chapters: Ch. 2, 3 See Luminant Letter no. TXNB-09085 Date 12/14/2009 Incorporated responses to following RAIs: No. 122
-	12/16/2009	Updated Chapters: Ch. 3, 9 See Luminant Letter no. TXNB-09081 Date 12/16/2009 Incorporated responses to following RAIs: No. 121, 123
0	1/8/2010	Updated Chapters: Ch 2, 3, 8, 9, 10, 11
-	2/18/2010	Updated Chapters: Ch. 9 See Luminant Letter no. TXNB-10008 Date 2/18/2010 Incorporated responses to following RAIs: No. 126
-	2/19/2010	Updated Chapters: Ch. 5, 9 See Luminant Letter no. TXNB-10007 Date 2/19/2010 Incorporated responses to following RAIs: No. 127, 128, 10 Supplemental
-	2/22/2010	Updated Chapters:

		Ch. 1, 2, 12,13,14 See Luminant Letter no. TXNB-10010 Date 2/22/2010 Incorporated responses to following RAIs: No. 125, 129, 130, 131
-	2/22/2010	Updated Chapters: Ch. 2, 9 See Luminant Letter no. TXNB-10011 Date 2/22/2010 Incorporated responses to following RAIs: No. 11 Supplemental, 109 Supplemental
-	2/24/2010	Updated Chapters: Ch. 12 See Luminant Letter no. TXNB-10012 Date 2/24/2010 Incorporated responses to following RAIs: No. 133
-	2/24/2010	Updated Chapters: Ch. 9 See Luminant Letter no. TXNB-10013 Date 2/24/2010 Incorporated responses to following RAIs: No. ER GEN-09
-	3/5/2010	Updated Chapters: Ch. 3 See Luminant Letter no. TXNB-10018 Date 3/5/2010 Incorporated responses to following RAIs: No. 97 Supplemental
-	3/9/2010	Updated Chapters: Ch. 12

		See Luminant Letter no. TXNB-10020 Date 3/9/2010 Incorporated responses to following RAIs: No. 136
1	3/31/2010	Updated Chapters: Ch 2, 11
-	4/12/2010	Updated Chapters: Ch. 13 See Luminant Letter no. TXNB-10030 Date 4/12/2010 Incorporated responses to following RAIs: No. 151
-	4/20/2010	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-10032 Date 4/20/2010 Incorporated responses to following RAIs: No. 144
-	5/18/2010	Updated Chapters: Ch. 8 See Luminant Letter no. TXNB-10037 Date 5/18/2010 Incorporated responses to following RAIs: No. 152
-	5/6/2010	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-10035 Date 5/6/2010 Incorporated responses to following RAIs: No. 141
2	6/2/2010	Updated Chapters: Ch 1, 2, 3, 9, 10, 12, 13, 14, 15,16,19
-	6/7/2010	Updated Chapters: Ch. 2

		See Luminant Letter no. TXNB-10042 Date 6/7/2010 Incorporated responses to following RAIs: No. 155, 157, 160
-	6/25/2010	Updated Chapters: Ch. 1, 2, 15 See Luminant Letter no. TXNB-10048 Date 6/25/2010 Incorporated responses to following RAIs: No. 156, 158, 163, 164
3	7/8/2010	Updated Chapters: Ch 2, 11
-	6/24/2010	Updated Chapters: Ch. 13 See Luminant Letter no. TXNB-10047 Date 6/24/2010 Incorporated responses to following RAIs: No. 161
-	6/24/2010	Updated Chapters: Ch. 2, 19 See Luminant Letter no. TXNB-10046 Date 6/24/2010 Incorporated responses to following RAIs: No. 165, 166
-	7/16/2010	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-10052 Date 7/16/2010 Incorporated responses to following RAIs: No. 138, 139, 140, 143
-	8/9/2010	Updated Chapters: Ch. 10 See Luminant Letter no. TXNB-10056 Date 8/9/2010

		Incorporated responses to following RAIs: No. 169
-	8/9/2010	Updated Chapters: Ch. 2, 3 See Luminant Letter no. TXNB-10057 Date 8/9/2010 Incorporated responses to following RAIs: No. 162, 167
-	8/26/2010	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-10060 Date 8/26/2010 Incorporated responses to following RAIs: No. 144, 147
-	9/16/2010	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-10063 Date 9/16/2010 Incorporated responses to following RAIs: No. 145
-	9/22/2010	Updated Chapters: Ch. 1, 10, 11, 12 See Luminant Letter no. TXNB-10065 Date 9/22/2010 Incorporated responses to following RAIs: No. 135 Supplemental
-	9/29/2010	Updated Chapters: Ch. 2, 13 See Luminant Letter no. TXNB-10066 Date 9/29/2010 Incorporated responses to following RAIs: No. 71 Supplemental, 155 Supplemental, 156 Supplemental
4	10/7/2010	Updated Chapters: Ch 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 19
-	10/6/2010	Updated Chapters:

		Ch. 6, 13 See Luminant Letter no. TXNB-10069 Date 10/6/2010 Incorporated responses to following RAIs: No. 172
-	10/11/2010	Updated Chapters: Ch. 9 See Luminant Letter no. TXNB-10072 Date 10/11/2010 Incorporated responses to following RAIs: No. 178
-	8/19/2010	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-10059 Date 8/19/2010 Incorporated responses to following RAIs: No. 168
-	9/29/2010	Updated Chapters: Ch. 3 See Luminant Letter no. TXNB-10066 Date 9/29/2010 Incorporated responses to following RAIs: No. 170 Supplemental
-	10/21/2010	Updated Chapters: Ch. 2, 3 See Luminant Letter no. TXNB-10073 Date 10/21/2010 Incorporated responses to following RAIs: No. 168 Supplemental, 170 Supplemental
-	10/29/2010	Updated Chapters: Ch. 2, 9 See Luminant Letter no. TXNB-10076 Date 10/29/2010 Incorporated responses to following RAIs: No. 63 Supplemental, 110 Supplemental, 123 Supplemental, 155 Supplemental

-	11/8/2010	Updated Chapters: Ch. 3 See Luminant Letter no. TXNB-10080 Date 11/8/2010 Incorporated responses to following RAIs: No. 66 Supplemental
-	11/18/2010	Updated Chapters: Ch. 3 See Luminant Letter no. TXNB-100180 Date 11/18/2010 Incorporated responses to following RAIs: No. 180 Supplemental
-	1/6/2011	Updated Chapters: Ch. 3 See Luminant Letter no. TXNB-11001 Date 1/6/2011 Incorporated responses to following RAIs: No. 185
-	1/24/2011	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-11002 Date 1/24/2011 Incorporated responses to following RAIs: No. 195
-	1/27/2011	Updated Chapters: Ch. 13, 14 See Luminant Letter no. TXNB-11003 Date 1/27/2011 Incorporated responses to following RAIs: No. 75 Supplemental
-	1/27/2011	Updated Chapters: Ch. 3 See Luminant Letter no. TXNB-11004 Date 1/27/2011 Incorporated responses to following RAIs: No. 192, 193

-	3/18/2011	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-11018 Date 3/18/2011 Incorporated responses to following RAIs: No. 204
-	3/18/2011	Updated Chapters: Ch. 3 See Luminant Letter no. TXNB-11016 Date 3/18/2011 Incorporated responses to following RAIs: No. 146
-	3/18/2011	Updated Chapters: Ch. 3 See Luminant Letter no. TXNB-11018 Date 3/18/2011 Incorporated responses to following RAIs: No. 205
-	12/16/2010	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-10087 Date 12/16/2010 Incorporated responses to following RAIs: No. 188
-	4/8/2011	Updated Chapters: Ch. 3 See Luminant Letter no. TXNB-11021 Date 4/8/2011 Incorporated responses to following RAIs: No. 209
5	4/21/2011	Updated Chapters: Ch 1, 2, 9, 12, 14
-	4/11/2011	Updated Chapters: Ch. 14 See Luminant Letter no. TXNB-11025 Date 4/11/2011

		Incorporated responses to following RAIs: No. 211
-	4/19/2011	Updated Chapters: Ch. 1, 11, 13 See Luminant Letter no. TXNB-11023 Date 4/19/2011 Incorporated responses to following RAIs: No. 203
6	5/11/2011	Updated Chapters: Ch 7, 9, 10, 11, 12, 13, 14, 15
-	1/27/2011	Updated Chapters: Ch. 1 See Luminant Letter no. TXNB-11005 Date 1/27/2011 Incorporated responses to following RAIs: No. 194
-	2/7/2011	Updated Chapters: Ch. 17 See Luminant Letter no. TXNB-11008 Date 2/7/2011 Incorporated responses to following RAIs: No. 189 Supplemental
-	2/18/2011	Updated Chapters: Ch. 17 See Luminant Letter no. TXNB-11009 Date 2/18/2011 Incorporated responses to following RAIs: No. 197
-	4/19/2011	Updated Chapters: Ch. 19 See Luminant Letter no. TXNB-11025 Date 4/19/2011 Incorporated responses to following RAIs: No. 210 Supplemental
-	5/2/2011	Updated Chapters: Ch. 5 See Luminant Letter no. TXNB-11030 Date 5/2/2011 Incorporated responses to following RAIs: No. 215

-	5/6/2011	Updated Chapters: Ch. 3, 9 See Luminant Letter no. TXNB-11032 Date 5/6/2011 Incorporated responses to following RAIs: No. 213
7	5/20/2011	Updated Chapters: Ch 1, 2, 3, 8, 9, 19
-	11/22/2010	Updated Chapters: Ch. 13 See Luminant Letter no. TXNB-10082 Date 11/22/2010 Incorporated responses to following RAIs: No. 187
-	12/16/2010	Updated Chapters: Ch. 17 See Luminant Letter no. TXNB-10087 Date 12/16/2010 Incorporated responses to following RAIs: No. 189
-	2/18/2011	Updated Chapters: Ch. 9 See Luminant Letter no. TXNB-11009 Date 2/18/2011 Incorporated responses to following RAIs: No. 196
-	2/28/2011	Updated Chapters: Ch. 13 See Luminant Letter no. TXNB-11011 Date 2/28/2011 Incorporated responses to following RAIs: No. 199
-	3/18/2011	Updated Chapters: Ch. 12 See Luminant Letter no. TXNB-11015 Date 3/18/2011 Incorporated responses to following RAIs: No. 133 Supplemental,136 Supplemental
-	3/23/2011	Updated Chapters: Ch. 8

		See Luminant Letter no. TXNB-11017 Date 3/23/2011 Incorporated responses to following RAIs: No. 183 Supplemental
-	4/11/2011	Updated Chapters: Ch. 11 See Luminant Letter no. TXNB-11019 Date 4/11/2011 Incorporated responses to following RAIs: No. 200
-	4/13/2011	Updated Chapters: Ch. 11 See Luminant Letter no. TXNB-11022 Date 4/13/2011 Incorporated responses to following RAIs: No. 201, 208
-	5/6/2011	Updated Chapters: Ch. 1, 12, 13 See Luminant Letter no. TXNB-11029 Date 5/6/2011 Incorporated responses to following RAIs: No. 198
-	5/17/2011	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-11033 Date 5/17/2011 Incorporated responses to following RAIs: No. 217
8	6/7/2011	Updated Chapters: Ch 1, 8, 9, 11, 12, 13, 14, 19

Chapter 1

Chapter 1 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_12.03-12.04-1 RCOL2_12.01-4 RCOL2_12.03-12.04-7	Table 1.6-201	1.6-2	Response to RAI No.99. Luminant Letter No.TXNB-09064 Date 11/11/2009 Response to RAI No.118 and 119. Luminant Letter No.TXNB-09068 Date 11/16/2009	Add NEI 08-08 "Generic FSAR Template Guidance for Life-Cycle Minimization of Contamination", Rev.3 to Table1.6-201.	-
RCOL2_16-16	Table 1.8-201	1.8-64 1.8-65	Response to RAI No. 91 Luminant Letter no.TXNB-09064 Date 11/11/2009	Deleted COL 16.1_3.3.1(1), COL 16.1_3.3.2(1), and COL 16.1_3.3.6(1). Corrected the description and Resolution Category for COL 16.1_3.3.5(1). Added COL 16.1_5.5.21 (1).	-
RCOL2_12.03-12.04-1	Table 1.9-202	1.9-16	Response to RAI No.99 Luminant Letter No.TXNB-09064 Date 11/11/2009	Add RG 4.21 "Minimization of Contamination and Radioactive Waste Generation: Life Cycle Planning" to Table 1.9-202.	-
RCOL2_09.02.01-4	Table 1.8-201 (Sheet 33 of 62)	1.8-42	Response to RAI No.109 Luminant Letter No.TXNB-09071 Date 11/20/2009	COL 9.2(6) added Subsection 9.4.5.1.1.6. COL 9.2(7) Deleted subsection 9.2.1.5.4.	-
RCOL2_05.02.05-1	Table 1.8-208 (Sheet 29 of 68)	1.8-38	Responses to RAI No. 58, Luminant Letter no. TXNB-09058 Dated 10/26/2009	Added procedures for conversion into common leakage rate and procedures for determining the existence of and operator response to	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				prolonged low-level leakage conditions.	
RCOL2_14.02.01-1	1.9 Table 1.9-202	1.9-16	Response to RAI No.129 Luminant Letter No.TXNB-10010 Date 2/22/2010	Change identifies that conformance with Division 4 Regulatory Guide "Quality Assurance for Radiological Monitoring Programs" corresponding FSAR Chapter/Section is 12.5.	-
CTS-01106	Table 1.6-201	1.6-2	Update due to issuance of NEI 07-08A Rev0	NEI 07-08 Rev.3 was updated to NEI 07-08A Rev.0.	2
CTS-01107	Table 1.6-201	1.6-2	Update due to issuance of NEI 08-08A Rev0	NEI 08-08 Rev.3 was updated to NEI 08-08A Rev.0.	2
MAP-03-023	Table 1.8-201 (sheet 5 of 62)	1.8-14	Consistency with DCD Rev2 and COLA Rev1	Corrected section number of COL 3.5(1)	2
DCD_03.06.03-19	Table 1.8-201 (Sheet 7 of 62)	1.8-16	Reflect response to DCD RAI No.485	Added COL Item COL 3.6(10) in consistent with DCD RAI response	2
DCD_03.07.01-4	Table 1.8-201 (sheet 9 of 62)	1.8-18	Reflect response to DCD RAI No.494	Revised COL Item 3.7(8) to be consistent with DCD RAI response	2
DCD_03.08.05-35	Table 1.8-201 (sheet 9 of 62)	1.8-18	Reflect response to DCD RAI No. 496	Revised COL Item 3.7(7) to be consistent with DCD RAI response	2
DCD_05.02.01.01-1	Table 1.8-201 (sheet 22 of 62)	1.8-31	Reflect response to DCD RAI No. 264 (second amendment)	Revised COL item statement.	2
DCD_14.02-120	Table 1.8-201 (sheet 53 of 62)	1.8-62	Reflect response to DCD RAI No. 521	Revised COL item 14.2(11) from "First-plant only test" to "First-plant only tests"	2
RCOL2_14.02-18	1.9	1.9-1	Response to RAI No.164	Changed "operational aspect" to "operational	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			Luminant Letter no.TXNB-10048 Date 6/25/2010	aspects" in the first paragraph.	
RCOL2_14.02-18	1.9.1	1.9-1	Response to RAI No.164 Luminant Letter no.TXNB-10048 Date 6/25/2010	Added "operational aspects and" in the first paragraph.	-
RCOL2_14.02-18	Table 1.9-201	1.9-4	Response to RAI No.164 Luminant Letter no.TXNB-10048 Date 6/25/2010	Changed "COLA FSAR Status" column for RG 1.16 to "Not applicable" because RG was withdrawn.	-
RCOL2_14.02-18	Table 1.9-201	1.9-5	Response to RAI No.164 Luminant Letter no.TXNB-10048 Date 6/25/2010	Under RG 1.28 and RG 1.30 delete corresponding chapter/section "14.2.7" and add "17.3." Under RG 1.37 delete "14.2.7."	-
RCOL2_14.02-18	Table 1.9-201	1.9-9	Response to RAI No.164 Luminant Letter no.TXNB-10048 Date 6/25/2010	Under RG 1.116 delete corresponding chapter/section "14.2.7" and add "17.3."	-
RCOL2-12.03-12.04-11	Table 1.9-202	1.9-16	Response to RAI No. 135 Luminant Letter no.TXNB-10065 Date 9/22/2010	Added R. G. 4,21.	-
CTS-01140	1.2.1.5.4.4 1.2.1.6 1.2.1.7.1 1.2.2 1.6 1.7 1.8 1.8.1.1 1.8.1.3 1.8.1.4 1.8.2 Table	1.2-1 1.2-2 1.2-3 1.2-4 1.6-1 1.7-1 1.8-1 1.8-3 1.8-23	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	1.8-201 (Sheet 14 and 20 of 62)	1.8-29			
DCD_02-1	Table 1.8-201 (Sheet 1 of 62)	1.8-10	Reflect Response to DCD RAI No. 518	Revised the COL 2.1(1) description from “site parameters” to “site characteristics.”	4
MAP-03-030	Table 1.8-201 (Sheet 5 of 62)	1.8-14	Editorial corrections	Replaced typographical errors “Pritectuib” with “Protection” and “Low-Tragectory” with “Low-Trajectory” in row COL 3.5(2)	4
MAP-03-029	Table 1.8-201 (Sheet 11 of 62)	1.8-20	Revised COL information item to be consistent with DCD	Deleted “as free field outcrop motions on the uppermost in-situ competent material” from row COL 3.7(20)	4
DCD_19-426	Table 1.8-201 (Sheet 61 of 62)	1.8-70	Reflect Response to DCD RAI No. 564	Added the following after the last sentence in COL 19.3(1): “Peer reviews for the updated PRA will be performed prior to the use of PRA to risk-informed applications.”	4
CTS-01144	Table 1.9-201 (Sheet 1 through 8, 10 and 12 of 12) Table 1.9-203	1.9-4 through 1.9-11 1.9-13 1.9-15 1.9-17 Through 1.9-19	Response to RAI No.164 Luminant Letter no.TXNB-10048 Date 6/25/2010	Made enhancements to Table 1.9-201, 1.9-202 and 1.9-203 per Regulatory Commitment 7581 made in RAI No.164	4
CTS-01178	1.1.5	1.1-2	Update to commercial information	Removed schedule information and replaced with commitment to provide schedule in accordance	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				with RG 1.206 guidance	
DCD_03.02.02-10	Table 1.8-201 (Sheet 3 of 62)	1.8-12	Reflect Response to DCD RAI No. 580	Added COL 3.2(6)	5
DCD_03.04.01-21	Table 1.8-201 (Sheet 5 of 62)	1.8-14	Reflect Response to DCD RAI No. 579	Added COL 3.4(7) corresponds to the addition of COL 3.4(7) in DCD	5
RCOL2_11.02-14	Table 1.9-201 (Sheet 3 of 12)	1.9-6	Response to RAI No. 203 Luminant Letter no.TXNB-11023 Date 4/19/2011	Updated RG 1.54 conformance for Sections 11.2 and 11.4 to address COL 11.2(7) and 11.4(9)	-
RCOL2_13.06.01-56	1.9., Table 1.9-221	1.9-1 1.9-41	Response to RAI No. 194 Luminant Letter no.TXNB-11005 Date 1/27/2011	Added a new Table 1.9-221 which addresses conformance with division 5 Regulatory Guides.	-
MAP-01-301	Figure 1.2-1R (Sheet 1 of 2)	1.2-5	Consistency with DCD Revision 3	Reflected layout changes made to DCD Revision 3	7
MAP-01-301	Figure 1.2-1R (Sheet 2 of 2)	1.2-6	Consistency with DCD Revision 3	Reflected layout changes made to DCD Revision 3	7
MAP-01-301	Figure 1.2-201	1.2-8	Consistency with DCD Revision 3	Reflected layout changes made to DCD Revision 3	7
MAP-01-302	Table 1.8-1R	1.8-4 through 1.8-9	Consistency with DCD Revision 3	Reflected changes made to Table 1.8-1 in DCD Revision 3	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-01-303	Table 1.8-201 (Sheet 1, 3, 7, 9, 10,11, 12, 17, 20, 22, 23, 28, 29, 31, 32, 33, 34, 35, 37, 39, 41, 43, 45, 46, 48, 50, 51, 54, 55, 56, 57, 59)	1.8-10 1.8-12 1.8-16 1.8-18 1.8-19 1.8-20 1.8-21 1.8-26 1.8-29 1.8-31 1.8-32 1.8-37 1.8-38 1.8-40 1.8-41 1.8-42 1.8-43 1.8-44 1.8-46 1.8-48 1.8-50 1.8-52 1.8-54 1.8-55 1.8-57 1.8-59 1.8-60 1.8-63 1.8-64 1.8-65 1.8-66 1.8-68	Consistency with DCD Revision 3	Reflected changes made to Table 1.8-2 in DCD Revision 3	7
CTS--01238	Table 1.8-201 (Sheet 37 of 62)	1.8-46	Correction	Corrected the FSAR Location for COL 9.4(6).	7
CTS-01209	Table 1.8-201 (Sheet 39 of 62)	1.8-48	Correction	Added “9.5.4.3” to FSAR Location in Table 1.8-201	7
MAP-01-304	Table 1.8-201 (Sheet 43 of 62)	1.8-52	Correction	Corrected a typo in COL 11.4(7)	7
CTS-01209	Table 1.8-201	1.8-54	Correction	Corrected a typo in COL 12.1(6)	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	(Sheet 45 of 62)				
CTS-01239	Table 1.8-201 (Sheet 54 of 62)	1.8-63	Correction	Added the FSAR Location for COL 14.3(3).	7
CTS-01210	Table 1.9-201 (Sheet 7 of 12)	1.9-10	Reflect withdrawal of RG 1.135	Deleted current statements for COLA FSAR Status and the corresponding sections and added "Not applicable (This RG has been withdrawn by NRC)".	7
CTS-01211	Table 1.9-201 (Sheet 8 of 12)	1.9-11	Reflect withdrawal of RG 1.165	Deleted current statements for COLA FSAR Status and added "Not applicable (This RG has been withdrawn by NRC)".	7
CTS-01212	Table 1.9-203 (Sheet 1 of 3)	1.9-17	Reflect withdrawal of RG 8.6	Deleted current statements for COLA FSAR Status and added "Not applicable (This RG has been withdrawn by NRC)".	7
RCOL2_198_2	1.9.6 Table 1.9-220	1.9-3 1.9-41	Response to RAI No. 198 Luminant Letter no.TXNB-11029 Date 5/6/2011	Added new paragraph that describes where applicable requirements of 10 CFR 30, 40, 70, 73 and 74 are discussed Added line item to the table for Bulletin 2005-01	-
RCOL2_198_6	1.9.6	1.9-3	Response to RAI No. 198 Luminant Letter no.TXNB-11029 Date 5/6/2011	Added new paragraph that describes where applicable requirements of 10 CFR 30, 40, 70, 73 and 74 are discussed	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_198_6b	Table 1.9-220	1.9-41	Response to RAI No. 198 Luminant Letter no.TXNB-11029 Date 5/6/2011	Added line item for Bulletin 2005-01	-
MAP-01-306	1.1.6.2	1.1-3	Application of CDI	Added additional explanations for existing LMAs and new LMAs due to application of CDI.	8
MAP-01-305	1.2.1.7.1	1.2-3	Application of CDI	DCD Figure 1.2-2 can be IBR in R-COLA due to application of CDI.	8
MAP-01-305	Figure 1.2-2R	1.2-7	Application of CDI	Deleted Figure 1.2-2R because DCD Figure 1.2-2 can be IBR.	8
CTS-01338	1.4.1.1	1.4-1	Correction	Added “Add the following subsection after DCD Subsection 1.4.1”.	8
CTS-01339	Table 1.6-201	1.6-2	Update	Updated the revision numbers of reports.	8
CTS-01340	Table 1.7-202	1.7-3	Update	Added or modified the figure titles or a figure number to be consistent with the latest information.	8
MAP-01-307	1.8	1.8-1 [1.8-2]	Application of CDI	Revised Section 1.8 to match the DCD due to application of CDI.	8
CTS-01341	Table 1.8-1R (Sheet 1, 3 and 5 of 10)	1.8-4 1.8-6 1.8-7 [1.8-5 1.8-7 1.8-9]	Correction	Added “1.2” to the FSAR Section column.	8
CTS-01283	Table 1.8-201 (Sheet 31 of 62)	1.8-39 [1.8-40]	Final information for COL item 8.3(2) provided in Chapter 8	Changed the resolution category for COL 8.3(2) from 3b to 3a.	8
CTS-01343	Table 1.8-201 (Sheet 36	1.8-44 [1.8-45]	Correction	Deleted FSAR Locations and Resolution Categories	8

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	of 62)			for deleted COL items.	
MAP-1-308	Table 1.8-201 (Sheet 52 of 62)	1.8-60 [1.8-61]	Consistency with DCD Revision 3	Deleted “for the use of” to be consistent with DCD Revision3.	8
CTS-01345	Table 1.8-201 (Sheet 53 of 62)	1.8-62	Correction	Added “Figure 12.3-201” to the FSAR Section column for COL 12.3(10).	8
MAP-1-309	Table 1.8-201 (Sheet 63 of 62)	1.8-71 [1.8-72]	Consistency with DCD Revision 3	Deleted COL 16.1_5.5.21 (1).	8

*Page numbers for the attached marked-up pages may differ from the revision 1 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.

- STD DEP X.Y(#) - FSAR information that departs from the generic DCD and is common to all COL applicants referencing the generic DCD. Each standard departure is numbered separately based on the applicable section down to the X.Y level, e.g., STD DEP 1.2(1).

- CP DEP X.Y (#) - FSAR information that departs from the generic DCD and is plant-specific. Each departure item is numbered separately based on the applicable section down to the X.Y level, e.g., CP DEP 1.2(1).

- STD COL X.Y(#) - FSAR information that addresses a DCD COL Information item and is common to all COL applicants referencing the generic DCD. Each COL item is numbered as identified in DCD Table 1.8-2 and applicable sections, e.g., STD COL 1.2(1). This annotation may be used in case of the replacement of the DCD information that contains CDI information when applicable COL item exists. MAP-01-306

- CP COL X.Y(#) - FSAR information that addresses a DCD COL Information item and is plant-specific. Each COL item is numbered as identified in DCD Table 1.8-2 and applicable sections, e.g., CP COL 1.2(1). This annotation may be used in case of the replacement of the DCD information that contains CDI information when applicable COL item exists. MAP-01-306

- STD SUP X.Y(#) - FSAR information that supplements the material in the DCD and is common to all COL applicants referencing the generic DCD. Each SUP item is numbered separately at an appropriate section level, e.g., STD SUP 1.2(1).

- CP SUP X.Y(#) - FSAR information that supplements the material in the DCD and is plant-specific. Each SUP item is numbered separately at an appropriate section level, e.g., CP SUP 1.2(1).

- STD CDI - FSAR information that addresses DCD conceptual design information (CDI) and is common to all COL applicants referencing the generic DCD. When the applicable COL item does not exist, this annotation is used and is not numbered. MAP-01-306

- CP CDI - FSAR information that addresses DCD conceptual design information (CDI) and is plant-specific. When the applicable COL item does not exist, this annotation is used and is not numbered.

1.1.6.3 Text, Tables, and Figures

STD SUP 1.1(3) Add the following text at the end of DCD Subsection 1.1.6.3.

1.2.1.7.1 General Plant Arrangement

~~CP~~STD COL 1.8(1)

Add the following text at the end of first paragraph in DCD Subsection 1.2.1.7.1. CTS-01140

In addition, the UHS is the major ~~CPNPP Units 3 and 4~~ site-specific structure.

CP COL 1.2(1)

Replace the first sentence of the second paragraph in DCD Subsection 1.2.1.7.1 with the following.

The outline and the arrangement of CPNPP Units 3 and 4 are shown in Figure 1.2-1R.

~~CP~~STD COL 1.8(1)

Add the following text after the first sentence of the third paragraph in DCD Subsection 1.2.1.7.1. CTS-01140

The UHS is designed and constructed as a safety-related structure, to the requirements of seismic category I, as defined in RG 1.29.

CP COL 1.8(1)

Replace the last sentence in DCD Subsection 1.2.1.7.1 with the following.

The general arrangement drawings for the CPNPP Units 3 and 4 are provided in Figures 1.2-2~~R~~ through 1.2-51, as well as Figures 1.2-201 through 1.2-210. MAP-01-305

CP SUP 1.2(1)

The design plant grade in the DCD is 2'-7", whereas the nominal plant grade elevation for CPNPP Units 3 and 4 is National Geodetic Vertical Datum of 1929 (NGVD 29) Elevation 822'-0"; therefore, DCD elevations are to be increased by 819'-5" to be actual site elevations. The nominal plant grade floor elevation for design is NGVD 29 Elevation 822'-0" and corresponds to DCD Elevation 2'-7". The actual plant grade floor elevation varies to accommodate floor slope and layout requirements.

CP COL 1.8(1)

Add the following new subsection after DCD Subsection 1.2.1.7.2.7.

1.2.1.7.2.8 Ultimate Heat Sink Related Structures

The ultimate heat sink related structures (UHSRS) are seismic category I structures that connect to the essential service water pipe tunnel (ESWPT).

Each UHSRS consists of a cooling tower enclosure, UHS essential service water (ESW) pump house and a UHS basin.

MAP-01-305

~~CP COL 1.8(1)~~

Figure 1.2-2R ~~Comanche Peak Units 3 & 4 Power Block at Elevation 793' 1" – Plan View~~Deleted

1.4 IDENTIFICATION OF AGENTS AND CONTRACTORS

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

1.4.1 Applicant/Program Manager

CP COL 1.4(1) Insert the following paragraphs before first paragraph in DCD Subsection 1.4.1.

Luminant Generation Company LLC (Luminant) is a subsidiary of Energy Future Holdings Corp., and is the ~~owner,~~ applicant~~, and operator for CPNPP Units 3 and 4~~for the design, engineering, construction, licensing, operation, quality assurance (QA), and fuel management for CPNPP Units 3 and 4. Luminant ~~in~~is also the owner and operator of CPNPP Units 1 and 2, and its corporate predecessor was responsible for construction of Units 1 and 2. RCOL1_10-14-10

EFH (formerly TXU Corp.) conducts the operations principally through Texas Competitive Electric Holdings (TCEH) and Oncor Electric Delivery Company LLC (Oncor) subsidiaries. TCEH is a holding company for subsidiaries engaged in competitive electricity market activities largely in Texas, including Luminant, which is engaged in electricity generation, development and construction of new generation facilities, wholesale energy sales and purchases, and commodity risk management and trading activities, and TXU Energy, which is engaged in retail electricity sales. Oncor is engaged in regulated electricity transmission and distribution operations in Texas.

Mitsubishi Heavy Industries, Ltd. (MHI) is responsible for developing the overall standard plant design for the US-APWR, supporting COL application development and relevant design, and licensing support for the FSAR and related parts of the COL application.

CP COL 1.4(1) Add the following subsection after DCD Subsection 1.4.1. CTS-01338

1.4.1.1 Owner of Units 3 and 4 RCOL1_10-14-10

Luminant has established a project company, Comanche Peak Nuclear Power Company LLC (CPNPC), which is the applicant as the owner of CPNPP Units 3 and 4. Luminant is the majority and controlling owner of CPNPC with a minority interest held by Mitsubishi Heavy Industries – Nuclear North America (MHI-NNA), which is a wholly owned subsidiary of Mitsubishi Heavy Industries (MHI).

CP SUP 1.6(1)

Table 1.6-201

Material Referenced

Report Number	Title	FSAR Section Number	
52-021, Docket Number	US-APWR Design Control Document, Rev. 2	All FSAR Chapters	
NEI 07-09A	Generic FSAR Template Guidance for Offsite Dose Calculation Manual Program Description, Rev.0	11.5	
NEI 07-10A	Generic FSAR Template Guidance for Process Control Program, Rev.0	11.4	
NEI 07-08A	Generic FSAR Template Guidance for Ensuring That Occupational Radiation Exposures Are As Low As Is Reasonably Achievable (ALARA), Rev. ~~3~~0	12.1	CTS-01106 CTS-01106
NEI 07-03A	Generic FSAR Template Guidance for Radiation Protection Program Description, Rev. 0	12.1, 12.5	RCOL2_12.03-12.04-1
NEI 08-08A	Generic FSAR Template Guidance for Life-Cycle Minimization of Contamination, Rev. 0	12.5	RCOL2_12.01-4 RCOL2_12.03-12.04-7
NEI 06-13A	Template for an Industry Training Program Description, Rev. ~~1~~2	13.2	CTS-01107 CTS-01339
NEI 06-06	Fitness for Duty Program Guidance for New Nuclear Power Plant Construction Sites, Rev. ~~3~~5	13.7	CTS-01339
NEI 06-09	Risk-Managed Technical Specifications (RMTS) Guidelines, Rev. 0	16.1, Chapter 19	
NEI 04-10	Risk-Informed Method for Control of Surveillance Frequencies, Rev. 1	16.1, Chapter 19	CTS-01339
NEI 06-14A	Quality Assurance Program Description, Rev. ~~0~~7	17.5	RCOL2_17.05-12
NEI 07-02A	Generic FSAR Template Guidance for Maintenance Rule Program Description for Plants Licensed Under 10 CFR Part 52, Rev. 0	17.6	

CP SUP 1.7(1)

Table 1.7-202

Site-Specific System Drawings

Figure Number(Note)	Subject	
9.2.1-1R	Essential Service Water System Piping and Instrumentation Diagram	
9.2.4-1R	Potable and Sanitary Water System Flow Diagram	
9.2.4-201	Sanitary Water System Flow Diagram	CTS-01340
9.2.5-~~201~~1R	Ultimate Heat Sink System Piping and Instrumentation Diagram	CTS-01340
9.3.1-201	Hydrogen and Nitrogen Gas Supply Configuration	
9.4-201	Non-Class 1E Electrical Room HVAC System Flow Diagram	CTS-01340
9.4-202	Class 1E Electrical Room HVAC System Flow Diagram	CTS-01340
9.4-20~~1~~3	UHS ESW Pump House Ventilation System Flow Diagram	CTS-01340
9.5.1-201	Fire Protection Water Supply System	
9.5.1-202	CPNPP Units 3 & 4 Fire Main System	
10.4.5-1R	Circulating Water System Piping and Instrumentation Diagram	
10.4.5-201	Circulating Water System Piping and Instrumentation Diagram (Site-specific portion)	
10.4.8-1R	Steam Generator Blowdown System Piping and Instrumentation Diagram (Sheet 1 of 2)	
10.4.8-2R	Steam Generator Blowdown System Piping and Instrumentation Diagram (Sheet 2 of 2)	
10.4.8-201	Steam Generator Blowdown System Piping and Instrumentation Diagram (Site-specific portion)	
11.2-201	Liquid Waste Management System	
11.3-201	Gaseous Waste Management System	
11.4-201	Solid Waste Management System	

Note: Figure number with the designation "R" indicates that the figure has been revised and replaced.

1.8 INTERFACES FOR STANDARD DESIGN

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

~~CP~~STD COL 1.8(1)

~~Replace the last sentence of the third paragraph and the first through third sentences of the fourth paragraph in DCD Section 1.8 with the following.~~Replace the first sentence of the fourth paragraph in DCD Section 1.8 with the following. CTS-01140 MAP-01-307

The ~~CPNPP Units 3 and 4~~ site plan is shown on Figure 1.2-1R. CTS-01140

STD COL 1.8(1) Replace the fifth paragraph in DCD Section 1.8 with the following. MAP-01-307

This site plan includes site-specific structures such as the essential service water pipe tunnel, power source fuel storage vaults, and ultimate heat sink-related structures designated as CDI in the DCD. Section 1.2 provides the descriptions and figures for these SSCs. When IBR portion of this application includes CDI designators such as double brackets "[[ ]]" in text and tables and "cloud shape borders" around SSCs and notes in figures, it means that the CDI in DCD is adopted as actual design and the CDI designators are deleted.

Replace the first sentence of the six paragraph in DCD Section 1.8 with the following.

~~Table 1.8-1R has been revised for the FSAR with a column indicating the summary of the site-specific significant interface description and the location in the FSAR. Items in the "Description" column of Table 1.8-1R are partially or entirely site-specific and are outside the scope of the US-APWR standard plant design. This table also includes a description of each interface and the location of the DCD in which it is discussed.~~FSAR Table 1.8-1R has columns summarizing the site-specific interface description and providing its location in the FSAR.

STD COL 1.8(1) Add the following bullets to the end of the last bullet of the sixth paragraph.

Column 5, Description of the Interface in the FSAR: This column summarizes how the interface is met in the FSAR.

Column 6, FSAR Section: This column identifies the FSAR location of the interface description.

STD COL 1.8(1) Replace the last paragraph in DCD Section 1.8 with the following.

10 CFR 52 clarifies that Tier 2 information in a standard design certification rule does not include CDI and Section C.III.6 of RG 1.206 states that Tier 2 information in a standard design certification application does not include CDI. Therefore, replacement or revision of CDI identified in Table 1.8-1R does not constitute a departure. Additionally, information addressing COL information items identified in Table 1.8-201 and supplemental information (see Subsection 1.1.6.1) that does not change the intent or meaning of the DCD text is not a departure from the DCD. MAP-01-307

~~CP~~STD COL 1.8(1)

Add the following text after the last paragraph in DCD Section 1.8. CTS-01140

10 CFR 52.79 requires demonstration that interface requirements established for the certified standard design have been met. This section identifies the interfaces between the US-APWR standard plant design and the ~~CPNPP Units 3 and 4~~ site-specific design. ~~As a COL applicant referencing the certified US-APWR design, Luminant has provided design features and characteristics that comply with the interface requirements for the site-specific portion of the CPNPP Units 3 and 4 facility design in the FSAR.~~This COLA, which references the certified US-APWR design, provides design features and characteristics that comply with the interface requirements for the site-specific portion of the facility design in the FSAR. The following subsections describe the site-specific interfaces and the location where the design features for each interface are addressed. CTS-01140

1.8.1.1 Consolidated Combined License Items for the Entire Design Control Document

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~~CP~~STD COL 1.8(2)
~~CP~~STD COL 1.8(3)

Replace the second and third paragraphs in DCD Subsection 1.8.1.1 with the following new subsections. CTS-01140

1.8.1.2 Resolution of Combined License Information Items

Table 1.8-201 lists the FSAR location where each COL information item from the DCD is resolved. In addition, this table shows which COL information items are resolved in the Combined License Application (COLA), and which items remain as regulatory commitments, license conditions, and ITAAC.

Each COL information item is categorized and designated according to the following:

1. Operational programs: Operational programs are specific programs that are required by regulations. These programs are described in the FSAR to the extent that the NRC can conclude with reasonable assurance that the program is “fully described” and the implementation milestones of these programs are described in the FSAR in accordance with RG 1.206.

CP COL 1.8(1)

Table 1.8-1R (Sheet 1 of 10)

Significant Site-Specific Interfaces with the Standard US-APWR Design

MAP-01-302

CTS-01341

~~Interface Number~~	Interface	Interface Type	Description of Items Considered to be Outside the Standard Scope of Design	DCD Section	Description of the Interface in the FSAR	FSAR Section
~~1~~	Circulating Water System	~~Site Feature Interface~~CDI	~~The site-specific final system configuration and system design parameters. A typical design of the circulating water system (CWS) is presented in the DCD~~The system design of the circulating water system (CWS) is CDI. A typical "reference plant" physical layout, configuration and the associated design basis information for the CWS are presented in the DCD. The final system configuration for the CWS is site-specific.	~~10.4.5~~ 1.2 8.3.1 10.1 10.4.5 10.4.13 11.2.3.1 14.2.12.1.33	CWS is cooled by non-safety-related mechanical draft cooling towers. The makeup water and blowdown system is provided to supply water to the cooling tower to compensate losses due to evaporation and wind drift, and control water chemistry of cooling tower basins. The makeup water and blowdown system final configuration and design parameters are determined as follows subject to site-specific. • Makeup water system configuration and intake structure are specified and water source is determined as Lake Granbury. • Means for blowdown is determined as gravity drain into Lake Granbury. • A spare makeup pump is common to both units.	10.4.5 1.2

Comanche Peak Nuclear Power Plant, Units 3 & 4
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Table 1.8-1R (Sheet 3 of 10)

Significant Site-Specific Interfaces with the Standard US-APWR Design

MAP-01-302

~~Interface Number~~	Interface	Interface Type	Description of Items Considered to be Outside the Standard Scope of Design	DCD Section	Description of the Interface in the FSAR	FSAR Section
~~3~~	~~Deleted from the DCD.~~Essential Service Water Pipe Tunnel	CDI	The portions of the essential service water pipe tunnel (ESWPT) is outside the standard US-APWR buildings and is CDI. The termination points of the ESWPT are under the T/B and at the UHS related structures. A typical design for the ESWPT is presented in figures in this DCD and is CDI. The final configuration, including physical layout of the ESWPT, is site-specific.	1.2 8.3.1 App. 9A 11.5 12.3	The ESWPT is an underground reinforced concrete structure. The tunnel layout is a rectangular configuration forming a closed looped structure starting at the UHS Basins and terminating at the T/B. The tunnel is divided into two sections by an interior concrete wall to provide separation of piping trains. Each section contains both ESWS supply and return lines. End walls are also provided where required to maintain train separation.	3.8.4.1.3.1 1.2

CTS-01341

Table 1.8-1R (Sheet 5 of 10)

Significant Site-Specific Interfaces with the Standard US-APWR Design

MAP-01-302

CTS-01341

~~Interface Number~~	Interface	Interface Type	Description of Items Considered to be Outside the Standard Scope of Design	DCD Section	Description of the Interface in the FSAR	FSAR Section
~~5~~	~~Deleted from the DCD.~~Power Source Fuel Storage Vault	CDI	The typical design of the power source fuel storage vaults (PSFSVs) as presented in figures in this DCD is CDI. The final configuration of the PSFSVs including physical location in relation to the standard US-APWR buildings is site-specific.	1.2 App. 9A 12.3	The PSFSVs are underground reinforced concrete structures required to house the safety-related and non safety-related fuel oil tanks. There is one vault for each PS/B. The vault contains two safety-related and one non safety-related oil tanks. Each tank is contained in a separate compartment. Compartments are separated by reinforced concrete walls.	3.8.4.1.3.3 1.2
~~6~~	Potable and Sanitary Water System~~s~~	~~System Interface~~CDI	~~Portions of potable and sanitary water system (PSWS) outside the standard US-APWR buildings. The potable water system provides water supply and distribution fit for human consumption, and the sanitary drain system provides collection of sanitary wastewater.~~ The design and configuration of the potable and sanitary water systems (PSWS) is CDI. The potable water system provides water supply and distribution fit for human consumption, and the sanitary water system provides collection of sanitary wastewater, with standard plant design features to prevent the potential for contamination from radioactive sources.	9.2.4	Potable water supply to CPNPP Units 3 and 4 is from the Somervell County Water District. Sanitary/domestic wastes generated in the plant are transferred to the domestic waste treatment facility. Treated liquid effluent is discharged into Squaw Creek Reservoir and dewatered sludge is bagged for disposal.	9.2.4

CP COL 1.8(2)

Table 1.8-201 (Sheet 31 of 69)

Resolution of Combined License Items for Chapters 1 - 19

COL Item No.	COL Item	FSAR Location	Resolution Category	
COL 8.2(7)	The COL applicant is to address protective relaying for each circuit such as lines and buses.	8.2.1.2.1.1 8.2.1.2.1.2 Figure 8.2-203 Figure 8.2-204 Figure 8.2-209 Figure 8.2-210	3a	
COL 8.2(8)	The COL applicant is to address switchyard dc power as part of switchyard design description.	8.2.1.2.1.1 8.2.1.2.1.2	3a	
COL 8.2(9)	The COL applicant is to address switchyard ac power as part of switchyard design description.	8.2.1.2.1.1 8.2.1.2.1.2	3a	
COL 8.2(10)	The COL applicant is to address transformer protection corresponded to site-specific scheme.	8.2.1.2	3a	
COL 8.2(11)	The COL applicant is to address the stability and reliability study of the offsite power system. ~~S~~The stability study is to be ~~addressed~~conducted in accordance with BTP 8-3 (Reference 8.2-17). The study should address~~es~~ the loss of the unit, loss of the largest unit, loss of the largest load, or loss of the most critical transmission line including the operating range, for maintaining transient stability. A failure modes and effects analysis (FMEA) is to be provided.	8.2.1.2.1.1 8.2.2.2 8.2.3 Table 8.2-203	3a	MAP-01-303
COL 8.2(12)	Deleted from the DCD.			
COL 8.3(1)	The COL applicant is to provide transmission voltages. This includes also MT and RAT voltage ratings.	8.3.1.1 Table 8.3.1-1R	3a	
COL 8.3(2)	The COL applicant is to provide ground grid and lightning protection.	8.3.1.1.11	3~~b~~a	CTS-01283
COL 8.3(3)	The COL applicant is to provide short circuit analysis for ac power system, since the system contribution is site specific.	8.3.1.1.9 8.3.1.3	3a	

CP COL 1.8(2)

Table 1.8-201 (Sheet 36 of 69)

Resolution of Combined License Items for Chapters 1 - 19

COL Item No.	COL Item	FSAR Location	Resolution Category	
COL 9.2(10)	The COL Applicant is to confirm that all State and Local Department of Health and Environmental Protection Standards are applied and followed.	9.2.4.1	3a	MAP-01-303
COL 9.2(11)	The COL Applicant is to ~~confirm the source of~~identify the potable water ~~to the site and the necessary required treatment~~supply and describe the system operation.	9.2.4.1 9.2.4.2.1 Figure 9.2.4-1R	3a	MAP-01-303
COL 9.2(12)	The COL Applicant is to confirm that the sanitary waste is sent to the onsite plant treatment area or they will use the city sewage system.	9.2.4.1 9.2.4.2.1	3a	
COL 9.2(13)	~~COL Applicant is to identify the potable water supply and describe the system operation.~~Deleted from the DCD.	~~9.2.4.2.3~~ ~~9.2.4.4~~ ~~9.2.4.5~~	~~3a~~	MAP-01-303 CTS-01343
COL 9.2(14)	The COL Applicant is to confirm Table 9.2.4-1 for required components and their values.	9.2.4.2.1 Table 9.2.4-1R	3a	
COL 9.2(15)	The COL Applicant is to determine the total number of people at the site and identify the usage capacity. Based on these numbers the COL Applicant is to size the potable water tank and associated pumps.	9.2.4.1 9.2.4.2.2	3a	
COL 9.2(16)	~~The COL Applicant is to provide values to the component Table 9.2.4-1 based on system and component descriptions from Section 9.2.4.2.1 and 9.2.4.2.2 respectively.~~Deleted from the DCD.	~~Table 9.2.4-1R~~	~~3a~~	MAP-01-303 CTS-01343
COL 9.2(17)	The COL Applicant is to determine the total number of sanitary lift stations and is to size the appropriate interfaces.	9.2.4.1 9.2.4.2.3	3a	
COL 9.2(18)	The COL Applicant is to determine the type of the UHS based on specific site conditions and meteorological data.	9.2.5.1 9.2.5.2	3a	

CP COL 1.8(2)

Table 1.8-201 (Sheet 52 of 69)

Resolution of Combined License Items for Chapters 1 - 19

COL Item No.	COL Item	FSAR Location	Resolution Category	
COL 12.3(1)	The COL Applicant ~~is responsible~~shall describe ~~for the use of~~ portable instruments, and the associated training and procedures, to accurately determine the airborne iodine concentration in areas within the facility where plant personnel may be present during an accident, in accordance with the requirements of 10 CFR 50.34(f)(2)(xxvii) and the criteria in Item III.D.3.3 of NUREG-0737.	12.3.4 12.5	3a	MAP-01-303 MAP-1-308
COL 12.3(2)	Deleted from the DCD.			
COL 12.3(3)	Deleted from the DCD.			
COL 12.3(4)	The COL Applicant is to provide the site radiation zones that is shown on the site-specific plant arrangement plan.	12.3.1.2.1.1 Figure 12.3-1R	3a	
COL 12.3(5)	The COL Applicant is to discuss the administrative control of the fuel transfer tube inspection and the access control of the area near the seismic gap below the fuel transfer tube.	12.3.2.2.8 12.5	3a	
COL 12.3(6)	If the COL Applicant adopts the Mobile Liquid Waste Processing System, the COL Applicant is to provide information about the radiation protection aspects of the system and to indicate how the system is consistent with the guidance in SRP Section 12.3-12.4, RG 1.206 C.I.12.3.2 and RG 1.69.	12.3.1.1.1.2	3a	MAP-01-303
COL 12.3(7)	If the COL Applicant adopts the Mobile Liquid Waste Processing System, the COL Applicant is to provide information about prevention and detection of contamination of the environment and minimization of decommissioning costs and to explain how the system meets the requirements of 10 CFR 20.1406 and RG 4.21.	11.2.1.6 12.3.1.1.1.2	3a	

CP COL 1.8(2)

Table 1.8-201 (Sheet 53 of 69)

Resolution of Combined License Items for Chapters 1 - 19

COL Item No.	COL Item	FSAR Location	Resolution Category	
COL 12.3(8)	If the COL Applicant adopts the Mobile Liquid Waste Processing System, the COL Applicant is to confirm the radiation zone(s) where the system is installed in and to revise Figure 12.3-1, if necessary.	12.3.1.1.1.2	3a	MAP-01-303
COL 12.3(9)	In order to ensure that the B.A. evaporator room does not become a VHRA during the end of cycle, the COL Applicant is to stipulate a need for routine surveillance in the Radiation Protection Program. In the event that the routine surveillance shows an increase in dose level, the COL Applicant must provide an appropriate strategy to sufficiently reduce the dose rate below the criteria for a VHRA.	12.5	3a	
COL 12.3(10)	The COL Applicant will address the site-specific design features, operational, postconstruction objectives, and conceptual site model guidance of Regulatory Guide 4.21.	12.3.1.3.1.1 12.3.1.3.2 Table 12.3-201 Figure 12.3-201	3a	CTS-01345
COL 12.4(1)	For multiunit plants, the COL Applicant is to provide estimated annual doses to construction workers in a new unit construction area, as a result of radiation from onsite radiation sources from the existing operating plant(s).	12.4.1.9 Table 12.4-201	3a	
COL 13.1(1)	The COL Applicant is to provide a description of the corporate or home office organization, its functions and responsibilities, and the number and qualifications of personnel. The COL Applicant directs attention to activities that include facility design, design review, design approval, construction management, testing, and operation of the plant.	13.1-13.1.1.2.5 Figures 13.1-201 – 204 Appendix 13AA	3a	
COL 13.1(2)	The COL Applicant is to develop a description of past experience in the design, construction, and operation of nuclear power plants and past experience in activities of similar scope and complexity.	13.1.1.1	3a	

CP COL 1.8(2)

Table 1.8-201 (Sheet 63 of 69)

Resolution of Combined License Items for Chapters 1 - 19

COL Item No.	COL Item	FSAR Location	Resolution Category	
COL 16.1_4.3.1(1)	~~The site-specific boron concentration is to be provided.~~Deleted from the DCD.	~~COLA Part 4, Section A~~	~~3a~~	MAP-01-303
COL 16.1_5.1.1(1)	The titles for members of the unit staff are to be specified .	COLA Part 4, Section A	3a	
COL 16.1_5.1.2(1)	The titles for members of the unit staff are to be specified .	COLA Part 4, Section A	3a	
COL 16.1_5.2.1(1)	The titles for members of the unit staff are to be specified.	COLA Part 4, Section A	3a	
COL 16.1_5.2.2(1)	The titles and number for members of the unit staff are to be specified.	COLA Part 4, Section A	3a	
COL 16.1_5.3.1(1)	Minimum qualification for unit staff is to be specified.	COLA Part 4, Section A	3a	
COL 16.1_5.5.1(1)	The titles for members of the unit staff that approve the Offsite Dose Calculation Manual are to be specified.	COLA Part 4, Section A	3a	
COL 16.1_5.5.9(1)	~~The site-specific information for tube repair is to be provided.~~Deleted from the DCD.	~~COLA Part 4, Section A~~	~~3a~~	MAP-01-303
COL 16.1_5.5.20(1)	Control Room Envelope Habitability Program for hazardous chemical are to be confirmed by the evaluation with site-specific condition.	COLA Part 4, Section A	3a	
COL 16.1_5.6.1(1)	In case of multiple unit site, the additional information for submittal of report is to be added.	COLA Part 4, Section A	3a	RCOL2_16-16 MAP-1-309

Chapter 2

Chapter 2 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.02.01-02.02.02-1	2.2.1	2.2-1	Response to RAI No.30 Luminant Letter No. TXNB-09054 Date 10/15//2009	Removed bullet for DeCordova Steam Electric Station (SES).	-
RCOL2_02.02.01-02.02.02-1	2.2.2.1	2.2-3	Response to RAI No.30 Luminant Letter No. TXNB-09054 Date 10/15//2009	Added clarification for the location of the DeCordova	-
RCOL2_02.02.01-02.02.02-1	2.2.3.1.1.2	2.2-12	Response to RAI No.30 Luminant Letter No. TXNB-09054 Date 10/15//2009	Removed “the DeCordova SES”	-
RCOL2_02.02.01-02.02.02-2	2.2.2.2.10	2.2-5	Response to RAI No.30 Luminant Letter No. TXNB-09054 Date 10/15//2009	Added hypochlorite and percent	-
RCOL2_02.02.03-1	Table	2.2-43	Response to	Revised table to	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	2.2-214		RAI No.31 Luminant Letter No. TXNB-09054 Date 10/15//2009	show hypochlorite and dimethylamine.	
RCOL2_02.03.02-1	Table 2.3-284	2.3-162	Response to RAI No.45 Luminant Letter No. TXNB-09055 Date 10/19/2009	Corrected headers by changing the “Upper Level” to “Lower Level” at each location.	-
RCOL2_02.03.02-2 RCOL2_02.03.02-3	Table 2.3-327	2.3-220 through 2.3-222	Response to RAI No.45 Luminant Letter No. TXNB-09055 Date 10/19/2009	Replaced table with updated data and removed “Annual” from the title.	-
RCOL2_02.03.02-2	Table 2.3-328	2.3-223 through 2.3-225	Response to RAI No.45 Luminant Letter No. TXNB-09055 Date 10/19/2009	Replaced table with updated data and removed “Annual” from the title.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.03.02-2 andRCOL2_02.03. 02-3	Table 2.3-329	2.3-226 through 2.3-228	Response to RAI No.45 Luminant Letter No. TXNB-09055 Date 10/19/2009	Replaced table with updated data and removed “Annual” from the title.	-
RCOL2_02.03.02-2	Table 2.3-330	2.3-229 through 2.3-231	Response to RAI No.45 Luminant Letter No. TXNB-09055 Date 10/19/2009	Replaced table with updated data and removed “Annual” from the title.	-
RCOL2_02.03.02-2	Figure 2.3-373	-	Response to RAI No.45 Luminant Letter No. TXNB-09055 Date 10/19/2009	Revised graph based on updated data and removed the word “Annual” from the title.	-
RCOL2_02.03.02-2	Figure 2.3-374	-	Response to RAI No.45 Luminant Letter No. TXNB-09055 Date 10/19/2009	Revised graph based on updated data and removed the word “Annual” from the title.	-
RCOL2_02.03.02-2	Figure 2.3-375	-	Response to RAI No.45 Luminant Letter No. TXNB-09055 Date 10/19/2009	Revised graph based on updated data and removed the word “Annual” from the title.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.03.02-2	Figure 2.3-376	-	Response to RAI No.45 Luminant Letter No. TXNB-09055 Date 10/19/2009	Revised graph based on updated data and removed the word “Annual” from the title.	-
RCOL2_02.03.03-3 RCOL2_02.03.03-5 RCOL2_02.03.03-7	2.3.3.1	2.3-36	Response to RAI No. 46 Luminant Letter no.TXNB-09055 Date 10/19/2009	Expanded explanation of instrumentation.	-
RCOL2_02.03.03-3 RCOL2_02.03.03-5 RCOL2_02.03.03-7	2.3.3.3	2.3-37	Response to RAI No. 46 Luminant Letter no.TXNB-09055 Date 10/19/2009	Expanded explanation of calibration and surveillance.	-
RCOL2_02.03.03-6	2.3.3.3	2.3-37	Response to RAI No. 46 Luminant Letter no.TXNB-09055 Date 10/19/2009	Added a sentence to state how often the guy wires are inspected.	-
RCOL2_02.03.01-1	Acronyms and Abbreviations	2liv 2lviii	Response to RAI No. 51 Luminant Letter no.TXNB-09057 Date 10/21/2009	Added acronym ASHRAE and NOAA to support new text added to subsection 2.3.1.2.10.	-
RCOL2_02.03.01-1	2.3.1.2.10	2.3-21	Response to RAI No. 51 Luminant Letter no.TXNB-09057 Date 10/21/2009	Added text after sentence to describe the temperature values.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.03.01-2	2.3.1.2.3	2.3-12	Response to RAI No. 51 Luminant Letter no.TXNB-09057 Date 10/21/2009	Changed the number of tornados from 148 to 246.	-
RCOL2_02.03.01-2	2.3.1.2.3	2.3-13	Response to RAI No. 51 Luminant Letter no.TXNB-09057 Date 10/21/2009	Updated values to reflect 95 percent upper limit.	-
RCOL2_02.03.01-2	2.3.7	2.3-49	Response to RAI No. 51 Luminant Letter no.TXNB-09057 Date 10/21/2009	Updated reference citation information for Reference number 2.3-210.	-
RCOL2_02.03.01-3	2.3.1.2.6	2.3-15	Response to RAI No. 51 Luminant Letter no.TXNB-09057 Date 10/21/2009	Revised last paragraph to support the response.	-
RCOL2_02.03.01-5	2.3.1.2.8	2.3-20	Response to RAI No. 51 Luminant Letter no.TXNB-09057 Date 10/21/2009	Added a sentence to discuss assumption made to enough safety in the most extreme winter condition.	-
RCOL2_02.05.05-1	Accronyms and Abreviation	2-liv	Response to RAI No. 19 Luminant Letter no. TXNB-09059 Date 10/28/2009	Removed and added text a_y yield acceleration from the “Acronyms and Abreviation” list	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.05.05-1	2.5.5.2.4 2.5.5.2.5 2.5.5.2.6 2.5.5.2.7	2.5-225 through 2.5-227	Response to RAI No. 19 Luminant Letter no. TXNB-09059 Date 10/28/2009	Revised Subsection for RAI response	-
RCOL2_02.05.05-1	Table 2.5.5-203	2.5-440	Response to RAI No. 19 Luminant Letter no. TXNB-09059 Date 10/28/2009	Revised entire last column of the table	-
RCOL2_02.05.05-1	2.5.7	2.5-451	Response to RAI No. 19 Luminant Letter no.TXNB-TXNB-09059 Date 10/28/2009	Removed references 2.5-425 and 2.5-427	-
RCOL2_02.05.05-1	Figures 2.5.5-213 Through 2.5.5-216	-	Response to RAI No. 19 Luminant Letter no.TXNB-TXNB-09059 Date 10/28/2009	Removed references 2.5-425 and 2.5-427	-
RCOL2_02.03.04-1	2.3.4.2	2.3-42	Response to RAI No. 72 Luminant Letter No. TXNB-09063 Date 11/11/2009	Revised to provide updated text, including a reference to the US-APWR DCD parameters justifying the conservative assumptions.	-
RCOL2_02.03.04-2	2.3.4.2	2.3-43	Response to RAI No. 72 Luminant Letter No. TXNB-09063 Date 11/11/2009	Revised to indicate the x/Q values include a 10 % margin.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.03.04-3	2.3.4.1	2.3-39	Response to RAI No. 72 Luminant Letter No. TXNB-09063 Date 11/11/2009	Revised to clarify the years of data used in the accident x/Q	-
RCOL2_02.04-1	2.4.1 2.4.2 2.4.3 2.4.4 2.4.5 2.4.6 2.4.7 2.4.8	2.4-2 2.4-14 2.4-20 2.4-26 2.4-32 2.3-34 2.4-35 2.4-37	Response to RAI No.95 Luminant Letter No. TXNB-09064 Date 11/11/2009	Revised the introductory sentence to remove “Replace the content” with “Add the following at the end” and deleted the last portion of the sentence “with the following.”	-
RCOL2_02.03.04-4	Table 2.0-1R Table 2.3-338 Table 2.3-339	2.0-4 Through 2.0-7 2.3-240 Through 2.3-245 2.3-246 Through 2.3-245	Response to RAI No. 72 Luminant Letter No. TXNB-09063 Date 11/11/2009	Revised to reflect a more precise location for the main control room receptors.	-
RCOL2_02.04.07-2	2.4.7	2.4-36	Response to RAI No.104 Luminant Letter No. TXNB-09067 Date 11/13/2009	Reference numbers 2.4-269 and 2.4-270 were changed to 2.4-271 and 2.4-272.	-
RCOL2_02.04.07-2	2.4.7	2.4-36	Response to RAI No.104 Luminant Letter No. TXNB-09067 Date 11/13/2009	Revised to clarify coincident wind wave and to be consistent with FSAR Subsection 2.4.3.6.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.04-4	2.4.4.1	2.4-27	Response to RAI No. 111 Luminant Letter no.TXNB-09067 Date 11/13/2009	Added text to clarify assumption that reservoirs are at normal water surface elevations with no turbine discharges.	-
RCOL2_02.02.03-7	2.2.3.1	2.2-11	Response to RAI No.32 Luminant Letter No. TXNB-09072 Date 11/18/2009	Added “and radionuclide releases at adjacent units.”	-
RCOL2_02.02.03-7	2.2.3.1.7	2.2-20 2.2-11	Response to RAI No.32 Luminant Letter No. TXNB-09072 Date 11/18/2009	Added subsection to provide information on radiological releases.	-
CTS-00916	Table 2.0-1R (Sheet 11 of 12)	2.0-12	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Revised typographical error	-
CTS-00916	2.5.2.5 2.5.2.5.1	2.5-114 2.5-115 2.5-116	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Revised typographical error	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.07.02-1	2.5.2.5.2.1	2.5-116	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed “new EPRI” to “2004 EPRI” in the first paragraph.	-
RCOL2_03.07.02-1	2.5.2.5.2.1	2.5-117	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed “Vs ± Variability values” to “Vs ±1 sigma Variability values” in the third paragraph.	-
CTS-00916	2.5.2.5.2.1	2.5-117	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Revised typographical error	-
RCOL2_03.07.02-5	2.5.2.5.2.1	2.5-117	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added “(strain-independent)” after “linearly” in the fourth paragraph. Correct typo in fourth paragraph. Add sensitivity study for strain-dependent modulus in the fourth paragraph.	-
RCOL2_03.07.02-1	2.5.2.5.2.1	2.5-119	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed description for the peak strain in the soil column in the 6 through 8 paragraphs.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-00916	2.5.2.5.2.1	2.5-120	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Revised typographical error	-
CTS-00916	2.5.2.6.1	2.5-120	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Revised typographical error	-
RCOL2_03.07.02-1	2.5.2.6.1.1	2.5.121	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed description for horizontal GMRS spectrum in the 1 and 7 through 11 paragraphs.	-
CTS-00916	2.5.2.6.1.1 2.5.2.6.1.2	2.5-122 2.5-123 2.5-123 2.5-124	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Revised typographical error	-
RCOL2_03.07.02-1	2.5.2.6.2	2.5-126	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added description for Foundation Input Response Spectrum in the 8 and 9 paragraphs.	-
CTS-00916	2.5.2.6.2	2.5-126	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Revised typographical error	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.07.02-1	Figure 2.5.2-253	-	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added Figures for maximum strain for the 4 cases. 1. 500 ft of GMRS/FIRS1 profiles $1x10^{-5}$ 2. 500 ft of GMRS/FIRS1 profiles $1x10^{-6}$ 3. 50 ft of FIRS4 profiles $1x10^{-5}$ 4. 50 ft of FIRS4 profiles $1x10^{-6}$	-
RCOL2-03.08.04-43	2.5.4.5.4	2.5-190	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the description for the fill.	-
RCOL2_02.05.02-16 S01	2.5.2.4.4 2.5.2.5	2.5-112 2.5-113 2.5-115	Response to RAI No. 11 Luminant Letter no.TXNB-09084 Date 12/14/2009	Removed text after words “CAV filter.”and Added Meers Fault to discussion	-
CTS-01098	2.5.2.5.1	2.5-115 2.5-116	Response to RAI No. 11 Luminant Letter no.TXNB-09084 Date 12/14/2009	Word “Uncertainty was corrected to “Uncertainty”	-
RCOL2_02.05.02-16 S01	2.5.2.5.2.1	2.5-116	Response to RAI No. 11 Luminant Letter no.TXNB-09084 Date 12/14/2009	Removed multiple of before “60 synthetic profiles”	-
RCOL2_02.05.02-16 S01	2.5.2.6.1.1	2.5-121	Response to RAI No. 11 Luminant Letter no.TXNB-09084 Date 12/14/2009	Removed words “the NRC standard”	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.05.02-16 S01	2.5.2.6.1.1	2.5-123	Response to RAI No. 11 Luminant Letter no.TXNB-09084 Date 12/14/2009	Word “inside was corrected to “in site” Last 3 paragraphs of the section were revised, second to last paragraph was removed	-
CTS-01098	2.5.2.6.1.1	2.5-123	Response to RAI No. 11 Luminant Letter no.TXNB-09084 Date 12/14/2009	Word “was” was corrected to “is”	-
RCOL2_02.05.02-16 S01	2.5.2.6.1.2	2.5-124	Response to RAI No. 11 Luminant Letter no.TXNB-09084 Date 12/14/2009	Figure number was updated from 233 to 234	-
RCOL2_02.05.02-16 S01	2.5.2.6.2	2.5-126	Response to RAI No. 11 Luminant Letter no.TXNB-09084 Date 12/14/2009	Removed text on FIRS spectra	-
CTS-01098	Table 2.5.2-230 Through Table 2.5.2-237	2.5-343 Through 2.5-351	Response to RAI No. 11 Luminant Letter no.TXNB-09084 Date 12/14/2009	Tables were updated due to calculation revision.	-
RCOL2_02.05.02-16 S01	Figures 2.5.2-215 through 2.5.2-226 Figures 2.5.2-229 through 2.5.2-231 Figures 2.5.2-233 through	-	Response to RAI No. 11 Luminant Letter no.TXNB-09084 Date 12/14/2009	Figures were updated due to calculation revision	

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	2.5.2-239 Figures 2.5.2-246 through 2.5.2-251 Figure 3.7-201				
CTS-01092	2.2.2.7.1	2.2-9	Correction	Corrected reference notation from (Reference 2.2-229) to (Reference 2.2-233) in the sentence that reads: “As of 2007, the airport had approximately 32,850 aircraft…” and corrected reference notation from (Reference 2.2-230) to (Reference 2.2-235) in the sentence that reads: “As of 2006, the airport had approximately 58,400 aircraft…”	0
CTS-01092	2.2.5	2.2-24	Correction	Added reference citations to account for the reference notations in Subsection 2.2.2.7.1 and revised current reference numbers: 2.2-229 to 2.2-233; 2.2-230 to 2.2-235 and 2.2-231 to 2.2-337. Reference citations added include: 2.2-229 through 2.2-232;	0

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				2.2-234; and 2.2-236	
CTS-01093	2.4.12.2.4 2.4.13.3	2.4-52 2.4-67	Correction	Corrected years from “August 2007 to February 2007” to “August 2007 to February 2008.”	0
RCOL2_06.04-7	Table 2.2-214	2.2-43 2.2-44	Response to RAI No.125 Luminant Letter No.TXNB-10010 Date 02/22/2010	Added the refrigerant of chiller units in the Table 2.2-214.	-
RCOL2_02.05.02-16 S02	2.5.2.1.3.1	2.5-72 2.5-73	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Reflected additional earthquake in analysis	-
RCOL2_02.05.02-16 S02	2.5.2.2	2.5-76	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Reflected changes in seismic sources	-
RCOL2_02.05.02-16 S02	2.5.2.2.1	2.5-77 2.5-78	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Reflected changes in seismic sources	-
RCOL2_02.05.02-16 S02	2.5.2.2.1.1	2.5-78	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Clarified that Meers fault was replaced	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.05.02-16 S02	2.5.2.2.1.2	2.5-79	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Dames & Moore screening analysis	-
RCOL2_02.05.02-16 S02	2.5.2.2.1.3	2.5-80	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Law Engineering screening analysis	-
RCOL2_02.05.02-16 S02	2.5.2.2.1.4	2.5-81	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Rondout Associates screening analysis	-
RCOL2_02.05.02-16 S02	2.5.2.2.1.5	2.5-82	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Weston Geophysical screening analysis	-
RCOL2_02.05.02-16 S02	2.5.2.2.1.6	2.5-83	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Woodward-Clyde screening analysis and clarified that Meers fault was replaced	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.05.02-16 S02	2.5.2.4.2.2	2.5-96	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Reflects additional material and reorganization of subsections	-
RCOL2_02.05.02-16 S02	2.5.2.4.2.2.2	2.5-97	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Law Engineering screening analysis	-
RCOL2_02.05.02-16 S02	2.5.2.4.2.2.3	2.5-98	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Impact of replacing Meers fault	-
RCOL2_02.05.02-16 S02	2.5.2.4.2.2.4	2.5-99	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Rondout Associates screening analysis	-
RCOL2_02.05.02-16 S02	2.5.2.4.2.2.5	2.5-99 2.5-100	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Weston Geophysical screening analysis	-
RCOL2_02.05.02-16 S02	Figure 2.5.2-204	-	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-	Added sources to Law Engineering screening analysis	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			10011 Date 02/22/2010		
RCOL2_02.05.02-16 S02	Figure 2.5.2-206	-	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Rondout Associates screening analysis	-
RCOL2_02.05.02-16 S02	Figure 2.5.2-207	-	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Weston Geophysical screening analysis	-
RCOL2_02.05.02-16 S02	Figure 2.5.2-208	-	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources with updated Mmax distributions and weights	-
RCOL2_02.05.02-16 S02	2.5.2	2.5-256	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added new Ref 2.5-478 and 2.5-479	-
RCOL2_02.05.02-16 S02	Table 2.5.2-202	2.5-305	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Clarified that Meers fault was replaced	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.05.02-16 S02	Table 2.5.2-203	2.5-307 2.5-308	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Dames & Moore screening analysis	-
RCOL2_02.05.02-16 S02	Table 2.5.2-204	2.5-309	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Law Engineering screening analysis	-
RCOL2_02.05.02-16 S02	Table 2.5.2-205	2.5-310	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Rondout Associates screening analysis	-
RCOL2_02.05.02-16 S02	Table 2.5.2-206	2.5-311	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Weston Geophysical screening analysis	-
RCOL2_02.05.02-16 S02	Table 2.5.2-207	2.5-312 2.5-313	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources to Woodward-Clyde screening analysis and clarified that Meers fault was replaced	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.05.02-16 S02	Table 2.5.2-210	2.5-316	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Added sources with updated Mmax distributions and weights	-
RCOL2_02.05.02-16 S02	Table 2.5.2-233	2.5-346	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Errata	-
RCOL2_02.05.02-16 S02	Table 2.5.2-236	2.5-349	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Errata	-
CTS-01112	2.1.1.1	2.1-2	Erratum	Corrected the error for Unit 3 Northing reported as 357406 to 3574606 as described in ER Section 2.1.	1
CTS-01105	2.1.2.2	2.1-4	Access change to SCR	Revised specific information with regards to SCR use and access control.	1
CTS-01105	2.1.2.3	2.1-4	Access change to SCR	Added specific information with regards to SCR use and access control.	1
CTS-01105	2.1.3.3.2.1	2.1-8	Access change to SCR	Added specific information with regards to SCR use and access control.	1

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01105	2.2.2.4	2.2-7	Access change to SCR	Added specific information with regards to SCR use and access control.	1
CTS-01105	2.2.2.4	2.2-7	Clarification	Clarified intake structure location.	1
CTS-01105	2.2.3.1.5	2.2-20 [2.2-21]	Access change to SCR and correction/enhanced description	Replaced existing evaluation of collisions with the intake structure in SCR with an evaluation in Lake Granbury.	1
CTS-01105	2.2.3.1.6	2.2-20 [2.2-22]	Access change to SCR and correction/enhanced description	Clarified the existing evaluation of liquid spills in SCR and added an evaluation of liquid spills in Lake Granbury.	1
RCOL2_02.04.05-5	2.4.5	2.4-32	Response to RAI No.144 Luminant Letter No.TXNB-10032 Date 4/20/2010	Revised the text to clarify ANSI/ANS 2.8-1992 guidance criteria for considering regions of occurrence for the moving squall lines.	-
RCOL2_02.04.07-4	2.4.7.	2.4-36	Response to RAI No. 141 Luminant Letter no.TXNB-10035 Date 5/6/2010	Revised text to justify the bounding conservatism of the icing effect analysis, giving consideration to icing under extreme conditions.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01125	Table 2.0-1R (Sheet 7 of 12)	2.0-8	Consistency between the DCD Table 2.0-1 and FSAR Table 2.0-1R	Revised information for the plant vent.	2
CTS-01125	Table 2.0-1R (Sheet 1, 6, 7, 9 and 11of 12)	2.0-2 2.0-7 2.0-8 2.0-10 2.0-12	Consistency between the DCD Table 2.0-1 and FSAR Table 2.0-1R	Revised information to be consistent with Table 2.0-1 in DCD Revision 2.	2
CTS-01125	Table 2.0-1R (Sheet 12 of 12)	2.0-13	Consistency between the DCD Table 2.0-1 and FSAR Table 2.0-1R	Revised information for settlement and maximum tilt values.	2
CTS-01125	Table 2.0-1R (Sheet 1, 3, 4, 5, 6, 7, 8 and 12 of 12)	2.0-2 2.0-4 2.0-5 2.0-6 2.0-7 2.0-8 2.0-9 2.0-13	Consistency between the DCD Table 2.0-1 and FSAR Table 2.0-1R	Revised notes.	2
CTS-01125	Table 2.0-1R (Sheet 3 of 12)	2.0-4	Erratum	Corrected typographical error from the revision for RCOL2_02.03.04-4	2
CTS-01120	2.2.3.1.1.3	2.2-14 [2.2-13]	Erratum	Corrected typographical error to reflect correct subsection in DCD Revision 2.	2
CTS-01120	2.3	2.3-1	Erratum	Corrected typographical error for the referenced table number.	2
CTS-01120	2.3.4 2.3.4.1 2.3.4.2	2.3-39 [2.3-40]	Errata	Removed the COLA item instructions and added COLA items to be consistent	2

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				with DCD Rev 2.	
CTS-01120	2.3.5 2.3.5.1 2.3.5.2	2.3-43 [2.3-45]	Errata	Removed the COLA item instructions and added COLA items to be consistent with DCD Rev 2.	2
CTS-01121	2.5.1.1.2	2.5-5	Erratum	Corrected typographical error to reflect correct figure references.	2
CTS-01126	2.5.2.1.3.2	2.5-74	Erratum	Corrected reference number “Ref 2.5.2-213” to “Reference 2.5.2-378” and set as a link in red text.	2
CTS-01126	2.5.2.5.2.1	2.5-120	Erratum	Removed the notation in the text for Reference TXUT-001-PR-007 from the revision for RCOL2_03.07.02-5.	2
CTS-01110	Table 2.5.1-206 Through 2.5.1-220	2.5-281 Through 2.5-302 [2.5-285 through 2.5-302]	Duplicated information	Deleted duplication of tables from Subsection 2.5.2.	2
CTS-01111	Table 2.5.2-234 2.5.2-235 2.5.2-237	2.5-352 3.5-353 2.5-355 2.5-356	Errata	Corrected typographical errors that represented incorrect numbers.	2

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-00921	Figure 2.5.4-227	-	Errata	Corrected few plot points that were misscolored and did not comply with the Legend of this Figure.	2
CTS-00921	Figure 2.5.5-205 through 2.5.5-212	-	Revised to clarify geologic layers	The colors related to soil on the figures are revised, to be consistent with the revision to figures in provided for RCOL2_02.05.05-1	2
RCOL2_02.03.01-9	Table 2.0-1R (Sheet 2 of 12)	2.0.3	Response to RAI No. 155 Luminant Letter no.TXNB-10042 Date 6/7/2010	Site specific wind speed information has been corrected from 90 mph to 96 mph	-
RCOL2_02.03.01-10	2.3.1.2.1	2.3-10 2.3-11	Response to RAI No. 155 Luminant Letter no.TXNB-10042 Date 6/7/2010	Information on extreme weather conditions was added to the text.	-
RCOL2_02.03.01-10	2.3.3.1	2.3-38 2.3-39	Response to RAI No. 157 Luminant Letter no.TXNB-10042 Date 6/7/2010	Added a discussion to clarify the humidity at the CPNPP site.	-
RCOL2_02.03.03-10	Table 2.3-351	2.3-300	Response to RAI No. 157 Luminant Letter no.TXNB-10042 Date 6/7/2010	Added table to summarize the Monthly average humidity.	-
RCOL2_02.03.03-10	Figure 2.3-383 Through 2.3-386	-	Response to RAI No. 157 Luminant Letter no.TXNB-10042 Date 6/7/2010	Added figures on humidity between different sites including CPNPP	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.0 3.03-11	Table 2.3-332	2.3-245	Response to RAI No. 157 Luminant Letter no.TXNB-10042 Date 6/7/2010	Corrected table value unit.	-
RCOL2_02.0 3.03-12	2.3.3.1	2.3-39	Response to RAI No. 157 Luminant Letter no.TXNB-10042 Date 6/7/2010	Added information on Unit 1 and 2 meteorological program.	-
RCOL2_02.0 3.03-13	2.3.3.1	2.3-37	Response to RAI No. 157 Luminant Letter no.TXNB-10042 Date 6/7/2010	Added information on Meteorological instrumentation for Unit 1 and 2.	-
RCOL2_02.0 3.05-3	2.3.5.2.1	2.3-47 2.3-48	Response to RAI No. 160 Luminant Letter no.TXNB-10042 Date 6/7/2010	Added information on normal effluent release atmospheric dispersion evaluations at CPNPP.	-
RCOL2_02.0 3.05-4	2.3.5	2.3-51	Response to RAI No. 160 Luminant Letter no.TXNB-10042 Date 6/7/2010	Removed information on *x*/Q.	-
RCOL2_02 .03.04-9	Table 2.0-1R	2.0-13 through 2.0-15	Response to RAI No 158 Luminant letter TXNB-10048 Date 6/25/2010	Added *x*/Q information for TSC HVAC intake and inleak	-
RCOL2_02.0 3.04-12	2.3.4.3	2.3-46	Response to RAI No 158 Luminant letter TXNB-10048 Date 6/25/2010	Added *x*/Q information for Control Room HVAC	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.0 3.04-10	Table 2.3-338	2.3-257	Response to RAI No 158 Luminant letter TXNB-10048 Date 6/25/2010	Revised table information on release heights	-
RCOL2_02.0 3.02-04	2.3.2.2.4	2.3-35 2.3-36	Response to RAI No 156 Luminant letter TXNB-10048 Date 6/25/2010	Revised text to be consistent with revisions and corrections made to TXUT-001-ER-5.3-CALC-005, Rev. 3.	-
RCOL2_02.0 3.02-04	Tables 2.3-319 through 2.3-331	2.3-215 2.3-216 2.3-227 2.3-231 2.3-232 2.3-233 2.3-237 2.3-238 2.3-239 2.3-243 2.3-244 2.3-245	Response to RAI No 156 Luminant letter TXNB-10048 Date 6/25/2010	Revised text to be consistent with revisions and corrections made to TXUT-001-ER-5.3-CALC-005, Rev. 3.	-
RCOL2_02.0 3.02-04	Figures 2.3-372 through 2.3-379	-	Response to RAI No 157 Luminant letter TXNB-10048 Date 6/25/2010	Revised text to be consistent with revisions and corrections made to TXUT-001-ER-5.3-CALC-005.	-
CTS-01105	2.3.5.2.1	2.3-46 [2.3-50]	Access change to SCR	Revised text to reflect the inclusion of receptor locations on Squaw Creek Reservoir (SCR).	3

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01105	Table 2.3-336	2.3-237 [2.3-252]	Access change to SCR	Revised table to reflect the inclusion of receptor locations on SCR.	3
CTS-01105	Table 2.3-348 (Sheet 14 of 15) (Sheet 15 of 5)	2.3-281 [2.3-297] [2.3-298]	Access change to SCR	Revised table to reflect the inclusion of SCR.	3
CTS-01105	Table 2.3-350	2.3-283 [2.3-299]	Access change to SCR	Revised table to reflect the inclusion of SCR.	3
RCOL2_19-13	2.3.1.2.2	2.3- 11 [2.3-13]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added the formula provided by Kaplan and Demaria on calculating the tropical cyclone wind speed after landfall with a correction factor accounting for inland distance and a prediction for the upper bound of possible hurricane wind speed at the CPNPP site.	-
RCOL2_03 .08.04-72	Table 2.0-1R (Sheet 10 and 11 of 14)	2.0-11 2.0-12	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Revised site Specific FIRS information due to RAI response	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03 .08.04-63	2.5.1.2.5.2 2.5.2.5 2.5.2.6.2 2.5.4 2.5.4.3 2.5.4.4.2.1 2.5.4.7.4 2.5.4.8	2.5-56 2.5-118 2.5-129 2.5-140 2.5-179 2.5-186 2.5-207 2.5-208 2.5-209	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Deleted any mention of Seismic Category I shallow embedded duct banks	-
RCOL2_03 .08.04-72	2.5.2.6.1.1 2.5.2.6.1.2 2.5.2.6.2	2.5-126 2.5-127 2.5-128 2.5-130 2.5-131	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Revised site Specific FIRS information due to RAI response	-
RCOL2_03 .08.04-72	Table 2.5.2-236	2.5-355	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Revised site Specific FIRS information due to RAI response	-
RCOL2_03 .08.04-72	Table 2.5.2-237	2.5-356 2.5-357 2.5-358	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Revised GMRS information due to RAI response	-
RCOL2_03 .08.04-72	Figure 2.5.2-247 Through 2.5.2-252 Figure 2.5.2-257 and 2.5.2-258	-	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Revised site Specific FIRS information due to RAI response	-
RCOL2_02.04.01-6	2.4.1.1	2.4-3	Response to RAI No 138 Luminant letter TXNB-10052 Date 7/16/2010	Revised FSAR to clarify how flooding at the site and Brazos river were factored into the site flooding conditions.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.01-6	2.4.1.2	2.4-4 2.4-5 2.4-6	Response to RAI No 138 Luminant letter TXNB-10052 Date 7/16/2010	Revised subsection to elaborate on contributing and non-contributing watersheds.	-
RCOL2_02.04.01-6	2.4.1.2	2.4-6 2.4-7	Response to RAI No 138 Luminant letter TXNB-10052 Date 7/16/2010	Revised subsection to elaborate on dam failures	-
RCOL2_02.04.01-7	2.4.1.2	2.4-7 2.4-8	Response to RAI No 138 Luminant letter TXNB-10052 Date 7/16/2010	Revised subsection to elaborate on dam failures	-
RCOL2_02.04.01-6	2.4.1.2.2	2.4-12	Response to RAI No 138 Luminant letter TXNB-10052 Date 7/16/2010	Revised subsection to elaborate on dam failures	-
RCOL2_02.04.04-5	2.4.4	2.4-34 2.4-35	Response to RAI No 140 Luminant letter TXNB-10052 Date 7/16/2010	Revised to provide clarification on how upstream dams are evaluated.	-
RCOL2_02.04.04-5	2.4.4.1	2.4-35 Through 2.4-42	Response to RAI No 140 Luminant letter TXNB-10052 Date 7/16/2010	Revised to provide qualitative assessment of dam failure.	-
RCOL2_02.04.04-6 RCOL2_02.04.04-7	2.4.4.1	2.4-42	Response to RAI No 140 Luminant letter TXNB-10052 Date 7/16/2010	Revised to provide wind set up analysis.	-
RCOL2_02.04.04-7	2.4.4.1	2.4-43 Through 2.4-50	Response to RAI No 140 Luminant letter TXNB-10052 Date 7/16/2010	Revised to provide wind set up analysis.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.04-5	2.4.4.1	2.4-50 2.4-51 2.4-106 2.4-107	Response to RAI No 140 Luminant letter TXNB-10052 Date 7/16/2010	Removed former assumptions for the dam failure analysis and added appropriate references.	-
RCOL2_02.04.04-7	2.4.4.3	2.4-53 2.4-54 2.4-106 2.4-107	Response to RAI No 140 Luminant letter TXNB-10052 Date 7/16/2010	Revised to provide wind set up analysis and added appropriate references.	-
RCOL2_02.04.04-7	Figure 2.4-202 Figure 2.4-203	2.4-53 2.4-54 2.4-106 2.4-107	Response to RAI No 140 Luminant letter TXNB-10052 Date 7/16/2010	Revised figures to reflect clarification and revisions provided in the RAI response.	-
RCOL2_02.04.04-5	Table 2.4-201	2.4-149 Through 2.4-156	Response to RAI No 140 Luminant letter TXNB-10052 Date 7/16/2010	Added a table to summarize dam information.	-
RCOL2_02.04.02-2	2.4.1.2.4	2.0-10	Response to RAI No 139 Luminant letter TXNB-10052 Date 7/16/2010	Revised subsection to describe the conservative and bounding nature of the probable maximum flood analysis.	-
RCOL2_02.04.02-2	2.4.2.3	2.4-15 2.4-16 2.4-17 2.4-19 2.4-20 2.4-21	Response to RAI No 139 Luminant letter TXNB-10052 Date 7/16/2010	Revised subsection to describe the conservative and bounding nature of the probable maximum flood analysis.	-
RCOL2_02.04.02-2	Table 2.4.11-202	2.4-111	Response to RAI No 139 Luminant letter TXNB-10052 Date 7/16/2010	Revised table to reflect the revised analysis.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.03-5	Table 2.0-1R	2.0-10	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Revised maximum flood (or tsunami) level for SCR to 793.66 ft msl and to 820.90 ft msl for local intense precipitation at Units 3 and 4.	-
RCOL2_02.04.03-5	2.4.3	2.4-25	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Revised subsection to address the RAI response.	-
RCOL2_02.04.03-5	2.4.3.1	2.4-25 2.4-26 2.4-27	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Revised subsection to describe Basins as described in the RAI response.	-
RCOL2_02.04.03-5	2.4.3.2	2.4-27	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Revised subsection to describe Basins as described in the RAI response.	-
RCOL2_02.04.03-5	2.4.3.3	2.4-28 2.4-29 2.4-30	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Revised subsection to describe flooding conditions as described in the RAI response.	-
RCOL2_02.04.03-5	2.4.3.4	2.4-31	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Revised subsection to describe flooding conditions as described in the RAI response.	-
RCOL2_02.04.03-5	2.4.3.5	2.4-31 2.4-32	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Revised subsection to describe flooding conditions as described in the RAI response.	-
RCOL2_02.04.03-5	2.4.3.6	2.4-32 2.4-33	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Revised subsection to describe flooding conditions as described in the RAI response.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.03-5	2.4.16	2.4-107	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Added reference for revisions made to FSAR to support RAI response.	-
RCOL2_02.04.03-5	Table 2.4.3-203	2.4-137 2.4 -138 2.4-139	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Revised table to reflect Basin 2 incremental PMP estimates.	-
RCOL2_02.04.03-5	Table 2.4.3-205	2.4-141 2.4-142 2.4-143	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Revised table to reflect incremental PMP estimates for Paluxy River Watershed Subbasin.	-
RCOL2_02.04.03-5	Table 2.4.3-206	2.4-144	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Removed table as the information is no longer used/supported in the text.	-
RCOL2_02.04.03-5	Table 2.4.3-207	2.4-145	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Revised watershed subbasin characteristics to support the RAI response.	-
RCOL2_02.04.03-5	Table 2.4.3-208	2.4-146	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Added new table to summarize SCR Watershed basin 1.6 hour to support RAI response.	-
RCOL2_02.04.03-5	Table 2.4.3-209	2.4-147	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Added new table to summarize SCR Sub-basin 1 hour to support RAI response.	-
RCOL2_02.04.03-5	Table 2.4.3-210	2.4-147	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Added new table to summarize Synder's Unit Hydrograph results to support RAI response.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.03-5	Figures 2.4.3-203 through 2.4.3-209	-	Response to RAI No 143 Luminant letter TXNB-10052 Date 7/16/2010	Revised figure to reflect revisions to the PMF analysis.	-
RCOL2_02.04.05-6	2.4.5	2.4-56 2.4-57	Response to RAI No 144 Luminant letter TXNB-10060 Date 8/26/2010	Revised subsection to describe the mechanisms that could result in a conservative estimate of landslide induced seiches.	-
RCOL2_02.04.05-6	Figures 2.5.4-201 2.5.4-202	-	Response to RAI No 144 Luminant letter TXNB-10060 Date 8/26/2010	Added figures to depict the conceptual model used to show mechanisms that could result in a conservative estimate of landslide induced seiches.	-
RCOL2_02.04.05-6	Table 2.4.5-201	2.4-165	Response to RAI No 144 Luminant letter TXNB-10060 Date 8/26/2010	Added table to describe the slope geometry for SCR shoreline.	-
RCOL2_02.04.05-6	Table 2.4.5-202	2.4-166 2.4-167	Response to RAI No 144 Luminant letter TXNB-10060 Date 8/26/2010	Added table to describe the SCR slope line shoreline analysis.	-
RCOL2_02.04.05-6	Table 2.4.5-203	2.4-168 2.4-169	Response to RAI No 144 Luminant letter TXNB-10060 Date 8/26/2010	Added table summarize the SCR slope stability analysis for extreme worse case.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.05-7	2.4.5	2.4-55	Response to RAI No 144 Luminant letter TXNB-10060 Date 8/26/2010	Revised subsection to describe conservative comparison to Barberopoulou's publication.	-
RCOL2_02.04.05-7	2.4.16	2.4-107	Response to RAI No 144 Luminant letter TXNB-10060 Date 8/26/2010	Added references for new sources cited in revision for Subsection 2.4.5.	-
RCOL2_02.04.12-9, 13, 14, and 15	2.4.12.2.4	2.4-75 2.4-76 2.4-77 2.4-78	Response to RAI No 147 Luminant letter TXNB-10060 Date 8/26/2010	Revised subsection to clarify monitoring well information and groundwater elevation data.	-
RCOL2_02.04.12-9, 13, 14, and 15	2.4.12.3	2.4-80 2.4-81	Response to RAI No 147 Luminant letter TXNB-10060 Date 8/26/2010	Revised subsection to describe conservative groundwater pathway travel time assumption.	-
RCOL2_02.04.12-9, 13, 14, and 15	2.4.12.3.1	2.4-82 2.4-83 2.4-84 2.4-85 2.4-87	Response to RAI No 147 Luminant letter TXNB-10060 Date 8/26/2010	Revised subsection to describe the possible pathway scenarios and site specific factors considered.	-
RCOL2_02.04.12-9, 13, 14, and 15	Table 2.4.12-211	2.4-216 2.4-217 2.4-218 2.4-219 2.4-220	Response to RAI No 147 Luminant letter TXNB-10060 Date 8/26/2010	Revised table to provide summary of pathway conditions as described in the revised model.	-
RCOL2_02.04.12-9, 13, 14, and 15	Figure 2.4.12-210 (sheet 1 through 4 of 12)	-	Response to RAI No 147 Luminant letter TXNB-10060 Date 8/26/2010	Revised figure sheet numbers to show only the potentiometric surface for groundwater in the hydrogeologic Zone A.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.12-9, 13, 14, and 15	Figure 2.4.12-210 (Sheet 1 through 12 of 12)	-	Response to RAI No 147 Luminant letter TXNB-10060 Date 8/26/2010	Removed groundwater gradient maps depicting the potentiometric surface in the hydrogeologic zones B and C.	-
RCOL2_02.04.12-9, 13, 14, and 15	Figure 2.4.12-212	-	Response to RAI No 147 Luminant letter TXNB-10060 Date 8/26/2010	Revised figure to depict the possible flow pathways.	-
RCOL2_02.04.12-9, 13, 14, and 15	Figure 2.4.12-213	-	Response to RAI No 147 Luminant letter TXNB-10060 Date 8/26/2010	Revised figure to depict post construction release flow path #1 described in the 2.4.12 conceptual model.	-
RCOL2_02.04.12-9, 13, 14, and 15	Figure 2.4.12-214	-	Response to RAI No 147 Luminant letter TXNB-10060 Date 8/26/2010	Revised figure to depict post construction release flow path #2 described in the 2.4.12 conceptual model.	-
RCOL2_02.04.12-9	2.5.1.2.5.5	2.5-58	Response to RAI No 147 Luminant letter TXNB-10060 Date 8/26/2010	Revised subsection to describe groundwater consistent with the model described in revised subsection 2.4.12.	-
RCOL2_02.04.12-9	Figure 2.5.5-204	-	Response to RAI No 147 Luminant letter TXNB-10060 Date 8/26/2010	Revised figure to depict the current grading and drainage plan.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.13-7	2.4.13.1	2.4-89	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Clarified that the source term concentrations utilized in the tank failure analysis are from the BTP 11-6 guidance.	-
CTS-01142	2.4.13.1	2.4-89	Erratum	Deleted dash between reactor and coolant.	-
RCOL2_02.04.13-7	2.4.13.1	2.4-90	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Revised the discussion to indicate that the source term concentration was generated using the RATAF code and deleted the reference to dilution factor of 4.4E10 gal.	-
RCOL2_02.04.13-7	2.4.13.1	2.4-91	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Revised text to indicate that all radionuclides generated from the RATAF code were evaluated in the analysis, not only Cs-134 and Cs-137.	-
RCOL2_02.04.12-7	2.4.13.2	2.4-91	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Revised subsection to reflect elimination of vertical pathway to Twin Mountains formation.	-
RCOL2_02.04.12-7	2.4.13.2	2.4-92	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Revised text to reflect RAI 147 changes on alternate pathways considered in analysis and to be consistent with 2.4.12.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01157	2.4.13.3	2.4-94	Erratum	Revised to reflect correct Figure number.	-
CTS-01158	2.4.13.3	2.4-94	Erratum	Removed the word 'see' from the figure reference to be consistent with the COLA format.	-
RCOL2_02.04.12-5	2.4.13.4	2.4-94	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Changed title of section for clarity.	-
RCOL2_02.04.13-5	2.4.13.4	2.4-95	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Added additional information to substantiate elimination of vertical pathway to Twin Mountains Formation.	-
CTS-01154	2.4.13.4	2.4-95	Erratum	Corrected reference to Subsection.	-
RCOL2_02.04.13-5	2.4.13.4	2.4-96	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Added additional information to substantiate elimination of vertical pathway to Twin Mountains Formation.	-
RCOL2_02.04.13-7	2.4.13.5	2.4-96 2.4-97 2.4-98 2.4-99 2.4-100 2.4-101	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Revised subsection title and subsection to remove the previous discussion and add a new discussion regarding the tank failure anlaysis.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.13-7	2.4.13.5.1	2.4-101 2.4-102 2.4-103	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Added new subsection entitled Bounding Unit 3 Pathway Scenario.	-
RCOL2_02.04.13-7	2.4.13.5.2	2.4-103 2.4-104 2.4-105	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Added new subsection entitled Modeling Equations Used in Tank Failure Analysis.	-
RCOL2_02.04.13-7	2.4.13.5.3	2.4-105 2.4-106	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Added new subsection entitled Infiltration Area of Existing Fill Groundwater and Effect on Volumetric Flow Rate into SCR.	-
RCOL2_02.04.13-7	2.4.13.5.4	2.4-107	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Added new subsection entitled Dilution Effect of the Existing Fill Groundwater.	-
RCOL2_02.04.13-7	2.4.13.5.5	2.4-107 2.4-108	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Added new subsection entitled Effects of Circulating Water Pump Operation on Mixing and Dilution.	-
RCOL2_02.04.13-7	2.4.13.5.6	2.4-108 2.4-109 2.4-110	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Added new subsection entitled Dilution Effect and Mixing of SCR	-
RCOL2_02.04.13-7	2.4.13.5.7	2.4-110 2.4-111	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Added new subsection entitled Summary to summarize the overall tank failure analysis.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.13-7	2.4.13.6	2.4-111	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Deleted subsection to reflect new analysis and results.	-
RCOL2_02.04.13-7	2.4.13.7	2.4.112 2.4.113	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Deleted subsection to reflect new analysis and results.	-
RCOL2_02.04.13-7	References	2.4-123	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Added references used in the new analysis described in the revised text.	-
RCOL2_02.04.13-7	Tables 2.4.13-202 2.4.13-203 2.4.13-204 2.4.13-205 2.4.13-206 2.4.13-207 2.4.13-208 2.4.13-209	2.4-223 through 2.4-237	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Added new tables to reflect new tank failure analysis.	-
RCOL2_02.04.13-7	Figures 2.4-12-212 2.4-12-213	-	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	Revised figures eliminate previous analysis cross sections and show stormwater pond east of Unit 3.	-
RCOL2_02.04.13-7	Figures 2.4.13-201 2.4.13-202 2.4.13-203 2.4.13-204 2.4.13-205 2.4.13-206 2.4.13-207	-	Response to RAI No 145 Luminant letter TXNB-10063 Date 9/16/2010	New figures added to reflect new subsection 2.4.13.5 discussion.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02 .03.01-6 S01	Table 2.0-1R (Sheet 2 of 15) Table 2.3-202 (Sheet 4 of 4)	2.0-3 2.3-61	Supplemental Response to RAI No. 155 Luminant letter TXNB-10066 Date 9/29/2010	100 yr temperatures were added to the tables	-
RCOL2_02 .03.01-6 S01	2.3.7	2.3-55	Supplemental Response to RAI No. 155 Luminant letter TXNB-10066 Date 9/29/2010	New reference added	-
RCOL2_02.0 3.02-04 S01	2.3.2.2.4	2.3-35 2.3-36	Supplemental Response to RAI No 156 Luminant letter TXNB-10066 Date 9/29/2010	Revised text to be consistent with revisions and corrections made to TXUT-001-ER-5.3-CALC-005, Rev. 4.	-
RCOL2_02.0 3.02-04 S01	Tables 2.3-319 through Table 2.3-331	2.3-215 through 2.3-227 2.3-231 through 2.3-233 2.3-237 through 2.3-239 2.3-243 through 2.3-245 2.3-249 through 2.3-252	Supplemental Response to RAI No 156 Luminant letter TXNB-10066 Date 9/29/2010	Revised text to be consistent with revisions and corrections made to TXUT-001-ER-5.3-CALC-005, Rev. 4.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.0 3.02-04 S01	Figures 2.3-372 through Figure 2.3-379	-	Supplemental Response to RAI No 156 Luminant letter TXNB-10066 Date 9/29/2010	Revised text to be consistent with revisions and corrections made to TXUT-001-ER-5.3-CALC-005, Rev. 3.	-
CTS-01140	2.1 2.1.4	2.1-1 2.1-11	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4
CTS-01143	2.5.3.4	2.5-130 [2.5-136]	Erratum	Added reference to Subsection 2.5.1.2.4.2	4
CTS-01143	Table 2.5.4-202	2.5-367 [2.5-369]	Erratum	Corrected Pit A dimension of 68 ft. to 55 ft.	4
RCOL2_02 .05.02-22	2.5.2.2.1 2.5.2.2.1.1 2.5.2.2.1.4 2.5.2.2.1.5 2.5.2.2.1.6 2.5.2.4.2.2.3 2.5.2.4.2.2.4 2.5.2.4.2.2.5	2.5-78 2.5-80 2.5-81 2.5-82 2.5-83 2.5-84 2.5-100	Response to RAI No 168 Luminant letter TXNB-10059 Date 8/19/2010	Updated FSAR text with source zones and seismic hazard information	-
RCOL2_02 .05.02-27	2.5.2.4.2.3.2.2 2.5.2.4.2.3.2.3 2.5.2.4.2.3.2.4	2.5-107 2.5-108 2.5-109	Response to RAI No 168 Luminant letter TXNB-10059 Date 8/19/2010	Updated FSAR text to account for new figure Figure 2.5.2-259	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02 .05.02-22	Table 2.5.2-203 (Sheet 2 of 2) Table 2.5.2-210	2.5-314 2.5-320	Response to RAI No 168 Luminant letter TXNB-10059 Date 8/19/2010	Updated FSAR text with source zones and seismic hazard information	-
RCOL2_02 .05.02-27	Figure 2.5.2-259	-	Response to RAI No 168 Luminant letter TXNB-10059 Date 8/19/2010	New figure – Logic Tree of Return Period and Characteristic Magnitude for the Meers Fault	-
RCOL2_02 .05.02-24 S01	2.5.2.1.3.1	2.5-72	Supplemental Response to RAI No 168 Luminant letter TXNB-10073 Date 10/21/2010	Updated FSAR text with source zones and seismic hazard information	-
RCOL2_02 .05.02-22 S01	2.5.2.4.2.2.3	2.5-100	Supplemental Response to RAI No 168 Luminant letter TXNB-10073 Date 10/21/2010	Updated FSAR text with source zones and seismic hazard information	-
RCOL2_02 .05.02-24 S01	Table 2.5.2-201 (Sheet 3 of 6)	2.5-307	Supplemental Response to RAI No 168 Luminant letter TXNB-10073 Date 10/21/2010	Updated FSAR text with source zones and seismic hazard information	-
RCOL2_02 .05.04-22 S01	Figure 2.5.4-246 through 2.5.4-261	-	Supplemental Response to RAI No 170 Luminant letter TXNB-10073 Date 10/21/2010	Added Preliminary SRI Excavation figures to the COLA.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02 .05.04-22 S01	2.5.4.5	2.5-190	Supplemental Response to RAI No 170 Luminant letter TXNB-10073 Date 10/21/2010	Added text introducing the Preliminary SRI Excavation figures into the COLA.	-
RCOL2_02 .05.04-23 S01	2.5.4.3	2.5-179	Supplemental Response to RAI No 170 Luminant letter TXNB-10073 Date 10/21/2010	Added text to confirm that there no site-specific seismic CAT I structures resting on backfill.	-
RCOL2_02.03.01-06 S02	Table 2.0-1R (Sheet 2 of 15)	2.0-3	Supplemental Response to RAI No 155 Luminant letter TXNB-10076 Date 10/29/2010	FSAR Table 2.01R has been revised to show the 100-year return period temperatures in a new row so as to not confuse them with the 0 percent exceedance values	-
RCOL2_02.03.01-11	Table 2.0-1R	2.0-3	Response to RAI No 195 Luminant letter TXNB-11002 Date 1/24/2011	Table 2.0-1R has been revised to show direct comparison between the CPNPP 100-year return period maximum (and minimum) recorded temperatures and the US-APWR 0 percent exceedance temperatures	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02. 3.01-12	Table 2.0-1R	2.0-3	Response to RAI No 204 Luminant letter TXNB-11018 Date 3/18/2011	Table 2.0-1R has been revised to list the 100 year return non-coincident wet bulb temperature to compare with the 0% exceedance non-coincident wet bulb temperatures.	-
ROC2_02.04.03-12	2.4.3	2.4-25	Response to RAI No 188 Luminant letter TXNB-10087 Date 12/16/2010	Corrected the Squaw Creek Dam elevation from 755.24 ft msl to 761.11 ft msl.	-
RCOL2_02.02.03-12	2.4.3.1	2.4-26	Response to RAI No 188 Luminant letter TXNB-10087 Date 12/16/2010	Revised the hourly temporal distribution to two-thirds.	-
RCOL2_02.02.03-12	2.4.3.1	2.4-27	Response to RAI No 188 Luminant letter TXNB-10087 Date 12/16/2010	Revised the hourly temporal distribution to two-thirds and clarified the Basin numbers.	-
CTS-01167	2.4.3.2	2.4-27	Response to RAI No 188 Luminant letter TXNB-10087 Date 12/16/2010	Corrected a typographical error made in the previous revision of Q02.04.03-05	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.04.03-12	2.4.3.4	2.4-31	Response to RAI No 188 Luminant letter TXNB-10087 Date 12/16/2010	Revised RCOL2_02.04.03-5 revisions to use two-thirds temporal distribution.	-
RCOL2_02.04.03-12	2.4.3.4	2.4-31	Response to RAI No 188 Luminant letter TXNB-10087 Date 12/16/2010	Corrected the maximum backwater flow on the downstream end of the Squaw Creek Dam from 88,130 cfs to 181,880 cfs.	-
RCOL2_02.04.02-12	2.4.3.5	2.4-32	Response to RAI No 188 Luminant letter TXNB-10087 Date 12/16/2010	Corrected the water surface elevation and the resulting elevation.	-
RCOL2_02.04.02-12	Table 2.4.3-205	2.4-146 through 2.4-148	Response to RAI No 188 Luminant letter TXNB-10087 Date 12/16/2010	Revised Basin 3 and Basin 4 incremental numerical values.	-
RCOL2_02.04.03-12	Figure 2.4.3-204	-	Response to RAI No 188 Luminant letter TXNB-10087 Date 12/16/2010	Revised graph and figure title.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL_02.04.03-12	Figure 2.4.3-205	-	Response to RAI No 188 Luminant letter TXNB-10087 Date 12/16/2010	Revised figure to depict layout concurrent with text.	-
RCOL_02.04.03-12	Figure 2.4.3-212	-	Response to RAI No 188 Luminant letter TXNB-10087 Date 12/16/2010	Revised graph and figure title.	-
CTS-01168	Table 2.0-1R (Sheet 2 of 15)	2.0-3	Clarification	Clarified text in the table to mention 100-year return period for windspeed value of 96 mph	5
DCD_02.03.04-9	Table 2.0-1R (Sheet 4 through 9, 13 through 15)	2.0-5 through 2.0-10 2.0-14 [2.0-15 2.0-16]	Consistency with DCD Revision 3	Revised X/Q values to match values in the DCD	5
CTS-01169	Table 2.0-1R (Sheet 13 through 15 of 15)	2.0-14 [2.0-15 2.0-16]	Editorial	Removed second 0 after decimal point for consistency with the presentation of other values in the table.	5

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01168	2.3.1.2.11	2.3-21 [2.3-24]	Clarification	Clarified text in the subsection to mention 50 -year return period for windspeed value of 90 mph	5
CTS-01169	Table 2.3-339 (Sheet 2 of 2)	2.3-247 [2.3-268]	Erratum	Corrected the main steam relief and safety valve 2-8 hour X/Qs which were an order of magnitude higher	5
CTS-01170	2.4.2.2	2.4-15 [2.4-20]	Erratum	Corrected water surface level from 774.99 to 760.68 to be consistent with RAI 188 Question 02.04.03-12.	5
CTS-01170	2.4.4.3	2.4-31 [2.4-53]	Erratum	Corrected maximum water surface elevation at the confluence of Brazos River and Paluxy River cross section from 774.99 to 760.02 to be consistent with RAI 188 Question 02.04.03-12.	5
CTS-01170	2.4.4.3	2.4-31 [2.4-54]	Erratum	Corrected confluence water surface elevation from 760.71 to 760.68 to be consistent with RAI 188 Question 02.04.03-12.	5

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01196	2.3.1.2.11	2.3-21 [2.3-24]	Editorial	Changed “100-yr” to ‘100-year” for consistency with nomenclature used in Table 2.0-1R and section 2.3.1.2.11	5
MAP-02-301	2.0	2.0-1 2.0-13 [2.0-18]	Consistency with DCD Revision 3	Changed “DCD” to “Design Control Document (DCD)”	7
MAP-02-302	Table 2.0-1R (Sheet 2 of 15)	2.0-2 [2.0-3]	Consistency with DCD Revision 3	Changed seismic category “I/II” to seismic category “I and II”	7
DCD_02.03.04-6	Table 2.0-1R (Sheet 9 of 12)	2.0-9 [2.0-10]	Reflected to DCD RAI N0. 562	Corrected “Ground-level containment releases to Class 1E electrical room HVAC intake(4) ” to “Ground-level containment releases(4) ”	7
MAP-02-303	Table 2.0-1R (Sheet 12 and 13 of 15)	2.0-12 2.0-13 [2.0-13 2.0-14]	Consistency with DCD Revision 3	Deleted entire row for “Subsurface stability – shear wave velocity for defining firm rock” and “Subsurface stability – shear wave velocity for defining firm to hard rock” and “Subsurface stability –shear wave velocity for	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				defining hard rock”	
CTS-01243	2.2.3.1.3 2.2.3.1.3.1 2.2.3.1.3.2.1 2.2.3.1.3.2.2 2.2.3.1.4 2.3.3.5.1 2.3.4.3 2.3.4.4	2.2-16 through 2.2-20 [2.2-17 to 2.2-20] 2.3-37 [2.3-41] 2.3-43 [2.3-46] 2.3-43 [2.3-47]	Clarification	Added “main” to control room	7
CTS-01240	2.2.3.1.6	2.2-20 [2.2-21]	Consistency with ER Subsection 3.4.2.1 and Figure 3.4-2	Changed normal water level from 696.00 ft to 693.00 ft	7
CTS-01241	2.2.3.1.7 2.3.2.2.1 2.3.2.2.2 2.3.2.2.3	2.2-20 [2.2-21, 22] 2.3-31 [2.3-33, 34]	Clarification	Added clarification pertaining to the Comanche Peak Units 1 through 4	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	2.3.3.1 2.3.3.3 2.3.3.5.1 2.3.5.2.2 2.4.12.3.1 2.4.12.3.2 2.4.13.1 2.4.13.4 2.4.13.5.1	2.3-35 2.3-36 [2.3-37 2.3- 38,40] 2.3-37 [2.3-41] 2.3-46 [2.3-50] 2.4-63 [2.4-90] 2.4-57 to 2.4-59,63 [2.4- 82,83,85 86, 2.4- 90] 2.4-68 [2.4-94, 95, 2-4- 99, 2-4- 100, 2-4- 101, 2-4- 102] . 2.4-71 [2.4-101, 102]			

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	2.4.13.5.6	2.4-71 [2.4-108]			
	2.5.1	2.5-2			
	2.5.1.2.4.4	2.5-54			
	2.5.1.2.5.1	2.5-55			
	2.5.1.2.5.3	2.5-57			
	2.5.1.2.5.8 2.5.1.2.5.10	2.5-59			
	2.5.1.2.5.10.1 2.5.1.2.5.10.1.1	2.5-59 [2.5-60]			
	2.5.1.2.5.10.1.3	2.5-61 [2.5-62]			
	2.5.5.1.1	2.5-219 [2.5-225]			
	2.5.5.2.1	2.5-221 [2.5-227, 228]			
	2.5.5.2.2.1	2.5-222 [2.5-228]			

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01246	2.3.2.2.2 2.3.2.2.3 2.3.3.2	2.3-31 [2.3-33 2.3-34] 2.3-36 [2.3-40]	editorial	Revised “UFSAR” to “FSAR”	7
CTS-01244	2.3.2.2.4 2.4.12.1.2 2.4.12.2.3	2.3-34 [2.3-36] 2.4-47 [2.4-72] 2.4-50 [2.4-74]	Clarification	Unit correction and addition correction: mo to month addition: ft between value and "msl"	7
CTS-01242	2.4.1.1	2.4-2	Consistency with FSAR Chapter 2	Corrected Plant mean sea level elevations	7
MAP-02-305	2.4.3	2.4-20 [2.4-25]	Consistency with DCD Revision 3	Changed “Probable Maximum Flood” to “Probable Maximum Flood (PMF) on Streams and Rivers”	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01245	2.4.7 2.4.8	2.4-36 2.4-27 [2.4-60 2.4-61]	editorial	Deleted unnecessary text related to the ESWS	7
CTS-01251	2.4.12.2.4	2.4-51 [2.4-75]	Clarification	Added text	7
CTS-01252	2.4.12.2.4	2.4-51 [2.4-77]	Erratum	Corrected date when monitoring well exhibited the greatest water level variation	7
CTS-01253	2.4.12.2.4	2.4-53 [2.4-78]	Consistency with RAI No 147 Luminant Letter TXNB-10060 Date 8/26/2010	Deleted discussion on potentiometric surface to conform with RAI 147 response	7
CTS-01254	2.4.12.3	2.4-55 [2.4-80]	Consistency with RAI No 147 Luminant Letter TXNB-10060 Date 8/26/2010	Revised list of figures applicable to groundwater and construction release flow-path	7
CTS-01255	2.4.12.3	2.4-56 [2.4-81]	Erratum: Consistency with the ER 2.3.1.5.6 on Groundwater Velocity	Revised hydraulic conductivity for the wells screened in the shallow bedroom to conform with the value presented in the ER	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01256	2.4.12.3	2.4-56 [2.4-83]	Erratum: Consistency with the FSAR 2.4.12.2.5.1 on porosity	Corrected effective porosity from 2 to 0.2 to conform with subsection 2.4.12.2.5.1	7
CTS-01257	2.4.12.3	2.4-56 [2.4-83]	Clarification	Revised statement to clarify that Table 2.4.12-211 only has the bounding minimum pool evaluation, not normal pool.	7
CTS-01259	2.4.12.3.1	2.4-57 [2.4.83]	Clarification	Clarified text on radioactive release pathway	7
CTS-01260	2.4.12.3.1	22.4-57 [2.4.83]	Clarification	Added text to clarify hydraulic conductivity with respect to existing fill material	7
CTS-01248	2.4.13.1	2.4-61 [2.4-89]	editorial	Deleted the word “US-APWR” before the word “DCD”	7
CTS-01247	2.4.13.4	2.4-67 [2.4-95]	editorial	Revised “Auxiliary Building” to A/B	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-02-306	2.4.14	2.4-75 [2.4-114]	Consistency with DCD Revision 3	Pluralized “Specification” in title	7
CTS-01258	Table 2.4.12-211	2.4-169 [2.4-220]	Clarification	Revised table to clarify fill conductivity ratio for path 1 and path 2 concerning postulated release for Unit 3 and 4	7
MAP-00-301	Figure 2.1-201 2.3-380 2.4-2-202 2.4.12-208 2.4.12-210 (Sheet 1,2,3 and 4) 2.4.12-212 2.4.13-201 2.5.4-202 2.5.4-203 2.5.4-212 2.5.4-213 2.5.4-214 2.5.4-215 2.5.4-216 2.5.5-201 2.5.5-204	-	Consistency with DCD Rev Revision3	Replaced FSAR Plot Plan figures	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02. 3.01-13	Table 2.0-1R	2.0-2	Response to RAI No 217 Luminant letter TXNB-11033 Date 05/17/2011	Table 2.0-1R has been revised. Editorial changes were made to Sheet 1 to remove parentheses.	-
RCOL2_02. 3.01-13	Table 2.0-1R	2.0-2	Response to RAI No 217 Luminant letter TXNB-11033 Date 05/17/2011	Table 2.0-1R has been revised. Editorial changes were made to the site specific wind speed values to add the words “maximum rotational” and “maximum translational”	-

*Page numbers for the attached marked-up pages may differ from the revision 1 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 3

Chapter 3 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2-03.05.01.05-01	3.5.1.5	3.5-2	Response to RAI No. 33 Luminant Letter no.TXNB-09054 Date 10/15/2009	Change paragraph in 3.5.1.5 to clarify no missile hazard from unit 1 and 2.	-
RCOL2_03.02.01-02	Table 3.2-201 (Sheet 1 of 3)	3.2-3	Editorial correction Response to RAI No. 47 Luminant Letter no.TXNB-09055 Date 10/19/2009	Change Valve IDs “ESW-HVC-2000” to “ESW-HCV-2000”	-
RCOL2_03.07.01-2	3.7.1.1	3.7-2	Response to RAI No. 55 Luminant Letter no.TXNB-09058 Date 10/26/2009	Revise description to clarify that the calculation of FIRS and GMRS is outlined in Subsection 2.5.2.5 and 2.5.2.6.	-
RCOL2_03.07.01-4	Table 3LL-2 Table 3LL-3	3LL-6 3LL-7	Response to RAI No. 55 Luminant Letter no.TXNB-09058 Date 10/26/2009	Editorial change: Change “0.4” to “0.04” in damping ratio.	-
RCOL2_03.09.06-6	Table 3.9-203 (Sheet 2 through 6 of 6)	3.9-8 through 3.9-12	Response to RAI No. 57 Luminant Letter no.TXNB-09058 Date 10/26/2009	Clarification of the column “Valve type”.	-
RCOL2_03.09.06-7	Table 3.9-203 (Sheet 2 through 6	3.9-8 through 3.9-12	Response to RAI No. 57 Luminant Letter	Clarification of the columns “Inservice Testing Type and Frequency and “IST	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	of 6)		no.TXNB-09058 Date 10/26/2009	Note".	
DCD-3.9.6-13	3.9.6.3.1 3.9.9	3.9-3 3.9-4	Response to DCD RAI No.288 MHI Letter no. UAP-HF-09245 Date 5/25/2009 Response to RAI No. 57 Luminant Letter no.TXNB-09058 Date 10/26/200	Delete COL item 3.9(9)	-
RCOL2_03.07.03-1	3KK.5	3KK-7	Response to RAI No. 64 Luminant Letter no.TXNB-09060 Date 10/30/2009	Add reference to 3KK-9	-
RCOL2_03.07.03-2	3KK.2	3KK-3 3KK-4 3KK-5	Response to RAI No. 64 Luminant Letter no.TXNB-09060 Date 10/30/2009	Delete the last paragraph and provide further detailed explanation	-
RCOL2_03.07.03-2	Table 3KK-7	3KK-13	Response to RAI No. 64 Luminant Letter no.TXNB-09060 Date 10/30/2009	Add Table 3KK-7	-
RCOL2_03.07.03-2	Figure 3KK-4	3KK-30	Response to RAI No. 64 Luminant Letter no.TXNB-09060 Date 10/30/2009	Add Figure 3KK-4	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.03.02-3	3.3.1.2	3.3-1 3.3-2	Response to RAI No. 66 Luminant Letter no.TXNB-09061 Date 11/05/2009	Add description to clarify the applied wind forces for UHSRS	-
RCOL2_03.03.02-6	3.3.2.2.2	3.3-2	Response to RAI No. 66 Luminant Letter no. TXNB-09061 Date 11/05/2009	Add description to clarify the tornado atmospheric forces for UHS basins and cooling tower enclosure.	-
RCOL2_03.03.02-4	3.3.1.2 3.3.2.2.2 3.3.2.2.4	3.3-2 3.3-3	Response to RAI No. 66 Luminant Letter no. TXNB-09061 Date 11/05/2009	Add description to clarify the tornado atmospheric forces for the portions of the duct bank and chases.	-
RCOL2_03.11-4	3.11	3.11-1	Response to RAI No. 73 Luminant Letter no.TXNB-09063 Date 11/11/2009	Added “electrical and mechanical” before EQ records in the first sentence for CP COL 3.11 (1).	-
RCOL2_03.11-5	3.11	3.11-1	Response to RAI No. 73 Luminant Letter no.TXNB-09063 Date 11/11/2009	Added “The features of the US-APWR Equipment Environmental Qualification Program Technical Report MUAP-08015 (Reference 3.11-3) is included in the CPNPP Units 3 and 4 EQ Program.” after the last sentence for CP COL 3.11(4).	-
RCOL2_03.11-3	3.11.1.1	3.11-2	Response to RAI No. 73 Luminant Letter no.TXNB-	Added “The provision in the US-APWR DCD for environmental qualification (EQ) of	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			09063 Date 11/11/2009	mechanical equipment will be applied to the plant-specific systems." after the last sentence for CP COL 3.11(5).	
RCOL2_03.11-6	3.11.1.2	3.11-2	Response to RAI No. 73 Luminant Letter no.TXNB-09063 Date 11/11/2009	Replaced the 2nd paragraph with "Plant Specific EQ parameters are documented in the corresponding equipment specifications, drawings, procedures, instructions, and qualification packages" for CP COL 3.11(9).	-
RCOL2_03.11-8	3.11.4	3.11-3	Response to RAI No. 73 Luminant Letter no.TXNB-09063 Date 11/11/2009	Added "as described in Technical Report MUAP-08015 (Reference 3.11-3)" in the last sentence for CP COL 3.11(6).	-
RCOL2_03.11-8	3.11.5	3.11-3	Response to RAI No. 73 Luminant Letter no.TXNB-09063 Date 11/11/2009	Added "as described in Technical Report MUAP-08015 (Reference 3.11-3)" in the last sentence for CP COL 3.11(7).	-
RCOL2_03.11-8	3.11.6	3.11-3	Response to RAI No. 73 Luminant Letter no.TXNB-09063 Date 11/11/2009	Added "as described in Technical Report MUAP-08015 (Reference 3.11-3)" in the last sentence for CP COL 3.11(8).	-
RCOL2_03.05.02-1	3.5.2	3.5-4	Response to RAI No. 80 Luminant Letter no.TXNB-09065	Changed the second paragraph to clarify the basis for externally generated	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			Date 11/13/2009	missiles.	
RCOL2_03.09.03-2	Table 3.9-201	3.9-5	Response to RAI No. 84 Luminant Letter no. TXNB-09065 Date 11/13/2009	Revised Table 3.9-201 to clarify the UHS transfer pump operation and be consistent with the DCD Table 3.9-7.	-
RCOL2_03.11-15	3.11	3.11-1	Response to RAI No. 97 Luminant Letter no.TXNB-09064 Date 11/11/2009	Replaced “Reference 3.11-3” with “the operational EQ program” in the 3rd sentence of 2nd paragraph for CP COL 3.11(4).	-
RCOL2_03.11-16	3.11.1.1	3.11-2	Response to RAI No. 97 Luminant Letter no.TXNB-09064 Date 11/11/2009	Replaced “or” with “and” in the 2nd sentence of 2nd paragraph for CP COL 3.11(5).	-
RCOL2_03.11-13	3.11.3	3.11-2	Response to RAI No. 97 Luminant Letter no.TXNB-09064 Date 11/11/2009	Deleted “site specific” and added “The COL applicant has a responsibility to maintain the project records until issuance of the COL” after the 2nd sentence of 2nd paragraph for CP COL 3.11(2).	-
RCOL2_03.08.01-5	3.8.1.6 3.8.4.7	3.8-1 3.8-10	Response to RAI No. 106 Luminant Letter no. TXNB-09067 Date 11/13/2009	Change paragraph in COL 3.8(7) and 3.8(22) to clarify the monitoring for degradation by aggressive ground water.	-
RCOL2_03.08.01-	3.8.1.7	3.8-1	Response to RAI No. 106	Add sentences into	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
6		3.8-2	Luminant Letter no. TXNB-09067 Date 11/13/2009	Subsection 3.8.1.7 to clarify the description of Prestressed Concrete Containment Vessel ISI and IST.	
RCOL2_03.08-05-1	3.8.5.1.3.1	3.8-11	Response to RAI No. 115 Luminant Letter no. TXNB-09067 Date 11/13/2009	To clarify the usage of steel reinforcement for fill concrete.	-
RCOL2_03.08-05-4	3.8.5.5	3.8-12	Response to RAI No. 115 Luminant Letter no. TXNB-09067 Date 11/13/2009	Clarification of seismic Category I structure.	-
RCOL2_03.08-05-5	3.8.5.5 Table 3.8-202	3.8-12 3.8-16	Response to RAI No. 115 Luminant Letter no. TXNB-09067 Date 11/13/2009	Add description and table for the calculation of bearing capacity.	-
RCOL2_03.08-05-3	3.8.5.5 Table 3.8-203	3.8-12 3.8-17	Response to RAI No. 115 Luminant Letter no. TXNB-09067 Date 11/13/2009	Add description and table for factor of safety for overturning, sliding and flotation.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.07.02-1	3.7.1.1	3.7-2	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Revised section number to break down the reference section number	-
RCOL2_03.07.02-9	3.7.2.4.1	3.7-10	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added description for envelopment of site-specific variation in T/B and A/B in the 15th paragraph.	-
RCOL2_03.07.02-6	3.7.2.4.1	3.7-10	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added description for envelopment of site-specific variation in PS/B in the last paragraph.	-
RCOL2_03.07.02-16	3KK.1 3KK.2	3KK-1 3KK-2 3KK-3	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added description for SSI analysis	-
RCOL2_03.07.02-11	3KK.2	3KK-3 3KK-6	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added description for SSI analysis	-
RCOL2_03.07.02-16	3KK.3	3KK-7 3KK-8	Response to RAI No. 60 Luminant Letter no.TXNB-	Added description for SSI analysis in third and fifth paragraph.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			09073 Date 11/24/2009		
RCOL2_03.07.02-15	3KK.4	3KK-8	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed description for ISRS.	-
RCOL2_03.07.02-11	Table 3KK-8	3KK-17	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added Table for the summary of analysis	-
RCOL2_03.07.02-16	Table 3KK-9	3KK-18	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added Table for the comparison of ANSIS and SSI	-
RCOL2_03.07.02-16	3LL.1 3LL.2	3LL-1	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed description for SSI analysis	-
RCOL2_03.07.02-11	3LL.2	3LL-2	Response to RAI No. 60 Luminant Letter no.TXNB-	Changed description for SSI analysis in sixth paragraph.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			09073 Date 11/24/2009		
RCOL2_03.07.02-16	3LL.2	3LL-2 3LL-3	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added description for SSI analysis in seventh through tenth paragraph.	-
RCOL2_03.07.02-11	3LL.2	3LL-3 3LL-4	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed description for SSI analysis in eighth through 15th paragraph.	-
RCOL2_03.07.02-16	3LL.2	3LL-4	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added description for SSI analysis in ninth paragraph.	-
RCOL2_03.07.02-13	3LL.3 3LL.4	3LL-5 3LL-5 3LL-6	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed description for SSI analysis	-
RCOL2_03.07.02-15	3LL.4	3LL-6	Response to RAI No. 60	Deleted description for peak clipping	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			Luminant Letter no.TXNB-09073 Date 11/24/2009		
RCOL2_03.07.02-12	Table 3LL-6 Table 3LL-7 Table 3LL-8	3LL-12 3LL-13 3LL-14	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed description for note 1.	-
RCOL2_03.07.02-13	Table 3LL-9 Table 3LL-10 Table 3LL-11	3LL-15 3LL-16 3LL-17	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed description for note 1.	-
RCOL2_03.07.02-11	Table 3LL-14	3LL-20	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added Table for the summary of SSI analysis	-
RCOL2_03.07.02-16	Table 3LL-15	3LL-21	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added table for the major structural modes of Tunnel Segment 2 of ESWPT.	-
RCOL2_03.07.02-16	3MM.1 3MM.2	3MM-1 3MM-2	Response to RAI No. 60 Luminant Letter no.TXNB-09073	Added description for SSI analysis	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			Date 11/24/2009		
RCOL2_03.07.02-11	3MM.2	3MM-3	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed description for SSI analysis in 8th paragraph.	-
RCOL2_03.07.02-16	3MM.2	3MM-3	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added description for SSI analysis in 9th through 15th paragraphs.	-
RCOL2_03.07.02-11	3MM.2	3MM-4	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed description for SSI analysis in 17th through 20th paragraphs.	-
RCOL2_03.07.02-11	3MM.3	3MM-5	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed description for SSI analysis in 1 and 2 paragraphs.	-
RCOL2_03.07.02-15	3MM.4	3MM-6	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Deleted description for peak clipping	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.07.02-14	Table 3MM-6	3MM-12	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed description for note 1.	-
RCOL2_03.07.02-11	Table 3MM-8	3MM-14	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added Table for the summary of SSI analysis	-
RCOL2_03.07.02-16	Table 3MM-9	3MM-15	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added table for the major structural modes of PSFSV.	-
RCOL2_03.07.02-5	3NN.2	3NN-2	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Changed the description for subgrade properties.	-
RCOL2_03.07.02-2	3NN.2	3NN-2 3NN-3	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added description for backfill properties	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.07.02-8	3NN.4 Table 3NN-12 Table 3NN-13 Table 3NN-14	3NN-6 3NN-17 3NN-18 3NN-19	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added description and tables for maximum acceleration	-
RCOL2_03.07.02-2	Table 3NN-16	3NN-21	Response to RAI No. 60 Luminant Letter no.TXNB-09073 Date 11/24/2009	Added table for backfill properties	-
RCOL2_03.08.04-2	3.8.4.1.3	3.8-3	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to incorporate a site-specific specification for the expansion/separation joint	-
RCOL2_03.08.04-1	3.8.4.1.3.1	3.8-4 3.8-5	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to add more discussion concerning the design of the ESWPT	-
RCOL2_03.08.04-2	3.8.4.1.3.2	3.8-5	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to incorporate a site-specific specification for the expansion/separation joint	-
RCOL2_03.08.04-3	3.8.4.1.3.2	3.8-6	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date	Revised to incorporate an appropriate reference to the safety-related components in Table 3.2-201 that are	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			12/10/2009	protected from tornado missile impacts and to clarify the statement.	
RCOL2_03.08.04-12	3.8.4.1.3.2	3.8-7	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to refer to details of the UHSRS seismic analysis in Appendix 3KK	-
RCOL2_03.08.04-4	3.8.4.1.3.3	3.8-7	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to refer to details of the PSFSV seismic analysis in FSAR Appendix 3MM	-
RCOL2_03.08.04-5	3.8.4.1.3.4	3.8-7 3.8-8	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to clarify the design of shallow-embedded duct banks	-
RCOL2_03.08.04-6	3.8.4.3 3.8.4.3.4.2	3.8-8	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised 3.8.4.3, including addition of new FSAR Subsection 3.8.4.3.4.2 to clarify the loads.	-
RCOL2_03.08.04-8	3.8.4.4.3.1	3.8-9	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to incorporate the description for SSI model of ESWPT	-
RCOL2_03.08.04-15	3.8.4.4.3.1	3.8-9 3.8-10	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Added description for soil spring model using the methodology in ASCE 4-98	-
RCOL2_03.08.04-7	3.8.4.4.3.1	3.8-10	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to add the description for surcharge pressure	-
RCOL2_03.08.04-9	3.8.4.4.3.1	3.8-10	Response to RAI No. 108 Luminant Letter	Revised to clarify the direction of the axial forces	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			no.TXNB-09078 Date 12/10/2009		
RCOL2_03.08.04-11	3.8.4.4.3.1	3.8-10	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to add the description for dynamic force	-
RCOL2_03.08.04-12	3.8.4.4.3.2	3.8-10	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised the description for soil spring model	-
RCOL2_03.08.04-15	3.8.4.4.3.2	3.8-11	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Added description for soil spring model using the methodology in ASCE 4-98	-
RCOL2_03.08.04-16	3.8.4.4.3.2	3.8-12	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Added description for static soil pressure	-
RCOL2_03.08.04-13	3.8.4.4.3.2	3.8-12	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to refer to details of the UHSRS seismic analysis in FSAR Appendix 3KK.2	-
RCOL2_03.08.04-10	3.8.4.4.3.2	3.8-12	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Added description of the friction coefficient for foundation concrete and fill concrete.	-
RCOL2_03.08.04-4	3.8.4.4.3.3	3.8-12	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to refer to details of the PSFSV seismic analysis in FSAR Appendix 3MM	-
RCOL2_03.08.04-14	3.8.4.4.3.3	3.8-12 3.8-13	Response to RAI No. 108 Luminant Letter no.TXNB-09078	Added description for soil spring model	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			Date 12/10/2009		
RCOL2_03.08.04-15	3.8.4.4.3.3	3.8-13	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Added description for soil spring model using the methodology in ASCE 4-98	-
RCOL2_03.08.04-16	3.8.4.4.3.3	3.8-13	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Added description for soil spring model	-
RCOL2_03.08.04-17	3.8.4.6.1.1	3.8-14	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Added compressive strength of fill concrete	-
RCOL2_03.08.04-1	3.8.5.1.3.1	3.8-15	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to add more discussion concerning the design of the ESWPT	-
RCOL2_03.08.04-8	3.8.5.4.4	3.8-16	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to clarify that the settlements are “estimated” settlements	-
RCOL2_03.08.04-8	3.8.5.4.4	3.8-16	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Clarified less than ½ inch settlement to be estimated.	-
RCOL2_03.08.04-1	Figure 3.8-201	3.8-16	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Added a key plan which shows the locations of the three segments	-
RCOL2_03.08.04-1	Figures 3.8-202 through 3.8-205	3.8-17 through 3.8-20	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date	Revised to differentiate between the supply and return lines.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	Figure 3.8-210	3.8-25	12/10/2009		
RCOL2_03.08.04-8	3LL.2	3LL-4	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Revised to add the description for the modeling of soil in the analysis of ESWPT	-
RCOL2_03.08.04-4	3MM.2 Table 3MM-2	3MM-1 3MM-2 3MM-9	Response to RAI No. 108 Luminant Letter no.TXNB-09078 Date 12/10/2009	Added description for modeling of three tanks.	-
RCOL2-03.08.04-43	3NN.2 3NN.3	3NN-3 3NN-5 3NN-6	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the description for the fill.	-
RCOL2-03.08.04-51	3.7.1.3 3NN.2	3.7-6 3NN-2	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Add description for fill concrete.	-
RCOL2_03.08.04-19	3.8.4.4.3.2 3KK.2	3.8-11 3KK-7	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the description for spring model	-
RCOL2_03.08.04-32	3.8.4.4.3.2 3KK.2 3KK.3	3.8-11 3KK-6 3KK-8	Response to RAI No. 122 Luminant Letter no.TXNB-09085	Clarify the description for soil spring model for UHSRS	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			Date 12/14/2009		
RCOL2_03.08.04-20	3KK.1 3MM.1 3NN.1	3KK-1 3MM-1 3NN-1	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added description for input motion	-
RCOL2_03.08.04-18	3KK.2 Table 3KK-9	3KK-1 3KK-2 3KK-4 3KK-19	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added description for mesh model	-
RCOL2_03.08.04-21	3KK.2	3KK-2	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added description for separation joint	-
RCOL2_03.08.04-27	3KK.2	3KK-2 3KK-6	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added explanation not performing analysis including adjacent structure.	-
RCOL2_03.08.04-23	3KK.2	3KK-2	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added reference to Appendix 3NN	-
RCOL2_03.08.04-24	3KK.2	3KK-3	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added description for fill considered in the analysis	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.08.04-25	3KK.2	3KK-4	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Add description of modeling for basemat and concrete fill.	-
RCOL2_03.08.04-26	3KK.2 3KK.5	3KK-4 3KK-10	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the technical basis and the reference of equation for the cracked out-of plane flexural stiffness.	-
RCOL2_03.08.04-31	3KK.2 3KK.3	3KK-7 3KK-8	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the design input response spectra	-
RCOL2_03.08.04-28	3KK.3	3KK-7 3KK-8	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the base shear and moment demands on walls.	-
RCOL2_03.08.04-30	3KK.3	3KK-8	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Provided the technical basis for the factor.	-
RCOL2_03.08.04-33	3KK.4 3LL.4 3MM.4	3KK-9 3LL-6 3MM-6	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the effect of out-of-plane wall flexibility	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.08.04-35	3LL.1	3LL-1	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added description of wave effect.	-
RCOL2_03.08.04-36	3LL.2	3LL-1	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the separation from the adjacent structure.	-
RCOL2_03.08.04-40	3LL.2	3LL-1 3LL-3	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the soil considered in the SSI analysis.	-
RCOL2_03.08.04-37	3LL.2	3LL-2	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the shell elements connected to brick elements	-
RCOL2_03.08.04-34	3LL.2	3LL-2 through 3LL-5	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the soil model	-
RCOL2_03.08.04-44	3LL.2	3LL-4	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the response spectra analysis	-
RCOL2_03.08.04-41	3LL.2 3LL.3	3LL-5	Response to RAI No. 122 Luminant Letter no.TXNB-09085	Clarify the combination of cross-directional contribution	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			Date 12/14/2009		
RCOL2_03.08.04-42	Table 3LL-1	3LL-8	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added Note 2 in Table 3LL-1.	-
RCOL2_03.08.04-45	Table 3LL-13	3LL-20	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added allowable bearing capacity in Table 3LL-13	-
RCOL2_03.08.04-47	3MM.2	3MM-2	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the modeling of fuel oil tank	-
RCOL2_03.08.04-48	3MM.2	3MM-3	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Provide detail information for the modeling of backfill	-
RCOL2_03.08.04-46	3MM.2	3MM-5	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the soil pressure	-
RCOL2_03.08.04-49	3MM.3 Figure 3MM-2	3MM-6 3MM-19	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the symmetrical load distribution	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.08.04-50	3MM.4	3MM-6	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarify the basis of the seismic design	-
RCOL2_03.08.04-60	3NN	3NN-I 3NN-1	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Corrected the typographical error in the title of the appendix	-
RCOL2_03.08.04-52	3NN.2 Table 3NN-1	3NN-2 3NN-10	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added the description for backfill and corrected the abbreviation of Upper Bound	-
RCOL2_03.08.04-22	3NN.2	3NN-3	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added description for backfill properties	-
RCOL2_03.08.04-53	3NN.2 3NN.3	3NN-3 3NN-5 3NN-6	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added description for backfill properties	-
RCOL2_03.08.04-54	3NN.2	3NN-3 3NN-4	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Move the description for time step in SSI analysis and revised the description for the backfill properties in SSI analysis.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.08.04-57	3NN.3	3NN-4 3NN-5	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added description for modeling of rigid link	-
RCOL2_03.08.04-58	3NN.3 Table 3NN-6	3NN-5 3NN-14	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Clarified the description for Table 3NN-6	-
RCOL2_03.08.04-56	3NN.3	3NN-7	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added description for transfer function	-
RCOL2_03.08.04-55	3NN.4	3NN-8	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added the description for the cutoff frequency.	-
CTS- 01090	Table 3NN-2	3NN-10	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Corrected the typographical error in the title of Table 3NN-2	-
RCOL2_03.08.04-59	Table 3NN-12 Table 3NN-13 Table 3NN-14	3NN-19 through 3NN-24	Response to RAI No. 122 Luminant Letter no.TXNB-09085 Date 12/14/2009	Added the enveloped acceleration of COL and DCD	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.02.05-02	Table 3.2-201 (Sheet 2 of 3)	3.2-4	Response to RAI No. 121 Luminant Letter no.TXNB-09081 Date 12/16/2009	Added a line item under 2. UHS, "UHS basin makeup piping and valves" and associated information	-
RCOL2_09.02.05-03	3.8.4.1.3.2	3.8-5	Response to RAI No. 121 Luminant Letter no.TXNB-09081 Date 12/16/2009	Added description to the second paragraph on the cementitious membrane on the basin walls to minimize water seepage.	-
RCOL2_09.02.05-03	3.8.4.1.3.2	3.8-6	Response to RAI No. 121 Luminant Letter no.TXNB-09081 Date 12/16/2009	Added description to the end of the ninth paragraph that tornado differential pressure was considered in the design of fan motors and associated equipment.	-
RCOL2_09.02.05-03	3.8.4.1.3.2	3.8-6	Response to RAI No. 121 Luminant Letter no.TXNB-09081 Date 12/16/2009	Added tenth paragraph to provide description that the exterior parts of the cooling tower enclosure are designed to prevent becoming full penetration tornado missiles.	-
RCOL2_09.02.05-04	Table 3.7.1-3R	3.7-16	Response to RAI No. 121 Luminant Letter no.TXNB-09081 Date 12/16/2009	Revised the fifth note to say, "Each mat foundation supports one UHS basin with one pool."	-
RCOL2_09.04.05-04	3.8.4.1.3.2	3.8-6	Response to RAI No. 123 Luminant Letter no.TXNB-	Added seventh paragraph to provide description that tornado missile	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			09081 Date 12/16/2009	shields are provided for air intake and air outlets for the ESWS pump house HVAC.	
RCOL2_09.04.05-06	3.5.1.1.2	3.5-1	Response to RAI No. 123 Luminant Letter no.TXNB-09081 Date 12/16/2009	Added new Subsection 3.5.1.1.2, “High-Speed Rotating Equipment”	-
CTS-01089	3.4.1.4	3.4-2	Clarification	Break down the reference section number	0
CTS-00922	3.7.1.3 3.7.4.3 Table 3.7-201 3KK.2 3KK.3 3MM.2 3LL.2	3.7-6 3.7-16 3.7-21 3KK-2 3KK-9 3MM-3 3LL-2	Clarification	Clarify the sentence to Delete “major” and breakdown the reference section number.	0
MAP-00-201	Table 3.9-202	3.9-6	The change of numbering rule of Tag number	Change Tag numbers	0
MAP-00-201	Table 3.9-203 (Sheet 5, 6 of 6)	3.9-11 3.9-12	The change of numbering rule of Tag number	Change Tag numbers	0
MAP-00-201	Table 3D-201 (Sheet 1 through 10 of 10)	3D-2 through 3D-11	The change of numbering rule of Tag number	Change Tag numbers	0

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.11-12 S01	3.11	3.11-1	Response to RAI No. 97 Supplemental Luminant Letter no.TXNB-10018 Date 3/5/2010	Replaced “Assume EQ Responsibilities for Unit 3” and “Assume EQ Responsibilities for Unit 4” with “Operational EQ Program established” .	-
RCOL2_03.11-12 S01	3.11	3.11-1	Response to RAI No. 97 Supplemental Luminant Letter no.TXNB-10018 Date 3/5/2010	Replaced “CPNPP Units 3 and 4, at time of license issuance, assumes full responsibility for the” with “Prior to unit fuel load, the Licensee establishes and implements an Operational”.	-
RCOL2_03.11-12 S01	3.11	3.11-1	Response to RAI No. 97 Supplemental Luminant Letter no.TXNB-10018 Date 3/5/2010	Added “and” between “EQ program” and “assembles”.	-
RCOL2_03.11-12 S01	3.11	3.11-1	Response to RAI No. 97 Supplemental Luminant Letter no.TXNB-10018 Date 3/5/2010	Deleted “Environmental” and replaced “is” with “are”.	-
RCOL2_03.11-16 S01	3.11.1.1	3.11-2	Response to RAI No. 97 Supplemental Luminant Letter no.TXNB-10018 Date 3/5/2010	Replaced “safety-related equipment and important to safety equipment” with “safety-related equipment and non-safety-related equipment which is important to safety”.	-
RCOL2_03.11-16 S01	3.11.1.1	3.11-2	Response to RAI No. 97 Supplemental Luminant Letter	Replaced “The provision in the US-APWR DCD for environmental	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			no.TXNB-10018 Date 3/5/2010	qualification EQ of mechanical equipment will be applied to the plant-specific systems" with "The provisions in the US-APWR DCD for the environmental qualification of mechanical equipment are applied to the plant-specific systems"	
RCOL2_03.11-12 S01	3.11.1.2	3.11-2	Response to RAI No. 97 Supplemental Luminant Letter no.TXNB-10018 Date 3/5/2010	Replaced "Plant Specific" with "Plant-specific".	-
RCOL2_03.11-13 S01	3.11.3	3.11-2	Response to RAI No. 97 Supplemental Luminant Letter no.TXNB-10018 Date 3/5/2010	Added "or" and deleted "or is held for permit verification".	-
RCOL2_03.11-13 S01	3.11.3	3.11-2	Response to RAI No. 97 Supplemental Luminant Letter no.TXNB-10018 Date 3/5/2010	Replaced "The COL applicant has a responsibility to maintain the project records until issuance of the COL. The license holder for CPNPP Unit 3 and 4 assumes full responsibility for the EQ program at time of license issuance" with "Documentation for the qualification of safety-related	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				equipment and non-safety-related equipment which is important to safety is ultimately the responsibility of the COL Applicant who, later as the licensee, maintains a complete set of EQ records".	
RCOL2_03.11-17 S01	3.11.4	3.11-3	Response to RAI No. 97 Supplemental Luminant Letter no.TXNB-10018 Date 3/5/2010	Replaced "an equivalent qualification process to that delineated for the US-APWR standard plant as" with "the process".	-
RCOL2_03.11-17 S01	3.11.5	3.11-3	Response to RAI No. 97 Supplemental Luminant Letter no.TXNB-10018 Date 3/5/2010	Replaced "an equivalent qualification process to that delineated for the US-APWR standard plant as" with "the process".	-
RCOL2_03.11-17 S01	3.11.6	3.11-3	Response to RAI No. 97 Supplemental Luminant Letter no.TXNB-10018 Date 3/5/2010	Replaced "an equivalent qualification process to that delineated for the US-APWR standard plant as" with "the process".	-
CTS-01115	3.5.1.1.2	3.5-1	Subsection 3.5.1.1.2 was created in response to RAI 123 and the left margin notation was not added.	Added COL item CP SUP 3.5(1) in the left margin notation to subsection 3.5.1.1.2	2
DCD_03.06.03-19	3.6.3.3.1 3.6.4	3.6-2 [3.6-3]	Reflect response to DCD RAI No.485	Added new subsection 3.6.3.3.1 and STD COL 3.6(10)	2
CTS-01122	3.8.4.7	3.8-14	Clarification	Clarified reference to the DCD	2

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01123	3.11	3.11-1	Clarification	Corrected the words of COL item 3.11(4)	2
MAP-03-027	APPENDIX 3K	- 3K-i 3K-1	Consistency with DCD Rev2	Added Appendix 3K	2
RCOL2_03.08.04-61	3.8.4.1.3 3.8.4.1.3.2	3.8-3 3.8-5	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Added description to provide an alternate option to use waterproof joint sealants in lieu of expansion joints.	-
RCOL2_03.08.04-62	3MM.2	3MM-5	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Added description to clarify acceleration applied to the PSFSV fuel tank for base slab design.	-
RCOL2_03.08.04-62	Table 3MM-5	3MM-12	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Revised note 2 to describe the method of calculating acceleration applied to the tanks for basemat design.	-
RCOL2_03.08.04-62	Table 3MM-6	3MM-13	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Revised values of maximum component forces and moments in the “basemat” row of Table 3MM-6.	-
RCOL2_03.08.04-63	3.3.1.2 3.3.2.2.2 3.3.2.2.4 3.7.2.4.1 3.8.4.1.3.4	3.3-2 3.3-3 3.7-9 3.8-7	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Deleted any mention of Seismic Category I shallow embedded duct banks.	-
RCOL2_03.08.04-64	3.7.1.1	3.7-3	Response to RAI No. 167 Luminant Letter no.TXNB-10057	Revised to clarify the description of site-specific SSE.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			Date 8/9/2010		
RCOL2_03.08.04-64	Table 3.7-201 Table 3.7-202 Figure 3.7-202 Figure 3.7-203	3.7-19 3.7-20 3.7-24 3.7-25	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Revised Table and Figure titles to include SSE in addition to FIRS.	-
RCOL2_03.08.04-65	3.8.4.4.3.1	3.8-9	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Deleted statement from 2nd paragraph "Since the support below the structure (fill concrete and rock) will not exhibit long term settlement effects,"	-
RCOL2_03.08.04-66	3KK.3	3KK-9	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Added sentence to 7th paragraph confirming the seismic demands calculated using the ANSYS model exceed the seismic demands calculated using the SASSI analysis.	-
RCOL2_03.08.04-68	3.8.4.4.3.2	3.8-10	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Revised 2nd paragraph to change "two step" to "multi-step" analysis.	-
RCOL2_03.08.04-69	3.8.4.4.3.1 3.8.4.4.3.2 3.8.4.4.3.3	3.8-9 3.8-11 3.8-12	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Added explanation "the same stiffness is applied to all springs" to each applicable section.	-
RCOL2_03.08.04-70	Table 3KK-9	3KK-19	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Added Note 4 in Table 3KK-9 to address modal participation factors.	-
RCOL2_03.08.04-	Table	3.7-19	Response to	Added control point	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
72	3.7-201 Table 3.7-202	3.7-20	RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	rows “E” to both tables which correspond to a frequency of 0.1 Hz.	
RCOL2_03.08.04-72	Figure 3.7-201 (Sheet 1 of 2)	3.7-22	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Replaced the GMRS and FIRS spectra which consisted of 7 frequencies with smooth GMRS and FIRS spectra consisting of 39 frequencies. Extended plot of nominal horizontal GMRS and FIRS to intercept the frequency axis at corresponding min points.	-
RCOL2_03.08.04-72	Figure 3.7-202 Figure 3.7-203	3.7-24 3.7-25	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Added control point “E” to the plot of each site-specific SSE and FIRS.	-
RCOL2_03.08.04-78	3LL.1	3LL-1	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Added statement to address wave passage effects on the seismic design of the tunnel.	-
RCOL2_03.08.04-81	3MM.2	3MM-5	Response to RAI No. 167 Luminant Letter no.TXNB-10057 Date 8/9/2010	Added paragraph to describe how fuel tank flexibility is accounted for in the base slab design.	-
CTS-01148	3.1.4.16.1	3.1-1	Correction	Changed description of location from	4

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				"fourth and fifth" sentences to "third, fourth, and fifth" sentences	
CTS-01153	Table 3.2-201 (Sheet 1 of 3) Table 3D-201 (Sheet 10 of 10)	3.2-3 3D-11	Consistency Corrections	Changed valve Tag Number to "ESW-HCV-010" "ESW-HCV-011" "ESW-HCV-012" "ESW-HCV-013"	4
CTS-01149	Table 3.2-201 (Sheet 2 of 3)	3.2-4	Editorial and Clarification	Removed "sink" from description "UHS sink transfer…" in 1st column, 6th row; added comma to 3rd column, 6th row; and added "ESWPT" with a comma to 3rd column, 7th row	4
CTS-01140	3.3.2.3 3.3.3 3.4.1.2 3.4.1.4 3.4.2 3.4.3 3.5.1.1.4 3.5.4 3.6.1.3 3.6.2.1 3.7.2.8 3.7.5 3.8.1.6 3.8.4.3.7.1 3.8.4.7 3.8.5.1	3.3-2 [3.3-3] 3.4-1 3.4-2 3.4-3 3.5-1 [3.5-2] 3.5-4 [3.5-5] 3.6-1 3.6-2 3.7-10 [3.7-11] 3.7-13 [3.7-14] 3.8-1 3.8-6 [3.8-8] 3.8-9 [3.8-13] 3.8-10 [3.8-14]	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	3.8.5.4.4 3.8.6 3.9.3.3.1 3.9.6.2 3.9.9 3.10.4.1 3.10.5 3.11.1.1 3.11.1.2 3.11.3 Through 3.11.7 Appendix 3D Table 3D-201	3.8-11 [3.8-15] 3.8-13 [3.8-16 through 3.8-18] 3.9-1 3.9-2 3.9-4 3.10-2 3.11-2 3.11-3 3.11-4 3D-1 through 3D-11			
CTS-01161	3.6.1.3	3.6-1	Clarification	Added the statement of “within the protective walls of the ESWPT and UHSRSs,” and “within these protective walls.” Also added a comma for punctuation.	4
CTS-01161	3.6.2.1	3.6-2	Clarification	Added the statement of “within the protective walls of the ESWPT and UHSRSs.” Also added descriptive clarifying statements “As noted in Subsection 3.6.1.3, there”, “moderate-energy piping”, and replaced “failure” with “crack” in the 1st paragraph.	4

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-03-028	Table 3.7.1-3R	3.7-15 [3.7-16]	Clarification	Clarified dimensions as distances between column lines of exterior wall and corrected Note 3.	4
CTS-01150	3.9.3.4.2.5 3.9.6.2 3.9.6.3	3.9-2	Editorial	Deleted "that" in 1st sentence on page 3.9-2 "…to assure that snubber functionality…"; replaced "frequency is" with "frequencies are" in 1st sentence of Section 3.9.6.2; replaced "type of testing and frequency…is" with "types of testing and frequencies…are" in 1st sentence of Section 3.9.6.	4
MAP-03-031	3.10	3.10-1	Clarification	Replaced "safety related and important to safety" with "seismic category I and II" in 3rd sentence; deleted period and added "the duration of" to 4th sentence; added "operational" to 5th sentence to improve sentence clarity	4
MAP-03-031	3.10.4.1	3.10-2	Consistency with MUAP-08015 Rev1. US-APWR Equipment Qualification Program	Deleted "Environmental" and added DCD reference "(DCD Reference 3.11-3)" to 1st sentence	4
CTS-01151	3.12.5.6	3.12-1	Clarification	Added "second sentence of the" to the description of location	4

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-03-031	3D	3D-1	Clarification	Deleted “US-APWR” from title “US-APWR EQUIPMENT QUALIFICATION…”	4
CTS-01152	3D	3D-1	Correction	Deleted “Add the following new table in DCD Appendix 3D” and added wording to correctly state the relationship between Table 3D-201 and DCD Table 3D-2	4
RCOL2_02 .05.04-23 S01	3.7.1.1 3.7.2.3.1 3.7.2.4.1 3.8.4.1.3.4	3.7-3 3.7-7 3.7-8 3.7-9 3.8-7	Supplemental Response to RAI No 170 Luminant letter TXNB-10073 Date 10/21/2010	Revised to reflect that there are no other Seismic Category I structures(i.e. shallow embedded duct banks).	-
RCOL2_03.03.02-4 S01	3.3.1.2 3.3.2.2.2 3.3.2.2.4	3.3-2 3.3-3	Supplemental Response to RAI No 66 Luminant letter TXNB-10080 Date 11/8/2010	Deleted all references to shallow-embedded duct banks or pipe chases	-
RCOL2_03.02.02-5	3.2.1.2	3.2-1	Response to RAI No. 180 Luminant Letter no.TXNB-10081 Date 11/18/2010	Revised to reference Table 3.2-202.	-
RCOL2_03.02.02-5	Table 3.2-202	3.2-6 3.2-7	Response to RAI No. 180 Luminant Letter no.TXNB-10081 Date 11/18/2010	Added new table 3.2-202, which contains a list of the major codes and standards applicable to the design.	-
RCOL2_03.07.01-6	3KK.2 Table	3KK-2 3KK-12	Response to RAI No. 193	Added new Table 3KK-10 and	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	3KK-10		Luminant Letter no.TXNB-11004 Date 1/27/2011	description for it.	
RCOL2_03.07.01-6	3LL.2 Table 3LL-16 Table 3LL-17	3LL-2 3LL-17	Response to RAI No. 193 Luminant Letter no.TXNB-11004 Date 1/27/2011	Added new Table 3LL-16 and 3LL-17 and description for it.	-
RCOL2_03.07.02-6	3MM.2 Table 3MM-10	3MM-3 3MM-11	Response to RAI No. 193 Luminant Letter no.TXNB-11004 Date 1/27/2011	Added new Table 3MM-10 and description for it.	-
RCOL2_03.07.02-19	3KK.2	3KK-3	Response to RAI No. 192 Luminant Letter no.TXNB-11004 Date 1/27/2011	Added justification of design approach for cracked and uncracked concrete	-
RCOL2_03.07.02-20	3MM.2	3MM-2	Response to RAI No. 192 Luminant Letter no.TXNB-11004 Date 1/27/2011	Added justification of design approach for cracked and uncracked concrete	-
RCOL2_03.08.04-86	3KK.2	3KK-6	Response to RAI No. 185 Luminant Letter No. TXNB-11001 Date 01/06/2011	Added description for impulsive liquid mass	-
RCOL2_03.07.04-2 S01	3.7.4.1 3.7.4.2 3.7.4.4	3.7-12 3.7-13 3.7-14	Supplemental Response to RAI No. 146 Luminant Letter No. TXNB-11016 Date 03/18/2011	Changed subsection 3.7.4.1 and added subsections 3.7.4.2 and 3.7.4.4 to state free-field instrument at grade in the plant yard.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.07.01-7	3NN.2	3NN-4	Response to RAI No. 205 Luminant Letter No. TXNB-11018 Date 03/18/2011	Changed reference section of site response analysis from 2.5.4 to 2.5.2	-
RCOL2_03.07.01-8	3.7.1.1	3.7-4	Response to RAI No. 209 Luminant Letter No. TXNB-11021 Date 4/82011	Added seed recorded time histories	-
RCOL2_09.04.05-17	3.4.1.2	3.4-2	Response to RAI No. 213 Luminant Letter no.TXNB-11032 Date 5/6/2011	Add a new Section 3.4.1.3 to describe internal flooding evaluation.	-
RCOL2_09.04.05-16	Figure 3.8-206	3.8-27	Response to RAI No. 213 Luminant Letter no.TXNB-11032 Date 5/6/2011	Added note on Figure 3.8-206 to clarify that missile shields on the ventilation openings for the ESW and transfer pump rooms are provided.	-
RCOL2_09.04.05-17	Figure 3.8-208	3.8-29	Response to RAI No. 213 Luminant Letter no.TXNB-11032 Date 5/6/2011	Added note on Figure 3.8-208 to clarify that floor drains are provided for the ESW and transfer pump rooms.	-
RCOL2_09.04.05-17	Figure 3.8-209	3.8-30	Response to RAI No. 213 Luminant Letter no.TXNB-11032 Date 5/6/2011	Added note on Figure 3.8-209 to clarify that floor drains are provided for the ESW and transfer pump rooms.	
DCD_03.02.02-10	3.2.2.5 3.2.3 Table 3.2-201	3.2-1 3.2-2 3.2-3 3.2-4	Reflect Response to DCD RAI No. 580	Added new COL 3.2(6). Revisions correspond to the addition of the COL	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	(Sheet 1 of 3)	3.2-5		Item in the DCD	
DCD_09.02.01-32	Table 3.2-201 (Sheet 1 of 3)	3.2-3	Reflect Response to DCD RAI No.585	Replaced "Basin blowdown line piping and valves from and excluding essential service water supply header piping up to the following valves" Add "ESWP discharge strainer backwash line to the UHS Basin" and "ESWP discharge strainer backwash line to the CWS blowdown main header" Delete definition of ESWPT	7
CTS-01214	Table 3.2-201 (Sheet 2 of 3)	3.2-4	Editorial	Deleted definition of ESWPT	7
CTS-01168	3.3.1.1	3.3-1	Erratum	Changed wind speed value from 90 mph to 96 mph	7
CTS-01249	3.3.1.2	3.3-1	Erratum	Zt is to be changed as subscript	7
DCD_03.04.01-21	3.4.3	3.4-3	Reflect Response to DCD RAI No. 579	Added new COL 3.4(7). Revisions correspond to addition of the COL in the DCD.	7
MAP-03-032	3.7.1.3	3.7-6	Consistency with DCD Revision 3	Correction	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
DCD_03.07.01-12	3.7.1.3 3.7.5	3.7-6 3.7-14 [3.7-15]	Reflect Response to DCD RAI No. 643	Added explanatory sentence for factor of safety for static bearing. Changed COL 3.7(7). Revisions correspond to the changes to this COL item in the DCD	7
DCD_03.07.04-4	3.7.5	3.7-14 [3.7-16]	Reflect Response to DCD RAI No. 632	Changed COL 3.7(16) to correspond with the DCD.	7
DCD_03.07.02-4	3.7.5	3.7-15 [3.7-16]	Reflect Response to DCD RAI No.495	Changed COL 3.7(25) to correspond with the DCD.	7
CTS-01215	3.8.1.7	3.8-1 3.8-2	Correction	Corrected information for PCCV PSI and ISI program.	7
CTS-01282	3.8.4.3.4.2 3.8.6	3.8-8 3.8-18	Correction	Tied COL Item 3.8(25) to text in Subsection 3.8.4.3.4.2	7
DCD_03.08.05-41	3.8.4.4.3 3.8.5.5.2 3.8.6	3.8-8 3.8-16 3.8-18	Reflect Response to DCD RAI No.657	Added COL 3.8(30). Revisions corresponds to the addition of this new COL item in the DCD	7
CTS-01216	3.8.4.4.3.3	3.8-12	Editorial	Added comma between “velocity” and “which” to read “…equivalent shear wave velocity, which is determined….”	7
CTS-01217	Figure 3.8-201	3.8-16 [3.8-22]	Revision	Revised figure corresponds to the change in layout drawing	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01221	Figure 3.8-212	3.8-27	Revision	Revised figure corresponds to the change in layout drawing	7
CTS-01173	Table 3.9-202	3.9-6	Correction	Corrected the ASME Edition number and table number of ASME acceptance criteria for UHS Water Transfer Pumps	7
DCD_09.02.01-43	Table 3.9-203 (Sheet 6 of 6)	3.9-12	Reflect Response to DCD RAI No. 585	Added new two rows as a reflection of COL 9.2(33).	7
CTS-01250	Table 3.9-203 (Sheet 6 of 9)	3.9-12	Correction	Corrected notes 13 and 14	7
DCD_03.11-16	3.11.7	3.11-4	Reflect Response to DCD RAI No. 445	Changed COL 3.11(6). Revision corresponds to the change in this COL item in the DCD	7
DCD_09.02.01-43	Table 3D-201 (Sheet 10 of 10)	3D-11 [3D-12]	Reflect Response to DCD RAI No.585	Added 5 rows as a reflection of COL 9.2(33)	7
DCD_03.07.02-18	Appendix 3H	Title page, 3H-1	Reflect Response to DCD RAI No. 212	Changed the title of Appendix 3H	7

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Chapter 4

Chapter 4 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R

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Chapter 5

Chapter 5 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_05.02.01.01-1	5.2.1.1	5.2-1	Responses to RAI No. 40, Luminant Letter TXNB-09055 Dated 10/19/2009	Replaced sentence in DCD Section 5.2.1.1 and applied the same ASME Code editions in DCD Table 5.2.1-1 and section 3.9.10	-
RCOL2_05.02.05-1	5.2.5.9	5.2-2 5.2-3	Responses to RAI No. 58, Luminant Letter no. TXNB-09058 Dated 10/26/2009	Added operational procedures regarding conversion of the referenced leak detection instruments and procedures for operator response to prolonged low-level leakage description.	-
RCOL2_05.03.01-2	5.3.1.6.1	5.3-1	Responses to RAI No. 65, Luminant Letter no. TXNB - 09060 Dated 10/30/2009	Added test specimen and capsules description under section 5.3.1.6.1.	-
RCOL2_05.02.04-1	5.2.4.1	5.2-2	Responses to RAI No. 87, Luminant Letter no. TXNB-09062 Dated 11/5/2009	Added Boric Acid Corrosion Control Program (BACCP) for CPNPP Units 3 and 4 procedures for determining pressure boundary locations by boric acid corrosion and description for performing visual inspection of accessible and observable components during system walkdowns and during plant outages.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_05.02.05-3	5.2.5.9	5.2-3 5.2.4	Responses to RAI No. 127 Luminant Letter no. TXNB-10007 Dated 2/19/2010	Added procedure guidance as described in RG 1.45 to identify, monitor and respond to leakages.	-
RCOL2_05.03.01-3	5.3.1.6.1	5.3-2	Responses to RAI No. 128 Luminant Letter no. TXNB-10007 Dated 2/19/2010	Added a statement about the recommended general capsule withdrawal schedule to the surveillance program.	-
CTS-01140	5.2.1.1 5.2.1.2 5.2.4.1 5.2.6 5.3.1.6.1 5.3.1.6.3 5.3.2.3 5.3.2.4 5.3.3.7 5.3.4	5.2-1 5.2-2 5.2-3 5.2-4 [5.2-5] 5.3-1 5.3-2 5.3-3 5.3-4	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4
RCOL2_05.02.03-1	5. 2. 3	5.2-1	Response to RAI No. 215 Luminant Letter no.TXNB-11030 Date 5/2/2011	Changed to “The reactor coolant chemistry control program is based on the latest effective version of the EPRI Water Chemistry Guidelines”.	-

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Chapter 6

Chapter 6 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-00915	6.2.2.3	6.2-1	Response to RAI No. 76 Luminant Letter no.TXNB-09066 Date 11/12/2009	Revised the location of the replaced sentence and paragraph.	-
RCOL2_06.02.02-3	6.2.2.3	6.2-1	Response to RAI No. 76 Luminant Letter no.TXNB-09066 Date 11/12/2009	Add the cleanliness program items.	-
RCOL2_06.04-1	6.4.4.2	6.4-3	Response to RAI No. 77 Luminant Letter no.TXNB-09066 Date 11/12/2009	Add the description of the periodic surveys.	-
RCOL2_06.04-5	6.4.4.2	6.4-3	Response to RAI No. 77 Luminant Letter no.TXNB-09066 Date 11/12/2009	Add the description of operator actions in the event of a toxic gas release.	-
CTS-01140	6.4.3 6.4.6 6.4.7	6.4-1 6.4-3 [6.4-4]	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4
RCOL2_06.04-8	6.4.4.2	6.4-3	Response to RAI No.172 Luminant Letter no.TXNB-10069 Date 10/6/2010	Added text to refer to Ch. 13 for procedure and training requirements to satisfy RG 1.196.	-
RCOL2_06.04-9	6.4.4.2	6.4-2 6.4-3	Response to RAI No.172 Luminant Letter no.TXNB-10069 Date 10/6/2010	Updated MCR Habitability analysis with most conservative conditions from sensitivity analysis.	-

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Chapter 7

Chapter 7 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01140	7.4.1.6 7.4.4 Table 7.4-202 7.5.1.1 7.5.4	7.4-1 7.4-3 7.5-1 7.5-2	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4
MAP-07-302	Table 7.4-201	7.4-2	Address new COL Item 9.2(33) from DCD Revision 3	Added “ESWP Discharge Strainer Backwash Isolation Valve to ESWS blowdown main header”, and “ESWS Blowdown Main Header Isolation Valve to CWS blowdown main header”.	6
MAP-07-301	7.9	7.9-1	Address new COL Item 7.9(1) from DCD Revision 3	Changed “no departures or supplements” to “the following departures and/or supplements”	6
MAP-07-301	7.9	7.9-1	Address new COL Item 7.9(1) from DCD Revision 3	Added subsection 7.9.2.6 Cyber Security	6
MAP-07-301	7.9	7.9-1	Address new COL Item 7.9(1) from DCD Revision 3	Added subsection 7.9.4 Combined License Information	6

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Chapter 8

Chapter 8 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-08-201	Figure 8.1-1R	8.1-3	Consistency with DCD Revision 2	Deleted one feeder line between Class 1E LC and MCC, since two feeder lines were incorrectly depicted between Class 1E LC and MCC (editorial change). Added feeder lines from Class 1E MCC to MOV inverter. Changed the inputs to N21 and N22 UPS Units.	0
RCOL2_08.02-27	8.2.1.2	8.2-3	Response to RAI No. 152 Luminant Letter no.TXNB-10037 Date 5/18/2010	Added two paragraphs after the eleventh paragraph.	-
CTS-01140	8.2.1.2 8.2.3 8.2.4 Table 8.3.1-4R Figure 8.3.1-1R Sheet 5 and 6 of 7) Figure 8.3.1-2R Sheet 18 through 21 of 24)	8.2-3 8.2-12 8.2-13 8.2-14 8.3-6 Through 8.3-9 8.3-11 8.3-12 8.3-17 Through 8.3-20	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4
CTS-01224	Table 8.3.1-1R	8.3-5	Editorial	Adopted standard US voltage rating.27.3 kV is not a standard voltage rating for this type of equipment.	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01226	Figure 8.3.1-1R (Sheet 6 of 7) 8.3.1-2R (Sheet 2 of 24)	8.3-12 8.3-13	Clarification	Replaced figures to clarify COLA Application scope	7
RCOL2_08.04-1 S01	08.04	8.4-1	Response to RAI No. 183 Supp Luminant Letter no.TXNB-11017 Date 3/23/2011	Revised section 8.4 to include references to references to subsection 13.2 & 13.5.2.1 regarding operator training and SBO restoration procedures.	-
CTS-01321	8.2.3	8.2-13	Correction	Changed a statement referring to “Generic Letter 2001-01” to “Generic Letter 2007-01”	8
CTS-01269	8.3.1.1.11	8.3-1 [8.3-2]	Provide final information for COL item 8.3(2)	Added discussion on the shape of the ground grid	8
CTS-01270	8.3.1.3.1	8.3-2	Provide final information for COL item 8.3(2)	Replaced the last sentence in FSAR Subsection 8.3.1.1.11.	8
CTS-01323	8.3.1.3.2	8.3-2	Correction	Changed Reference for “Table 8.3.1-1” to “Table 8.3.1-1R”	8
CTS-01271	8.3.4	8.3-3	Provide final information for COL item 8.3(2)	Added “and in Figure 8.3.1-201”	8
CTS-01272	Figure 8.3.1-201	8.23-20 [8.23-21]	Provide final information for COL item 8.3(2)	Added new Figure 8.3.1-201	8

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~~CP~~STD COL 8.2(11) Replace the last sentence of the fourth paragraph in DCD Subsection 8.2.3 with the following. CTS-01140

A transmission system reliability analysis is provided in Subsection 8.2.2.2. CTS-01140

STD COL 8.3(12) Condition monitoring of underground or inaccessible cables within the scope of the maintenance rule (10 CFR50.65) is incorporated into the maintenance rule program. The cable condition monitoring program incorporates lessons learned from industry operating experience, address regulatory guidance, and utilizes information from detailed design and procurement documents to determine the appropriate inspections, tests, and cable monitoring criteria within the scope of the maintenance rule described in Subsection 17.6.2. The program takes into consideration Generic Letter 2007-01. RCOL2_08.02-29 CTS-01321

8.2.4 Combined License Information

Replace the content of DCD Subsection 8.2.4 with the following.

CP COL 8.2(1) ***8.2(1)*** *Utility power grid and transmission line*

This Combined License (COL) Item is addressed in Subsections 8.1.2.1, 8.2.1.1, 8.2.1.2.3, Table 8.2-201, Table 8.2-202, and Figure 8.2-201.

8.2(2) *Deleted from the DCD.*

CP COL 8.2(3) ***8.2(3)*** *Switchyard description*

This COL Item is addressed in Subsections 8.1.1, 8.1.5.3.5, 8.2.1.2.1.1, 8.2.1.2.1.2, 8.2.1.2.2, Figure 8.1-1R, Figure 8.2-202, Figure 8.2-203, Figure 8.2-204, Figure 8.2-205, Figure 8.2-206, Figure 8.2-207, Figure 8.2-208, Figure 8.3.1-1R and Figure 8.3.1-2R.

CP COL 8.2(4) ***8.2(4)*** *Normal preferred power*

This COL Item is addressed in Subsection 8.2.1.2, Figure 8.2-202, Figure 8.2-203, Figure 8.2-207 and Figure 8.2-208.

CP COL 8.2(5) ***8.2(5)*** *Alternate preferred power*

This COL Item is addressed in Subsection 8.2.1.2, Figure 8.2-202, Figure 8.2-204, Figure 8.2-207 and Figure 8.2-208.

8.2(6) *Deleted from the DCD.*

CP COL 8.2(7) ***8.2(7)*** *Protective relaying*

8.3 ONSITE POWER SYSTEMS

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

8.3.1.1 Description

CP COL 8.3(1) Replace the first sentence of the second paragraph in DCD Subsection 8.3.1.1 with the following.

The onsite ac power system is supplied offsite power from the 345 kV transmission system by two independent connections to the transmission system.

CP COL 8.3(1) Replace the seventh sentence of the second paragraph in DCD Subsection 8.3.1.1 with the following

The rated voltage of the high-voltage winding of the RAT is 345 kV.

8.3.1.1.9 Design Criteria for Class 1E Equipment

STD COL 8.3(3) Replace the last sentence of the ninth paragraph in DCD Subsection 8.3.1.1.9 with the followings.

Short circuit analysis for ac power system is addressed in Subsection 8.3.1.3.2.

8.3.1.1.11 Grounding and Lightning Protection System

CP COL 8.3(2) Replace the last paragraph in DCD Subsection 8.3.1.1.11 with the followings.

~~The station ground grid and lightning protection system designs are based on soil resistivity data at CPNPP site, the maximum ground fault current level, ground fault clearing time, and the type and configuration of the structures to be~~ CTS-01269

~~protected from lightning strikes. Design information will be provided and incorporated in the updated FSAR before the issuance of COL.~~The ground grid is designed in the shape of uniform square or rectangular meshes as shown in Figure 8.3.1-201. The layout of the air terminals is shown in Figure 8.3.1-201. CTS-01269 CTS-01270

8.3.1.3.2 Short Circuit Studies

STD COL 8.3(3) Replace the last two sentences of the first paragraph in DCD Subsection 8.3.1.3.2 with the followings.

As a result of the studies, maximum short circuit current has been confirmed to satisfy short circuit interrupt rating of circuit breakers indicated in Table 8.3.1-1R. CTS-01323

8.3.1.3.4 Equipment Protection and Coordination Studies

STD COL 8.3(10) Replace the last sentence of the first paragraph in DCD Subsection 8.3.1.3.4 with the followings.

Coordination of protective devices is confirmed as part of equipment procurement.

8.3.1.3.5 Insulation Coordination (Surge and Lighting Protection)

CP COL 8.3(11) Replace the last sentence of the first paragraph in DCD Subsection 8.3.1.3.5 with the followings.

Surge arresters are selected to be compatible with lightning impulse insulation level of the 345 kV offsite power circuit so that the insulation of onsite power system is assured from lightning surge.

8.3.2.1.1 Class 1E DC Power System

STD COL 8.3(8) Replace the last sentence of the third paragraph in DCD Subsection 8.3.2.1.1 with the followings.

Short circuit analysis for dc power system is addressed in Subsection 8.3.2.3.2.

8.3.2.1.2 Non-Class 1E DC Power System

STD COL 8.3(8) Replace the last sentence of the fourth paragraph in DCD Subsection 8.3.2.1.2 with the followings.

Short circuit analysis for dc power system is addressed in Subsection 8.3.2.3.2.

8.3.2.3.2 Short Circuit Studies

STD COL 8.3(8) Replace the last two sentences of the first paragraph in DCD Subsection 8.3.2.3.2 with the followings.

As a result of the studies, maximum short circuit current has been confirmed to satisfy short circuit interrupt rating of circuit breakers indicated in Table 8.3.2-3.

8.3.4 Combined License Information

Replace the content of DCD Subsection 8.3.4 with the following.

CP COL 8.3(1) ***8.3(1)*** *Transmission voltages*

This COL Item is addressed in Subsection 8.3.1.1 and in Table 8.3.1-1R.

CP COL 8.3(2) ***8.3(2)*** *Ground grid and lightning Protection*

This COL Item is addressed in Subsection 8.3.1.1.11 and in Figure 8.3.1-201. CTS-01271

STD COL 8.3(3) ***8.3(3)*** *Short Circuit analysis for ac power system*

This COL Item is addressed in Subsections 8.3.1.1.9 and 8.3.1.3.2.

8.3(4) *Deleted from the DCD.*

CTS-01272

(SRI)

CP COL 8.3(2)

Figure 8.3.1-201 Ground Grid and Lightning Protection System

Chapter 9

Chapter 9 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.01.05-1	9.1.5	9.1-1	Responses to RAI No. 52 Luminant Letter no. TXNB-09057 Dated 10/21/2009	Added Subsection 9.1.5, Overhead Heavy Load Handling System	-
RCOL2_09.01.05-1	9.1.6	9.1-2	Responses to RAI No. 52 Luminant Letter no. TXNB-09057 Dated 10/21/2009	Added COL Item CP COL 9.1(6), The establishment of a Heavy Load Handling Program.	-
RCOL2_09.04.01-1	9.4.1.2	9.4-1	Responses to RAI No. 63 Luminant Letter no. TXNB-09060 Dated 10/30/2009	Provided clarification on the design basis MCR temperature that the heating coils are designed to.	-
RCOL4_16-6	9.2.5.2.2	9.2-9	Responses to RAI No. 90 Luminant Letter no. TXNB-09064 Dated 11/11/2009	Each cooling tower fan starts automatically on an actual or simulated actuation signal.	-
RCOL2_09.02.01-1	9.2.1.2.2.1	9.2-2	Responses to RAI No. 109 Luminant Letter no. TXNB-09071 Dated 11/20/2009	Added System head losses and basis for available NPSH.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.02.01-2	9.2.1.3	9.2-3	Responses to RAI No. 109 Luminant Letter no. TXNB-09071 Dated 11/20/2009	Described plant procedures in the second bullet. Describe that heat tracing is activated upon low ambient temperature. Describe heat exchanger backflush operation.	-
RCOL2_09.02.01-5	9.2.1.3	9.2-3	Responses to RAI No. 109 Luminant Letter no. TXNB-09071 Dated 11/20/2009	Except for a design basis seismic event, the ESWS is not required to supply water to the FSS during any other design basis event including a LOCA.	-
RCOL2_09.02.01-4	9.2.1.5.4	9.2-4	Responses to RAI No. 109 Luminant Letter no. TXNB-09071 Dated 11/20/2009	Deleted CP COL 9.2(7)	-
RCOL2_09.02.01-1	9.2.5.3	9.2-11	Responses to RAI No. 109 Luminant Letter no. TXNB-09071 Dated 11/20/2009	Provided clarification of the volume for a cooling tower basin.	-
RCOL2_09.02.02-4	9.2.10	9.2-13	Responses to RAI No. 109 Luminant Letter no. TXNB-09071 Dated 11/20/2009	Revised CP Col 9.2(6) to add “and the mode of cooling the pump motor.” Added reference to Subsection 9.4.5.1.1.6.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.02.02-4	9.2.10	9.2-14	Responses to RAI No. 109 Luminant Letter no. TXNB-09071 Dated 11/20/2009	Deleted reference to Subsection 9.2.1.5.4 In CP COL 9.2(7).	-
RCOL2_09.02.02-4	9.4.5.1.1.6	9.4-2	Responses to RAI No. 109 Luminant Letter no. TXNB-09071 Dated 11/20/2009	Added statement that the ESWP is installed at a location in the pump house where air is adequately circulated to cool the motor.	-
RCOL2_09.02.05-01	9.2.5.1	9.2-8	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Replaced the last bullet of Subsection 9.2.5.1 with a bullet to explain that the UHS components and structures are designed to seismic cat. I and equipment class 3. Also see Change ID RCOL2_09.02.05-04.	-
RCOL2_09.02.05-01	9.2.5.2.1	9.2-8	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added description to the second paragraph that the cooling tower components are designed per equipment class 3 and quality group C requirements.	-
RCOL2_09.02.05-01	9.2.5.2.1	9.2-9	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added seventh paragraph to describe the ESW intake basin.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.02.05-02	9.2.5.3	9.2-14	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added third paragraph to explain that the UHS seismic Cat. I SSC's and Non-seismic SSC's are separated and that failure of the non-seismic SSC's will not affect the seismic Cat. I SSC's.	-
RCOL2_09.02.05-04	9.2.5.1	9.2-8	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Replaced the last bullet of Subsection 9.2.5.1 with a bullet to explain that the UHS components and structures are designed to seismic cat. I and equipment class 3. Also see Change ID RCOL2_09.02.05-01.	-
RCOL2_09.02.05-04	9.2.5.2.1	9.2-9	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added ninth paragraph to provide description on the normal maintained water level of the UHS basin.	-
RCOL2_09.02.05-04	9.2.5.2.2	9.2-11	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added eighth paragraph to provide description that all transfer pumps discharge into a common header. This change worked in conjunction with Change ID RCOL2_09.02.05-06.	-
RCOL2_09.02.05-04	9.2.5.2.2	9.2-11	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added description to the end of the tenth paragraph regarding the power supply for the transfer pumps.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.02.05-04	Figure 9.2.5-201 (sheets 1 and 2)	9.2-24 9.2-25	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added notes to Figure 9.2.5-201, Sheets 1 and 2.	-
RCOL2_09.02.05-05	9.2.5.2.1	9.2-8	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added fourth and fifth paragraphs to provide description for the cooling towers design conditions	-
RCOL2_09.02.05-05	9.2.5.2.3	9.2-12	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Revised the last sentence of third paragraph to say recirculation penalty instead of margin.	-
RCOL2_09.02.05-05	9.2.5.2.3	9.2-12	Response to RAI Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added the fourth paragraph to provide description that the 83 degrees F wet bulb temperature from Table 2.0-1R corresponds with the 0% exceedance value and is used to establish the cooling tower basin water temperature surveillance requirements.	-
RCOL2_09.02.05-05	9.2.5.2.3	9.2-13	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Revised the sixth paragraph to add "…using industry standard methodology…"	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.02.05-05	9.2.5.2.3	9.2-13	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Revised the eighth and ninth paragraphs to provide clarification on the operational peak heat loads during shutdown with LOOP is used for cooling tower design.	-
RCOL2_09.02.05-05	9.2.5.3	9.2-14	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Revised sixth paragraph to provide clarification on the 30 day cooling water capacity as 8.40 million gallons or approx. 2.80 million gallons for each basin.	-
RCOL2_09.02.05-05	9.2.5.3	9.2-14 9.2-15	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added the seventh paragraph to provide description on UHS basin water temperature.	-
RCOL2_09.02.05-05	Table 9.2.5-201	9.2-23	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added the following to Table 9.2.5-201 for UHS system design data: Design air flow, fan speed, cooling tower design life and design approach. Also added a note at the bottom of the table.	-
RCOL2_09.02.05-06	9.2.5.2.2	9.2-11	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added seventh paragraph to provide clarification that there are four 100% capacity UHS transfer pumps.	-
RCOL2_09.02.05-06	9.2.5.2.2	9.2-11	Responses to RAI No. 121 Luminant Letter no.	Added eighth paragraph to provide description that all transfer pumps discharge into a common header.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			TXNB-09081 Dated 12/16/2009	This change worked in conjunction with Change ID RCOL2_09.02.05-04	
RCOL2_09.02.05-07	9.2.5.2.2	9.2-11	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added ninth paragraph to provide description for the UHS transfer pump design features such as TDH and NPSH.	-
RCOL2_09.02.05-09	9.2.5.2.2	9.2-10	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added fourth, fifth and sixth paragraphs to provide description of how the ESWS and the UHS together minimize the effects of water hammer.	-
RCOL2_09.02.05-10	9.2.5.2.1	9.2-9	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added the twelfth paragraph in conjunction with Change ID RCOL2_09.02.05-11 to provide description of the intake structure design minimizes debris, algae and grass into the makeup water.	-
RCOL2_09.02.05-11	9.2.5.2.1	9.2-9	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added the twelfth paragraph in conjunction with Change ID RCOL2_09.02.05-11 to provide description of the intake structure design minimizes debris, algae and grass into the makeup water.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.02.05-12	9.2.5.2.1	9.2-9	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added the tenth paragraph to provide description for the chemical injection system for the UHS and ESWS.	-
RCOL2_09.02.05-12	9.2.5.4	9.2-15 9.2-16	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Revised the third paragraph to clarify industry operating experience was used for periodic inspections and testing of cooling tower components. Also, added the fourth through the eleventh paragraphs in conjunction with Change ID's RCOL2_09.02.05-13 and 14 to provide description of inspection and testing requirements.	-
RCOL2_09.02.05-13	9.2.5.4	9.2-15 9.2-16	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added the fourth through the eleventh paragraphs in conjunction with Change ID's RCOL2_09.02.05-12 and 14 to provide description of inspection and testing requirements.	-
RCOL2_09.02.05-14	9.2.5.4	9.2-15	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added the fourth paragraph to provide description of inspection and testing requirements in accordance with Tech. Specs..	-
RCOL2_09.02.05-16	9.2.5.1	9.2-7	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated	Revised the bullet to add description that the performance of the UHS is based on 30 years of site specific wet bulb temperature conditions.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			12/16/2009		
RCOL2_09.02.05-16	9.2.5.2	9.2-8	Responses to RAI No. 121 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added to the end of the third paragraph a reference to Subsection 10.4.5.2.2.2.11.	-
RCOL2_09.04.05-03	9.4.5.2.6	9.4-5	Responses to RAI No. 123 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added sixth paragraph to clarify that the UHS ESW pump house ventilation contains no ductwork.	-
RCOL2_09.04.05-03	9.4.5.2.6	9.4-6	Responses to RAI No. 123 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added twelfth paragraph to provide description that the failure of non-safety-related components in the UHS ESW pump house will not damage any of the safety-related components in the pump house.	-
RCOL2_09.04.05-03	Figure 9.4-201	9.4-17	Responses to RAI No. 123 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added four notes to Figure 9.4-201.	-
RCOL2_09.04.05-04	9.4.5.3.6	9.4-6	Responses to RAI No. 123 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added a new bullet to provide clarification that the ESW pump house air intakes and air outlets are protected from tornado missiles.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.04.05-07	9.4.5.1.1.6	9.4-2	Responses to RAI No. 123 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Revised the first paragraph by providing clarification on the ventilation system temperature range.	-
RCOL2_09.04.05-07	9.4.5.2.6	9.4-4	Responses to RAI No. 123 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Revised the first sentence of the ninth paragraph to clarify that the unit heaters maintain room temperatures during normal and emergency plant operations.	-
RCOL2_09.04.05-08	9.4.5.2.6	9.4-4 9.4-5 9.4-6	Responses to RAI No. 123 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Revised Subsection 9.4.5.2.6 in conjunction with Change ID's RCOL2_09.04.05-07, 09, 10 and 12.	-
RCOL2_09.04.05-09	9.4.5.2.6	9.4-5	Responses to RAI No. 123 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Revised seventh paragraph of Subsection 9.4.5.2.6 in conjunction with Change ID's RCOL2_09.04.05-12	-
RCOL2_09.04.05-10	9.4.5.2.6	9.4-5	Responses to RAI No. 123 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added the tenth paragraph regarding backdraft dampers.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.04.05-10	9,4,5,3,6	9.4-6	Responses to RAI No. 123 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Revised last sentence of the third bullet item to read "All ventilation system components…"	-
RCOL2_09.04.05-10	9.4.5.5.6	9.4-7	Responses to RAI No. 123 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added a new bullet item identifying temporary switches.	-
RCOL2_09.04.05-10	Table 9.4-203 (sheets 1 thru 5)	9.4-12 Thru 9.4-16	Responses to RAI No. 123 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Added Table 9.4-203 (Sheets 1 thru 5)	-
RCOL2_09.04.05-12	9.4.5.2.6	9.4-5	Responses to RAI No. 123 Luminant Letter no. TXNB-09081 Dated 12/16/2009	Revised seventh paragraph of Subsection 9.4.5.2.6 in conjunction with Change ID's RCOL2_09.04.05-09.	-
DCD_09.04.05-1	9.4.5.3.6 Table 9.4-203 (Sheet 1, 2 of 5)	9.4-4	Consistency with DCD	Change the sentence about the effect analysis of single active failure. And newly add Table 9.4-203 as FMEA.	0

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-00-201	Table 9.2.5-202 Figure 9.2.1-1R Figure 9.2.5-201 Figure 9.4-201	9.2-19 through 9.2-22 9.2-24 9.2-25 9.4-10	The change of numbering rule of Tag number	Change Tag numbers.	0
RCOL2_09.02.04-02	9.2.4.1	9.2-4	Response to RAI No. 126 Luminant Letter no. TXNB-10008 Date 2/18/2010	Deleted first bullet.	-
RCOL2_09.02.04-02	9.2.4.2	9.2-5	Response to RAI No. 126 Luminant Letter no. TXNB-10008 Date 2/18/2010	Added Subsection 9.2.4.2. CP COL 9.2(11)	-
RCOL2_09.02.04-02	9.2.4.2.1	9.2-5	Response to RAI No. 126 Luminant Letter no. TXNB-10008 Date 2/18/2010	Revised second paragraph to clarify that the PSWS does not share between any radiological controlled systems.	-
RCOL2_09.02.04-03	9.2.4.2.2.4	9.2-6	Response to RAI No. 126 Luminant Letter no. TXNB-10008 Date 2/18/2010	Added Subsection 9.2.4.2.2.4. CP COL 9.2(13)	-
RCOL2_09.05.01-8 S01	9.5.1.6.4.2.4	9.5-14 9.5-15 9.5-16	Response to RAI No. 10 Supplemental Luminant	Revised Subsection to add more detail regarding combustibles control program.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			Letter no. TXNB-10007 Date 2/19/2010		
RCOL2_09.02.01-5 S01	Figure 9.2.1-1R	9.2-26	Response to RAI No. 109 Supplemental Luminant Letter No. TXNB-10011 Date 2/22/10	Revised figure to reference Figure 9.5.1-201.	-
RCOL2_09.02.01-5 S01	Figure 9.5.1-201 (Sheet 1 of 2)	9.5-148	Response to RAI No. 109 Supplemental Luminant Letter No. TXNB-10011 Date 2/22/10	Added “Sheet 1 of 2” to Figure 9.5.1-201.	-
RCOL2_09.02.01-5 S01	Figure 9.5.1-201 (Sheet 2 of 2)	9.5-149	Response to RAI No. 109 Supplemental Luminant Letter No. TXNB-10011 Date 2/22/10	Added second sheet to Figure 9.5.1-201.	-
RAI GEN-09	Figure 9.2.4-2R (Sheet 2 of 2)	9.2-29	Response to RAI GEN-09 Luminant Letter No. TXNB-10013 Date 2/24/2010	Added new figure to FSAR Ch 9 to supplement Figure 9.2.4-1R, this figure was not added correctly and the name will be changed to 9.2.4-201 in the next UTR, in addition Luminant requests that the title be changed to “Sanitary Water System Flow Diagram” and “sheet 2 of 2” will be removed	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RAI GEN-09	Figure 9.2.4-1R (Sheet 1 of2)	9.2-28	Response to RAI GEN-09 Luminant Letter No. TXNB-10013 Date 2/24/2010	Added (sheet 1 of 2) to account for above new figure The title of this figure will be modified in the next UTR to comply with the DCD New title: “Potable and Sanitary Water System Flow Diagram” to reflect the DCD In additon “Sheet 1 of 2” will be removed.	-
CTS-01109	Figure 9.2.4-1R	9.2-28	Errata	Corrected figure title.	2
CTS-01109	Figure 9.2.4-201	9.2-29	Errata	Corrected figure number and title.	2
CTS-01140	9.1.2.1 9.1.5.3 9.1.6 9.2.1.2.1 9.2.1.2.2 9.2.1.3 9.2.4.2.2.1 9.2.4.2.2.2 9.2.4.2.2.3 9.2.10 Table	9.1-1 9.1-2 9.2-1 9.2-2 9.2-3 9.2-5 [9.2-6] 9.2-13 9.2-14 9.2-15 [9.2-18 through] [9.2-20]	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	9.2.1-1R 9.3.1.2.2.3 9.3.6 9.4.3.2.1 9.4.3.2.2 9.4.3.2.3 9.4.3.2.4 9.4.5.2.2 9.4.5.2.4 9.4.5.4.6 9.4.5.5.6 9.4.6.2.4.1 9.4.6.2.4.2 9.4.7 Figure 9.4-201 9.5.1 9.5.1.2 9.5.1.2.4 9.5.1.3 9.5.2 9.5.2.2.2 9.5.2.2.5.2 9.5.2.3 9.5.9 Table 9.5.1-1R (Sheet 1 through Sheet 16, 18, 19, 26, 35, 39, 40, 45, 47, 48 and 51 of 51) Table 9.5.1-2R Sheet 1 through 16,	9.2-16 [9.2-21] 9.3-2 9.4-1 through 9.4-6 [9.4-7] [9.4-8] 9.4-17 9.5-1 9.5-2 9.5-3 9.5-18 through 9.5-23 9.5-25 Through 9.5-40 9.5-42 9.5-43 9.5-50 9.5-59 9.5-63 9.5-64 9.5-69 9.5-71 9.5-72 9.5-75 9.5-76 Through			

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	23, 28, 29, 35, 36, 38 through 46, 49, 50, 61 through 71 of 71) 9A.3 9A.3.101 Through 9A.3.114	9.5-91 9.5-98 9.5-103 9.5-104 9.5-110 9.5-111 9.5-113 Through 9.5-121 9.5-124 9.5-125 9.5-136 Through 9.5-146 9A-1 Through 9A-17			
CTS-01155	Table 9.5.1-2R (Sheet 5 of 71)	9.5-80	Erratum	Changed LMN to COL 9.5(1) to be consistent with Subsection 9.5.1.6	4
RCOL2_09.05.02-2	9.5.2.2.5.2	9.5-21	Response to RAI No. 178 Luminant Letter no.TXNB-10072 Date 10/11/2010	Revised first paragraph on page 9.5-21 to delete the words “and operations support center.”	-
RCOL2_02.03.01-06 S02	9.4.1.2	9.4-1	Supplemental Response to RAI No 155 S02 Luminant letter TXNB-10076 Date 10/29/2010	Heater capacity has been revised based on -5 degree F 100 year return period temperature	-
RCOL2_02.03.01-06 S02	9.4.5.1.1.6	9.4-2	Supplemental Response to RAI No 155	Ventilation system design temperature has been revised based on 115	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			S02 Luminant letter TXNB-10076 Date 10/29/2010	degree F 100 year return period temperature	
CTS-01171	9.4.5.3.6	9.4-4 [9.4-6]	Response to RAI No.123 Luminant Letter no.TXNB-09081 Date 12/16/2009	Added new internal flooding -related information to Subsection 9.4.5.3.6 per Regulatory Commitment 6901 made in RAI No. 123.	5
CTS-01175	9.5.1.3	9.5-3	Editorial Clarification	Replace “eight” with “eighth” and add period to end of title line. Revise last sentence to read, “The final FHA will be implemented, as part of the Fire Protection Program, in accordance with the milestones in Table 13.4-201.”	6
CTS-01175	9.5.1.6.1.8	9.5-7	Editorial	Second paragraph, fourth sentence: replace “apparatus’s” with “apparatus units” and add “a” before minimum service duration.	6
CTS-01175	9.5.1.6.1.8	9.5-7	Editorial	Third paragraph, last sentence: replace “manufacturer’s” with manufacturers’.	6
RCOL2_09.04.05-13	9.4.5.2.6	9.4-4 9.4-5	Response to RAI No. 213 Luminant Letter no.TXNB-11032 Date 5/6/2011	Revised section	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01262	9.4.5.2.6 9.4.5.3.6	9.4-4 9.4-5 9.4-6	Response to RAI No. 213 Luminant Letter no.TXNB-11032 Date 5/6/2011	Editorial	-
RCOL2_09.04.05-13	9.4.5.3.6	9.4-6 9.4-7	Response to RAI No. 213 Luminant Letter no.TXNB-11032 Date 5/6/2011	Revised Section	-
RCOL2_09.04.05-14	9.4.5.4.6	9.4-7	Response to RAI No. 213 Luminant Letter no.TXNB-11032 Date 5/6/2011	Revised Section	-
RCOL2_09.04.05-18	Table 9.4-203	9.4-17	Response to RAI No. 213 Luminant Letter no.TXNB-11032 Date 5/6/2011	Added Temperature Switches to Table	-
RCOL2_09.04.05-18	Figure 9.4-201	9.4-18	Response to RAI No. 213 Luminant Letter no.TXNB-11032 Date 5/6/2011	Revised Figure	-
MAP-09-316	9.2.1.2.1	9.2-1	Consistency with DCD Revision 3	Added a new paragraph to address piping layout .	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-09-317	9.2.1.2.1	9.2-1	Consistency with DCD Revision 3	Added a new paragraph to address the design of ESWS	7
MAP-09-318	9.2.1.2.1	9.2-2	Consistency with DCD Revision 3	Deleted paragraph discussing ESWS as backup supply to FSS.	7
MAP-09-319	9.2.1.2.2.1	9.2-2 [9.2-3]	Consistency with DCD Revision 3	Added new paragraphs to discuss ESWP head, water level, and ESWP motor cooling	7
MAP-09-320	9.2.1.2.2.2	9.2-2 [9.2-3]	Consistency with DCD Revision 3	Added new Subsection 9.2.1.2.2.2 to discuss strainer blowdown and strainer backwash.	7
MAP-09-321	9.2.1.2.2.5	9.2-2 [9.2-4]	Consistency with DCD Revision 3	Added new Subsection 9.2.1.2.2.5 to address inner pipe lining.	7
MAP-09-322	9.2.1.2.3.1	9.2-4	Consistency with DCD Revision 3	Added new Subsection 9.2.1.2.3.1 to address normal operation and in-service testing.	7
MAP-09-323	9.2.1.3	9.2-3 [9.2-5]	Consistency with DCD Revision 3	Changed “maintains” to “prevents”	7
MAP-09-324	9.2.1.3	9.2-3 [9.2-5, 6]	Consistency with DCD Revision 3	Added new paragraphs to address ESWS design, including backup to FSS.	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-09-325	9.2.1.3	9.2-3 [9.2-6]	Consistency with DCD Revision 3	Added new paragraph to discuss strainer backwash.	7
MAP-09-326	9.2.1.3	9.2-3 [9.2-7]	Consistency with DCD Revision 3	Deleted section discussing FSS.	7
MAP-09-326	9.2.1.4	9.2-3 [9.2-7]	Consistency with DCD Revision 3	Added new subsection 9.2.1.4 to address Inspection and Testing Requirements	7
MAP-09-301	9.2.4.2 9.4.3.2.2. 9.4.5.2.2	9.2-5 [9.2-9] [9.4-1] [9.4-3]	Consistency with DCD Revision 3	Editorial Change “Replace” to”Add” Added “the first and”	7
MAP-09-302	9.2.4.2.1	9.2-5 [9.2-9]	Consistency with DCD Revision 3	Replaced “PSWS” with “potable and sanitary water system”	7
MAP-09-314	9.2.4.2.2.4	9.2-6 [9.2-10]	Consistency with DCD Revision 3	Changed ”water” to “Potable water”	7
MAP-09-303	9.2.4.2.2.4 9.2.4.2.3 9.2.4.4 9.2.4.5	9.2-6 9.2-7 [9.2-10,9.2-11]	Consistency with DCD Revision 3	Changed CP COL 9.2(13) to CP COL 9.2(11)	7
MAP-09-330	9.2.10	9.2-13 [9.2-22]	Consistency with DCD Revision 3	Added 13.5.2.1 to COL 9.2(1) to address UHS water level	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-09-331	9.2.10	9.2-13 [9.2-22]	Consistency with DCD Revision 3	Added text to COL 9.2(2) to address low temperature operation	7
MAP-09-317	9.2.10	9.2-13 [9.2-22]	Consistency with DCD Revision 3	Added 9.2.1.2.1 and additional text to COL 9.2(6) to address adequate margin and design pressure.	7
MAP-09-321	9.2.10	9.2-13 [9.2-22]	Consistency with DCD Revision 3	Added 9.2.1.2.2.5, 9.2.1.2.3.1, 13.4, Table 13.4-201, and delete 9.2.1.5.4 to COL 9.2(7) to address site specific ESWS	7
MAP-09-303	9.2.10	9.2-19 [9.2-23]	Consistency with DCD Revision 3	Replaced 9.2(11) text with “Source of potable water to the site, the necessary required treatment and the system operation and add FSAR sections where addressed”	7
MAP-09-303	9.2.10	9.2-19 [9.2-23]	Consistency with DCD Revision 3	Deleted CP COL 9.2(13)	7
MAP-09-304	9.2.10 Table 9.2.4-1R	9.2-19 [9.2-23 9.2-31]	Consistency with DCD Revision 3	Deleted CP COL 9.2 (16)	7
MAP-09-330	9.2.10	9.2-15 [9.2-24]	Consistency with DCD Revision 3	Added 13.5 to COL Item 9.2(23) to address inspection requirement	7
MAP-09-325	9.2.10	9.2-15 [9.2-24]	Consistency with DCD Revision 3	Added detail to COL Item 9.2(26) to address debris building	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-09-329	9.2.10	9.2-15 [9.2-24]	Consistency with DCD Revision 3	Added 13.5.2.1 to COL Item 9.2(27) to address maintenance procedure for water hammer prevention	7
MAP-09-324	9.2.10	9.2-15 [9.2-24]	Consistency with DCD Revision 3	Added new COL Item COL 9.2(29) to address safety evaluation of ESWS	7
MAP-09-326	9.2.10	9.2-15 [9.2-24]	Consistency with DCD Revision 3	Added new COL Item COL 9.2(30) to address inspection and testing .	7
MAP-09-316	9.2.10	9.2-15 [9.2-25]	Consistency with DCD Revision 3	Added new COL Item COL 9.2(31) to address ESWS and UHS operating procedures	7
MAP-09-322	9.2.10	9.2-15 [9.2-25]	Consistency with DCD Revision 3	Added new COL Item COL 9.2(32) to address void detection system	7
MAP-09-320	9.2.10	9.2-15 [9.2-25]	Consistency with DCD Revision 3	Added new COL Item CP COL 9.2(33) to address strainer design details.	7
MAP-09-327	Table 9.2.1-1R	9.2-16 [9.2-26]	Consistency with DCD Revision 3	Revised table to add Electric Power Supply Class and Maximum Allowed differential pressure Strainer mesh size, and delete Component Cooling Water Heat Exchanger Inlet Strainer section Change CP COL to STD	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				COL.	
MAP-09-328	Table 9.2.1-2R	9.2-17 [9.2-27, 28, 29, 30]	Consistency with DCD Revision 3	Added new Table 9.2.1-2R to address ESWS FMEA	7
MAP-09-329	Table 9.2.5-202	9.2-20 [9.2-34-35]	Consistency with DCD Revision 3	Revised text of Table 9.2.5-202 Sheet 2 and added sheet 3.	7
MAP-09-305	Figure 9.2.1-1R	9.2-26 9.2-27 [9.2-36, 9.2-37]	Simplified P&ID	Replaced the figures with simplified P&IDs	7
MAP-09-308	Figure 9.2.5-201	9.2-30 9.2-31 [9.2-40, 9.2-41]	Simplified P&ID	Replaced the figures with simplified P&IDs	7
MAP-09-315	9.3.2.2.5	9.3-2	Clarification to DCD Revision 3	Added Subsection 9.3.2.2.5	7
MAP-09-315	9.3.3	9.3-2	Clarification to DCD Revision 3	Added Subsection 9.3.3.	7
MAP-09-309	9.4.3.2.2	9.4-1	Consistency with DCD Revision 3	Added “The non-Class 1E electrical room HVAC system is shown in Figure 9.4-201 and equipment design data is presented in Table 9.4.3-1.”	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-09-309	9.4.3.2.2	9.4-1 [9.4-2]	Consistency with DCD Revision 3	Added “Replace the second sentence of the second paragraph in DCD Subsection 9.4.3.2.2 with the following. Each air handling unit consists of, in the direction of airflow, a low efficiency prefilter, a high efficiency filter, a chilled water cooling coil, a supply fan, and associated controls.”	7
MAP-09-310	9.4.5.2.2	9.4-3	Consistency with DCD Revision 3	Added “The Class 1E electrical room HVAC system is shown in Figure 9.4-202 and system equipment design data is presented in Table 9.4.5-1.”	7
MAP-09-311	9.4.7	9.4-9	Consistency with DCD Revision 3	Replaced “Figure 9.4-201” with “Figure 9.4-203”	7
MAP-09-312	Table 9.4-201 (sheet 1 of 2)	9.4-9 [9.4-10]	Consistency with DCD Revision 3	Removed non-Class 1E Electrical Room AHU Heating Coil Capacity Added in-duct heater capacity to Table 9.4-201 Sheet 1	7
MAP-09-311	Figure 9.4-201	9.4-17 [9.4-19]	Simplified P&ID	Replaced the figures with simplified P&IDs and change the number to 9.4-203 Added a new figure to	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				address Non-Class 1E Electrical Room HVAC System	
MAP-09-311	Figure 9.4-202	9.4-18 [9.4-20]	Simplified P&ID	Added a new figure to address Class 1E Electrical Room HVAC System	7
MAP-09-314	Figure 9.5.1-202	9.5-149	Simplified P&ID	Replaced the figure with simplified P&ID	7
RCOL2_09.05.02-3	9.5	9.5-21	Response to RAI No. 196 Luminant Letter no.TXNB-11009 Date 2/18/2011	Add paragraph to address PABX system of Operations Support Center.	-
RCOL2_09.05.02-4	9.5.2.2.2.2	9.5-19	Response to RAI No. 196 Luminant Letter no.TXNB-11009 Date 2/18/2011	Revise section to clarify the discussion and remove the phrase “station package”.	-
RCOL2_09.05.02-5	9.5.2.2.2.2	9.5-19	Response to RAI No. 196 Luminant Letter no.TXNB-11009 Date 2/18/2011	Insert text to address Emergency Notification System as part of the Federal Telecommunication System.	-
CTS-01324	9.2.1.5.4	9.2-3 [9.2-7]	Correction	Deleted header of 9.2.1.5.4.	8

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-09-331	9.2.5.1	9.2-8 [9.2-11 9.2-12]	Consistency with DCD Rev 3	Inserted replacement paragraph to address UHS interface requirements	8
CTS-01325	9.2.5.1	9.2-7 [9.2-12]	Correction	Added LMN of CP COL 9.2(18) to address structures and components for UHS.	8
MAP-09-332	9.2.5.2	9.2-8 [9.2-12]	Consistency with DCD Rev 3	Inserted paragraph to address UHS electrical power supply.	8
MAP-09-333	9.2.5.2 9.2.5.2.1 9.2.10 Figure 9.2.5-201	9.2-8 [9.2-12] 9.2-9 [9.2-14] 9.2-24 [9.2-25] 9.2-41 9.2-42	Consistency with DCD Rev 3	Changed Figure 9.2.5-201 to Figure 9.2.5-1R	8
MAP-09-334	9.2.5.2 9.2.5.2.1 9.2.10 Table 9.2.5-201	9.2-8 [9.2-12] 9.2-9 [9.2-14] 9.2-24 [9.2-25] 9.2-18 [9.2-33]	Consistency with DCD Rev 3	Changed Table 9.2.5-201 to Table 9.2.5-3R	8
MAP-09-335	9.2.5.2	9.2-8 [9.2-13]	Consistency with DCD Rev 3	Inserted paragraphs to address source and location of UHS, location and design of ESW intake, and location and design of ESW discharge	8
MAP-09-336	9.2.5.2.1	9.2-8 [9.2-13]	Consistency with DCD Rev 3	Inserted text to indicate replacement of 9.2.5.2.1 Add LMA of CP COL 9.2(1, 3,4,5,18,19,20,21)	8

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-09-337	9.2.5.2.1	9.2-9 [9.2-14]	Consistency with DCD Rev 3	Inserted text to address ESW pump NPSH.	8
MAP-09-336	9.2.5.2.2	9.2-10 [9.2-14]	Consistency with DCD Rev 3	Inserted text to indicate replacement of 9.2.5.2.2 Added LMA of CP COL 9.2(3,4,5,18,19,20,21,28,31)	8
MAP-09-338	9.2.5.2.2	9.2-11 [9.2-15]	Consistency with DCD Rev 3	Inserted sentence to address water pressure remaining above saturation.	8
MAP-09-339	9.2.5.2.3	9.2-12 [9.2-16]	Consistency with DCD Rev 3	Inserted paragraphs to address site specific UHS	8
MAP-09-336	9.2.5.2.3	9.2-12 [9.2-17]	Consistency with DCD Rev 3	Inserted text to indicate replacement of 9.2.5.2.3 Added LMA of CP COL 9.2(3,4,5,18,19,20,21)	8
MAP-09-340	9.2.5.3	9.2-14 [9.2-19]	Consistency with DCD Rev 3	Inserted text to address UHS safety evaluation.	8
MAP-09-341	9.2.5.3 9.2.10 Table 9.2.5-202	9.2-14 [9.2-19] 9.2-24 [9.2-25] 9.2-33 9.2-34 9.2-35 [9.2-36]	Consistency with DCD Rev 3	Changed Table 9.2.5-202 to Table 9.2.5-4R	8
MAP-09-342	9.2.5.3	9.2-14 [9.2-19]	Consistency with DCD Rev 3	Inserted text to address UHS safety evaluation in structural adequacy and hydrology.	8
MAP-09-343	9.2.5.4	9.2-17 [9.2-22]	Consistency with DCD Rev 3	Inserted text to address test procedures to monitor debris.	8

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-09-344	9.2.5.5	9.2-17 [9.2-22]	Consistency with DCD Rev 3	Added CP COL 9.2(32) to 9.2.5.5 Added paragraph to discuss void detection system.	8
MAP-09-345	9.5.2.3	9.5-21 [9.5-22]	Consistency with DCD Rev 3	Added new Section 9.5.4.2.2.1 to address concrete pipe chase in the PSFSV area.	8
CTS-01326	9.2.10	9.2-13 [9.2-23]	Correction	Added STD COL 9.2(1) to address standard evaluation of ESWP	8
CTS-01327	9.2.10	9.2-13 [9.2-23]	Correction	Added Table 9.2-1R to COL 9.2(6).	8
CTS-01328	9.2.10	9.2-14 [9.2-24]	Correction	Deleted text of 9.2(13)	8
MAP-09-336	9.2.10	9.2-22 [9.2-23] 9.2-23 [9.2-25] 9.2-24 [9.2-25]	Consistency with DCD Rev 3	Added 9.2.5.2.1 as COL item addressed in Subsection for COL 9.2(1,3,4,5,18,19,20,21) Added 9.2.5.2.2 as COL item addressed in Subsection for COL 9.2(3,4,5,18,19,20,21,28,31) Added 9.2.5.2.3 as COL item addressed in Subsection for COL 9.2(3,4,5,18,19,20,21)	8
CTS-01329	9.2.10	9.2-14 [9.2-25]	Correction	Added STD COL 9.2(18) to address standard conditions for UHS.	8

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01330	9.2.10	9.2-15 [9.2-25]	Correction	Added STD COL 9.2(24) to address standard instrumentation of UHS.	8
MAP-09-339	9.2.10	9.2-24 [9.2-25]	Consistency with DCD Rev 3	Added CP COL(28) to address site specific UHS.	8
CTS-01331	9.2.10	9.2-15 [9.2-26]	Correction	Changed CP COL 9.2(33) to STD COL 9.2(33) to address standard strainer design.	8
CTS-01327	Table 9.2.1-2R	9.2-16 [9.2-28]	Correction	Added LMN of STD COL 9.2(6) to address standard ESWS design.	8
MAP-09-347	9.3.2.2.5 9.3.3	9.3-2	Consistency with DCD Rev 3	Added LMN of CP CDI to address site specific waste water management.	8
CTS-01332	9.3.3	9.3-2	Correction	Deleted “and left justify the paragraph”.	8
MAP-09-348	9.4.5.2.6	9.4-3 [9.4-4]	Consistency with DCD Rev3	Changed Figure 9.4-201 to Figure 9.4-203 to reflect change in figures.	8
CTS-01333	9.4.5.4.6	9.4-4 [9.4-7]	Correction	Deleted “to be”.	8
MAP-09-349	9.4.7	9.4-6 [9.4-8]	Consistency with DCD Rev3	Added Figure 9.4-201 and Figure 9.4-202 to COL 9.4(4).	8
MAP-09-350	9.4.7 Table 9.4-203	9.4-9 [9.4-13]	Consistency with DCD Rev3	Added Table 9.4-203 to 9.4(6). Added LMN of STD COL 9.4(6).	8
CTS-01334	9.5.2.2.2.2	9.5-18 [9.5-19]	Correction	Changed CP COL 9.5(5) to STD COL 9.5(5) to reflect standard emergency notification system.	8

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01335	9.2.5.3	9.2-19	Editorial	Changed “are” to “is” and pluralized “demonstrate”, “earthquake”, and “tornado”.	8
CTS-01334	9.5.9	9.5-21 [9.5-23]	Correction	Deleted COL 9.5(5).	8
MAP-09-345	9.5.9	9.5-23 [9.5-24]	Consistency with DCD Rev 3	Added COL 9.5(12) to address PSFSV heating requirements.	8
MAP-09-346	Figure 9.5-1-201	9.5-147 9.5-148 [9.5-149]	Consistency with DCD Rev 3	Replaced Figure 9.5-1-201 with simplified P&ID.	8

*Page numbers for the attached marked-up pages may differ from the revision 1 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.

9.2.1.4 Inspection and Testing Requirements

MAP-09-326

CP COL 9.2(30) Replace the last paragraph in DCD Subsection 9.2.1.4 with the following:

Periodic inspection, monitoring, maintenance, performance and functional testing are performed according to the in-service inspection program and in-service testing program that are described in FSAR Section 13.4. Periodic inspections and testing of the CCW heat exchangers and essential chiller units, consistent with GL 89-13 and GL 89-13 supplement 1 are performed. The inspections and testing above are subject to programmatic requirements and procedural controls as described in FSAR Section 13.5.

The operating procedures to periodically alternate the operating trains for monitoring performance of all ESWS trains are included in the system operating procedures in FSAR Section 13.5.2.1.

~~CP COL 9.2(7)~~ ~~Replace the last two paragraphs in DCD Subsection 9.2.1.3 with the following.~~

CTS-01140
MAP-09-326

~~The ESWS serves as a backup source of water for the FSS in the R/B and in the ESWP house. This is in conformance with the requirement for an alternative fire protection water supply from a seismic category I water system in the event of a safe shutdown earthquake, in accordance with RG 1.189. Two hose stations at approximately 150 gpm total take water from the ESWS for a maximum of two hours. Approximately 18,000 gallons is consumed by the FSS. This water volume has minimal impact on the UHS water inventory and does not jeopardize the 30 day capacity requirement. Administratively locked closed valves in each of the fire protection water supply taps assure that water inventory loss is controlled.~~

RCOL2_09.02.01-5

~~Specific design conditions such as maximum operating water temperature and required UHS water volume are described in detail in Subsections 9.2.5.2.3 and 9.2.5.3.~~

~~9.2.1.5.4 ESWP Motor Essential Service Water Flow~~

CTS-01324

~~CP COL 9.2(7)~~ ~~Replace the content of DCD Subsection 9.2.1.5.4 with the following.~~

RCOL2_09.02.01-4

~~Not applicable to Comanche Peak Nuclear Power Plant (CPNPP) Units 3 and 4.~~

9.2.2.2.2 System Operations

STD COL 9.2(27) Replace the last paragraph in DCD Subsection 9.2.2.2.2 with the following.

effluent is passed through a ultraviolet disinfection system to produce a treated effluent that meets the permitted discharge limit requirement and discharged to Squaw Creek Reservoir.

Excessive sludge from the sanitary wastewater treatment system is further transferred to the sludge-conditioning tank and the filter press of the Filter Press Unit for sludge dewatering. The dry sewage sludge is discharged and collected on mobile carts below the filter press is then transferred to a dumpster for disposal to class 1 landfill.

9.2.4.4 Inspection and Testing Requirements

CP COL 9.2(~~13~~11)

Replace the content of DCD Subsection 9.2.4.4 with the following. MAP-09-303

- The potable water system and the sanitary drainage system is tested hydrostatically for leak-tightness and system inspection is performed in accordance with applicable uniform plumbing code requirement. Periodic testing for microbiological growth including bacteria in the sanitary waste is conducted before discharge.

9.2.4.5 Instrumentation Requirements

CP COL 9.2(~~13~~11)

Replace the second through seventh bullets in DCD Subsection 9.2.4.5 with the following. MAP-09-303

- A pressure controller located on each branched off discharge of the potable water system automatically adjusts the valve position based on usage and capacity.

- The instruments associated with the sanitary wastewater treatment system are a part of the treatment plant. Sufficient instrumentation for operation is provided with the treatment plant.

9.2.5.1 Design Bases

STD COL 9.2(18) Replace the second sentence of the first paragraph in DCD Subsection 9.2.5.1 with the following. MAP-09-331

The UHS is designed to meet the interface requirements applicable to the UHS design established in DCD Subsection 9.2.5.1 based on site-specific characteristics as discussed in Subsections 9.2.5.1, 9.2.5.2, and 9.2.5.3. MAP-09-331

CP COL 9.2(18) Replace the first three sentences of the fifth bullet of the seventh paragraph in DCD Subsection 9.2.5.1 with the following.

- The UHS is designed in accordance with Regulatory Guide 1.27 with inventory sufficient to provide cooling for at least 30 days following an accident, with no makeup water. The performance of the UHS is based upon 30 years of site-specific historical wet bulb temperature conditions (refer to Subsection 2.3.1.2.10). RCOL2_09.02.05-16

CP COL 9.2(18) Replace the sixth bullet of the seventh paragraph in DCD Subsection 9.2.5.1 with the following: CTS-01325

- The structures and components of the UHS are designed and constructed as safety-related structures to the requirements of seismic Category I as defined in RG 1.29 and equipment Class 3. RCOL2_09.02.05-4 RCOL2_09.02.05-1

9.2.5.2 System Description

CP COL 9.2(3)
CP COL 9.2(4)
CP COL 9.2(5)
CP COL 9.2(18)
CP COL 9.2(19) Replace the last seven paragraphs in DCD Subsection 9.2.5.2 with the following.

Mechanical draft cooling towers with basins, based on site condition and meteorological data, are used for CPNPP Units 3 and 4.

CP COL 9.2(20)
CP COL 9.2(21) The UHS receives its electrical power from the safety buses so that the safety functions are maintained during LOOP. The UHS receives its standby electrical power from the onsite emergency power supplies during a LOOP. MAP-09-332

A detailed description and drawing of the UHS are provided in Subsection 9.2.5.2.1, Figure ~~9.2.5-201~~9.2.5-1R, and Table ~~9.2.5-201~~9.2.5-3R. MAP-09-333 MAP-09-334

The source of makeup water to the UHS inventory and blowdown discharge location are discussed below. Subsection 10.4.5.2.2.11 describes treatment of blowdown in order to meet wastewater discharge limits. RCOL2_09.02.05-16

The source of cooling water and location of the UHS are discussed in Subsections 9.2.5.2.1 and 9.2.5.2.2. MAP-09-335

The location and design of the ESW intake structure is discussed in Subsections 9.2.5.2.1 and 9.2.5.2.2.

The location and design of the ESW discharge structure is discussed in Subsections 9.2.5.2.1 and 9.2.5.2.2. MAP-09-335

9.2.5.2.1 General Description

CP COL 9.2(1)
CP COL 9.2(3)
CP COL 9.2(4)
CP COL 9.2(5)
CP COL 9.2(18)
CP COL 9.2(19)
CP COL 9.2(20)
CP COL 9.2(21)

Replace DCD Subsection 9.2.5.2.1 with the following. MAP-09-336

Each unit is provided with its own independent UHS, with no sharing between the two units. The UHS for each unit consists of four 50 percent capacity mechanical draft cooling towers, one for each ESWS train, and four 33 one-third percent capacity basins to satisfy the thirty day cooling water supply criteria of RG 1.27.

Each cooling tower consists of two cells with fans and motors, drift eliminators, film fills, risers, and water distribution system all enclosed and supported by a seismic category I reinforced concrete structure. Cooling tower components are designed per equipment Class 3 and quality group C requirements. RCOL2_09.02.05-1 Each basin includes an ESWP intake structure that contains one 50 percent capacity ESWP and one 100 percent capacity UHS transfer pump, and associated piping and components. Tornado missile protection for the cooling tower components, ESWPs and piping is provided by the UHS safety-related seismic category I structures and ESW pipe tunnel as discussed in Subsection 3.8.4. The UHS structural design, including pertinent dimensions, is also discussed in Subsection 3.8.4.

Each cooling tower consists of two cells, each with a motor driven fan driven with a right-angle gear reducer. The fan motors are powered from the Class 1E normal ac power system. On loss of offsite power (LOOP), the motors are automatically powered from their respective division emergency power source.

The cooling towers are designed for the following conditions: water flow of 12,000 gpm, hot (inlet) water temperature of 128° F, cold (outlet) water temperature of 95° F, ambient wet bulb temperature of 80° F, and DBA design heat load of 196.00x106 Btu/hr. RCOL2_09.02.05-5 RCOL2_09.02.05-5

As noted in DCD Subsection 5.4.7.1, “Design Bases,” and DCD Subsection 5.4.7.3, “Performance Evaluation,” with ESW water temperature of 95° F, the RHRS is capable of reducing the reactor coolant temperature from 350° F to 200° F within 36 hours after shutdown. As the Technical Specifications surveillance ensures that the UHS basin water temperature to be 93° F or less, the evaluation provided in DCD Section 5.4.7 is bounding.

Inside dimensions of each basin are approximately 123 feet x 123 feet and 31 feet deep at normal water level. The cooling towers utilize the basins for structural foundation.

The ESW intake basin located underneath the ESW pump house occupies the southwest corner of the UHS basin. The ESW intake basin is 12 feet deeper than the UHS basin. Water volume occupying this 12 feet depth in the ESW intake RCOL2_09.02.05-1

basin is not included in the UHS basin inventory. This is to assure adequate NPSH to the ESW pump. The UHS basin floor elevation (791 feet) is the reference point for measuring the basin water level. MAP-09-337

The UHS operates in conjunction with the ESWS. The ESWS is described in Subsection 9.2.1. P&IDs of the UHS are provided in Figure ~~9.2.5-201~~9.2.5-1R. MAP-09-333
The UHS design and process parameters are provided in Table ~~9.2.5-201~~9.2.5-3R. The normal makeup water to the UHS inventory is from Lake Granbury via the circulating water system descried in Subsection 10.4.5. A control valve with instrumentation located in each makeup line maintains basin water level during normal operation. The blowdown water is discharged to Lake Granbury via the circulating water system. MAP-09-334

The normal maintained water level in the UHS basin is elevation 822 feet. Grade elevation in the vicinity of the basin is 822 feet. A four feet thick basin wall extends four feet above grade level to elevation 826 feet providing a curb around the basin. The basin is not expected to overflow. In the unlikely event of water level reaching the top of the curb wall, it will spill over and flow to site drainage. No special design for the spillway or drain pipe is deemed necessary. RCOL2_09.02.05-4

A chemical injection system is designed to provide non-corrosive, non-scale forming conditions in the UHS basin and ESWS piping to limit biological film formation. The type of biocide, algaecide, pH adjuster, corrosion inhibitor, scale inhibitor and silt dispersant is determined by the Lake Granbury water quality. RCOL2_09.02.05-12

The mechanical draft cooling towers are the UHS. Hence, no discharge structure is necessary.

The makeup water intake structure design and location at Lake Granbury minimize debris, algae, grass into the makeup water and prevent the impingement and entrainment of fish and other aquatic life. The long makeup water pipe run diminishes the carryover of debris and other fouling agents to the UHS basin. RCOL2_09.02.05-10 RCOL2_09.02.05-11

9.2.5.2.2 System Operation

CP COL 9.2(3)
CP COL 9.2(4)
CP COL 9.2(5)
CP COL 9.2(18)
CP COL 9.2(19)
CP COL 9.2(20)
CP COL 9.2(21)
CP COL 9.2(28)
CP COL 9.2(31)

Replace DCD Subsection 9.2.5.2.2 with the following. MAP-09-336

The ESWPs take suction from the basin as described in Subsection 9.2.1. The water flows through the CCW heat exchangers and essential chiller units and then is cooled by the cooling tower before being returned to the basin.

Heat rejection to the environment is effected by direct contact with the cooling tower forced airflow, which provides evaporative cooling of the ESW return flow. During normal operation, evaporation, drift and blowdown losses are replaced with the makeup from Lake Granbury. Water level controllers provided in each basin automatically open and close the makeup control valves. Low and high water level annunciation in the main control room (MCR) indicates a malfunction of the makeup control valve or the blowdown control valve.

Adequate NPSH is maintained under all operating modes, including loss-of-coolant accident (LOCA) and LOOP, with one train out of service for maintenance, when the source of makeup water is assumed lost for a period of thirty days after the accident. During such conditions, the combined inventory of three basins provides a thirty-day cooling water supply assuming the worst combination of meteorological conditions and accident heat loads.

The ESWS together with the UHS are designed, arranged and operated to minimize the effects of water hammer forces. RCOL2_09.02.05-9

The system layout assures water pressure remains above saturation conditions throughout the system. The ESW discharge pipe from the pump house passes to the pipe tunnel located at an elevation below grade. The ESWS flows to the CCW heat exchanger and the essential chiller unit located at an elevation below grade in the Reactor Building. The discharge pipe is connected to the cooling tower riser and spray nozzles located above grade. The ESW pump is designed to provide positive pressure at the spray nozzle headers. This together with the high point vents minimize system drain down in the idle trains or upon loss of offsite power and subsequent pump trip. MAP-09-338 RCOL2_09.02.05-9

The following features preclude or minimize water hammer forces:

- On loss of off-site power (LOOP), the discharge MOV of the operating train is closed by DC power. This, together with the discharge check valve, prevents draindown to the basin.
- The ESW pump start logic interlocks the discharge MOV operation with the pump operation. The re-start of the tripped pump or start of the stand-by pump, opens the discharge valve slowly after a pre-determined time delay, sweeping out voids from the discharge piping and CT riser and distribution piping.
- The system valve lineup and periodic inservice testing of the idle trains, including testing of the high point vents, help minimize potential voids and water hammer forces.

Four 100% capacity UHS transfer pumps, one located in each UHS ESW pump house, are provided to transfer cooling water from a non-operating UHS basin to the operating UHS basins when required during accident conditions. RCOL2_09.02.05-6

All transfer pumps discharge into a common header which in turn discharges to individual UHS basins. All discharge piping is located in missile protected and tornado protected areas. The common discharge header and other UHS system piping are designed to seismic Category I requirements. The piping is located in seismic Category I structures. There is no non-seismic piping in the vicinity of this header, and there are no seismically induced failures. Pipes are protected from tornado missiles. The UHS transfer pump(s) operate during accident conditions, during IST in accordance with plant Technical Specifications, during maintenance, RCOL2_09.02.05-4

and for brief periods during cold weather conditions for recirculation. As the header is normally not in service, deterioration due to flow-accelerated corrosion is insignificant. Transfer of water inventory is required assuming one train/basin of ESW/UHS is out of service (e.g., for maintenance), and a second train is lost due to a single failure. When a transfer pump is in operation, fluid velocity in the header is approximately 5.1 ft/sec. Operating conditions are approximately 20 psig and 95° F. Therefore, header failures are not considered credible. RCOL2_09.02.05-6

The UHS transfer pump is designed to supply 800 gpm flow at a total dynamic head (TDH) of 40 feet. Transfer pump capacity is more than adequate to replenish the maximum water inventory losses from two operating ESWS trains. Minimum available net positive suction head (NPSHA) is approximately 40 feet. This is based on the lowest expected water level of approximately 12 feet in the UHS ESW intake basin and 95° F water temperature. Transfer pump location and submergence level precludes vortex formation. In addition, the transfer pump and the ESW pump from the same basin do not operate simultaneously. RCOL2_09.02.05-7 RCOL2_09.02.05-7

The UHS transfer pumps and the ESWPs located in each basin are powered by the different Class 1E buses, e.g., for basin A, the ESWP is powered from bus A, and the UHS transfer pump is powered from bus C or D, depending on manual breaker alignment. The power operated valve at each transfer pump discharge and instrumentation associated with each individual transfer pump are powered from the same buses as the transfer pump. The power operated valves at the transfer lines discharging into the UHS basins are powered from different buses than the transfer pumps in their respective basins. RCOL2_09.02.05-4

The cooling tower fans are automatically activated by the emergency core cooling system (ECCS) actuation signal, the LOOP sequence actuation signal, or the remote manual actuation signal in case of automatic actuation failure. RCOL4_16-6

The ECCS actuation signal ensures continuous cooling to the reactor during accidents to allow the reactor to be brought to safe shutdown condtions. The LOOP sequence actuation signal automatically starts the Class 1E gas turbine generators (GTGs) to resume power to the active components in each UHS train during LOOP events. RCOL4_16-6

The basins are concrete seismic category I structures and are located mostly below grade. Hence, a complete failure resulting in loss of water inventory is considered highly improbable.

Operation details of the ESWS, including chemical treatment, pump NPSH, and freeze protection operation, are provided in Subsection 9.2.1.

A portion of the basin water is discharged through the blowdown via the ESWS when the makeup water is available. The blowdown rate is determined using a conductivity cell located at ESW pump discharge and is based on the total dissolved solids in the water and the makeup water source. During design-basis accident (DBA) conditions or loss of makeup water, the Class 1E DC powered MAP-09-339

UHS basin blowdown ~~is terminated.~~control valves are interlocked to close at a low UHS basin water level, LOOP signal and ECCS actuation signal to maintain the UHS basin inventory required for cooling the unit for a minimum of 30 days without makeup water. The blowdown valves are also interlocked to close during the ESW pump stoppage to preclude the system inventory drain down which leads to water hammer at pump restart. Table 9.2.5-4R shows the redundancy for the above functions. MAP-09-339

A water line from the transfer pump discharge to the ESWP discharge is installed in each UHS train for recovering ESWS/UHS inventory after drainage for maintenance. The line provides water at a low flow rate to preclude water hammer that could be caused by the full flow operation of the ESWP for water inventory restoration. Normally-closed double isolation valves with administrative control provide isolation between the ESWS and UHS.

9.2.5.2.3 System Performance

CP COL 9.2(3)
CP COL 9.2(4)
CP COL 9.2(5)
CP COL 9.2(18)
CP COL 9.2(19)
CP COL 9.2(20)
CP COL 9.2(21)
CP COL 9.2(28)
CP COL 9.2(31)

Replace DCD Subsection 9.2.5.2.3 with the following. MAP-09-336

DCD Table 9.2.5-1 lists the UHS peak heat loads during accident conditions (i.e., LOCA) with two trains operation and four trains operation. Table 9.2.5-2 provides the heat loads for LOCA and safe shutdown conditions with loss of off-site power for two-train and four-train operations of the ESWS. The heat load per train during two-train operation is higher than the heat load per train during four-train operation. Therefore, the UHS is designed assuming two-train operation of the ESWS, which bounds four-train operation of the ESWS.

The UHS is designed with sufficient inventory to provide cooling for at least 30 days following an accident with no makeup water. The UHS must be capable of dissipating the design bases heat loads under the worst environmental conditions that minimize heat dissipation without exceeding the maximum ESW supply temperature of 95°F.

The wet bulb design temperature was selected to be 80°F based on 30 years (1977-2006) of climatological data obtained from National Climatic Data Center /National Oceanic & Atmospheric Administrator for Dallas/ Fort Worth International Airport Station in accordance with RG 1.27. The worst 30 day period based on the above climatological data was between June 1, 1998 and June 30, 1998, with an average wet bulb temperature of 78.0°F. A 2°F recirculation penalty~~margin~~ was added to the maximum average wet bulb temperature. ~~for conservatism.~~ RCOL2_09.02.05-5

The 83° F wet bulb temperature as shown in the FSAR Table 2.0-1R corresponds to the 0% annual exceedance value (two consecutive hourly peak temperatures on July 12, 1995, at 1500 hours and 1600 hours) in accordance with SRP 2.3.1. The 0% exceedance criterion means that the wet bulb temperature does not exceed the 0% exceedance value for more than two consecutive data occurrences, namely two consecutive hours on data recorded hourly. The 83° F

9.2.5.3 Safety Evaluation

CP COL 9.2(22) Replace DCD Subsection 9.2.5.3 with the following.

The results of the UHS capability and safety evaluation are discussed in detail in Subsection 9.2.5.2.3 and in this Subsection. The UHS is capable of rejecting the heat under limiting conditions as discussed in Subsection 9.2.5.2.3.

The UHS is arranged to support separation of the four divisions of ESWS. MAP-09-340

System functional capability is maintained assuming one division is unavailable due to on-line maintenance during a design basis accident with a single active failure, with or without a LOOP.

The failure modes and effects analysis for the UHS ~~are~~is included in Table ~~9.2.5-202~~9.2.5-4R and demonstrates that the UHS satisfies the single failure criteria. MAP-09-341 CTS-01335

The safety-related SSCs of the UHS and the ESWS are classified as seismic Category I. The site-specific safety-related components are identified in FSAR Table 3.2-201. The non-seismic (NS) SSCs are segregated from the seismic Category I SSCs. Structural failure of the UHS non-safety related SSCs will not adversely impact the seismic category I SSCs. These non-safety SSCs are classified as non-seismic. RCOL2_09.02.05-2

The basin is designed to withstand the effect of natural phenomena, such as earthquakes, tornadoes, hurricanes, and floods taken individually, without loss of capability to perform its safety function. CTS-01335

The basin for the structural adequacy of the UHSRS is provided in FSAR Sections 3.3, 3.4, 3.5, 3.7, and 3.8. MAP-09-342

Site-specific UHS design features to address limiting hydrology-related events are addressed in Subsection 2.4.8, 2.4.11, and 2.4.14.

The combined volume of water in the three basins is sufficient to provide at least 30 days required cooling capacity.

The total required 30 days cooling water capacity is approximately ~~8.54~~8.40 million gallons, or approximately ~~2.85~~2.80 million gallons per cooling tower (CT) basin. This is the minimum volume required in each basin to satisfy the thirty day cooling water supply criteria of RG 1.27. Each basin dimension, not including any column or wall sections, is 120 feet x 120 feet. Normal water level is maintained at 31 feet above the basin floor. A water level decrease to 30 feet above the basin floor is alarmed. Allowing 1 foot for sedimentation accumulation at the floor, with a water depth of 29 feet, ~~from the minimum maintained water level, the~~a usable water volume ~~available for each basin is~~of approximately 3.12 million gallons is available for each basin before the operator is alerted of abnormal conditions. ~~The water depth excludes one foot of unusable space from the basin floor, where~~ RCOL2_09.02.05-5 RCOL2_09.02.01-1 RCOL2_09.02.05-5 RCOL2_09.02.05-5 RCOL2_09.02.01-1

Maintenance and test procedures to monitor debris build up and flush out debris in the UHS are discussed in Subsection 9.2.1.2.1. MAP-09-343

9.2.5.5 Instrumentation Requirements

~~CP~~STD COL 9.2(24)
STD COL 9.2(32)

Replace the ~~sentence~~first paragraph in DCD Subsection 9.2.5.5 with the following. MAP-09-344

Water level in each of the basins is controlled by level instrumentation that opens or closes the automatic valves in the makeup lines.

Two level transmitters and associated signal processors are provided for each basin to indicate water level in the basin and annunciate in the MCR for both the high and low water levels in the basin.

A water level signal at six inches below the normal water level causes the makeup water control valve to open. A signal at normal water level then causes the makeup control valve to close. A low level alarm annunciates in the MCR whenever the water level falls one foot below the normal water level.

During accident conditions, level indications from the operating basins are used to alert the MCR operator to start the UHS transfer pump to transfer water from the idle basin to the operating basins. MAP-09-344

Blowdown rate is controlled manually. The blowdown control valves close automatically upon receipt of a low water level signal or emergency core cooling system actuation signal. The valve is designed to fail in the close position. Failure of the valve to close is indicated in the MCR.

The conductivity cells are provided at the ESW pump discharge line and conductivity are indicated in the MCR.

Temperature elements are provided in each basin and temperatures are indicated in the MCR.

Local flow rate and pressure indicators located in each UHS transfer pump discharge header are used for pump performance testing.

The cooling tower fan is equipped with vibration sensors that alarm in the control room in the event of high vibration.

Level switches are installed in the vertical piping upstream of the cooling tower spray header to annunciate if system inventory reduction occurs. The factors considered for detector position are the allowable leakage rate for the ESW pump discharge check valve and motor-operated butterfly valve, allowable voiding volume and maintenance durations. MAP-09-344

9.2.7.2.1 Essential Chilled Water System

STD COL 9.2(27) Replace the last paragraph in DCD Subsection 9.2.7.2.1 with the following.

The operating and maintenance procedures regarding water hammer are included in system operating procedures in Subsection 13.5.2.1. A milestone schedule for implementation of the procedures is also included in Subsection 13.5.2.1.

9.2.10 Combined License Information

Replace the content of DCD Subsection 9.2.10 with the following.

CP COL9.2(1)
STD COL 9.2(1)

9.2(1) *The evaluation of ESWP at the lowest probable water level of the UHS and the recovery procedures when UHS approaches low water level* CTS-01326

This COL item is addressed in Subsection 9.2.1.3,9.2.5.2.1, 13.5.2.1. MAP-09-330 MAP-09-336

CP COL 9.2(2)

9.2(2) *The protection against adverse environmental, operating and accident condition that can occur such as freezing, low temperature operation, and thermal over pressurization* MAP-09-331

This COL item is addressed in Subsection 9.2.1.3.

CP COL 9.2(3)

9.2(3) *Source and location of the UHS*

This COL item is addressed in Subsection 9.2.5.2, 9.2.5.2.1, 9.2.5.2.2, 9.2.5.2.3. MAP-09-336

CP COL 9.2(4)

9.2(4) *The location and design of the ESW intake structure*

This COL item is addressed in Subsection 9.2.5.2, 9.2.5.2.1, 9.2.5.2.2, 9.2.5.2.3. MAP-09-336

CP COL 9.2(5)

9.2(5) *The location and the design of the discharge structure*

This COL item is addressed in Subsection 9.2.5.2, 9.2.5.2.1, 9.2.5.2.2, 9.2.5.2.3. MAP-09-336

CP COL 9.2(6)
STD COL 9.2(6)

9.2(6) *The ESWP design details – required total dynamic head with adequate margin, NPSH available, and the mode of cooling the pump motor.*
The ESWS design pressure exceeds the sum of the shut-off head of the selected ESW pumps and static head at any location within the system Vortex formation prevention. RCOL2_09.02.01-4 CTS-01140 MAP-09-317

This COL item is addressed in Subsection 9.2.1.2.1, 9.2.1.2.2, 9.2.1.2.2.1, ~~and~~ Table 9.2.1-1R, Table 9.2.1-2R and 9.4.5.1.1.6. CTS-01327

CP COL 9.2(7)
STD COL 9.2(7)

9.2(7) *The design of ESWS related with the site specific UHS* CTS-01140 MAP-09-321

This COL item is addressed in Subsections 9.2.1.2.1,9.2.1.2.2.5, 9.2.1.2.3.1, 9.2.1.3~~, 9.2.1.5.4~~ and Figure 9.2.1-1R, 13.4, Table 13.4-201. RCOL2_09.02.01-4

~~CP~~STD COL 9.2(8)

9.2(8) *The ESW specific chemistry requirements*

CTS-01140

This COL item is addressed in Subsection 9.2.1.2.1.

CP COL 9.2(9)
STD COL 9.2(9)

9.2(9) *The storage capacity and usage of the potable water*

CTS-01140

This COL item is addressed in Subsections 9.2.4.1, 9.2.4.2.2.1, 9.2.4.2.2.2 and 9.2.4.2.2.3.

CP COL 9.2(10)

9.2(10) *State and Local Department of Health and Environmental Protection Standards*

This COL item is addressed in Subsection 9.2.4.1.

CP COL 9.2(11)

9.2(11) ~~*Source of potable water to the site and the necessary required treatment*~~*Source of potable water to the site, the necessary required treatment and the system operation*

MAP-09-303

This COL item is addressed in Subsections 9.2.4.1, 9.2.4.2.1, 9.2.4.2.2.4, 9.2.4.2.3, 9.2.4.4, 9.2.4.5 and Figure 9.2.4-1R.

CP COL 9.2(12)

9.2(12) *Sanitary waste treatment*

This COL item is addressed in Subsections 9.2.4.1 and 9.2.4.2.1.

~~CP COL 9.2(13)~~

9.2(13) ~~*Supply of water (city or on-site wells of another) and the system operation.*~~*Deleted*

MAP-09-303

~~*This COL item is addressed in Subsections 9.2.4.2.3, 9.2.4.4 and 9.2.4.5.*~~

CTS-01328

CP COL 9.2(14)

9.2(14) *Potable and sanitary water system components data*

This action is addressed in Subsections 9.2.4.2.1 and Table 9.2.4-1R.

CP COL 9.2(15)
STD COL 9.2(15)

9.2(15) *Total number of people at the site, the usage capacity and sizing of the potable water tank and associated pumps.*

CTS-01140

This COL item is addressed in Subsections 9.2.4.1, 9.2.4.2.2.1, 9.2.4.2.2.2 and 9.2.4.2.2.3.

~~CP COL 9.2(16)~~

9.2(16) ~~*Values to the component based on calculations*~~*Deleted*

MAP-09-304

~~*This COL item is addressed in Table 9.2.4-1R.*~~

CP COL 9.2(17)

9.2(17) *Sanitary lift stations and the sizing the appropriate interfaces*

This COL item is addressed in Subsections 9.2.4.1 and 9.2.4.2.3.

CP COL 9.2(18)
STD COL 9.2(18)

9.2(18) *The type of the UHS based on specific site conditions and meteorological data* CTS-01329

This COL item is addressed in Subsections 9.2.5.1 and 9.2.5.2, 9.2.5.2.1, 9.2.5.2.2, 9.2.5.2.3. MAP-09-336

CP COL 9.2(19)

9.2(19) *The design of the electrical power supply to the UHS*

This COL item is addressed in Subsection 9.2.5.2, 9.2.5.2.1, 9.2.5.2.2, 9.2.5.2.3. MAP-09-336

CP COL 9.2(20)

9.2(20) *The description and the P&ID of the UHS*

This COL item is addressed in Subsections 9.2.5.2, 9.2.5.2.1, 9.2.5.2.2, 9.2.5.2.3, Table ~~9.2.5-201~~9.2.5-3R and Figure ~~9.2.5-201~~9.2.5-1R. MAP-09-334 MAP-09-333

CP COL 9.2(21)

9.2(21) *The source of makeup water to the UHS and the blowdown discharge location*

This COL item is addressed in Subsections 9.2.5.2, 9.2.5.2.1, 9.2.5.2.2, 9.2.5.2.3. MAP-09-336

CP COL 9.2(22)

9.2(22) *The UHS capability and safety evaluation*

This COL item is addressed in Subsection 9.2.5.3 and Table ~~9.2.5-202~~9.2.5-4R. MAP-09-341

CP COL 9.2(23)

9.2(23) *The test and inspection requirements of the UHS*

This COL item is addressed in Subsection 9.2.5.4, and 13.5. MAP-09-330

~~CP~~STD COL 9.2(24)

9.2(24) *The required alarms, instrumentation and controls of the UHS system* CTS-01330

This COL item is addressed in Subsection 9.2.5.5.

~~CP~~STD COL 9.2(25)

9.2(25) *The operating and maintenance procedures to address water hammer issues* CTS-01140

This COL item is addressed in Subsections 9.2.1.2.1 and 13.5.2.1.

~~CP~~STD COL 9.2(26)

9.2(26) *Specification of piping and fittings to prevent potential plugging due to debris buildup. ~~M~~maintenance and test procedures to monitor and flush out debris* CTS-01140 MAP-09-325

This COL item is addressed in Subsections 9.2.1.2.1, 9.2.1.3 and 13.5.2.1.

STD COL 9.2(27)

9.2(27) *Operating and maintenance procedures of water hammer prevention*

This COL Item is addressed in Subsection 9.2.2.2.2.6, ~~and~~ 9.2.7.2.1 and 13.5.2.1. MAP-09-329

CP COL 9.2(28)

9.2(28) *Design related to the site specific UHS* MAP-09-339

This COL Item is addressed in Subsection 9.2.5.2.2

CP COL 9.2(29) ***9.2(29)*** *Safety evaluation of the capability of the ESWS to: (1) isolation ofnonsafety-related portions; and (2) provision of measures per Generic Letter (GL)89-13* MAP-09-324

This COL Item is addressed in Subsection 9.2.1.3, 13.5.2.1.

CP COL 9.2(30) ***9.2(30)*** *Conduction of periodic inspection, monitoring, maintenance, performance and functional testing of the ESWS and UHS. Development of operating procedures for periodically alternate operation of the trains for regular monitoring.* MAP-09-326

This COL Item is addressed in Subsection 9.2.1.4, 13.4, 13.5, 13.5.2.1.

STD COL 9.2(31) ***9.2(31)*** *Verification of the system layout of the ESWS and UHS and development of operating procedures to assure the ESWS and UHS are above saturation condition.* MAP-09-316

This COL Item is addressed in Subsection 9.2.1.2.1, 9.2.5.2.2. MAP-09-336

CP COL 9.2(32)
STD COL 9.2(32) ***9.2(32)*** *Void detection system* MAP-09-322

This COL Item is addressed in Subsection 9.2.1.2.3.1, 9.2.5.5

STD COL 9.2(33) ***9.2(33)*** *Design detail of the strainer backwash line, vent line, and their discharge locations* CTS-01331 MAP-09-320

This COL Item is addressed in Subsection 9.2.1.2.2.2.

STD COL 9.2(6)

CTS-01327

MAP-09-328

Table 9.2.1-2R (Sheet 1 of 4)

Essential Service Water System Failure Modes and Effects Analysis

Description of Component	Safety Function	Plant Operating Mode	Failure Mode(s)	Method of failure Detection	Failure Effect on System Safety Function Capability	General Remarks
ESWP (MPP-001A, B, C, D)	Supplies ESW to CCW HX and Essential Chiller Unit	A, Startup, normal shutdown, normal operation, refueling	A1, Fails to start upon command	A1, Pump status light indication in MCR	A1, None Remaining three 50% capacity pumps are available. Minimum two pumps are required for safety function.	One train unavailable due to maintenance does not affect the safety functions because only a minimum of two pumps are required.
			A2, Trips for any reason	A2, Pump status light indication in MCR	A2, None Same as A1.	
		B, Accident, safe shutdown, cooldown – loss of offsite power	B1, Fails to start upon command	B1, Pump status light indication in MCR	B1, None Same as A1.	
			B2, Trips for any reason.	B2, Pump status light indication in MCR	B2, None Same as A1.	
ESWP Discharge Valve (MOV-503A, B, C, D), fail as is, motor operated valve	Opens to provide flow path	A, Startup, normal shutdown, normal operation, refueling	A, Fails in closed position	A, Position indication in MCR	A, None Remaining three 50% capacity pumps are available. Minimum two pumps are required for safety function.	
		B, Accident, safe shutdown, cooldown – loss of offsite power	B, Fails in closed position	B, Position indication in MCR	B, None Same as A.	

CP COL 9.2(20)

MAP-09-334

Table 9.2.5-~~204~~3R

Ultimate Heat Sink System Design Data

UHS Cooling Tower and Basin	
Physical Data	
Type and Quantity	Wet, mechanical draft Four (4) – 50 percent cooling tower with basin Two (2) cells per cooling tower
Basin Size	Footprint Approx 123 feet x 123 feet (inside dimensions) Depth Approx 31 feet (at normal water level)
Usable Basin Water Volume	3.12 x 10^6 gallon per basin (at minimum maintained water level)
Fan and Motor Quantity	One (1) each per cell
Fan driver	200 rated hp
Design air flow	685,900 cfm per fan
Fan speed	154 rpm
Cooling Tower Design life	60 years
Process Parameters	
Design Cooling Water Flow Rate	13,000 (gpm per cooling tower)
Design Heat Load	1.96 x10^8 (Btu/hr per cooling tower)
Cooling Water Temperature	Hot (Inlet) 128 °F Cold (Outlet) 95 °F
Design wet bulb Temperature	80 °F
Design approach	15 °F

RCOL2_09.02.05-5

RCOL2_09.02.05-5

UHS Transfer Pump	
Quantity	4
Type	Vertical, centrifugal
Design flow rate	800 gpm
Total Head	40 feet
Design pressure	100 psig
Design temperature	140 ° F
Materials	Stainless Steel
Equipment Class	3

Note:* Design parameters for the cooling tower are based on a typical cooling tower design.

RCOL2_09.02.05-5

CP COL 9.2(22)

Table 9.2.5-~~202~~4R (Sheet 1 of 3) MAP-09-341

Ultimate Heat Sink System Failure Modes and Effects Analysis

Description of Component	Safety Function	Plant Operating Mode	Failure Mode(s)	Method of failure Detection	Failure Effect on System Safety Function Capability	General Remarks
UHS Cooling Tower Fan (UHS-OEQ-001A, B, C, D and UHS-~~OEQ~~MFN-002A, B, C, D) MAP-00-201	Circulates ambient air through cooling tower to cool ESW	All	Fails to start upon command	Fan status indication light in MCR	None, Remaining three 50 percent capacity cooling towers are available. Minimum two towers are required for safe shutdown.	One Train out due to maintenance does not affect safety function, because minimum of two cooling towers are required.
			Trips for any reason	Fan status indication light in MCR	None, Same as the failure mode “Fails to start upon command”.	
UHS Transfer Pump (UHS-~~OPP~~MPP-001A, B, C, D) MAP-00-201	Transfers 33-1/3 percent of required 30 days cooling water from inoperable basin to two (2) operating basins	Accident, Safe shutdown, Cooldown – loss of offsite power	Fails to start upon command	Pump status light indication in MCR	None, Even if the single failure is assumed to the transfer pomp, the cooling tower located at the same basin as the inoperable transfer pump can use own basin water. It is not necessary to transfer this basin water to other basin.	
UHS Transfer Pump Discharge Valve (MOV-503A, B, C, D), fail as is, motor operated valve	Opens to provide flow path	Accident, Safe shutdown, Cooldown – loss of offsite power	Fails to open upon command	Position indication in MCR	None, Even if the single failure is assumed to the valve, the cooling tower located at the same basin as the inoperable valve can use own basin water. It is not necessary to transfer this basin water to other basin.	

Table 9.2.5-~~202~~4R (Sheet 2 of 3) MAP-09-341

Ultimate Heat Sink System Failure Modes and Effects Analysis

Description of Component	Safety Function	Plant Operating Mode	Failure Mode(s)	Method of failure Detection	Failure Effect on System Safety Function Capability	General Remarks
UHS Transfer Line Basin Inlet valve (MOV-506A, B, C, D), fail as is, motor operated valve	Opens to provide flow path	Accident, Safe shutdown, Cooldown – loss of offsite power	Fails to open upon command	Position indication in MCR	None, This failure effect is bounded by the failure effect of UHS Cooling Tower Fan.	
UHS Basin Blowdown Control Valve (EWS-HCV-~~2000~~010, ~~2001~~011, ~~2002~~012, ~~2003~~013), fail close air operated valve	~~Closes to isolate blowdown~~Isolates the UHS basin blowdown line to the CWS blowdown main header to keep UHS basin inventory required for cooling the unit for a minimum of 30 days without makeup water	~~All~~Accident, Safe shutdown, Cooldown – loss of offsite power	Fails to close upon command	Position indication in MCR	~~None, Blowdown can be isolated by closing manual valves (VLV-541A,B,C,D, VLV-543A,B,C,D)~~ ~~Effect of uncontrolled blowdown for 30 minutes on basin inventory is insignificant.~~None The UHS basin blowdown line to the CWS blowdown main header can be isolated by closing ESWS Blowdown Main Header Isolation Valve to the CWS blowdown main header (EWS AOV-560).	MAP-09-329 MAP-00-201

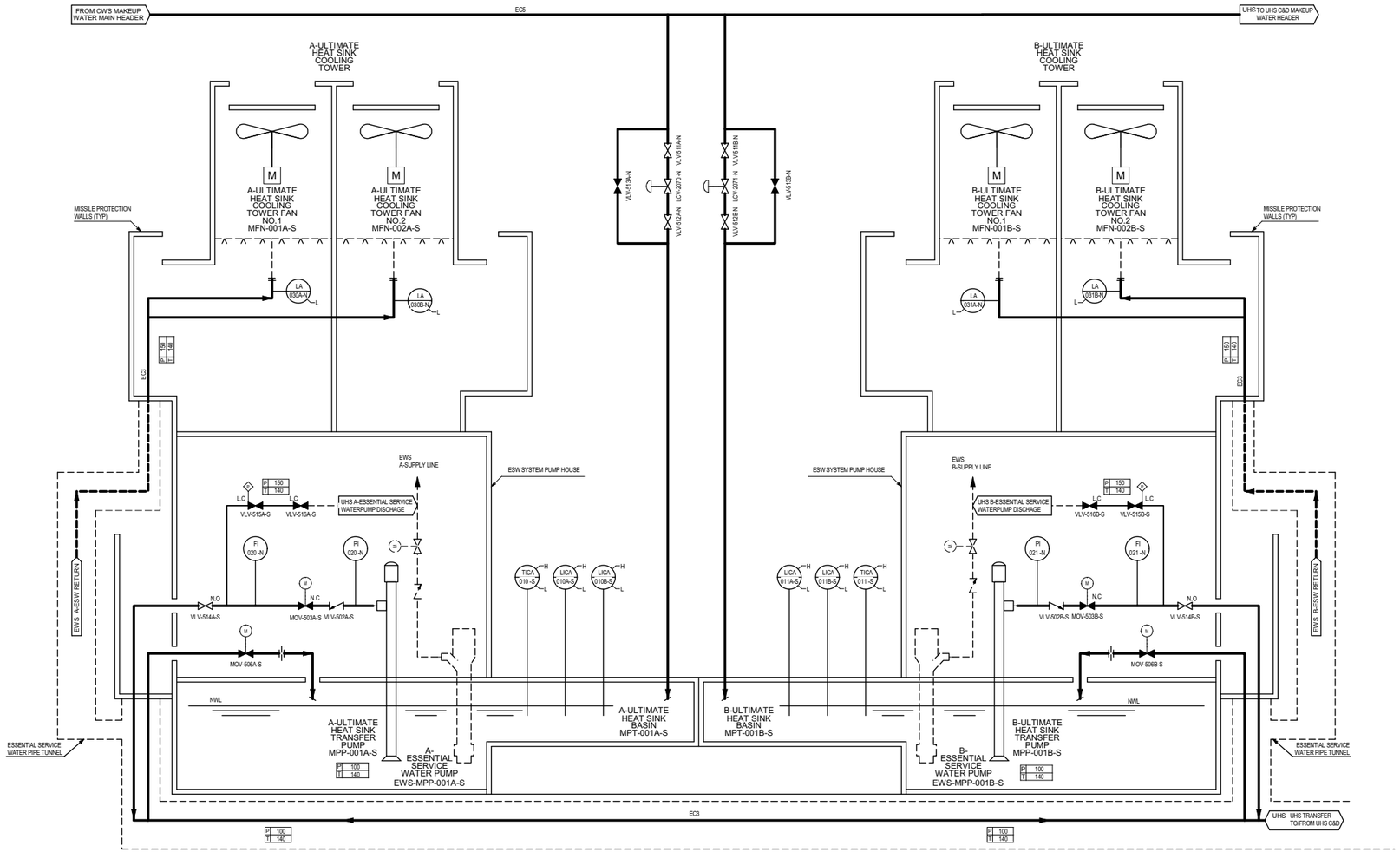
Table 9.2.5-~~202~~4R (Sheet 3 of 3) MAP-09-341

Ultimate Heat Sink System Failure Modes and Effects Analysis

Description of Component	Safety Function	Plant Operating Mode	Failure Mode(s)	Method of failure Detection	Failure Effect on System Safety Function Capability	General Remarks
	Isolates the UHS basin blowdown line to the CWS blowdown main header to preclude the system inventory drain down which leads to water hammer at pump restart	Startup, normal shutdown, normal operation, refueling, cooldown	Fails to close on demand	Position indication in MCR	None The UHS basin blowdown line to the CWS blowdown main header can be isolated by closing ESWS Blowdown Main Header Isolation Valve to the CWS blowdown main header (EWS AOV-560).	MAP-09-329
		Accident, Safe shutdown, Cooldown – loss of offsite power	Fails to close on demand	Position indication in MCR	None The UHS basin blowdown line to the CWS blowdown main header can be isolated by closing ESWS Blowdown Main Header Isolation Valve to the CWS blowdown main header (EWS AOV-560).	

MAP-00-201

MAP-09-308



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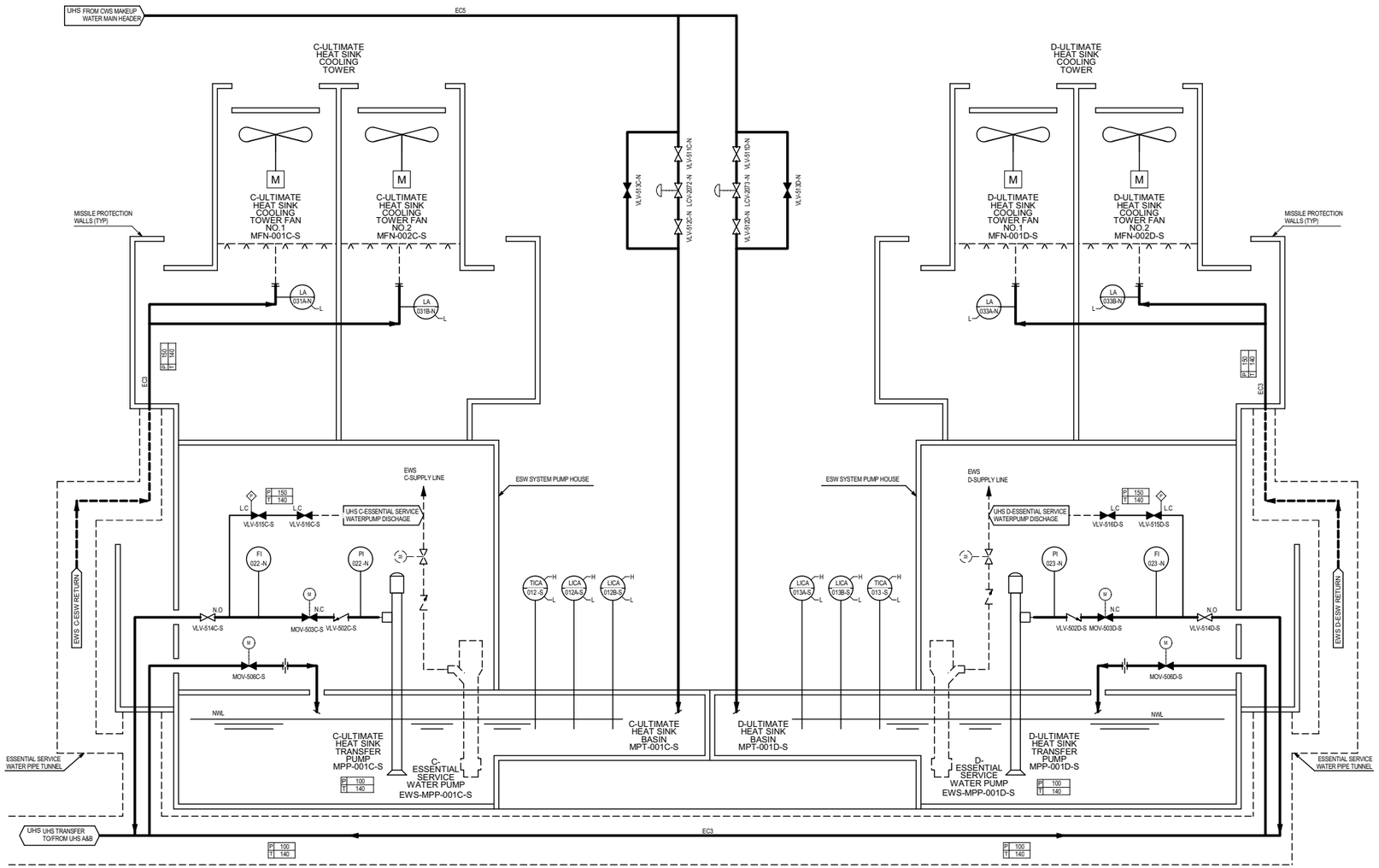
CP COL 9.2(20)

Figure 9.2.5-~~201~~1R Ultimate Heat Sink System Piping and Instrumentation Diagram (Sheet 1 of 2)

MAP-09-333

MAP-00-201

MAP-09-308



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2.05-4

CP COL 9.2(20)

Figure 9.2.5-~~201~~1R Ultimate Heat Sink System Piping and Instrumentation Diagram (Sheet 2 of 2)

MAP-09-333

The carbon dioxide gas is supplied from the carbon dioxide gas cylinders located close to the equipment if practical or in the compressed gas farm. The carbon dioxide gas cylinders in the gas farm supply carbon dioxide gas to both units.

Miscellaneous Gases

Other gases for the oxygen gas analyzer and the automatic gas analyzers are supplied from gas cylinders located close to the analyzers.

Figure 9.3.1-201 shows the Hydrogen and Nitrogen Gas Supply Configuration.

9.3.1.2.2.3 Compressed Gas System

~~CP~~STD COL 9.3(1)

Replace the content of DCD Subsection 9.3.1.2.2.3 with the following. CTS-01140

The compressed gas system consists of gas sources as described in Subsection 9.3.1.2.1.3 and the distribution headers, distribution piping, and the associated valves and instrumentation.

9.3.2.2.5 Steam Generator Blowdown Sampling System

MAP-09-315

CP CDI

Replace the phrase “waste water system” in the third paragraph of DCD Subsection 9.3.2.2.5 with “existing waste water management Pond C.” MAP-09-347

9.3.3 Equipment and Floor Drainage Systems

CP CDI

Throughout DCD Subsection 9.3.3, replace “waste water system (WWS)” with “existing waste water management Pond C.” MAP-09-347 CTS-01332

9.3.6 Combined License Information

Replace the content of DCD Subsection 9.3.6 with the following.

CP COL 9.3(1)
STD COL 9.3(1)

9.3(1) *Compressed Gas System*

This COL item is addressed in Subsection 9.3.1.2.1.3, 9.3.1.2.2.3 and Figure 9.3.1-201. CTS-01140

9.3(2) *Deleted from the DCD.*

9.3(3) *Deleted from the DCD.*

The capacity of heating coils that are affected by site specific conditions is shown in Table 9.4-201.

9.4.5.2.5 Safety Related Component Area HVAC System

CP COL 9.4(4) Replace the third sentence of the second paragraph in DCD Subsection 9.4.5.2.5 with the following.

The capacity of heating coils that are affected by site specific conditions is shown in Table 9.4-201.

CP COL 9.4(6) Add the following new subsection after DCD Subsection 9.4.5.2.5.

9.4.5.2.6 UHS ESW Pump House Ventilation System

RCOL2_09.04.05-13
CTS-01262

Each of the four independent UHS structures consists of a UHS ESW pump house and a water basin with a cooling tower above it. The UHS ESW pump house contains two separate rooms: the ESW pump room and the UHS transfer pump room. Each pump room has an independent ventilation system and each pump room is in a different fire area separated by three-hour fire barriers.

The ESW pump room ventilation has an exhaust fan for cooling and two unit heaters for heating. The UHS transfer pump room has an exhaust fan and one unit heater. The ventilation systems are classified as safety-related equipment class 3, seismic Category I and are capable of performing their safety function under all associated design basis accidents coincident with a LOOP.

MAP-09-348

The UHS ESW pump house ventilation systems are shown in Figure 9.4-203 and the UHS ESW pump house layout arrangement is shown in Figure 1.2-206. The UHS ESW pump house ventilation equipment design data is presented in Table 9.4-202.

The UHS ESW pump houses do not contain quantities of airborne radioactive contamination and are not provided with filtering or radiation monitoring capability. The pump house room ventilation systems exhaust directly to atmosphere.

The ESW pump room ventilation system is powered by the same Class 1E power train that supplies the associated ESW pump in the same room. The UHS transfer pump and UHS transfer pump room ventilation system in the same UHS ESW pump house are supplied by a Class 1E power train different from the one supplying the ESW pump. This is to ensure that the UHS transfer pump is available to transfer UHS basin water to another UHS basin if the ESW pump

independent UHS ESW pump houses. All ventilation system ~~equipment and~~ components are classified as equipment class 3, seismic category I. RCOL2_09.04.05-10

- The ESW pump room ~~exhaust fans~~ventilation system and the UHS transfer pump room ~~exhaust fans~~ventilation system are capable of performing ~~its~~their safety function under all associated design basis accidents coincident with LOOP. RCOL2_09.04.05-13 CTS-01262
- The ESW pump room exhaust fans and UHS transfer pump room exhaust fans are capable of performing required safety functions under all postulated internal flooding events as described in Subsection 3.4.1.3. CTS-01171
- As shown in Table 9.4-203, ~~F~~failure of a single active component in one of the UHS ESW pump house ventilation system ~~exhaust fans~~ does not result in a loss of the system's safety function. DCD_09.04.05-1 RCOL2_09.04.05-13
- The UHS ESW pump house ventilation system components are protected from tornado generated missiles by their location inside a seismic category I structure.
- Backdraft dampers are capable of withstanding the affects of tornado wind and atmospheric differential pressure loading.
- The UHS ESW pump house air intakes and air outlets are protected from tornado missiles as described in Subsection 3.8.4.1.3.2. CTS-01262 RCOL2_09.04.05-4

~~CP~~STD COL 9.4(6) Add the following new subsection after DCD Subsection 9.4.5.4.5. CTS-01140

9.4.5.4.6 UHS ESW Pump House Ventilation System

In addition to the general requirements in Subsection 9.4.5.4, the backdraft dampers are factory tested to demonstrate their capability to withstand the tornado wind effects and atmospheric differential pressure loading. RCOL2_09.04.05-14 CTS-01333

The general requirements in Subsection 9.4.5.4 apply.

~~CP~~STD COL 9.4(6) Add the following new subsection after DCD Subsection 9.4.5.5.5. CTS-01140

9.4.5.5.6 UHS ESW Pump House Ventilation System

The following instrumentation serving the UHS ESW pump houses includes:

- Alarm on low airflow for ESW pump room or UHS transfer pump room.
- Indication of the status of the exhaust fans.
- Alarm on high room temperature in ESW pump room or UHS transfer pump room.

- Alarm on low room temperature in ESW pump room or UHS transfer pump room.
- Temperature switches for control of ESW pump room and UHS transfer pump room exhaust fans and heaters. RCOL2_09.04.05-10

9.4.6.2.4.1 Containment Low Volume Purge System

~~CP~~STD COL 9.4(4)

Replace the second sentence of the first paragraph in DCD Subsection 9.4.6.2.4.1 with the following. CTS-01140

The capacity of cooling and heating coils that are affected by site specific conditions is shown in Table 9.4-201.

9.4.6.2.4.2 Containment High Volume Purge System

~~CP~~STD COL 9.4(4)

Replace the second sentence of the first paragraph in DCD Subsection 9.4.6.2.4.2 with the following. CTS-01140

The capacity of cooling and heating coils that are affected by site specific conditions is shown in Table 9.4-201.

9.4.7 Combined License Information

Replace the content of DCD Subsection 9.4.7 with the following.

9.4(1) *Deleted from the DCD.*

9.4(2) *Deleted from the DCD.*

9.4(3) *Deleted from the DCD.*

CP COL 9.4(4)
STD COL 9.4(4)

9.4(4) *Capacity of cooling and heating coils that are affected by site specific conditions* CTS-01140
This COL item is addressed in Subsections 9.4.1.2, 9.4.3.2.1, 9.4.3.2.2, 9.4.3.2.3, 9.4.3.2.4, 9.4.5.2.2, 9.4.5.2.3, 9.4.5.2.4, 9.4.5.2.5, 9.4.6.2.4.1, 9.4.6.2.4.2 and Table 9.4-201, Figure 9.4-201, Figure 9.4-202. MAP-09-349

9.4(5) *Deleted from the DCD.*

CP COL 9.4(6)
STD COL 9.4(6)

9.4(6) *Information of UHS ESW pump house ventilation system*

This COL item is addressed in Subsections 9.4.5, 9.4.5.1.1.6, 9.4.5.2.6, 9.4.5.3.6, 9.4.5.4.6, 9.4.5.5.6, Table 9.4-202, Table 9.4-203 and Figure 9.4-~~201~~203.

CTS-01140
MAP-09-311
MAP-09-350

STD COL 9.4(6)

MAP-09-350
RCOL2_09.04.05-10
DCD_09.04.05-1

Table 9.4-203 (Sheet 1 of 6)
UHS ESW Pump House Ventilation System Failure Modes and Effects Analysis

Description of Component	Safety Function	Plant Operating Mode	Failure Mode(s)	Method of Failure Detection	Failure Effect on System Safety Function Capability	General Remarks
ESW Pump Room Exhaust Fans (VRS-OFN-601A, B, C, D)	Draws outside air through ESW Pump Room to provide cooling	All	Fails to start on t'sat commant	Low air flow alarm in MCR	None, Remaining three ESW pump houses are available	One Train out due to maintenance does not affect safety function, because a minimum of two ESW pumps and two transfer pumps are required.
			Fails to stop on t'sat command	Room low temperature alarm in MCR	None, Remaining three ESW pump houses are available	
			Trips for any reason	Low air flow alarm in MCR	None, Remaining three ESW pump houses are available	
ESW Pump Room Air Intake Gravity Type Backdraft Dampers (VRS-BDD-601A, B, C, D)	Opens to provide air flow path	All	Fails to open	Low air flow alarm in MCR	None, Remaining three ESW pump houses are available	
			Fails to close	Room low temperature alarm in MCR	None, Remaining three ESW pump houses are available	

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)

~~CP~~STD COL 9.5(4)
~~CP~~STD COL 9.5(5)

Replace the third sentence in DCD Subsection 9.5.2.2.2 with the following. CTS-01140

Access to commercial facilities such as central office trunk, utility's private network, and other offsite connections are provided though 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

~~CP~~STD COL 9.5(4)
~~CP~~STD COL 9.5(5)

Add the following paragraphs to the end of the DCD Subsection 9.5.2.2.2.2. RCOL2_09.05.02-5 CTS-01334

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). RCOL2_09.05.02-5

~~In emergency offsite communication, as the emergency notification system is connected through a local telephone company system, then a station package is required. The station package is designed, installed, and maintained at the site. The design provides a functional emergency notification system from the site to NRC Operations Center in the event of a LOOP at the site and is in compliance with the requirement of IE Bulletin 80-15.~~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. RCOL2_09.05.02-4

The plant is provided with separate telephone systems for operations and for security pursuant to 10 CFR 73.55(f). Data Communications is discussed in Section 7.9. Fire brigade communications is covered in Subsection 9.5.1.

The ~~CPNPP~~ emergency plan and security plan are described in Sections 13.3 and 13.6, respectively. These plans require testing of offsite communications links. CTS-01140

9.5.2.3 Safety Evaluation

~~CP~~STD COL 9.5(7) Add the following paragraph after the first paragraph in DCD Subsection 9.5.2.3. CTS-01140

Plant specific safety evaluations and procedures are established by the plant operator to prevent any unauthorized access to secure locations and or unconfirmed removal of strategic special nuclear material in accordance with 10 CFR 73.45(e)(2)(iii).

9.5.4.2.2.1 Fuel Oil Storage Tanks and Piping MAP-09-345

CP COL 9.5(12) Replace tenth paragraph in DCD Subsection 9.5.4.2.2.1 with the following.

Insulation and heat tracing on the fuel oil piping in the concrete pipe chase and on a portion of the piping running down into the PSFSV area are provided to maintain fuel oil temperature within specification during winter. The concrete pipe chases between each fuel oil tank room and each PS/B are the areas through which the fuel oil piping passes through. Within each concrete pipe chase is a 3-hour fire rated wall that separates each PS/B from the associated PSFSV. The door and penetrations through each wall are all 3-hour fire rated. One side of each concrete pipe chase is part of a PS/B, which is a normally heated building.

9.5.4.3 Safety Evaluation

CP COL 9.5(11) Replace the second sentence of the seventh paragraph in DCD Subsection 9.5.4.3 with the following.

Fuel oil is normally brought in by tank truck for recharging the storage tank. Additionally, if circumstances require, railroad tank cars can be brought in on the site railroad spur. The CPNPP Units 3 and 4 are located approximately 90 miles southwest of the Dallas - Ft. Worth area. Dallas - Ft. Worth is a major commercial

area which has distributors of diesel fuel that represent the majority of the major oil companies. The cities, such as Houston, Beaumont etc, within 300 miles from site are capable of supplying diesel fuel oil within seven days.

9.5.9 Combined License Information

Replace the content of DCD Subsection 9.5.9 with the following.

CP COL 9.5(1)
STD COL 9.5(1)

9.5(1) *Fire protection program, fire fighting procedures, and quality assurance* | CTS-01140

This *COL item is addressed in Subsections 9.5.1, 9.5.1.3, 9.5.1.6, Table 9.5.1-1R and Table 9.5.1-2R.*

CP COL 9.5(2)
STD COL 9.5(2)

9.5(2) *Site specific fire protection aspects* | CTS-01140

This COL item is addressed in Subsection 9.2.1.2.1, 9.5.1.2.1, 9.5.1.2.2, 9.5.1.2.3, 9.5.1.2.4, Table 9.5.1-1R, Table 9.5.1-2R, Figure 9.5.1-201, Figure 9.5.1-202 and Appendix 9A.

CP COL 9.5(3)
STD COL 9.5(3)

9.5(3) *Apparatus for plant personnel and fire brigades* | CTS-01140

This COL item is addressed in Subsection 9.5.1.6.1.8 and Table 9.5.1-2R.

CP COL 9.5(4)
STD COL 9.5(4)

9.5(4) *Communication system interfaces external to the plant (offsite locations)* | CTS-01140

This COL item is addressed in Subsection 9.5.2, 9.5.2.2.2, 9.5.2.2.2.2 and 9.5.2.2.5.1.

~~CP COL 9.5(5)~~
STD COL 9.5(5)

9.5(5) *The emergency offsite communications* | CTS-01334 CTS-01140

This *COL item is addressed in Subsection 9.5.2.2.2, 9.5.2.2.2.2 and 9.5.2.2.5.2.*

~~CP~~STD COL 9.5(6)

9.5(6) *Connections to the Technical Support Center* | CTS-01140

This *COL item is addressed in Subsection 9.5.2.2.5.2*

~~CP~~STD COL 9.5(7)

9.5(7) *Continuously manned alarm station* | CTS-01140

This *COL item is addressed in Subsection 9.5.2.2.5.2. and 9.5.2.3.*

~~CP~~STD COL 9.5(8)

9.5(8) *Offsite communications for the onsite operations support center.* | CTS-01140

This *COL item is addressed in Subsection 9.5.2.2.5.2*

~~CP~~STD COL 9.5(9)

9.5(9) *Emergency communication system* | CTS-01140

This *COL item is addressed in Subsection 9.5.2.2.5.2.*

9.5(10) *Deleted from the DCD.*

CP COL 9.5(11) ***9.5(11)*** *Fuel oil recharging*

This COL item is addressed in Subsection 9.5.4.3.

CP COL 9.5(12) ***9.5(12)*** *PSFSV heating requirements* MAP-09-345

This Col item is addressed in Subsection 9.5.4.2.2.1.

CP COL 9.5(2) **9.5.10 References**

Add the following references after the last reference in DCD Subsection 9.5.10.

9.5.1-201 NFPA 601, *Standard for Security Services in Fire Loss Prevention*, 2005 Edition, National Fire Protection Association, Quincy, MA.

9.5.1-202 NFPA 1971, *Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*, 2007 Edition, National Fire Protection Association, Quincy, MA.

9.5.1-203 NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*, 2007 Edition, National Fire Protection Association, Quincy, MA.

9.5.1-204 NFPA 1982, *Standard on Personal Alert Safety Systems (PASS)*, 2007 Edition, National Fire Protection Association, Quincy, MA.

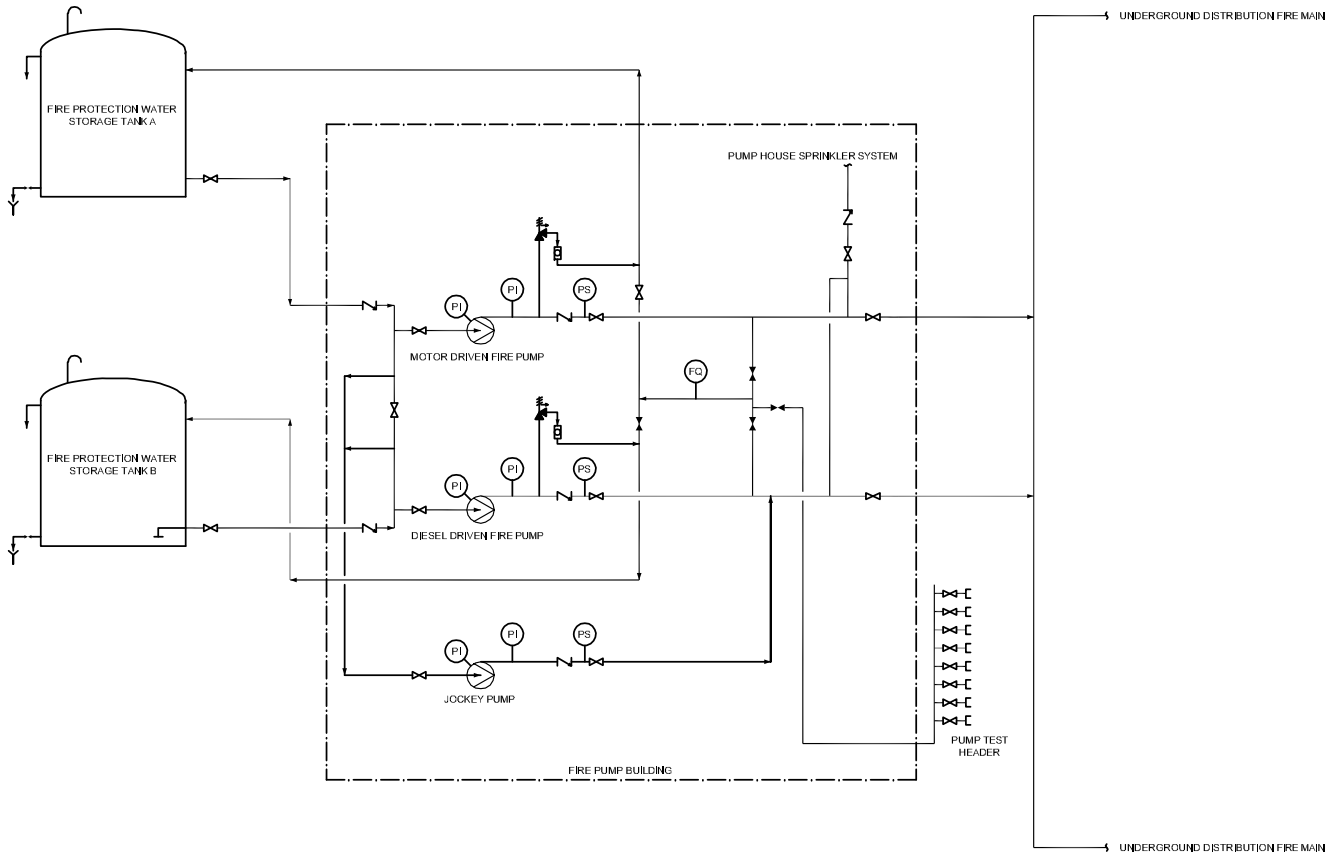
9.5.1-205 NFPA 1561, *Standard on Emergency Services Incident management System*, 2005 Edition, National Fire Protection Association, Quincy, MA.

9.5.1-206 IEEE Std 980-1994, *IEEE Guide for Containment and Control of Oil Spills in Substations*, Institute of Electrical and Electronics Engineers, New York, NY.

9.5.1-207 NFPA 30, *Flamable and Combustible Liquids Code*, 2008 Edition, National Fire Protection Association, Quincy, MA.

9.5.1-208 NFPA 22, *Standard for Water Tanks for Private Fire Protection*, 2008 Edition, National Fire Protection Association, Quincy, MA.

MAP-09-346



CP COL 9.5(2)

Figure 9.5.1-201 Fire Protection Water Supply System (Sheet 1 of 2)

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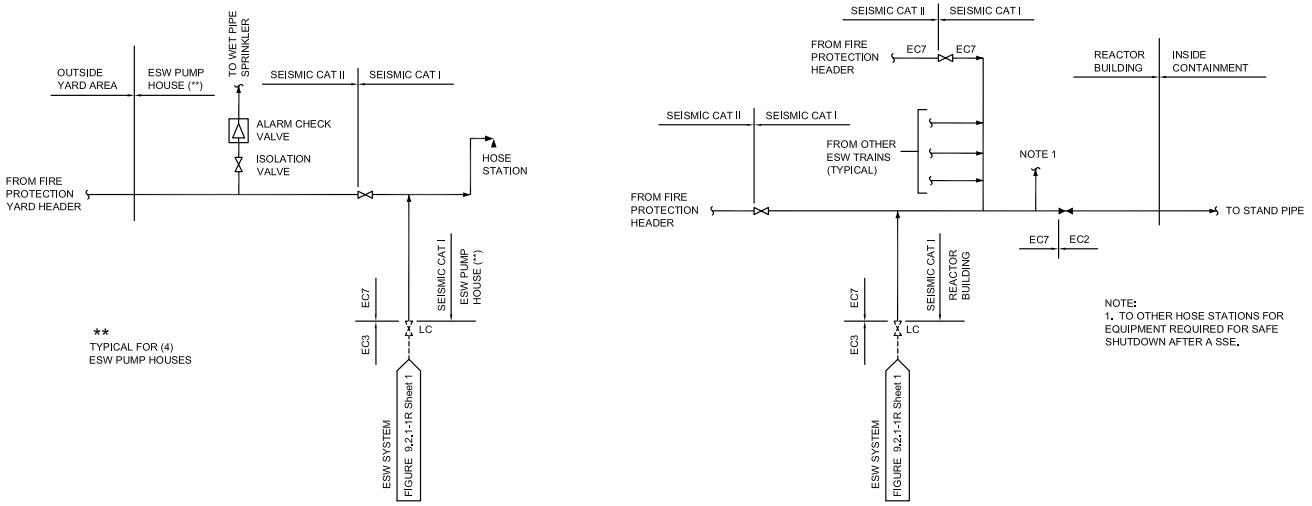


CP COL 9.5(2) **Figure 9.5.1-201 Fire Protection Water Supply System (Sheet 2 of 2)**

Chapter 10

Chapter 10 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_11.05-2	10.4.8.2.1	10.4-7	Response to RAI No. 50 Luminant Letter no.TXNB-09055 Date 10/19/2009	Revised the sentence about the location and other technical details of the SGBDS radiation monitor as bellow; The location and other technical details of the monitor (RMS-RE-110) is described in Subsection 11.5.2.5.3 and Table 11.5-201.	-
MAP-10-201	10.4.5.2.1	10.4-1	Editorial	Revise from “jockey pumps” to “priming pumps”.	0
CTS-01119	10.3.6.3.1.6	10.3-4	Remove site specific language from Standard COL Item.	Deleted “CPNPP Units 3 and 4” from the second sentence.	2
RCOL2_10.02.03-2	10.2.3.5	10.2-1	Response to RAI No. 169 Luminant Letter no.TXNB-10056 Date 8/9/2010	Added a statement to clarify the consistency of turbine inservice inspection procedure between DCD and COLA FSAR.	-
RCOL2-12.03-12.04-11	10.4.8.2.1	10.4-7	Response to RAI No. 135 Luminant Letter no.TXNB-10065 Date 9/22/2010	Added the piping information of the SG blowdown discharge line in response to RG 4.21.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01140	10.4.8.2.1 10.4.8.2.3 10.4.8.5 10.4.12	10.4-6 10.4-7 [10.4-8] 10.4-8 [10.4-9] 10.4-9 [10.4-10]	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4
MAP-10-301	10.3.2.4.3	10.3-1	Consistency with DCD Revision 3	Lead sentence was revised according to the DCD change.	6
CTS-01236	10.4.8.2.2.4	10.4-8 [10.4-9]	Editorial	Lead sentence was revised for consistency within the FSAR.	6
CTS-01237	10.4.8.2.3	10.4-8 [10.4-9]	Editorial	Lead sentence was revised to correct typo.	6
MAP-10-303	Table 10.4.5-1R (Sheet 3 of 3)	10.4-13 [10.4-14]	Consistency with DCD Revision 3	Reflect additional material information added to DCD Table.	6
MAP-10-304	Table 10.4.8-1R (Sheet 1, 2 of 3)	10.4-14, 15 [10.4-15, 16]	Consistency with DCD Revision 3	The new DCD parameters show design parameters while DCD Rev.2 showed the parameters used for safety evaluation.	6
MAP-10-305	Figure 10.4.5-1R, 10.4.5-201	10.4-17, 18 [10.4-18, 19]	Simplified P&ID	Replaced the figures with simplified P&IDs	6

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-10-306	Figure 10.4.8-1R, 2R Figure 10.4.8-201	10.4-19, 20, 21 [10.4-20, 21, 22]	Simplified P&ID	Replaced the figures with simplified P&IDs	6

*Page numbers for the attached marked-up pages may differ from the revision 1 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. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_11.03-1	Figure 11.3-201 (Sheet 3 of 3)	11.3-14	Response to RAI No. 35 Luminant Letter no.TXNB-09054 Date 10/15/2009	Added a note about equipment class.	-
RCOL2_11.04-1	11.4.4.5	11.4-4	Response to RAI No. 38 Luminant Letter no.TXNB-09055 Date 10/19/2009	Added following sentences in Subsection 11.4.4.5. "Applicable regulatory requirements and guidance, such as Regulatory Guide 1.143, are addressed by lease or purchase agreements associated with the use of a mobile dewatering subsystem for spent resin dewatering. The lease or purchase agreements include applicable criteria such as testing, inspection, interfacing requirements, operating procedures, and vendor oversight."	-
RCOL2_11.02-6	11.2.1.6	11.2-1	Response to RAI No. 49 Luminant Letter no.TXNB-09055 Date 10/19/2009	Added descriptions about design features and approaches for the prevention of spread of contamination of the facility.	-
RCOL2_11.02-8	11.2.2	11.2-2	Response to RAI No. 49 Luminant Letter no.TXNB-09055 Date 10/19/2009	Added descriptions that the evaporation pond is not part of the LWMS.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_11.02-8	11.2.3.1	11.2-4	Response to RAI No. 49 Luminant Letter no.TXNB-09055 Date 10/19/2009	Added a following description. "Rainfall is the primary contributing source for dilution of the pond. "	-
CTS-00902	11.2.3.1	11.2-4	Editorial Response to RAI No. 49 Luminant Letter no.TXNB-09055 Date 10/19/2009	Changed from "The pond design includes a discharge line and transfer pump to keep…" to "The pond design includes a transfer pump and discharge line to keep…".	-
RCOL2_11.02-8	11.2.3.4	11.2-6	Response to RAI No. 49 Luminant Letter no.TXNB-09055 Date 10/19/2009	Added a following description; "Texas Administrative Code (TAC), Title 30 on Environmental Quality, Part 1 Texas Commission on Environmental Quality (TCEQ), Chapter 321, Rule 321.255 on Requirements for Containment of Wastes and pond(s). "	-
RCOL2_11.02-8	11.2.3.4	11.2-7	Response to RAI No. 49 Luminant Letter no.TXNB-09055 Date 10/19/2009	Added following descriptions as the other applicable guidance and standards; Industry standards such as ANSI / HI - 2005 "Pump standard" will be used in designing the pumps Geosynthetic Research Institute	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				Standard GM13 will be utilized for HDPE	
RCOL2_11.02-8	11.2.3.4	11.2-8	Response to RAI No. 49 Luminant Letter no.TXNB-09055 Date 10/19/2009	Changed the volume of evaporation pond from “1.4 million gallon” to “2.1 million gallon”. Changed the surface area of evaporation pond from “1 acre” to “1.5 acre”.	-
RCOL2_11.02-8	11.2.3.4	11.2-8	Response to RAI No. 49 Luminant Letter no.TXNB-09055 Date 10/19/2009	Added descriptions about programs and procedures associated with the pond.	-
RCOL2_11.02-9	Table 11.2-14R (Sheet 1 of 2)	11.2-18	Response to RAI No. 49 Luminant Letter no.TXNB-09055 Date 10/19/2009	“Goats” was added as the Animals considered for milk pathway.	-
RCOL2_11.05-2	11.5.2.5.3 11.5.2.5.4	11.5-1	Response to RAI No. 50 Luminant Letter no.TXNB-09055 Date 10/19/2009	Newly added Subsection 11.5.2.5.3 and 11.5.2.5.4	-
RCOL2_11.05-2	11.5.5	11.5-3	Response to RAI No. 50 Luminant Letter no.TXNB-09055 Date 10/19/2009	Combined License Information about CP COL 11.5 (1) was revised from “This COL item is addressed in Subsection 11.5.2.9.” to “This COL item is addressed in Subsections 11.5.2.5.3, 11.5.2.5.4 and 11.5.2.9.”	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_ 11.05-2	Table 11.5-201	11.5-3	Response to RAI No. 50 Luminant Letter no.TXNB-09055 Date 10/19/2009	Newly added Table 11.5-201.	-
RCOL2_ 11.05-2	Figure 11.5-201	11.5-3	Response to RAI No. 50 Luminant Letter no.TXNB-09055 Date 10/19/2009	Newly added Figure11.5-201.	-
RCOL2_12.03-12.04-4	11.4.2.3	11.4-3	Response to RAI No.119. Luminant Letter No.TXNB-09068 Date 11/16/2009	Add “10 CFR 20.1801, 10 CFR 50 Appendix A, GDC 61 and 63” after “10CFR 20” in the eighth paragraph of Section 11.4.2.3.	-
MAP-11-201	11.2.3.1	11.2-3	Consistency with DCD rev.2	Add a sentence to be consistent with DCD Rev.2	0
MAP-11-201	11.2.3.2	11.2-6	Consistency with DCD rev.2	Add a sentence to be consistent with DCD Rev.2	0
MAP-11-201	11.4.2.3	11.4-2	Consistency with DCD rev.2	Add a sentence to be consistent with DCD Rev.2	0
MAP-11-201	11.5.2.6	11.5-1	Consistency with DCD rev.2	Add a sentence to be consistent with DCD Rev.2	0
MAP-11-201	11.5.2.9	11.5-2	Consistency with DCD rev.2	Add a sentence to be consistent with DCD Rev.2	0
MAP-00-201	Figure 11.2-201 (Sheet 9 of 10)	11.2-29	The change of numbering rule of Tag number	Change Tag numbers of waste monitor tank and pump.	0
CTS-01105	11.2.3.1 Table 11.2-15R	11.2-5 [11.2-6] 11.2-20 [11.2-22]	Access change to SCR	Revised individual dose calculations.	1

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01105	Table 11.2-14R (Sheet 1 of 2)	11.2-18 [11.2-19]	Access change to SCR	Revised input parameters for the LADTAP II code.	1
CTS-01105	11.3.3.1	11.3-2 [11.3-3]	Access change to SCR	Revised text to include a discussion of the doses to the maximally exposed individual at Squaw Creek Reservoir and clarify requirements.	3
CTS-01105	Table 11.3-8R	11.3-4 [11.3-5] [11.3-6]	Access change to SCR	Revised table to include the input parameters for the GASPAR II Code for SCR.	3
CTS-01105	Table 11.3-9R	11.3-5 11.3-6 [11.3-7] [11.3-8]	Access change to SCR	Revised table to update doses for SCR access.	3
CTS-01105	Table 11.3-203	11.3-9 [11.3-12] [11.3-13]	Access change to SCR	Revised table to include the input parameters for dose calculation from the evaporation pond for SCR.	3
CTS-01105	Table 11.3-204	11.3-10 [11.3-14]	Access change to SCR	Revised table to update doses for SCR access.	3
CTS-01105	Table 11.3-205	11.3-11 [11.3-16]	Access change to SCR	Revised table to update doses for SCR access.	3
CTS-01105	Table 11.3-206	11.3-11 [11.3-18]	Access change to SCR	Created new table to reflect the total gaseous doses to the maximally exposed individual at SCR.	3
RCOL2-12.03-12.04-11	11.2.2	11.2-2	Response to RAI No. 135	Replaced “the bypass valve” with “the piping	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			Luminant Letter no.TXNB-10065 Date 9/22/2010	and the valves inside the buildings."	
RCOL2-12.03-12.04-11	11.2.3.4	11.2-8	Response to RAI No. 135 Luminant Letter no.TXNB-10065 Date 9/22/2010	Revised the information of the LWMS effluent release piping to show compliance with RG 4.21.	-
CTS-01140	11.2.1.6 11.2.4 11.3.7 Figure 11.3-201 11.4.1.3 11.4.1.6 11.4.2.1.1 11.4.3.2 11.4.4.5 11.4.8 Figure 11.4-201 11.5.2.7 11.5.2.8 11.5.2.9 11.5.2.10 11.5.2.11 11.5.5	11.2-1 11.2-10 [11.2-11] 11.3-3 11.3-12 Through 11.3-14 11.4-1 11.4-2 11.4-4 11.4-5 11.4-6 11.5-2 11.5-3 11.5-4	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4
RCOL2_11.02-11	11.2.1.5	11.2-1 11.2-2	Response to RAI No.203 Luminant Letter no.TXNB-11023 Date 4/19/2011	Additional details for LWMS cost-benefit analysis	-
RCOL2_11.02-12	11.2.3.1	11.2-7	Response to RAI No.203 Luminant Letter no.TXNB-11023 Date 4/19/2011	Additional details for exposure pathways for SCR.	-
RCOL2_11.02-12	Tables 11.2-10R 11.2-11R	11.2-15 11.2-16 11.2-17	Response to RAI No.203 Luminant Letter	Added footnote that results are for single unit.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	11.2-15R	11.2-18 11.2-25	no.TXNB-11023 Date 4/19/2011		
RCOL2_11.02-12	Tables 11.2-12R 11.2-13R	11.2-19 11.2-20 11.2-21 11.2-22	Response to RAI No.203 Luminant Letter no.TXNB-11023 Date 4/19/2011	Added footnotes that results are for single unit, safety factor on pump dilution flow, and impact of plant capacity factor.	-
RCOL2_11.02-13	11.2.3.2	11.2-8	Response to RAI No.203 Luminant Letter no.TXNB-11023 Date 4/19/2011	Additional details for tank failure analysis	-
RCOL2_11.02-14	11.2.4 11.4.6	11.2-13 11.4-5	Response to RAI No.203 Luminant Letter no.TXNB-11023 Date 4/19/2011	Additional details for epoxy coatings program to address COL 11.2(7) and 11.4(9).	-
RCOL2_11.02-15	11.2.3.4	11.2-9 11.2-10	Response to RAI No.203 Luminant Letter no.TXNB-11023 Date 4/19/2011	Additional details for evaporation pond initial testing, inspection, environmental permitting, and applicable standards.	-
RCOL2_11.02-16	11.2.3.4	11.2-13	Response to RAI No.203 Luminant Letter no.TXNB-11023 Date 4/19/2011	Additional details for evaporation pond tritium sampling procedures.	-
MAP-11-301	11.2.1.6	11.2-1 [11.2-2]	Consistency with DCD Revision 3	Lead sentence revised according to DCD change	6
DCD_12.03-12.04-26	11.2.1.6	11.2-1 [11.2-3]	Reflect response to DCD RAI No. 534	Added LMN to reference STD COL 12.3(7)	6
DCD_11.04-19	11.2.1.6	11.2-1 [11.2-3]	Reflect response to DCD RAI No. 534	Add new paragraph about Inspection and Enforcement Bulletin 80-10, and LMN for STD COL 11.2(8)	6

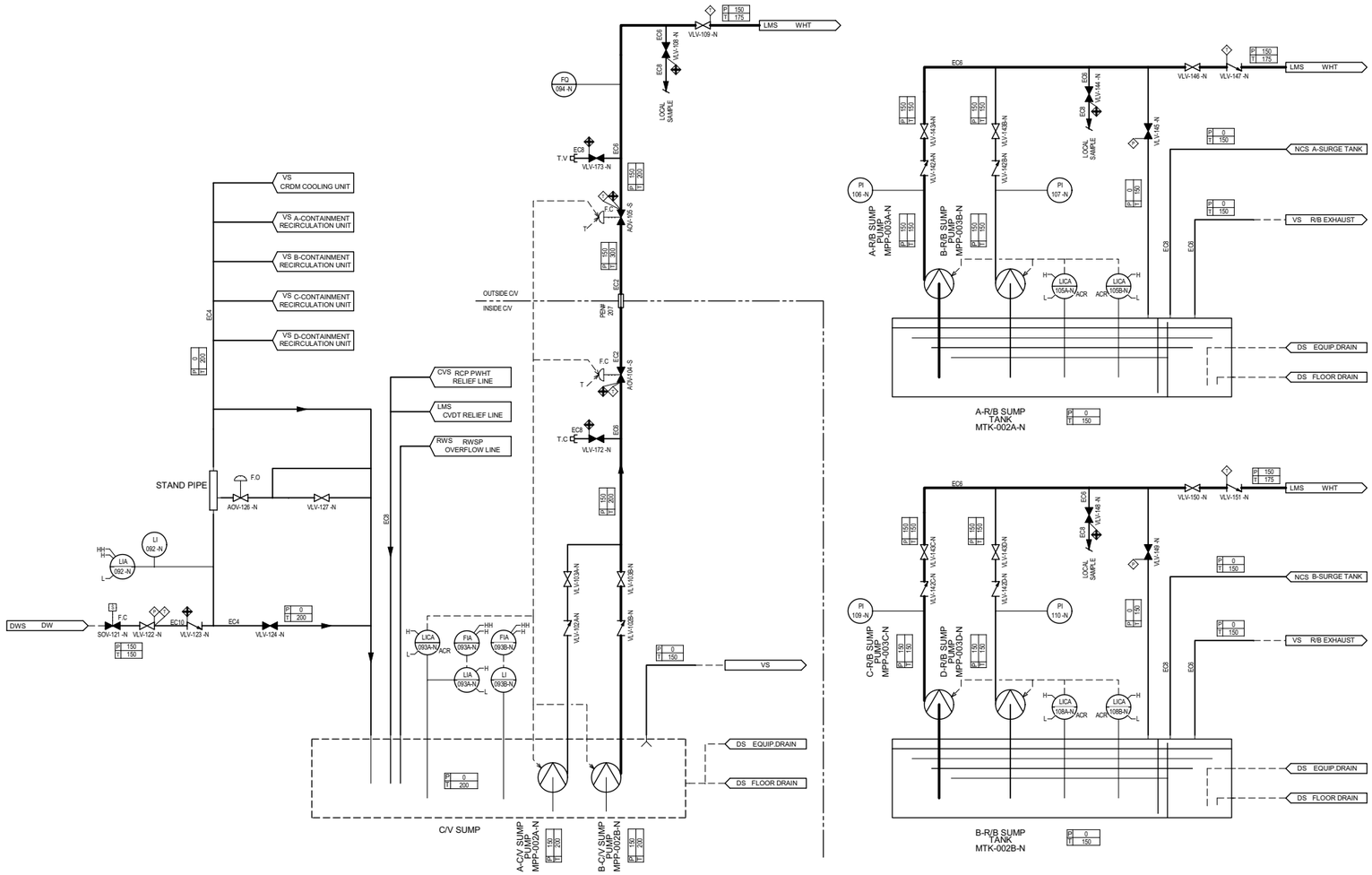
Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
MAP-11-303	11.2.3.2	11.2-6 [11.2-8]	Consistency with DCD Revision 3	Lead sentence revised according to DCD Change	6
DCD_11.02-29 DCD_11.04-19	11.2.5	11.2-9 [11.2-14]	Reflect response to DCD RAI No. 523 and 534	Add new COL Items 11.2(7) and 11.2(8) from DCD Rev. 3.	6
MAP-11-305	11.2.4 11.2.5	11.2-8 11.2-9 [11.2-14]	Consistency with DCD Revision 3	Update section numbers due to new section added in DCD Rev. 3.	6
MAP-11-306	Table 11.2-11R	11.2-12 11.2-13 [11.2-17 11.2-18]	Consistency with DCD Revision 3	Updated for consistency with DCD Rev. 3, which corrected design basis releases for some nuclides. There is no RCOLA impact from the DCD changes for some isotopes due to rounding.	6
MAP-11-307	Table 11.2-13R	11.2-16 11.2-17 [11.2-21 11.2-22]	Consistency with DCD Revision 3	Updated for consistency with DCD Rev. 3, which corrected design basis releases for some nuclides. There is no RCOLA impact from the DCD changes for some isotopes due to rounding.	6
MAP-11-308	Figure 11.2-201 (Sheet 1 through 9 of 10)	11.2-21 through 11.2-29 [11.2-27 through 11.2-35]	simplified P&ID	Replaced the figures with simplified P&IDs	6
MAP-11-309	Figure	11.3-12	simplified P&ID	Replaced the figures	6

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	11.3-201	through 11.3-14 [11.3-19 through 11.3-21]		with simplified P&IDs	
DCD_11.4-19	11.4.1.5	11.4-1 [11.4-1 11.4-2]	Reflect response to DCD RAI No. 534	Add new paragraphs about mobile/temporary equipment, Inspection and Enforcement Bulletin 80-10, and LMN for COL Items 11.4(10) 11.4(4)	6
CTS-01191	11.4.2.2.1	11.4-2	Editorial	Replace “least” with “last”	6
CTS-01192	11.4.3.2	11.4-4	Clarification	Added reference number for NEI 07-10A and changed LMN to “STD”.	6
DCD_11.4-19 DCD_11.2-29	11.4.8	11.4-5 [11.4-6]	Reflect response to DCD RAI No. 523 and 534	Add new COL Items 11.4(9) and 11.4(10) from DCD Rev. 3.	6
MAP-11-312	Figure 11.4-201	11.4-6 [11.4-7]	simplified P&ID	Replaced figure with simplified P&ID	6
CTS-01193	11.5	11.5-1	Editorial	Lead sentence revised to replace correct DCD text	6
RCOL2_11.03-3	11.3.1.5	11.3-1	Response to RAI No. 200 Luminant Letter no.TXNB-11019 Date 4/11/2011	Additional details for GWMS cost-benefit analysis.	-
RCOL2_11.03-4	11.2.3.1, Table 11.3-8R, Table 11.3-9R, Table 11.3-205, Table 11.3-206	11.2-4, 11.3-6 Through 11.3-9, 11.3-16 through 11.3-18	Response to RAI No. 200 Luminant Letter no.TXNB-11019 Date 4/11/2011	Additional details and clarifications for MHI PWR-GALE and GASPAR analyses for dose calculations.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_11.05-4	11.2	11.2-3, 11.2-4	Response to RAI No. 201 Luminant Letter no.TXNB-11022 Date 4/13/2011	Additional details concerning impact of flow through radiation monitor bypass valve on liquid releases and doses.	-
RCOL2_11.02-17	11.2	11.2-3, 11.2-4	Response to RAI No. 208 Luminant Letter no.TXNB-11022 Date 4/13/2011	Additional details concerning monitoring releases through radiation monitor bypass valve.	-
CTS-01337	Figure 11.2-201 (Sheet 2 of 10)	11.2-22 [11.2-28]	Correction of missing information at FSAR UTR Rev6	Added the sludge separator to R/B sump tank.	8
CTS-01337	Figure 11.2-201 (Sheet 3 of 10)	11.2-23 [11.2-29]	Correction of missing information at FSAR UTR Rev6	Added the sludge separator to A/B sump tank and A/B equipment drain sump tank.	8
CTS-01337	Figure 11.2-201 (Sheet 6 of 10)	11.2-26 [11.2-32]	Correction of missing information at FSAR UTR Rev6	Added the bypass line and a valve “VLV-531-N” to the discharge line.	8
CTS-01320	11.4.1.5 11.4.1.6 11.4.4.5	11.4-1 [11.4-2] 11.4-5	Correction of wrong placement of the resolution of COL item 11.4(4) and 11.4(10).	The second and third paragraphs of Section 11.4.1.5 were moved to Section 11.4.1.6 and Section 11.4.4.5 respectively.	8
CTS-01320	11.4.4.5 11.4.8	11.4-5 11.4-6	Consistency with FSR Chapter 11	Added Subsection 11.4.2.3 to COL Item 11.4(7). Added Subsection 11.4.1.6 to COL Item 11.4(10)	8

*Page numbers for the attached marked-up pages may differ from the revision 1 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.

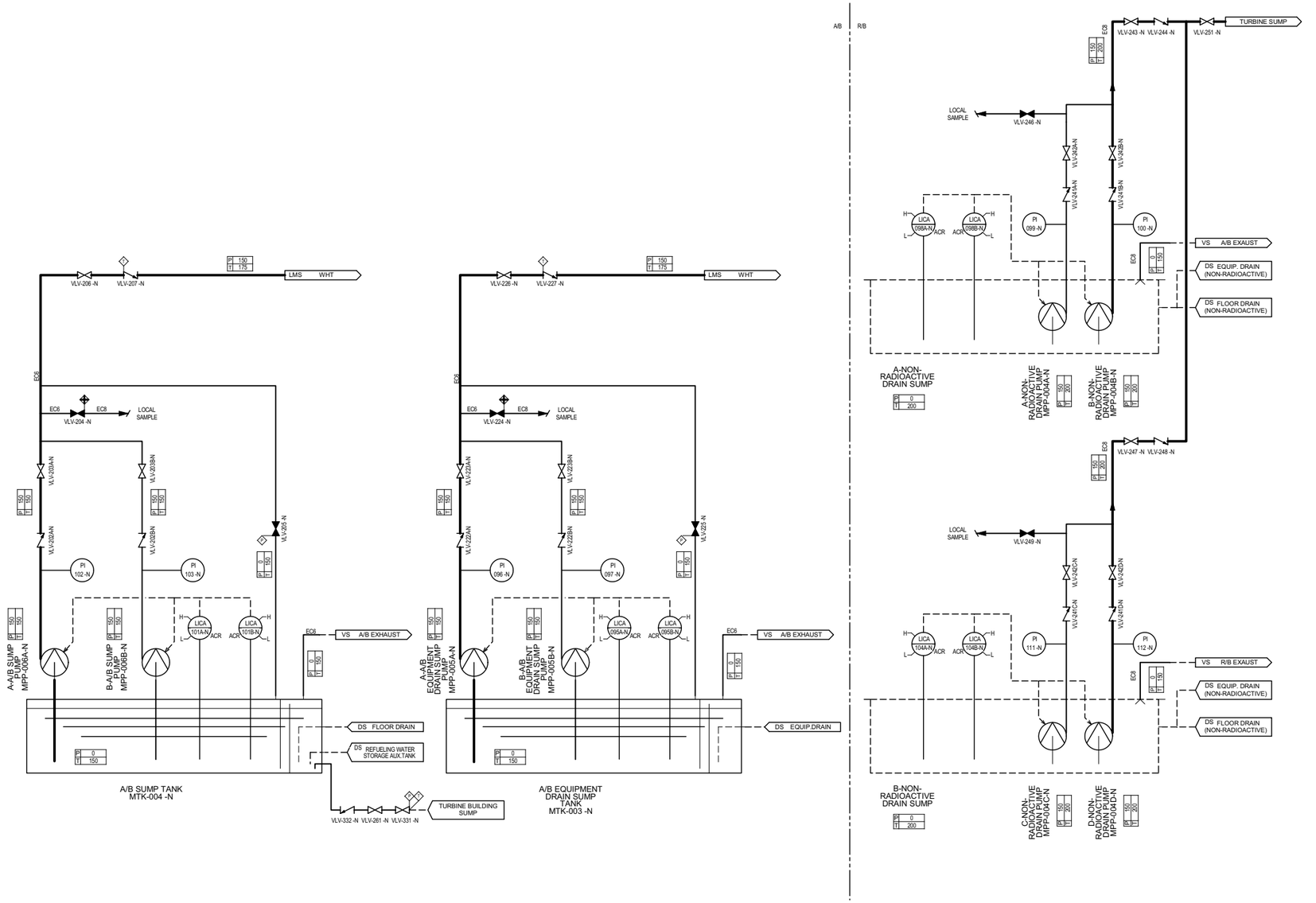
MAP-11-308
CTS-01337



CP COL 11.2(6)

Figure 11.2-201 Liquid Waste Management System Piping and Instrumentation Diagram (Sheet 2 of 10)

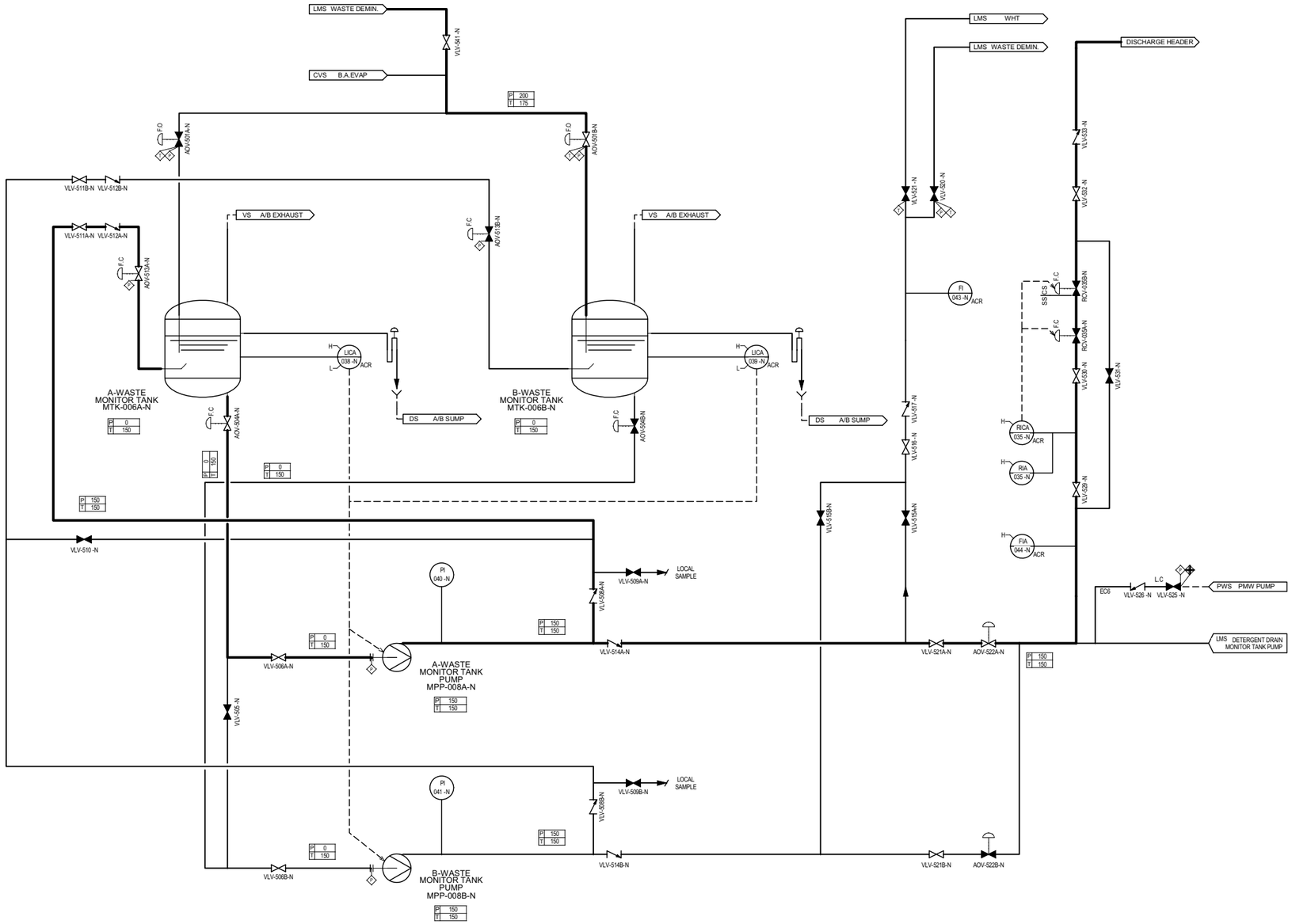
MAP-11-308
CTS-01337



CP COL 11.2(6)

Figure 11.2-201 Liquid Waste Management System Piping and Instrumentation Diagram (Sheet 3 of 10)

MAP-11-308
CTS-01337



CP COL 11.2(6)

Figure 11.2-201 Liquid Waste Management System Piping and Instrumentation Diagram (Sheet 6 of 10)

11.4 SOLID WASTE MANAGEMENT SYSTEM

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

11.4.1.3 Other Design Considerations

~~CP~~STD COL 11.4(5)

Replace the fourth bullet in DCD Subsection 11.4.1.3 with the following. CTS-01140

- The current design provides collection and packaging of potentially contaminated clothing for offsite processing and/or disposal. Laundry services are performed offsite at appropriate vendor facilities. Waste resulting from these processes is forwarded directly from the vendor's location to the disposal facility or returned to the long-term storage facility, as appropriate.

11.4.1.5 Site-Specific Cost-Benefit Analysis

STD COL 11.4(6)

Replace the second paragraph in DCD Subsection 11.4.1.5 with the following.

The solid waste management system (SWMS) is designed to handle spent resin, sludge, oily waste, spent filters, and dry active waste including contaminated clothing, broken equipment, and maintenance items that cannot be easily decontaminated and reused. The SWMS provides staging areas and handling equipment for waste packaging and storage for the above wastes. Any liquid and gaseous wastes resulting from the solid waste handling operation are collected and returned to LWMS and GWMS, for processing. As such, there is no unique direct release pathway from the solid waste handling operation to the environment, and a cost benefit analysis for the SWMS is included in the consideration of the LWMS and GWMS.

DCD_11.4-19
CTS-01320

11.4.1.6 Mobile or Temporary Equipment

~~CP~~STD COL 11.4(5)
~~CP~~STD COL 11.4(7)

Replace the last sentence in the paragraph in DCD Subsection 11.4.1.6 with the following. CTS-01140

The de-watering station is contracted for vendor services.

STD COL 11.4(10) Process piping connections for the de-watering station have connectors different from the utility connectors to prevent cross-connection and contamination. The use of mobile or temporary equipment will require applicable regulatory requirements and guidance such as 10 CFR 50.34a, 10 CFR 20.1406 and RG 1.143 to be addressed. As such the purchase or lease contracts for any temporary and mobile equipment will specify the applicable criteria. CTS-01320

11.4.2.1.1 Dry active wastes

~~CP~~STD COL 11.4(1) Replace the last paragraph in DCD Subsection 11.4.2.1.1 with the following. CTS-01140

Descriptions of wastes other than normally accumulated non-radioactive wastes such as wasted activated carbon from GWMS charcoal beds, solid wastes coming from component (Steam generator, Reactor vessel etc.) replacement activities, and other unusual cases will be described in the process control program and will be implemented in accordance with the milestone listed in Table 13.4-201.

11.4.2.2.1 Spent Resin Handling and De-watering Subsystem

STD COL 11.4(8) Replace the l~~e~~ast sentence in the second paragraph in DCD Subsection 11.4.2.2.1 with the following. CTS-01191

The P&ID for the SWMS is provided in Figure 11.4-201.

11.4.2.3 Packaging, Storage, and Shipping

CP COL 11.4(7) Replace the third paragraph in DCD Subsection 11.4.2.3 with the following. MAP-11-201

Some of the dry active waste is only slightly contaminated and permits contact handling. The SWMS design does not include compaction equipment or drum dryer equipment. These wastes are treated by contract services from specialized facilities.

11.4.4.5 Mobile De-watering System

~~CP~~STD COL 11.4(4)

Replace the last sentence in DCD Subsection 11.4.4.5 with the following. CTS-01140

~~CP~~STD COL 11.4(7)

The temporary mobile de-watering station installed in the SWMS is vendor supplied and operated within the specific requirements and layout based on vendor specifications. The ~~mobile system~~temporary mobile de-watering station includes the necessary connections and fittings to ~~the~~ interface with the plant piping. The connectors are uniquely designed to prevent inadvertent cross connection between the radioactive and non-radioactive plant piping. The piping also includes backflow inhibitors. Liquid effluent from the temporary mobile de-watering station is routed to the Liquid Waste Management System and the non-condensables are vented to the A/B ventilation system. An operating procedure will be provided prior to fuel load to ensure proper operation of the temporary mobile de-watering station to prevent the contamination of non-radioactive piping or uncontrolled releases of radioactivity into the environment so that guidance and information in Inspection and Enforcement (IE) Bulletin 80-10 (Ref. 11.4-29) is followed.

CTS-01320
CTS-01320
CTS-01320
CTS-01320
CTS-01320

Applicable regulatory requirements and guidance, such as Regulatory Guide 1.143, are addressed by lease or purchase agreements associated with the use of a mobile dewatering subsystem for spent resin dewatering. The lease or purchase agreements include applicable criteria such as testing, inspection, interfacing requirements, operating procedures, and vendor oversight.

RCOL2_11.04-1

11.4.6 Testing and Inspection Requirements

RCOL2_11.02-14

CP COL 11.4(9)

Add the following sentences to the end of the last paragraph of DCD Subsection 11.4.6.

The licensee has an Epoxy Coatings Program used to facilitate the ALARA objective of promoting decontamination in radiologically controlled areas outside containment. The program controls refurbishment, repair, and replacement of coatings in accordance with the manufacturers' product data sheets and good painting practices. The program will be implemented as described in FSAR Table 13.4-201.

RCOL2_11.02-14

11.4.8 Combined License Information

Replace the content of DCD Subsection 11.4.8 with the following.

CP COL 11.4(1)
STD COL 11.4(1)

11.4(1) *Plant-specific needs for onsite waste storage* CTS-01140

This COL item is addressed in Subsection 11.4.2.1.1 and 11.4.2.3.

11.4(2) *Deleted from the DCD*

~~CP~~STD COL 11.4(3)

11.4(3) *Plan for the process control program describing the process and effluent monitoring and sampling program* CTS-01140

This COL item is addressed in Subsection 11.4.3.2.

~~CP~~STD COL 11.4(4)

11.4(4) *Mobile/portable SWMS connections* CTS-01140

This COL item is addressed in Subsection 11.4.4.5.

~~CP~~STD COL 11.4(5)

11.4(5) *Offsite laundry facility processing and/or a mobile compaction* CTS-01140

This COL item is addressed in Subsections 11.4.1.3 and 11.4.1.6.

STD COL 11.4(6)

11.4(6) *Site-specific cost benefit analysis*

This COL item is addressed in Subsection 11.4.1.5.

~~CP~~STD COL 11.4(7)

11.4(7) *Site-specific solid waste processing facility* CTS-01140

This COL item is addressed in Subsections 11.4.1.6, 11.4.2.3 and 11.4.4.5. CTS-01316

STD COL 11.4(8)
CP COL 11.4(8)

11.4(8) *Piping and instrumentation diagrams* CTS-01140

This COL item is addressed in Subsection 11.4.2.2.1 and Figure 11.4-201.

CP COL 11.4(9)

11.4(9) *The implementation milestones for the coatings program used in the SWMS* DCD_11.4-19

This COL item is addressed in Subsection 11.4.6. DCD_11.2-29

STD COL 11.4(10)

11.4(10) *The mobile/portable SWMS connections*

This COL item is addressed in Subsection 11.4.1.6. CTS-01316

Chapter 12

Chapter 12 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_12.02-1	12.2.1.1.10	12.2-1	Response to RAI No.85. Luminant Letter No.TXNB-09062 Date 11/5/2009	COL 12.2(1) was revised to assure that the site will be able to track the source type, quantity, form, location, and use such that the facility design will accommodate the activity and types of sources procured and temporarily utilized on site during the construction and operational phase.	-
RCOL2_12.02-2	12.2.1.1.10	12.2-1	Response to RAI No.89. Luminant Letter No.TXNB-09062 Date 11/5/2009	COL 12.2(1) was revised to describe the evaporation pond as a miscellaneous source.	-
RCOL2_12.02-2	Table12.2-201 (Sheet 1 of 2) (Sheet 2 of 2)	12.2-4	Response to RAI No.89. Luminant Letter No.TXNB-09062 Date 11/5/2009	Table 12.2-201 was added to present the estimated fission and corrosion product activity in the evaporation pond water.	-
RCOL2_12.05-3	12.1.1.3.1 12.1.1.3.2 12.1.1.3.3 12.1.3 12.5	12.1-1 12.1-2 12.5-1	Response to RAI No.117. Luminant Letter No.TXNB-09068 Date 11/16/2009	Delete “in combination with existing or modified CPNPP Units 1 and 2 site program information” after “NEI 07-08 (Reference 12.1-2)” in Section 12.1.1.3.1, 12.1.1.3.2 and 12.1.1.3.2, after “NEI 07-03A	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				(Reference 12.1-25)" in the second paragraph of Section 12.1.3 and after "NEI 07-08, Generic FSAR Template Guidance for Ensuring that Occupational Radiation Exposures are as Low as is Reasonably Achievable (ALARA), Revision 3" in the third paragraph of Section 12.5.	
RCOL2_12.03-12.04-2	12.2.1.1.10	12.2-1	Response to RAI No.119. Luminant Letter No.TXNB-09068 Date 11/16/2009	Change "Title 10, Code of Federal Regulations (CFR) Part 20" to "10 CFR 20, 10 CFR 50, Appendix A, GDC 61 and 63" in the second paragraph of Section 12.2.1.1.10. Add "and Generic Letter 81.38. The Interim Radwaste Storage Building design criteria is described in Subsection 11.4.2.3." at the end of the second paragraph of Section 12.2.1.1.10.	-
RCOL2_12.03-12.04-6	12.4.1.9	12.4-1	Response to RAI No.119. Luminant Letter No.TXNB-09068 Date 11/16/2009	Add following sentences at the end of the second paragraph of Section 12.4.1.9; "Once CPNPP Unit 3 completes 5% power ascension testing and proceeds to commercial operation, the remaining construction workers doses will be maintained ALARA in accordance	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				with 10 CFR 20.1301 as described in Section 12.5, Operational Radiation Protection Program. Subsection 13.4 provides an implementation milestones for the Operational Radiation Protection Program that meets the regulations provided in 10 CFR Parts 20.1101 (a) and (b), 1301 and 1302. Once CPNPP Units 3 and 4 become operational, the estimated dose for remaining construction workers will be maintained ALARA at less than 2 mrem/hr."	
RCOL2_12.05-3	12.5	12.5-1	Response to RAI No.117. Luminant Letter No.TXNB-09068 Date 11/16/2009	Add following paragraphs after the fourth paragraph of Section 12.5; "Add the following information after the first paragraph in Subsection 12.5.3.2 of NEI 07-03A. The selection and calibration of this instrumentation and equipment is based on relevant industry standards such as ANSI N42.17A-1989, as it relates to the accuracy and overall performance of portable survey instrumentation, and ANSI N323A-1997, as it relates to the calibration and maintenance of portable radiation survey instruments."	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_12.03-12.04-8	12.4.1.9.2.1	12.4-2	Response to RAI No.119. Luminant Letter No.TXNB-09068 Date 11/16/2009	Add following paragraph after the fourth paragraph of Section 12.4.1.9.2.1; "The CPNPP site will be continually monitored during the construction period and appropriate actions will be taken as necessary to ensure that the construction workers are protected from radiation exposure. Use of radioactive materials and sources during construction, such as sources used in radiography, will be controlled and monitored to maintain construction worker doses ALARA."	-
RCOL2_12.03-12.04-6	12.4.1.9.4.3	12.4-5	Response to RAI No.119. Luminant Letter No.TXNB-09068 Date 11/16/2009	Add following paragraph after the first paragraph of Section 12.4.9.4.3; "The location for the Units 3 and 4 liquid waste management system (LWMS) connection to the Units 1 and 2 is an open pit near the existing Units 1 and 2 waste treatment ponds (Northeast corner of Units 1 and 2 radioactive waste treatment facility). The CPNPP Units 3 and 4 effluent tap will be made into CPNPP Units 1 and 2 at the pipe inside the Unit 1 Turbine Building. In accordance with the	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				Radiation Protection Program established (see FSAR Subsection 13.4 and Table 13.4-201), the construction worker dose for this connection tie-in will be ALARA and meet the limits established in 10 CFR 20.1301. Pre-staging of the connection, health physics surveys and other effective techniques will be utilized to ensure that worker doses are ALARA in accordance with an approved Radiation Work Permit."	
RCOL2_12.03-12.04-3	12.5	12.5-1	Response to RAI No.119. Luminant Letter No.TXNB-09068 Date 11/16/2009	Add following paragraphs after the fourth paragraph of Section 12.5; "Add the following information after the first paragraph in Subsection 12.5.3.2 of NEI 07-03A. The selection and calibration of this instrumentation and equipment is based on relevant industry standards such as ANSI N42.17A-1989, as it relates to the accuracy and overall performance of portable survey instrumentation, and ANSI N323A-1997, as it relates to the calibration and maintenance of portable radiation survey instruments."	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_12.05-4	12.5	12.5-1	Response to RAI No.117. Luminant Letter No.TXNB-09068 Date 11/16/2009	Add following paragraphs after the sixth paragraph of Section 12.5; “Add the following information prior to the last paragraph in Subsection 12.5.4.1 of NEI 07-03A. Calibration of portable and non-portable radiation protection equipment is normally performed onsite by station personnel, although, calibration by a qualified vendor is allowed. Calibration is performed using written procedures and radioactive sources traceable to the National Institute of Standards (NIST) or using transfer instruments, such as electrometers, which have been calibrated using NIST traceable sources.”	-
RCOL2_12.03-12.04-2	12.5	12.5-1	Response to RAI No.119. Luminant Letter No.TXNB-09068 Date 11/16/2009	Change the tenth paragraph of Section 12.5 to read as follows; “The locations and radiological controls of the radiation zones on plant layout drawings are located in DCD Subsection 12.3.1.2. Administrative controls for restricting access to Very High Radiation Areas are incorporated into plant procedures which require approval by the Plant Manager (or designee) for each entry. Entry will	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				be controlled through the Radiation Work Permit (RWP) process. Physical access controls for Very High Radiation Areas are provided by physical barriers such as lockable gates or doors which prevent unauthorized access. It's not necessary to enter these areas periodically. DCD Subsection 12.3.1.2 includes detailed drawings of the very high radiation areas and indicates the physical access controls. Table 12.5-201 summarizes the plant areas with the potential to become very high radiation areas. Radiation monitor locations for each area are indicated in DCD Subsection 12.3.4."	
RCOL2_12.03-12.04-1 RCOL2_12.01-4 RCOL2_12.03-12.04-7	12.5	12.5-2	Response to RAI No.99. Luminant Letter No.TXNB-09064 Date 11/11/2009 Response to RAI No.118 and 119. Luminant Letter No.TXNB-09068 Date 11/16/2009	Add following paragraphs after the twelfth paragraph of Section 12.5; "Add the following information at the end of Subsection 12.5.4.8 of NEI 07-03A. In addition, NEI Template 08-08 Revision 3, "Generic FSAR Template Guidance for Life-Cycle Minimization of Contamination" is fully adopted. And also, the guidance provided in NEI 08-08 will be used at CPNPP Units 3 and 4 to minimize contamination	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				during construction, operation and decommissioning. This will include the use of photographs and video records during construction to facilitate updating the conceptual site model for groundwater movement and aid in revising the groundwater monitoring plan post-construction. Final layout drawings, photographs, global positioning survey information and video records will be used in assessing the proper location for groundwater monitoring wells, foundations, pipes, conduits and other below grade structures."	
RCOL2_12.03-12.04-2	12.5	12.5-2	Response to RAI No.119. Luminant Letter No.TXNB-09068 Date 11/16/2009	Add Table 12.5-201 "Summary of Comanche Peak Units 3 and 4 Very High Radiation Areas (VHRAs)"	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_14.02.01-1	12.5	12.5-1	Response to RAI No.129 Luminant Letter No.TXNB-10010 Date 2/22/2010	Changed describes the relevant industry standards, ANSI N42.17A-1989 and ANSI N323A-1997, as the bases for selection and calibration of instrumentation and equipment and calibration and maintenance of portable radiation survey instruments.	-
RCOL2_14.02.01-1	Table 12.5-202	12.5-5	Response to RAI No.129 Luminant Letter No.TXNB-10010 Date 2/22/2010	Added new Table 12.5-202 to identify the consensus standards used to define the calibration methods for personnel monitors, radiation survey instruments, and laboratory equipment.	-
RCOL2_12.03-12.04-9	12.2.1.1.10	12.2-1	Response to RAI No. 133 Luminant letter No. TXNB-10012 Date 2/24/2010	Added reference to Regulatory Issue Summary (RIS) 2007-03.	-
RCOL2_12.03-12.04-10	12.4.1.9.2.1	12.4-1	Response to RAI No. 133 Luminant letter No. TXNB-10012 Date 2/24/2010	Added applicability of the CPNPP Unit 1 and 2 Radiation Protection Program to the construction workers in the fourth paragraph.	-
RCOL2_12.05-6	12.5	12.5-1	Response to RAI No. 136 Luminant letter No. TXNB-10020 Date 3/9/2010	Added a new paragraph after the third paragraph of Section 12.5, titled “Source Term Reduction Strategy”.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_12.05-5	12.5.4.2	12.5-2	Response to RAI No. 136 Luminant letter No. TXNB-10020 Date 3/9/2010	Added a new paragraph after the fifth paragraph of Section 12.5, describing compliance of respiratory protection procedure.	-
CTS-01106	12.1.1.3.1 12.1.1.3.2 12.1.1.3.3 12.5	12.1-1 12.5-1	Update due to issuance of NEI 07-08A Rev0	NEI 07-08 Rev.3 was updated to NEI 07-08A Rev.0.	2
CTS-01128	12.4.1.9.4	12.4-4 [12.4-5]	Technical correction	Changed “A peak loading of 4300 construction workers per year” to “A peak loading of 4300 construction workers”	2
CTS-01107	12.5	12.5-3	Update due to issuance of NEI 08-08A Rev0	NEI 08-08 Rev.3 was updated to NEI 08-08A Rev.0.	2
RCOL2-12.03-12.04-11	12.1.3	12.1-2	Response to RAI No. 135 Luminant Letter no.TXNB-10065 Date 9/22/2010	Revised the fourth paragraph to indicate that guidance of RG 4.21 is followed.	-
RCOL2-12.03-12.04-11	12.1.4	12.1-3	Response to RAI No. 135 Luminant Letter no.TXNB-10065 Date 9/22/2010	Added “and Subsection 12.3.1.3.2” to COL Action Items 12.1(6) and 12.1(7).	-
RCOL2-12.03-12.04-11	12.1.4	12.1-3	Response to RAI No. 135 Luminant Letter	Added COL Action Item 12.1(8).	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			no.TXNB-10065 Date 9/22/2010		
RCOL2-12.03-12.04-11	12.3.1.2.2	12.3-1	Response to RAI No. 135 Luminant Letter no.TXNB-10065 Date 9/22/2010	Added Subsection 12.3.1.3.1 Design Considerations, Subsection 12.3.1.3.1.1 Design Considerations for Site Specific Design, and Subsection 12.3.1.3.2 Operational/Programmatic Considerations.	-
RCOL2-12.03-12.04-11	12.3.6	12.3-2	Response to RAI No. 135 Luminant Letter no.TXNB-10065 Date 9/22/2010	Added COL Action Item 12.1(10).	-
RCOL2-12.03-12.04-11	12.3	12.3-2	Response to RAI No. 135 Luminant Letter no.TXNB-10065 Date 9/22/2010	Added Table 12.3-201 Regulatory Guide 4.21 Design Objectives and Applicable FSAR Subsection Information for Minimizing Contamination and Generation of Radioactive Waste.	-
RCOL2-12.03-12.04-11	12.3	12.3-3	Response to RAI No. 135 Luminant Letter no.TXNB-10065 Date 9/22/2010	Added Figure 12.3-201 Yard Piping Routing and Building Penetration Schematic (Not to scale).	-
CTS-01140	12.1.3 12.1.4 12.2.1.1.10 12.2.3 12.3.1.2.1.1	12.1-2 12.2-1 12.2-3 12.3-1	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	12.3.2.2.8 12.3.4 12.3.6	12.3-2 [12.3-3] [12.3-4]			
DCD_12.02-29	12.2.3	12.2-3	Response to DCD RAI No.532	COL Action Items (CP COL12.2 (3) and 12.2 (4)) were added.	4
DCD_12.02-30	12.3.6	12.3-2 [12.3-4]	Response to DCD RAI No.532	COL Action Item (CP COL 12.3(9)) was added.	4
DCD_12.02-29 DCD_12.02-30	12.5	12.5-2	Response to DCD RAI No.532	Resolution to COL Action Items (CP COL12.2 (3) 12.2 (4) and 12.3 (9)) was added.	4
DCD_12.02-29 DCD_12.02-30	12.5	12.5-2 [12.5-3]	Response to DCD RAI No.532	Resolution to COL Action Items (CP COL12.2 (3) 12.2 (4) and 12.3 (9)) was added.	4
DCD_12.03-12.04-33	Table 12.5-201	12.5-6 [12.5-7]	Amended Response (9/15/2010) to DCD RAI No.524	Added a new row, “Spent Resin Storage Tank Valve Area, “in Table 12.5-201.	5
DCD_12.03-12.04-33	Table 12.5-201	12.5-6 [12.5-7]	Amended Response (9/15/2010) to DCD RAI No.524	Added a new row, "Valve Area next to the Mixed-Bed Demineralizer Room, the Cation-Bed Demineralizer Room and the Deborating Demineralizer Room," in Table 12.5-201.	5
CTS-01172	Table 12.5-201	12.5-6 [12.5-7]	Consistency with DCD ch 12, Table 12.3-1	Changed “A & B Waste Demineralizers Room” to “A, B-Waste Demineralizer Room” in Table 12.5-201.	5
CTS-01195	Table 12.5-201	12.5-6	Erratum	Replaced “VRHAs” to “VHRAs.”	5
CTS-01194	ACRONYMS AND ABBREVIATIONS	12-v	Clarification	Added to Acronyms and Abbreviations list	6

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
DCD_12.03-12.04-26	12.3	12.3-1	Reflect Response to DCD RAI No. 429	Added Subsection 12.3.1.1.1.2 Balance of Plant Equipment.	6
DCD_12.03-12.04-26	12.3.6	12.3-4	Reflect Response to DCD RAI No. 429	Added COL Action Items 12.3(6), 12.3(7) and 12.3(8).	6
MAP-12-301	Figure 12.3-1R	12.3-3 [12.3-11]	Consistent with DCD Rev. 3	Replaced Figure 12.3-1R to reflect layout change.	6
CTS-01186	12.5	12.5-1 [12.5-2]	Erratum	Replaced “the National Institute of Standards (NIST)" with “the National Institute of Standards and Technology (NIST).”	6
RCOL2_12.03-12.04-9 S01	12.2	12.2-2	Response to RAI No. 133 Supp Luminant Letter no.TXNB-11015 Date 3/18/2011	Added a statement that Luminant maintains procedures to control, limit, and monitor cumulative dose for construction workers and security employees such that total exposure such that total exposure for each construction worker and security employee is maintained less than 100 mrem per year.	-
RCOL2_12.03-12.04-10 S01	12.2	12.2-2	Response to RAI No. 133 Supp Luminant Letter no.TXNB-11015 Date 3/18/2011	Added a statement that Luminant maintains procedures to control, limit, and monitor cumulative dose for construction workers and security employees such that total exposure such that total exposure for each construction worker and security employee is maintained less than 100 mrem per year.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_12.03-12.04-9 S01	12.4.1.9	12.4-1	Response to RAI No. 133 Supp Luminant Letter no.TXNB-11015 Date 3/18/2011	Added a statement that Additionally, the site maintains contained sources of known isotope and activity containing byproduct, source, or special nuclear materials for use in equipment standardization and calibration, security checks, process control, gauging, quality assurance, teaching, or radiography sources. Luminant maintains procedures to control, limit, and monitor cumulative dose for construction workers and security employees such that total exposure such that total exposure for each construction worker and security employee is maintained less than 100 mrem per year.	-
RCOL2_12.03-12.04-10 S01	12.4.1.9	12.4-1	Response to RAI No. 133 Supp Luminant Letter no.TXNB-11015 Date 3/18/2011	Added a statement that Additionally, the site maintains contained sources of known isotope and activity containing byproduct, source, or special nuclear materials for use in equipment standardization and calibration, security checks, process control, gauging, quality assurance, teaching, or radiography sources. Luminant maintains procedures to control, limit, and monitor	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				cumulative dose for construction workers and security employees such that total exposure such that total exposure for each construction worker and security employee is maintained less than 100 mrem per year.	
RCOL2_12.05-6 S01	12.5	12.5-3	Response to RAI No. 136 Supp Luminant Letter no.TXNB-11015 Date 3/18/2011	Added a statement to identify sources of cobalt and other activated materials prior to initial plant startup and utilize latest industry practice guidelines similar to those in EPRI report TR-103296 in establishing a source reduction program for maintenance, plant modifications and procurement of replacement components once CPNPP Unit 3 becomes operational.	-
RCOL2_198_2	12.2	12.2-3	Response to RAI No. 198 Luminant Letter no.TXNB-11029 Date 5/6/2011	Described why an emergency plan was not necessary when receiving byproduct and source materials prior to initial fuel load.	-
RCOL2_198_3	12.2	12.2-3	Response to RAI No. 198 Luminant Letter no.TXNB-11029 Date 5/6/2011	Added discussion about why a 10 CFR 30.32(i)(3) or 10 CFR 40.31(j)(1) emergency plan is not needed	-
RCOL2_198_5a-5c	12.2	12.2-3	Response to RAI No. 198 Luminant Letter no.TXNB-	Added discussion about no 10 CFR 40 specifically licensed source materials being received,	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			11029 Date 5/6/2011	possessed, or used prior to fuel loading .	
CTS-01300	12.1.3	12.1-2	Standardization	Changed LMN to STD regarding COL 12.1(6) and COL 12.1(7).	8
CTS-01317	12.1.3	12.1-2	Editorial correction	Changed “COL Applicant” to “The licensee” in the first sentence in the fourth paragraph in Subsection 12.1.3.	8
CTS-01318	12.1.3	12.1-2	Editorial correction	Changed “13.5.2” to “13.5.2.2” in the last sentence in the fourth paragraph in Subsection 12.1.3.	8
CTS-01302	12.1.4	12.1-2 [12.1-3]	Standardization	Changed LMN to STD regarding COL 12.1(6), (7) and (8).	8
CTS-01315	12.1.4	12.1-2 [12.1-3]	Editorial correction	Added “and Tables 12.5-201 and 12.5-202” to COL 12.1(5) item description.	8
CTS-01303	12.2.1.1.10	12.2-1 [12.2-2]	Standardization	Added LMN of “STD COL 12.2(1)” to the eighth paragraph in Subsection 12.2.1.1.10.	8
CTS-01304	12.2.1.1.10	12.2-1 [12.2-2]	Standardization	Changed “Luminant” to “The licensee” in the last sentence in the ninth paragraph in Subsection 12.2.1.1.10.	8
CTS-01305	12.2.3	12.2-1 [12.2-3]	Standardization	Added LMN of “STD COL 12.2(1)” to the row of COL 12.2(1).	8
CTS-01301	12.2.3	12.2-1 [12.2-3]	Editorial correction	Added “and Table 12.2-201” to COL 12.2(1) item description.	8
CTS-01306	Table 12.2-201	[12.2-4 12.2-5]	Editorial correction	Added LMN of “CP COL 12.2(1).”	8
CTS-01307	12.3.1.1.1.2	12.3-1	Standardization	Changed LMN to STD regarding COL 12.3(6), COL12.3(7) and COL 12.3(8).	8
MAP-12-302	12.3.1.2.2.	12.3-1 [12.3-2]	Consistency with DCD Revision 3	Deleted Subsection 12.3.1.2.2.	8

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01308	12.3.1.3.1.1	12.3-1 [12.3-2]	Standardization	Added LMN of "STD COL 12.3(10)" to the second paragraph in Subsection 12.3.1.3.1.1.	8
CTS-01309	12.3.1.3.2	12.3-1 [12.3-2]	Standardization	Changed LMN to STD regarding COL 12.3(10).	8
CTS-01310	12.3.6	12.3-2 [12.3-4]	Standardization	Added LMN of "CP COL 12.3(1)" to the row of 12.3(1).	8
CTS-01311	12.3.6	12.3-2 [12.3-4]	Standardization	Added LMN of "CP COL 12.3(4)" to the row of 12.3(4).	8
CTS-01307	12.3.6	12.3-2 [12.3-4]	Standardization	Changed LMN to "STD" regarding COL 12.3(6), COL 12.3(7) and COL 12.3(8).	8
CTS-01319	12.3.6	12.3-2 [12.3-4]	Standardization	Add LMN of STD COL 12.3(10) to the row of COL 12.3(10).	8
CTS-01312	12.3.6	12.3-2 [12.3-5]	Editorial correction	Added "Figure 12.3-201" to the last sentence of COL item 12.3(10).	8
CTS-01313	12.3.7	12.3-2 [12.3-5]	Editorial correction	Added Subsection 12.3.7 and reference 12.3-201.	8
CTS-01314	12.4.1.9.2.1	12.4-2 [12.4-3]	Editorial correction	Added "(Reference 12.4-204)" to the third sentence in the fourth paragraph in the Subsection 12.4.1.9.2.1.	8
CTS-01314	12.4.4	12.4-6 [12.4-7]	Editorial correction	Added reference 12.4-204.	8
CTS-01315	Table 12.5-201 12.5-202	12.5-2 [12.5-6 through 12.5-8]	Editorial correction	Added LMN of "CP COL 12.1(5)."	8

*Page numbers for the attached marked-up pages may differ from the revision 1 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.

12.1.3 Operational Considerations

~~CP~~STD COL 12.1(3)

Replace the first and second paragraphs in DCD Subsection 12.1.3 with the following. CTS-01140

The operational radiation protection program for ensuring that operational radiation exposures are as low as reasonably achievable (ALARA) is discussed in Section 12.5, by utilizing of NEI 07-03A (Reference 12.1-25)~~ in combination with existing or modified CPNPP Units 1 and 2 site program information~~. The program follows the guidance of RG 8.2, 8.4, 8.6, 8.7, 8.9, 8.13, 8.15, 8.25, 8.27, 8.28, 8.29, 8.34, 8.35, 8.36, and 8.38. RCOL2_12.05-3

~~CP~~STD COL 12.1(6)
~~CP~~STD COL 12.1(7)
STD COL 12.1(8)

Replace the last sentence of third paragraph in DCD Subsection 12.1.3 with the following. CTS-01300

~~To achieve this objective, two kinds of operational procedures are developed. First operational procedures are developed to~~The licensee performs periodic reviews of operational practices to ensure that operating procedures ~~are revised to~~ reflect the installation of new or modified equipment, personnel qualification and training are kept current, and facility personnel are following the operating procedures. RCOL2_12.03-12.04-11 CTS-01317

~~The other operational procedures are developed to track implementation of requirements for record retention according to~~In accordance with 10 CFR 50.75(g) and 10 CFR 70.25(g) as applicable,~~. This~~ records~~,~~ containing facility design and construction, facility design changes, site conditions before and after construction, onsite waste disposal and contamination, and results of radiological surveys, ~~is~~are used to facilitate decommissioning. RCOL2_12.03-12.04-11

~~These procedures are addressed in the Plant Radiation Protection Procedures, described in 13.5.2.2.~~The guidance of RG 4.21 (Reference 12.1-27) is followed in developing and implementing operational procedures for SSCs which could be potential sources of contamination, with the objective of limiting leakage and the spread of contamination within the plant. These procedures are subject to the requirements of Subsection 13.5.2.2. RCOL2_12.03-12.04-11 CTS-01318

12.1.4 Combined License Information

Replace the content of DCD Subsection 12.1.4 with the following.

CP COL 12.1(1)

12.1(1) *Policy considerations regarding plant operations*

This Combined License (COL) item is addressed in Subsections 12.1.1.3.1, 12.1.1.3.2 and 12.1.1.3.3.

12.1(2) *Deleted from the DCD.*

~~CP~~STD COL 12.1(3)

12.1(3) *Following the guidance regarding radiation protection* CTS-01140

This COL item is addressed in Subsection 12.1.3.

12.1(4) *Deleted from the DCD.*

CP COL 12.1(5) ***12.1(5)*** *Radiation protection program*

This COL item is addressed in Section 12.5 and Tables 12.5-201 and 12.5-202. CTS-01315

~~CP~~STD COL 12.1(6) ***12.1(6)*** *Periodic review of operational practices* CTS-01302

This COL item is addressed in Section 12.1.3 and Subsection 12.3.1.3.2. RCOL2_12.03-12.04-11

~~CP~~STD COL 12.1(7) ***12.1(7)*** *Implementation of requirements for record retention* CTS-01302

This COL item is addressed in Section 12.1.3 and Subsection 12.3.1.3.2. RCOL2_12.03-12.04-11

STD COL 12.1(8) ***12.1(8)*** *Develop and implement operational procedures for SSCs which could be potential sources of contamination, with the objective of limiting leakage and the spread of contamination within the plant.* CTS-01302

This COL item is addressed in Section 12.1.3 and Subection 12.3.1.3.2.

The estimated fission and corrosion product activity in the evaporation pond water are shown in the Table 12.2-201. This estimated source term is initial activity into the evaporation pond, based on the realistic source term of the Waste Monitor Tank and the decontamination factors from NUREG-0017. RCOL2_12.02-2

~~Any additional solid, liquid and gaseous radiation sources that are not identified in Subsection 12.2.1, including radiation sources used for instruments calibration or radiography, will be provided when such site-specific information would become available in the procurement phase. These sources will be incorporated in the updated FSAR.~~ RCOL2_12.02-1

STD COL 12.2(1)

Additionally, the site maintains contained sources of known isotope and activity containing byproduct, source, or special nuclear materials for use as calibration, check, or radiography sources. Example uses for these types of sources include systems security checks; equipment standardization and calibration; process control; gauging and quality assurance testing; teaching; and nuclear reactor operations. CTS-01303

Licensed sources containing byproduct, source, and special nuclear materials that warrant shielding design consideration meet the applicable requirements of 10 CFR Parts 20, 30, 31, 32, 33, 34, 40, 50, and 70. A supplementary warning symbol is used in the presence of large sources of ionizing radiation consistent with the guidance in Regulatory Issue Summary (RIS) 2007-03. Sources maintained on site are shielded to keep personnel exposure ALARA. Sources brought on-site by contractors for activities such as the servicing or calibration of plant instrumentation or the performance of radiography are maintained and used in accordance with the provisions of the licensed utility group or contractor. If these sources must be maintained on site, designated plant personnel approve the storage location and identify appropriate measures for maintaining security and personnel protection. The licensee maintains procedures to control, limit and monitor cumulative dose for construction workers and security employees such that total exposure for each construction worker and security employee is maintained less than 100 mrem per year in accordance with 10 CFR Part 20.1301. RCOL2_12.03-12.04-9
RCOL2_12.02-1
CTS-01304
RCOL2_12.03-12.04-9 S01
RCOL2_12.03-12.04-10 S01

Specific details regarding the isotope, quantity, form and use of these sources are maintained onsite following their procurement. The following minimum information is maintained: RCOL2_12.02-1

- Isotopic concentration
- Location on site
- Source strength, form, and geometry (as applicable)
- Description of the use

Written procedures based upon the Radiation Protection Program govern the procurement, receipt, inventory, labeling, leak testing, surveillance, control, transfer, disposal, storage, issuance, and use of these sources. Additionally, these

procedures comply with 10 CFR Parts 19 and 20 to assure that occupational doses associated with the control and use of these materials are maintained ALARA. RCOL2_12.02-1

During the period prior to the implementation of the Emergency Plan (in preparation for the initial fuel loading following the 52.103(g) finding), no specific materials related emergency plan will be necessary because: RCOL2_198_2 RCOL2_198_3 RCOL2_198_5a-5c

a. No byproduct material will be received, possessed, or used in a physical form that is "in unsealed form, on foils or plated sources, or sealed in glass," that exceeds the quantities in Schedule C in 10 CFR 30.72, and

b. The source material to be received, possessed, or used does not involve uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total.

No 10 CFR Part 40 specifically licensed source material, including natural uranium, depleted uranium, and uranium hexafluoride, will be received, possessed, or used prior to initial fuel loading.

12.2.3 Combined License Information

Replace the content of DCD Subsection 12.2.3 with the following.

CP COL 12.2(1)
STD COL 12.2(1)

12.2(1) *Additional sources* CTS-01305

This COL item is addressed in Subsection 12.2.1.1.10 and Table 12.2-201. CTS-01301

CP COL 12.2(2)
STD COL 12.2(2)

12.2(2) *Additional storage space and radwaste facilities* CTS-01140

This COL item is addressed in Subsection 12.2.1.1.10 and Section 12.5.

CP COL 12.2(3)

12.2(3) *Radiation Protection Program provisions for limiting the radiation levels of the RWSAT and PMWTs.* DCD_12.02-29

This COL item is addressed in Section 12.5.

CP COL 12.2(4)

12.2(4) *Ensuring the radioactivity concentration in the RWSAT and PMWTs remain under the levels described in the DCD.*

This COL item is addressed in Section 12.5.

CP COL 12.2(1)

RCOL2_12.02-2
CTS-01306

Table 12.2-201 (Sheet 1 of 2)
Estimated Initial Activity into the Evaporation Pond (Based on the Realistic Source Terms of the Waste Monitor Tank)

Nuclide	Activity ($\mu Ci/cm^3$)
Ag-110m	1.3E-08
Ba-140	1.3E-07
Ce-141	1.5E-09
Ce-143	3.1E-08
Ce-144	4.0E-08
Co-58	4.5E-08
Co-60	5.2E-09
Cr-51	3.1E-08
Cs-134	1.9E-08
Cs-136	4.6E-07
Cs-137	2.7E-08
Fe-55	1.2E-08
Fe-59	2.9E-09
H-3	1.8E-01
I-131	2.0E-09
I-132	1.0E-07
I-133	3.1E-08
I-134	1.8E-07
I-135	7.7E-08
La-140	2.7E-07
Mn-54	1.5E-08
Mo-99	6.7E-08

CP COL 12.2(1)

RCOL2_12.02-2
CTS-01306

Table 12.2-201 (Sheet 2 of 2)
Estimated Initial Activity into the Evaporation Pond (Based on the Realistic Source Terms of the Waste Monitor Tank)

Nuclide	Activity ($\mu Ci/cm^3$)
Na-24	5.8E-07
Nb-95	2.7E-09
Np-239	2.3E-08
Rb-88	1.9E-04
Ru-103	7.4E-08
Ru-106	8.6E-07
Sr-89	1.4E-09
Sr-90	1.2E-10
Sr-91	1.3E-08
Tc-99m	6.8E-08
Te-129	4.3E-07
Te-129m	1.8E-09
Te-131	1.5E-07
Te-131m	1.7E-08
Te-132	1.7E-08
W-187	2.9E-08
Y-91	5.0E-11
Y-91m	8.6E-09
Y-93	5.6E-08
Zn-65	4.9E-09
Zr-95	3.8E-09

12.3 RADIATION PROTECTION DESIGN FEATURES

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

12.3.1.1.1.2 Balance of Plant Equipment

DCD_12.03-12.04-26

Add the following information at the end of DCD Subsection 12.3.1.1.1.2.

STD COL 12.3(6)
STD COL 12.3(7)
STD COL 12.3(8)

N. Mobile Liquid Waste Processing System CTS-01307

The mobile liquid waste processing system is located in the Auxiliary Building, and treats the effluent prior to discharging it to the waste monitor tank. This system is designed to comply with SRP Section 12.3-12.4, RG 1.206 and RG 1.69. As described in Subsection 11.2.1.6, provisions are included to mitigate contamination, and the system complies with 10 CFR 20.1406. The mobile liquid waste processing system is located in a radiation zone III area. Shield walls are provided for the system in order to allow the surrounding area to maintain a radiation zone III designation.

12.3.1.2.1.1 Radiation Zoning

~~CP~~STD COL 12.3(4)

Replace the fourth sentence of the fourth paragraph in DCD Subsection 12.3.1.2.1.1 with the following. CTS-01140

Site radiation zones for ~~CPNPP Units 3 and 4~~ plant arrangement plan under normal operation/shutdown conditions are shown in Figure 12.3-1R (COL information provided on Sheet 1 of 34). CTS-01140

~~12.3.1.2.2 Accident Conditions~~

MAP-12-302

~~CP SUP 12.3(1)~~

~~Add the following information after the last sentence of the second paragraph in DCD Subsection 12.3.1.2.2.~~

~~The essential service water (ESW) pipe tunnel structure at elevation 793' 1" has been changed in the site specific layout. However, the radiation protection design~~

~~in DCD Chapter 12 is not affected by the modification of ESW pipe tunnel structure, and Figures 12.3-2 through 12.3-6 can be used except for the structure of ESW pipe tunnel. Thus, these figures are not replaced in Final Safety Analysis Report (FSAR) Chapter12. The structure of the ESW pipe tunnel is shown on Figure 1.2-2R.~~ MAP-12-302

12.3.1.3.1 Design Considerations

RCOL2_12.03-12.04-11

CP COL 12.3(10) Add the following information after DCD Subsection 12.3.1.3.1.

12.3.1.3.1.1 Design Considerations for Site Specific Design

The radwaste evaporation pond is designed with two layers of High Density Polyethylene (HDPE) with smooth surfaces and a drainage net in between for leak detection and collection. By this and operating procedures, the evaporation pond is in compliance with RG 4.21. Detail discussion for the evaporation pond is described in the FSAR Subsections 11.2.3.1 and 11.2.3.4.

STD COL 12.3(10) The Ultimate Heat Sink (UHS) has an interface with essential service water system (ESWS). As discussed in DCD Table 12.3-8, the ESWS is in compliance with RG 4.21 (Reference 12.3-30), and does not normally contain any radioactivity. Therefore, the UHS has no direct interface with any radioactive system and does not require compliance with RG 4.21. CTS-01308

12.3.1.3.2 Operational/Programmatic Considerations

STD COL 12.1(6) Replace the last paragraph in DCD Subsection12.3.1.3.2 with the following.

STD COL 12.1(7)
STD COL 12.1(8)
STD COL 12.3(10) Programs and procedures are implemented consistent with NEI 08-08A, “Generic FSAR Template Guidance for Life Cycle Minimization of Contamination,” (Reference 12.3-201) to meet the site-specific, operational and post-construction objectives of RG 4.21 (Reference 12.3-30) and the requirements of 10 CFR 20.1406 (Reference 12.3-29). These objectives include: CTS-01309

- Periodically reviewing operational practices to ensure operating procedures reflect the installation of new or modified equipment, personnel qualification and training are kept current, and facility personnel are following the operating procedures;

Procedures for locating suspected high-activity areas are part of the radiation protection program that is described in Section 12.5.

12.3.6 Combined License Information

Replace the content of DCD Subsection 12.3.6 with the following.

~~CP~~STD COL 12.3(1)
CP COL 12.3(1)

12.3(1) *Portable instruments*

This COL item is addressed in Subsection 12.3.4 and Section 12.5.

CTS-01140
CTS-01310

12.3(2) *Deleted from the DCD.*

12.3(3) *Deleted from the DCD.*

~~CP~~STD COL 12.3(4)
CP COL 12.3(4)

12.3(4) *Site radiation zones*

This COL item is addressed in Subsection 12.3.1.2.1.1 and Figure 12.3-1R (sheet 1 of 34).

CTS-01140
CTS-01311

CP COL 12.3(5)
STD COL 12.3(5)

12.3(5) *Administrative control of the fuel transfer tube inspection*

This COL item is addressed in Subsection 12.3.2.2.8 and Section 12.5.

CTS-01140

STD COL 12.3(6)

12.3(6) *The radiation protection aspects of the Mobile Liquid Waste Processing System.*

This COL item is addressed in Subsection 12.3.1.1.1.2.

STD COL 12.3(7)

12.3(7) *How the system meets the requirements of 10 CFR 20.1406 and RG 4.21.*

This COL item is addressed in Subsections 11.2.1.6 and 12.3.1.1.1.2.

STD COL 12.3(8)

12.3(8) *Radiation Zones for the Mobile Liquid Waste Processing System area.*

This COL item is addressed in Subsection 12.3.1.1.1.2.

DCD_12.03-12.04-26
CTS-01307

CP COL 12.3(9)

12.3(9) *Radiation Protection Program contains provisions to ensure the B.A. evaporator room does not become a VHRA.*

This COL item is addressed in Section 12.5

DCD_12.02-30

CP COL 12.3(10)
STD COL 12.3(10)

12.3(10) *The COL Applicant will address the site-specific design features, operational and post-construction objectives of Regulatory Guide 4.21.*

RCOL2_12.03-12.04-11
CTS-01319

This COL item is addressed in Subsections 12.3.1.3.1.1, 12.3.1.3.2, Figure 12.3-201 and Table 12.3-201.

CTS-01312
RCOL2_12.03-12.04-11

12.3.7 References

CTS-01313

Add the following reference after the last reference in DCD Subsection 12.3.7.

12.3-201 Generic FSAR Template Guidance for Life Cycle Minimization of Contamination, NEI Technical Report 08-08A, Revision 0, October 2009.

All of these areas will be maintained at the fence area boundary with dose rates <2 mrem/hr in accordance with the current site Radiation Protection Program entitled “General Health Physics Plan” STA-650 (Reference 12.4-204). Construction workers performing activities in any of the Unit 1 and 2 areas delineated above will be working under the authority of the Units 1 and 2 Radiation Protection Program (which meets the requirements of 10CFR 20.1101, 20.1301 and 20.1302), including an approved Radiation Work Permit (RWP) when required by the CPNPP Units 1 and 2 Radiation Protection Program, STA-650. Distances from these areas to the CPNPP Units 3 and 4 proposed construction area are much greater than 1000 feet. Distances between these facilities and a proposed modification to the Sanitary Sewage Treatment Facility to accommodate additional volume, range from approximately 1100 to 1600 feet. As a result, and considering that the dose rates will be maintained <2 mrem/hr at the source fence boundary, the construction worker will not be affected by any of these other direct radiation sources.

CTS-01314
RCOL2_12.03-12.04-10
RCOL2_12.03-12.04-10

The CPNPP site will be continually monitored during the construction period and appropriate actions will be taken as necessary to ensure that the construction workers are protected from radiation exposure. Use of radioactive materials and sources during construction, such as sources used in radiography, will be controlled and monitored to maintain construction worker doses ALARA.

RCOL2_12.03-12.04-8

12.4.1.9.2.2 Gaseous Effluents

Some radioactive gaseous effluents are released on a batch basis from CPNPP Units 1 and 2 to the environment. Release pathways in this category include intentional discharges from the containment purge exhaust and the waste gas decay tanks via the plant vent stacks. Radioactive gaseous effluents are released continuously from CPNPP Units 1 and 2 to the environment from the fuel buildings, safeguards buildings, and auxiliary building (A/B) ventilation exhaust systems, and the condenser off-gas system via the plant vent stacks.

The CPNPP Units 1 and 2 annual releases for 2006 have been reported as 148 Ci of fission and activation gases, 4.23E-04 Ci of iodines, 0.00 Ci of particulates with half-lives greater than eight days, and 47 Ci of tritium (Reference 12.4-201). The annual releases for 2006 are higher than normal for the existing units (Reference 12.4-201).

12.4.1.9.2.3 Liquid Effluents

Effluents from the liquid waste disposal system introduce small amounts of radioactivity into Squaw Creek Reservoir and the low volume waste pond. The annual liquid radioactivity releases for 2006 have been reported as 5.9E-03 Ci of fission and activation products, 1522 Ci of tritium, and 0.54 Ci of dissolved and entrained gases (Reference 12.4-201). The annual releases for 2006 are typical for the existing units; however, the tritium production is dependent on fuel type, power production, and core power history.

12.4.4 References

Add the following references after the last reference in DCD Subsection 12.4.4.

12.4-201 *Comanche Peak Steam Electric Station Units 1 and 2 Radioactive Effluent Release Report*, January 1, 2006 - December 31, 2006.

12.4-202 *U.S. Nuclear Regulatory Commission, XOQDOQ Computer Program for the Meteorological Evaluation of Routine Effluent Releases at Nuclear Power Stations, NUREG/CR-2919, September 1982.*

12.4-203 *U.S. Nuclear Regulatory Commission, GASPAR II Technical Reference and User Guide, NUREG/CR-4653, March 1987.*

12.4-204 Comanche Peak Steam Electric Station General Health Physics Plan, STA-650, June 1997. CTS-01314

CP COL 12.1(5)

RCOL2_12.03-12.04-2
CTS-01315

Table 12.5-201 (Sheet 1 of 2)
Summary of Comanche Peak Units 3 and 4
Very High Radiation Areas (VHRAs)

Plant Area	Description of Area and Methods Employed to Ensure Personnel Safety
Refueling Canal	These areas have the potential to become VHRAs during underwater spent fuel transfer and inspection operations. These areas are submerged during this period and it becomes inaccessible for personnel. Per DCD Subsection 12.3.2.2.4, all spent fuel removal, transfer, and inspection operations are performed under borated water to provide radiation protection and to maintain sub-criticality conditions. Administrative and access controls, such as temporary fences or ropes, are in place to assure that personnel doses are maintained ALARA during fuel handling and inspection operations. With the exception of the spent fuel pit, the dose rates in these areas of the plant are significantly less under all other operating conditions
Refueling Cavity (including Core Internals Laydown Area)	
Cask Pit	
Fuel Inspection Pit	
Spent Fuel Pit	
Fuel Transfer Tube	This area only has the potential to reach Zone X radiation conditions while there is spent fuel passing through the tube. As indicated in Section 12.5 of the COL FSAR, locked gates provide positive access control of the fuel transfer tube. Entry to these areas is allowed only through the issuance of a specific Radiation Work Permit. However, the issuance of a specific Radiation Work Permit for access to these areas is not regularly permitted while spent fuel is passing through the tube.
Reactor Cavity	This area is designed to contrain the molten core from the reactor vessel in the event of a severe accident. This area is inaccesible to personnel.
Reactor Vessel	This area is inaccessible to personnel.

CTS-01195

CP COL 12.1(5)

Table 12.5-201 (Sheet 2 of 2)
Summary of Comanche Peak Units 3 and 4
Very High Radiation Areas (VHRAs)

RCOL2_12.03-12.04-2 CTS-01315

Plant Area	Description of Area and Methods Employed to Ensure Personnel Safety
Waste Gas Surge Tanks Rooms	As indicated in DCD Figure 12.3-1, these areas are isolated in individual shielded compartments with elevated access by ladder/stairs or completely enclosed shielded compartments with hatch openings or removable concrete block walls. Locked gates positively control entry into these areas, which is allowed only with the issuance of a Specific Radiation Work Permit. However, there is no projected reason for entry into these areas for equipment maintenance, repair or replacement. The issuance of a Specific Radiation Work Permit for access to these areas is not regularly permitted. However, if entry is required, the applicable ALARA principles, such as remote operations, limiting stay time, using temporary shielding, backwashing filters, draining tanks, etc., will be employed to reduce doses as much as practical.
Spent Resin Storage Tank Rooms	
Spent Resin Storage Tank Valve Area	
Charcoal Beds Rooms (including the passage near the rooms)	
Mixed-Bed Demineralizer Room	
Cation-Bed Demineralizer Room	
Valve Area next to the Mixed-Bed Demineralizer Room, the Cation-Bed Demineralizer Room and the Deborating Demineralizer Room	
A, B-Waste Demineralizer Room	
Volume Control Tank Room	

DCD_12.03-12.04-33

DCD_12.03-12.04-33

CTS-01172

CP COL 12.1(5)

RCOL2_14.02.01-1
CTS-01315

Table 12.5-202
Calibration Guidance for Personnel Monitors, Radiation Survey Instruments and Laboratory Equipment

Instrumentation Type	Consensus Standard
Portable radiation survey instruments	ANSI N323A ANSI N323B for Near Background
Laboratory proportional detectors	Regulatory Guide 4.15 and applicable sections of NUREG-1576
Laboratory scintillation detectors	Regulatory Guide 4.15 and applicable sections of NUREG-1576
High resolution gamma spectroscopy systems	Regulatory Guide 4.15 and applicable sections of NUREG-1576
Whole body counting systems (stationary)	ANSI N323D
Portal radiation monitors (stationary)	ANSI N323D
Portable continuous air monitoring	ANSI N323C
Personnel contamination monitors	ANSI N323B
Personnel electronic dosimeter	ANSI N323B
Portable RP instrument calibration facility sources and standards	Regulatory Guide 4.15 and applicable sections of NUREG-1576

Note: ANSI N323 provides basic calibration guidance for radiation detection instrumentation.

Chapter 13

Chapter 13 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL_13.05.02.01-1	13.5.2	13.5-3	Response to RAI No.37 Luminant Letter no.TXNB-09055 Date 10/19/2009	Change the subsection number to “DCD subsection 13.5.2”	-
RCOL_13.05.02.01-3, 4, 5, 6	13.5.2.1	13.5-4	Response to RAI No.37 Luminant Letter no.TXNB-09055 Date 10/19/2009	The descriptions have been revised to refer to plant-specific technical guidelines (P-STGs)	-
RCOL_13.05.02.01-6	13.5.2.1	13.5-4 13.5-5	Response to RAI No.37 Luminant Letter no.TXNB-09055 Date 10/19/2009	The descriptions regarding EOP V&V process have been added.	-
RCOL2_13.01.01-2	Appendix 13AA, Subsection 13AA.2	13AA-3	Response to RAI No. 68 Luminant Letter no.TXNB-09061 Date 11/5/2009	Deleted the reference to Appendix 14B which was incorrect.	-
RCOL2_13.01.01-3	13.1.3	13.1-12	Response to RAI No. 68 Luminant Letter no.TXNB-09061 Date 11/5/2009	Change indicates that RO and SRO candidates meet the requirements of ACAD 09-001 Section 6, “RO and SRO Candidate Education, Experience, and Training Requirements for Initial Startup	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				and Operation of New Construction Plants (Cold Licensing)	
RCOL2_13.01.01-3	13.2	13.2-1	Response to RAI No. 68 Luminant Letter no.TXNB-09061 Date 11/5/2009	Change describes the establishment of CPNPP partnerships in addition to the Industrial Technology Program.	-
RCOL2_13.01.01-3	13.2.1.1	13.2-1 13.2-2	Response to RAI No. 68 Luminant Letter no.TXNB-09061 Date 11/5/2009	Change describes the Training Program accreditation time frame using the guidance provided by ACAD 08-001.	-
RCOL2_13.01.01-3	Figure 13.1-205	13.1-31	Response to RAI No. 68 Luminant Letter no.TXNB-09061 Date 11/5/2009	Change adds Figure to show relative timeline of hiring and training milestones for various types of personnel.	-
RCOL_13.01.02-13.01.03-2	13.1.1.1.1	13.1-2	Response to RAI No. 69 Luminant Letter no.TXNB-09061 Date 11/5/2009	Added responsibilities of Technical Supervisors.	-
RCOL_13.01.02-13.01.03-2	13.1.1.2.2	13.1-5	Response to RAI No. 69 Luminant Letter	Added reporting line and duties of the System	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			no.TXNB-09061 Date 11/5/2009	Engineering Supervisors.	
RCOL_13.01.02-13.01.03-5	13.1.2.1	13.1-8	Response to RAI No. 69 Luminant Letter no.TXNB-09061 Date 11/5/2009	Added statement that Shift Operations Manager position requires meeting ANSI/ANS 3.1-1993 qualification requirements.	-
RCOL_13.01.02-13.01.03-2	13.1.2.2	13.1-10	Response to RAI No. 69 Luminant Letter no.TXNB-09061 Date 11/5/2009	Added reporting line and duties of the Maintenance Team Supervisors.	-
RCOL_13.01.02-13.01.03-2	13.1.2.3	13.1-11	Response to RAI No. 69 Luminant Letter no.TXNB-09061 Date 11/5/2009	Added reporting line and duties of the Radiation Protection Supervisors.	-
RCOL_13.01.02-13.01.03-2	Table 13.1-201 (Sheet 4 of 7)	13.1-18	Response to RAI No. 69 Luminant Letter no.TXNB-09061 Date 11/5/2009	Added the position of technical supervisor as System Engineering Supervisor to the table.	-
RCOL_13.04-2	Table 13.4-201 (Sheet 1 of 7)	13.4-2	Response to RAI No. 71 Luminant Letter no.TXNB-09061 Date 11/5/2009	Items 1 and 2 have been revised to reference the FSAR, Program Source, and	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				milestones for the Primary- to-Secondary Leakage Monitoring Program.	
RCOL_13.04-3	Table 13.4-201 (Sheets 1 of 7) (Sheet 2 of 7)	13.4-2 and 13.4-3	Response to RAI No. 71 Luminant Letter no.TXNB-09061 Date 11/5/2009	Items 1, 2, and 6 have been revised to reference 10CFR50.34.f (2) (xxvi) and FSAR Subsections that describe the Highly Radioactive Fluid Systems Outside Containment monitoring program requirements.	-
RCOL_13.04-1	Table 13.4-201 (Sheet 4 of 7)	13.4-5	Response to RAI No. 71 Luminant Letter no.TXNB-09061 Date 11/5/2009	Revised Item 9 to include Ground Water Monitoring Program implementation milestone.	-
RCOL2_NONE-1	13.7	13.7-1 13.7-2	Response to RAI No. 130 Luminant Letter no. TXNB-10010 Date 2/22/10	Revised Section 13.7 to provide more clarification for Fitness for Duty Program.	-
RCOL2_NONE-1	13.7.2	13.7-2	Response to RAI No. 130 Luminant Letter no.TXNB-10010 Date 2/22/10	Revised Reference 13.7-201 to correct the date and to add ML number. Added	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				Reference 13.7-202	
RCOL2_NONE-2	Table 13.4-201 (Sheet 7 of 8) (Sheet 8 of 8)	13.4-8 13.4-9	Response to RAI No. 131 Luminant Letter no.TXNB-10010 Date 2/22/10	Revised Table 13.4-201 to provide additional detail per NRC letter to NEI dated 12/2/09.	-
RCOL2_13.04-4	Table 13.4-201 (Sheet 1 of 9)	13.4-2	Response to RAI No. 151 Luminant Letter no.TXNB-10030 Date 04/12/2010	Revised Table 13.4-201 to include the inservice inspection element applicable to the steam generators.	-
RCOL2_13.04-4	Table 13.4-201 (Sheet 2 of 9)	13.4-3	Response to RAI No. 151 Luminant Letter no.TXNB-10030 Date 04/12/2010	Revised Table 13.4-201 to include the preservice inspection element applicable to the steam generators.	-
DCD_09.03.02-13	13.4	13.4-1	Reflect response to DCD RAI No.526	Added COL Item 13.4 (2)	2
DCD_09.03.02-13	Table 13.4-201 (Sheet 1,2 and 3 of 9)	13.4-2 13.4-3 13.4-4	Reflect response to DCD RAI No.526	Added LMA to Items 1, 2 and 6.	2

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_13.06.01-1	13.6	13.6-1	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Added first sentence to first paragraph.	-
RCOL2_13.06.01-1	13.6.2	13.6-1	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Added new Section 13.6.2.	-
RCOL2_13.06.01-1	13.6.2.2	13.6-3	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Replaced the last sentence.	-
RCOL2_13.06.01-3	13.1.1.2.1	13.1-3	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Added “and safety/security interface” to the first sentence of the third bullet.	-
RCOL2_13.06.01-4	Table 13.4-201 (sheet 6 of 9) (Sheet 7 of 9)	13.4-7 13.4-8	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Revised the milestone statement for Item #15 to read as follows: Prior to receipt of fuel on-site for Units 3 and 4.	-
RCOL2_13.06.01-6	13.6.1	13.6-1	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Added Reference 13.06-7 to the last paragraph.	-
RCOL2_13.06.01-7	13.6	13.6-1	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Added statement that the Security Plan for Units 3 and 4 is part of	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				the Combined License Application.	
RCOL2_13.06.01-7	13.6.1	13.6-1	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Deleted the words “as separate licensing documents” from the section.	-
RCOL2_13.06.01-8	13.6.2.1	13.6-2	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Added Reference 13.06-7 to the first paragraph.	-
RCOL2_13.06.01-8	13.6.2.5	13.6-4	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Added Reference 13.06-7.	-
RCOL2_13.06.01-10	13.6.2.3	13.6-3	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Added last sentence which includes References 13.06-7 and 13.06-201.	-
RCOL2_13.06.01-11	13.6.2.4	13.6-4	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Added Reference 13.06-7 to last sentence.	-
RCOL2_13.06.01-12	13.6.4	13.6-4	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Added Table 13.4-201 and Section 3 of Part 10 to COL Information Item 13.6(1).	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_13.06.01-12	13.6.4	13.6-4	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Deleted “and the physical security plan” from COL Information Item 13.6(2)	-
RCOL2_13.06.01-12	13.6.4	13.6-5	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Deleted “and the physical security plan” from COL Information Item 13.6(5)	-
RCOL2_13.06.01-18	13.1.1.2.1	13.1-3	Response to RAI No. 161 Luminant Letter no.TXNB-10047 Date 6/24/2010	Added fourth bullet, “Programmatic Controls,” to address the programmatic controls including safety/security interface.	-
RCOL2_13.04-1 S01	Table 13.4-201 (Sheets 4 and 5 of 9)	13.4-5 13.4-6	Supplemental Response to RAI No. 71 Luminant Letter no.TXNB-10066 Date 9/29/2010	Deleted Groundwater Monitoring Program from Chapter 11 and added to Chapter 12 group.	-
CTS-01140	13.3 13.3.1 13.3.4 13.4.1 Table 13.4-201 13.6	13.3-1 13.3-2 13.4-1 13.4-2 Through 13.4-10 13.6-1	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4
RCOL2_06.04-8	13.2.1.1.3 13.5.2.2	13.2-2 13.5-7	Response to RAI No.172 Luminant Letter no.TXNB-10069 Date 10/6/2010	Added requirements for operator training and procedure development to	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				satisfy RG 1.196.	
RCOL2_14.02-4 S01	Table 13.1-201 (Sheet 7 of 7)	13.1-18	Supplemental Response to RAI No.75 Luminant Letter no.TXNB-11003 Date 1/27/2011	Added qualification requirements for non-supervisory engineers following ASME NQA-1 1994	-
RCOL2_11.02-14	Table 13.4-201 (Sheet 9 of 9)	13.4-10	Response to RAI No.203 Luminant Letter no.TXNB-11023 Date 4/19/2011	Added Epoxy Coatings Program to address COL 11.2(7) and 11.4(9)	-
MAP-13-301	13.3.1	13.3-1	Consistency with DCD Revision 3	Added that the Emergency Plan is developed in accordance with 10CFR50.47 Appendix E and 10CFR52 and deleted reference to state and local emergency plans as IBR would make them subject to 10CFR50.54 (q) requirements. Deleted third sentence in Section 13.3.1 as this sentence is IBR.	6
CTS-01179	13.4 Table 13.4-201 (Sheet 1 of 11)	13.4-2	Clarification	Add the word "Code" after "ASME" in the 6th column of Row 2 and Item 1 third bullet 6th column to	6

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				be consistent with the entry in Item 4 for the Preservice Inspection Program .	
RCOL2_198_1b	Table 13.4-201 (Sheet 4 of 11)	13.4-5	Response to RAI No. 198 Luminant Letter no.TXNB-11029 Date 5/6/2011	Added requirements for the Construction Fire Protection Program.	-
RCOL2_198_2	Table 13.4-201 (Sheet 4 through 6,8 and 11 of 11), 13.5.2.2 13.6	13.4-5 through 13.4-7, 13.4-9, 13.4-12, 13.5-7, 13.6-1	Response to RAI No. 198 Luminant Letter no.TXNB-11029 Date 5/6/2011	Added requirements for the Construction Fire Protection, additional program source requirements for the Radiation Protection Program, Non-licensed training program elements for Fire Protection and Radiation Protection Program elements, requirements for a Special Nuclear Material Physical Protection for Controlled Access Area, and Special Nuclear Material	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				Control and Accounting Programs.	
RCOL2_198_5a-5c	Table 13.4-201 (Sheet 5, 6, 8 and 11 of 11), 13.5.2.2 13.6	13.4-6, 13.4-7, 13.4-9, 13.4-12, 13.5-7, 13.6-1	Response to RAI No. 198 Luminant Letter no.TXNB-11029 Date 5/6/2011	Added requirements for the Fire Protection, Radiation Protection, Special Nuclear Material Physical Protection, and Special Nuclear Material Control and Accounting Programs.	-
RCOL2_198_6a	Table 13.4-201 (Sheet 11 of 11), 13.5, 13.6	13.4-12, 13.5-7, 13.6-1	Response to RAI No. 198 Luminant Letter no.TXNB-11029 Date 5/6/2011	Added the Special Nuclear Material Control and Accounting Program	-
RCOL2_13.07-4	13.7 13.7.1	13.7-1 13.7-2	Response to RAI No. 199 Luminant Letter no.TXNB-11011 Date 2/28/2011	The second bullet pertaining to 10 CFR Part 26, Subpart G in the site-specific information was removed.	-
RCOL2_13.07-5	13.7 13.7.1	13.7-1 13.7-2	Response to RAI No. 199 Luminant Letter no.TXNB-11011 Date 2/28/2011	The third bullet in the site-specific information has been revised to clarify that the operating units and the new units will be part of a single FFP implementation program, but will include separate portions to address the	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				unique aspects of the construction and operations FFD guidance.	
RCOL2_13.04-5	Table 13.4-201 (Sheets 5, 6 and 8 of 11)	13.4-5 13.4-6 13.4-7	Response to RAI No. 187 Luminant Letter no.TXNB-10082 Date 11/22/2010	Table 13.4-201 has been revised to correct the editorial discrepancies as follows; - For item 10 "Radiation Protection Program," under the column Milestone, change "…Exempt Qualities…" to "…Exempt Quantities…" - For item 11 "Non licensed Plant Staff Training Program," under the column FSAR (SRP) Section, change 13.2.1 to 13.2.2. - For item 15 "Cyber Security Program," under the column FSAR (SRP) Section, change 13.6 to 13.8.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01284	ACRONYMS AND ABBREVIATIONS	13-v 13-vi	Acronyms were missing from the list.	Added FFD, EOF, INPO, MC&A, PSP, SNM, and TSC.	8
CTS-01285	13.1.3	13.1-13	Cited ACAD document as a Reference document	Added Reference 13.1-203 to second paragraph.	8
CTS-01285	13.1.5	13.1-14	Cited ACAD 09-001 as Reference document	Added Reference 13.1-203, National Academy for Nuclear Training, Guidelines for Initial Training and Qualification of Licensed Operators, ACAD-09-001, January, 2009.	8
CTS-01286	Figure 13.1-205	13.1-27	CP COL Item numbers were missing from figure	Added COL Items CP COL 13.2(1) through (5) to LMN.	8
CTS-01287	13.2 13.2.3	13.2-1 13.2-2 13.2-3	Added site-specific LMN	Added COL Item LMN for 13.2(1) through (5) to site-specific text.	8
CTS-01289	13.2.1.1	13.2-2	Cited ACAD 08-001 document as a Reference document	Added Reference 13.2-202 to last paragraph.	8
CTS-01289	13.2.4	13.2-3	Cited ACAD 08-001 document as a Reference document	Added Reference 13.2-202, ACAD 08-001, “The Process for Initial Accreditation of Training in the Nuclear Power Industry” January, 2008.	8
CTS-01291	13.5.2.1	13.5-4	Clarification	Added the word “DCD” in front of “Section 18.8” to clarify that the	8

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				human factors program is summarized in DCD section 18.8.	
CTS-01294	13.6.1 13.6.2 13.6.2.1 13.6.2.3 13.6.2.4 13.6.2.5	13.6-1 13.6-2 13.6-3 13.6-4	Editorial	Changed Reference numbers from 13.06-7 and 13.06-201 to 13.6-7 and 13.6-201 respectively.	8

*Page numbers for the attached marked-up pages may differ from the revision 1 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.

ACRONYMS AND ABBREVIATIONS

ALARA	as low as reasonably achievable	
ANS	American Nuclear Society	
ANSI	American National Standards Institute	
CBP	Computer Based Procedure	
CCTV	closed circuit television	
CFR	Code of Federal Regulations	
COL	Combined License	
CPNPP	Comanche Peak Nuclear Power Plant	
DCD	Design Control Document	
EOF	Emergency Operations Facility	CTS-01284
EOP	Emergency Operating Procedure	
EPC	engineering, procurement, and construction	
FFD	Fitness For Duty	CTS-01284
FSAR	Final Safety Analysis Report	
I&C	instrumentation and control	
INPO	Institute of Nuclear Power Operations	CTS-01284
IDS	intrusion detection system	
MHI	Mitsubishi Heavy Industries, Ltd.	
MC&A	Material Control and Accounting	CTS-01284
MNES	Mitsubishi Nuclear Energy Systems, Inc.	
NEI	Nuclear Energy Institute	
NRC	U.S. Nuclear Regulatory Commission	
NUREG	NRC Technical Report Designation (Nuclear Regulatory	
ORC	Operations Review Committee	
PSP	Physical Security Plan	CTS-01284
PBP	Paper Based Procedure	
PGP	Procedure Generation Package	
QA	quality assurance	
QAPD	quality assurance program description	
QC	quality control	

ACRONYMS AND ABBREVIATIONS

RG	Regulatory Guide	
RO	reactor operator	
SNM	Special Nuclear Material	CTS-01284
SORC	Station Operations Review Committee	
SRO	senior reactor operator	
SRP	Standard Review Plan	
SSC	structure, system, and component	
STA	Shift Technical Advisor	
TSC	Technical Support Center	CTS-01284

As described in Subsection 13.1.2.1, the Director of Operations is the Plant Manager's direct representative for the conduct of operations. The succession of authority includes the authority to issue standing or special orders as required. During back shift and weekend periods when the station staff is not on site, the Shift Manager is responsible for all activities at CPNPP Units 3 and 4.

13.1.3 Qualifications of Nuclear Plant Personnel

CP COL 13.1(5)
CP COL 13.1(7)

Replace the content of DCD Subsection 13.1.3 with the following.

Qualifications of managers, supervisors, operators, and technicians of the operating organization meet the requirements for education and experience described in ANSI/ANS-3.1 (Reference 13.1-201), as endorsed and amended by RG 1.8. For Operators and SROs, these requirements are modified in Section 13.2.

RO and SRO candidates meet the requirements of ACAD 09-001 Section 6, "Reactor Operator and Senior Reactor Operator Candidate Education, Experience, and Training Requirements for Initial Startup and Operation of New Construction Plants (Cold Licensing) (Ref. 13.1-203)."

RCOL2_13.01.01-3

CTS-01285

Final selections of initial appointees to plant positions for key managerial and supervisory personnel, through the shift supervisory level, have not yet been made. Resumes of these personnel, reflecting qualifications, will be provided when these positions are filled. All positions will be filled prior to fuel loading for each unit. This is consistent with RG 1.206, Section 13.1.2(7).

13.1.4 Combined License Information

Replace the content of DCD Subsection 13.1.4 with the following.

CP COL 13.1(1) ***13.1(1)*** *Corporate or home office organization*
This Combined License (COL) item is addressed in Section 13.1 through Subsection 13.1.1.2.5, Subsection 13.1.2 through 13.1.2.6, including Table 13.1-201, 13.1-202, Figure 13.1-201 through Figure 13.1-204, and Appendix 13AA.

CP COL 13.1(2) ***13.1(2)*** *Past experience*
This COL item is addressed in Subsection 13.1.1.1.

CP COL 13.1(3) ***13.1(3)*** *Management, engineering, and technical support organizations*
This COL item is addressed in Subsection 13.1.1.2 through 13.1.1.2.5, including Figure 13.1-204.

CP COL 13.1(4) ***13.1(4)*** *Organizational arrangement*
This COL item is addressed in Section 13.1 through Subsection 13.1.1.2.5, including Table 13.1-201 and Figure 13.1-201 through Figure 13.1-204.

CP COL 13.1(5) ***13.1(5)*** *General qualification requirements*
This COL item is addressed in Subsection 13.1.1.3 and 13.1.3.

CP COL 13.1(6) ***13.1(6)*** *Organizational structure for the plant organization, its personnel responsibilities and authorities, and operating shift crews*
This COL item is addressed in Subsection 13.1.1.1, 13.1.2 through 13.1.2.6, including Tables 13.1-201, 13.1-202, and Figures 13.1-202, 13.1-203.

CP COL 13.1(7) ***13.1(7)*** *Education, training, and experience requirements*
This COL item is addressed in Subsection 13.1.3.

13.1.5 References

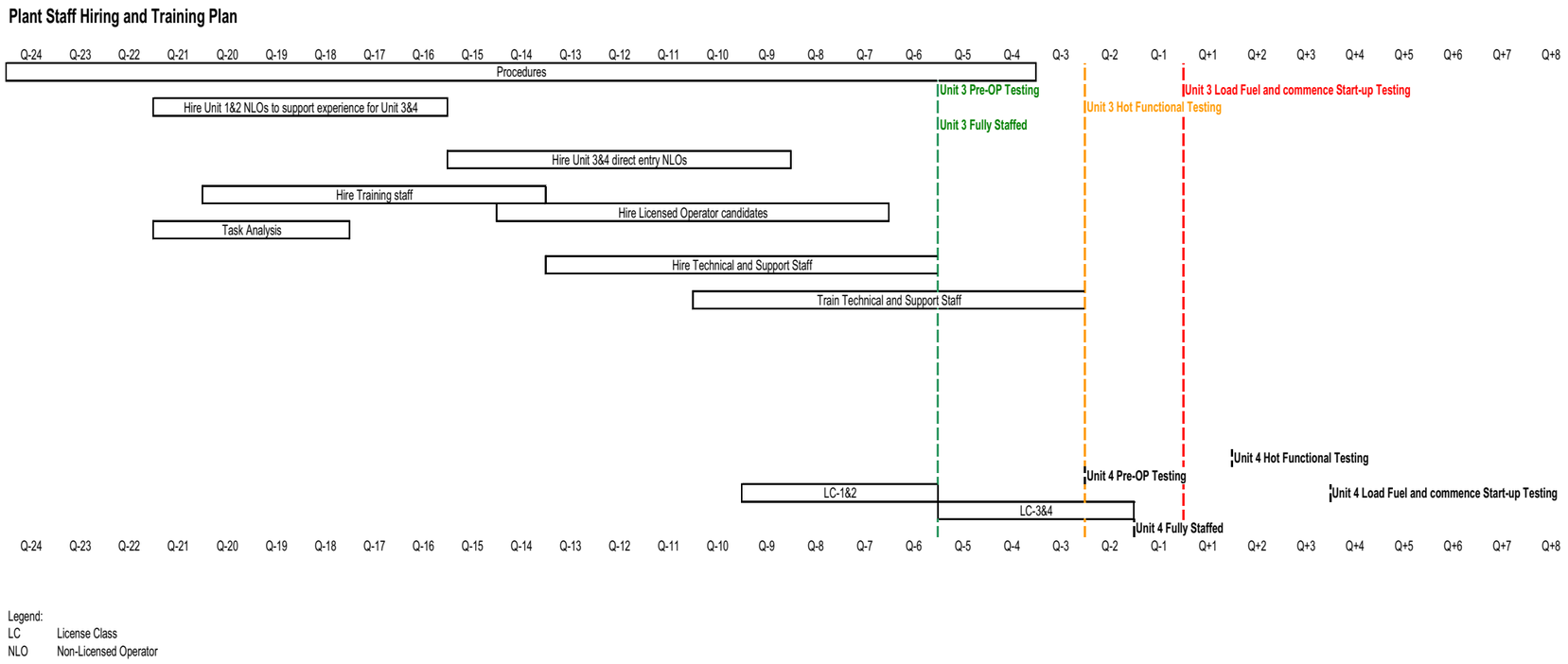
Add the following references after the last reference in DCD Subsection 13.1.5.

13.1-201 American Nuclear Society, *American National Standard for Selection, Qualification, and Training of Personnel for Nuclear Power Plants,* ANSI/ANS-3.1-1993, April 1993.

13.1-202 American Nuclear Society, *American National Standard for Selection, Qualification, and Training of Personnel for Nuclear Power Plants,* ANSI N18.7-1976/ANS 3.2-1976, “Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants”, February 1976.

13.1-203 National Academy for Nuclear Training, Guidelines for Initial Training and Qualification of Licensed Operators, ACAD-09-001, January 2009. CTS-01285

RCOL2_13.0
1.01-3



CP COL 13.2(1)
CP COL 13.2(2)
CP COL 13.2(3)
CP COL 13.2(4)
CP COL 13.2(5)

CTS-01286

Figure 13.1-205 CPNPP Units 3 and 4 Plant Staff Hiring and Training Plan

13.2 TRAINING

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

STD COL 13.2(1)
STD COL 13.2(2)
STD COL 13.2(3)
STD COL 13.2(4)
STD COL 13.2(5)

Add the following text to the end of DCD Section 13.2.

NEI 06-13A, "Template for an Industry Training Program Description" Revision 2 which includes Appendix A – Cold License Training Plan (Reference 13.2-201), including all subsections, is incorporated by reference. NEI 06-13A provides a complete generic program description for use with COL applications. The document reflects guidance provided by the NRC and by Industry-NRC discussions on training-related issues. A main objective of this program is to assist in expediting NRC review and issuance of the combined license. Chapter 1 of NEI 06-13A states "The results of reviews of operating experience are incorporated into training and retraining programs in accordance with the provisions of TMI Action Item I.C.5, Appendix 1A."

CP COL 13.2(1)
CP COL 13.2(2)
CP COL 13.2(3)
CP COL 13.2(4)
CP COL 13.2(5)

RCOL2_13.01-3
CTS-01287

CPNPP has partnered with local community leadership, educators, colleges, and other utilities in the development of a regional-based education alliance. Specifically, CPNPP is currently working with Texas A & M University, the University of North Texas, Hill College, and Texas State Technical Institute to provide the educational background needed for a successful career in the nuclear energy industry. All of the course work required for an Associate or Bachelors degree in a technical field is offered on the CPNPP site by the University of North Texas and Hill College.

In addition, CPNPP currently has a thriving Industrial Technology Program that selects promising students from local high schools and colleges and provides those candidates hands-on nuclear experience while they are concurrently enrolled in college level curriculum leading to an Associate or Bachelors degree in a Technical Field. Upon graduation selected candidates are offered employment at CPNPP.

The long-term vision is to develop a workforce pipeline that would support attrition challenges and operational expansion strategies.

13.2.1.1 Program Description

Replace the content of DCD Subsection 13.2.1.1 with the following.

RCOL2_13.01-3

CTS-01287

The content of this subsection is discussed above. In addition, the training program will be accredited prior to fuel load or within the time frame established by Institute of Nuclear Power Operations (INPO) and the operating company

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. RCOL2_13.01.01-3 CTS-01289

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 Subsection after DCD Subsection 13.2.1.1.2.

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. RCOL2_06.04.-8

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.

13.2.3 Combined License Information

Replace the content of DCD Subsection 13.2.3 with the following.

STD COL 13.2(1)
CP COL 13.2(1)
13.2(1) *Training program*
This COL item is addressed in Section 13.2 and Figure 13.1-205. CTS-01287 CTS-01286

STD COL 13.2(2)
CP COL 13.2(2)
13.2(2) *Training programs for reactor operators.*
This COL item is addressed in Section 13.2 and Figure 13.1-205. CTS-01287 CTS-01286

STD COL 13.2(3)
CP COL 13.2(3)
13.2(3) *Training programs for non-licensed plant staff*
This COL item is addressed in Section 13.2 and Figure 13.1-205. CTS-01287 CTS-01286

STD COL 13.2(4)
CP COL 13.2(4)

13.2(4) *Training programs, including the schedule of each part of the training program for each functional group of employees in the organization*
This COL item is addressed in Section 13.2 and Figure 13.1-205.

CTS-01287
CTS-01286

STD COL 13.2(5)
CP COL 13.2(5)

13.2(5) *Extent to which portions of applicable NRC guidance is used in the facility training program or the justification of exceptions*
This COL item is addressed in Section 13.2 and Figure 13.1-205.

CTS-01287
CTS-01286

13.2.4 References

Add the following reference after the last reference in DCD Subsection 13.2.4.

13.2-201 *Template for an Industry Training Program Description*, NEI 06-13A, Revision 2, Nuclear Energy Institute, March 2009.

13.2-202 ACAD-08-001, "The Process for Initial Accreditation of Training in the Nuclear Power Industry" January 2008.

CTS-01289

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 ~~Generic~~Plant-Specific Technical Guidelines (P-STGs) from the US-APWR generic technical guidelines, a plant-specific writer's guide ~~Writer's Guide~~that details the specific methods for preparing the EOPs based on the P-STGs, a description of the program for verfication 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. RCOL_13.05.02.01-3 RCOL_13.05.02.01-4 RCOL_13.05.02.01-5 RCOL_13.05.02.01-6 RCOL_13.05.02.01-3 RCOL_13.05.02.01-4 RCOL_13.05.02.01-5 RCOL_13.05.02.01-6 CTS-01291

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.

The general objectives of the EOP V&V process are to ensure the EOPs: RCOL_13.05.02.01-6

Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 2, FSAR

13.6 SECURITY

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

STD COL 13.6(1) Replace the first paragraph in DCD Subsection 13.6 with the following:

The comprehensive physical security program is addressed in the Security Plan. The Security Plan consists of the physical security plan, training and qualification plan, the safeguards contingency plan. The Security Plan (provided in Combined License Application Part 8) and Cyber Security Plan are submitted to the NRC ~~as separate licensing documents~~ to fulfill the requirements of 10 CFR 52.79(a)(35) and 10 CFR 52.79(a)(36). The Security Plan and Cyber Security Plan meet the requirements contained in 10 CFR 26 and 10 CFR 73 and will be maintained in accordance with the requirements of 10 CFR 52.98. The Security Plan is categorized as security safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21.

RCOL2_13.06.01-1
CTS-01140
RCOL2_13.06.01-7

Special Nuclear Material (SNM) Physical Protection Program

The Special Nuclear Material (SNM) Physical Protection Program describes the 10 CFR Part 70 required protection program in effect for the period of time during which new fuel as SNM is received and stored in a controlled access area (CAA) in accordance with the requirements of 10 CFR 73.67.

RCOL2_198_2_and
RCOL2_198_5a-5c
RCOL2_198_6a

CP COL 13.6(2)

13.6.1 Physical Security – Combined License

Replace the content of DCD Subsection 13.6.1 with the following:

As stated above, the Security Plan and the Cyber Security Plan are submitted to the NRC ~~as separate licensing documents~~ to fulfill the requirements of 10 CFR 52.79(a)(35) and 10 CFR 52.79(a)(36). The site specific physical security features and capabilities that are beyond the scope of the certified standard plant design are described in the CPNPP Units 3 and 4 physical security plan (PSP) (Ref. 13.~~06~~-201). Appendix A of the High Assurance Evaluation Assessment (Ref. 13.6-7) and in Section 13.6.2 below.

RCOL2_13.06.01-7
RCOL2_13.06.01-6
CTS-01294

CP COL 13.6(2)

13.6.2 US-APWR Physical Security

RCOL2_13.06.01-1

Replace the second paragraph of DCD Subsection 13.6.2 with the following two paragraphs:

[ ] (SRI)

[

]

RCOL2_13.06.01-1
CTS-01294

(SRI)

CP COL 13.6(2)

13.6.2.1 Barriers, Isolation Zone, and Controlled Access Points

Replace the content of DCD Subsection 13.6.2.1 with the following:

[

]

CTS-01294
RCOL2_13.06.01-8

CTS-01294

(SRI)

[ ] CTS-01294 (SRI)

13.6.2.2 Vital Areas and Vital Equipment

CP COL 13.6(3) ~~Delete the last sentence of the first paragraph in DCD Subsection 13.6.2.2.~~ Replace the last sentence of the first paragraph in DCD Subsection 13.6.2.2 with the following: RCOL2_13.06.01-1

[ ] (SRI)

CP COL 13.6(4) Replace the last paragraph in DCD Subsection 13.6.2.2 with the following:

[ ] (SRI)

CP COL 13.6(2) ### 13.6.2.3 Alarm Systems and Detection Aids

Replace the second paragraph in DCD Subsection 13.6.2.3 with the following:

[ ] (SRI)

[

]

RCOL2_13.06.01-10
CTS-01294

CP COL 13.6(2) **13.6.2.4 Security Lighting**

Replace the content of DCD Subsection 13.6.2.4 with the following:

[(SRI)

]

RCOL2_13.06.01-11
CTS-01294

CP COL 13.6(5) **13.6.2.5 Security Communication Systems**

Delete the last sentence of the first paragraph in DCD Subsection 13.6.2.5.

Replace the last sentence of the last paragraph in DCD Subsection 13.6.2.5 with the following:

[(SRI)

]

RCOL2_13.06.01-8
CTS-01294

CP COL 13.6(2) **13.6.2.6 Security Power**

Delete the last paragraph in DCD Subsection 13.6.2.6.

13.6.4 Combined License Information

Replace the content of DCD Subsection 13.6.4 with the following.

Chapter 14

Chapter 14 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_14.02-9	14.2.12.1.112	14.2-6	Response to RAI No. 86 Luminant Letter no. TXNB-09062 Date 11/5/2009	COLA FSAR Subsection 14.2.12.1.112, "Personnel Monitors and Radiation Survey Instruments Preoperational Test", has been revised to specify that calibration be performed in accordance with the radiation protection program	-
RCOL2_14.02-12	14.2	14.2-6	Response to RAI No. 86 Luminant Letter no. TXNB-09062 Date 11/5/2009	FSAR Subsection 14.2.12.1.112 has been revised to include laboratory equipment consistent with RG 1.68 Appendix A, item 1.k(3).	-
RCOL2_14.02-13	14.2	14.2-6	Response to RAI No. 86 Luminant Letter no. TXNB-09062 Date 11/5/2009	FSAR Subsection 14.2.12.1.112 has been revised to specify that calibration be performed in accordance with the radiation protection program.	-
RCOL2_14.02-14	14.2.12.1.112	14.2-6	Response to RAI No. 86 Luminant Letter no. TXNB-09062 Date 11/5/2009	Subsection 14.2.12.1.112 has been revised to include reference to the radiation protection program for calibration requirements.	-
RCOL2_14.02-4	14.2	14.2-2	Response to RAI No. 75 Luminant Letter	Incorporated ANS-3.1 Requirements for test personnel qualifications in	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			no. TXNB-09063 Date 11/11/2009	14.2.2.	
RCOL2_14.02-4	14.2	14.2-18	Response to RAI No. 75 Luminant Letter no. TXNB-09063 Date 11/11/2009	Added Table 14.2-203 “Comparison with the Qualification Requirements of the Staffing in ANS-3.1”	-
RCOL2_14.02-6	14.2.11	14.2-5	Response to RAI No. 75 Luminant Letter no. TXNB-09063 Date 11/11/2009	Added statement the periodic reviews will be done to ensure test program schedules do not affect one another	-
RCOL2_14.02-15	14.2.12.1.113	14.2-7 14.2- 8	Response to RAI No. 98 Luminant Letter no. TXNB-09064 Date 11/11/2009	FSAR Subsection 14.2.12.1.113 has been revised to include testing of the ESWS valves to the FSS at the required flow rates to the hose stations located in the RB and ESWS pump house.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_14.02-16	14.2.12.1.113	14.2-7 14.2- 8	Response to RAI No. 98 Luminant Letter no. TXNB-09064 Date 11/11/2009	Performance testing of basin water level logic has been specified in item A.4. The phrase mentioning the UHS transfer pump interlocks in C.1 and D.2 has been deleted. Performance testing of the UHS transfer pumps has been added as specified in item C.2 and in the acceptance criteria described in D.1. “Interlocks” in Objective 3 has been deleted.	-
RCOL2_14.02.01-1	14.2.12.1.112	14.2-5	Response to RAI No.129 Luminant Letter no.TXNB-10010 Date 2/22/10	Deleted Subsection 14.2.12.1.112 as testing of personnel monitors, survey instruments, and laboratory equipment is performed as part of the Radiation Protection Program.	-
RCOL2_14.02.01-1	Appendix 14A Table 14A-201	14A-2	Response to RAI No.129 Luminant Letter no.TXNB-10010 Date 2/22/10	Deleted Subsection 14.2.12.1.112 from table for consistency and stated that personnel monitors and radiation survey instruments are tested as part of the Radiation Protection Program.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
DCD_14.02-120	14.2.8.2	14.2-3	Reflect response to DCD RAI No. 521	Revised "First –plant-only test" to "First-plant-only tests" on the Subsection 14.2.8.2	2
DCD_14.02-120	14.2.13	14.2-8	Reflect response to DCD RAI No. 521	Revised COL item 14.2(11) from "First-plant only test" to "First-plant only tests"	2
CTS-01140	14.2.11 14.2.12 14.2.12.1.112 14.2.12.1.113 14.2.12.1.114 14.2.13 Table 14.2-201 14.3.4.7 APPENDIX 14A	14.2-4 14.2-5 14.2-6 [14.2-7] 14.2-7 [14.2-8] 14.2-9 14.3-1 14A-1	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4
RCOL2_14.02-4 S01	14.2	14.2-2	Supplemental Response to RAI No.75 Luminant Letter no.TXNB-11003 Date 1/27/2011	Added qualification requirements for non-supervisory engineers following ASME NQA-1 1994.	-
RCOL2_14.02-4 S01	14.2	14.2-15	Supplemental Response to RAI No.75 Luminant Letter no.TXNB-11003 Date 1/27/2011	Added new Table 14.2-203 for qualification requirements for non-supervisory engineers following ASME NQA-1 1994.	-
DCD_14.02-122	Table 14.2-202 (Sheet 2 of 6)	14.2-11	Updated COLA to reflect DCD	Changed Preoperational Test name for 14.2.12.1.27 to "Turbine-Generator (T/G)	5

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_14.03.12-2	14.3.4.12	14.3-2	Response to RAI No. 211 Luminant Letter No. TXNB-11025 Dated 04/11/2011	Added, "Physical security ITAAC test abstracts supporting the site-specific physical security ITAAC are provided in Comanche Peak Units 3 and 4 Physical Security Hardware ITAAC Abstracts (Reference 14.3-201)," to end of paragraph.	-
RCOL2_14.03.12-2	14.3.4.12	14.3-2	Response to RAI No. 211 Luminant Letter No. TXNB-11025 Dated 04/11/2011	Changed LMN from STD COL 14.3(3) to CP COL 14.3(3).	-
RCOL2_14.03.12-2	14.3.6	14.3-2	Response to RAI No. 211 Luminant Letter No. TXNB-11025 Dated 04/11/2011	Changed LMN from STD COL 14.3(3) to CP COL 14.3(3).	-
RCOL2_14.03.12-2	14.3.7	14.3-2	Response to RAI No. 211 Luminant Letter No. TXNB-11025 Dated 04/11/2011	Added new section 14.3.7, References.	-
MAP-14-301	14.2.12.1	14.2-4	CDI	Replaced CDI in Steam Generator Blowdown System Preoperational Test with "…existing waste water management Pond C...."	6

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
DCD_09.01.05-18	Table 14.2-202 (Sheet 6 of 6)	14.2-15	Reflect response to DCD RAI No. 616	Added Equipment Hatch Hoist Preoperational test	6
CTS-01187	14.3.4.6	14.3-1	Clarification	Changed COL text location statement to "Add the following paragraph after the last paragraph in DCD…"	6
CTS-01188	14.3.4.6	14.3-1	Editorial	"The site-specific interfaces are with the offsite power system. The ITAAC for the interface requirement with the offsite power system are provided in Part 10…"	6
CTS-01189	14.3.4.7	14.3-1	Consistency with Part 10	"(portions outside the scope of the certified design)"	6
CTS-01190	14.3.4.10	14.3-2	Clarification	Added "site-"specific	6
MAP-14-303	Table 14.2-202 (Sheet 1, 2, 4, 5, 6 of 6)	14.2-10 14.2-11 14.2-13 14.2-14 14.2-15	Consistency with DCD Tier 1	Updated the comparison between the preoperational tests in Chapter 14 and the Tier 1 ITAAC in DCD revision 3.	8

*Page numbers for the attached marked-up pages may differ from the revision 1 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.

CP COL 14.2(7)

Table 14.2-202 (Sheet 1 of 6)

Comparison of Tier 2 Preoperational Tests with Tier 1 Test Requirements

Test Description	Tier 2 Section	Tier 1 Section	
Reactor coolant system (RCS) Hot Functional	14.2.12.1.1	2.4.2	
Pressurizer Pressure and Water Level Control	14.2.12.1.2	-	
Reactor coolant pump (RCP) Initial Operation	14.2.12.1.3	2.4.2	
Pressurizer Safety Depressurization Valve (SDV)	14.2.12.1.4	2.4.2	
Pressurizer Relief Tank	14.2.12.1.5	-	
RCS	14.2.12.1.6	2.4.2	
Reactor Internals Vibration	14.2.12.1.7	2.4.1	
RCS Cold Hydrostatic	14.2.12.1.8	~~2.2,~~ 2.4.1, 2.4.2	MAP-14-303
Reactor Control, Rod Control, and Rod Position Indication	14.2.12.1.9	(2.5.5)	
Control rod drive mechanism (CRDM) Motor Generator Set	14.2.12.1.10	-	
CRDM Initial Timing	14.2.12.1.11	-	
Chemical and Volume Control System (CVCS) – Boric Acid Blending	14.2.12.1.12	2.4.6	
CVCS – Charging and Seal Water	14.2.12.1.13	2.4.6	
CVCS – Letdown	14.2.12.1.14	2.4.6	
RCS Lithium Addition and Distribution	14.2.12.1.15	-	
Primary Makeup Water System (PMWS)	14.2.12.1.16	~~(2.7.6.11).~~	MAP-14-303
Reactor Trip System and engineered safety features (ESF) System Response Time	14.2.12.1.17	-	
Reactor Trip System and ESF System Logic	14.2.12.1.18	2.5.1, 2.7.1.1	
Resistance Temperature Detectors (RTDs)/Thermocouple Cross-Calibration	14.2.12.1.19	-	
Diverse Actuation System (DAS) Actuation	14.2.12.1.20	2.5.3	
Main Steam Supply System	14.2.12.1.21	2.7.1.2~~, (2.7.1.6)~~	MAP-14-303
Residual Heat Removal System (RHRS)	14.2.12.1.22	2.4.5	

Table 14.2-202 (Sheet 2 of 6)

Comparison of Tier 2 Preoperational Tests with Tier 1 Test Requirements

Test Description	Tier 2 Section	Tier 1 Section	
Main Steam Isolation Valve (MSIV), Main Feedwater Isolation Valve (MFIV), and Main Steam Check Valve	14.2.12.1.23	2.7.1.2, 2.7.1.9	
Motor-Driven Emergency Feedwater System	14.2.12.1.24	2.7.1.11	
Turbine-Driven Emergency Feedwater System	14.2.12.1.25	2.7.1.11	
Extraction Steam	14.2.12.1.26	(2.7.1.1)	
~~Main~~ Turbine ~~System Valves~~ - Generator (T/G)	14.2.12.1.27	2.7.1.1	DCD_14.02-122
Condensate System	14.2.12.1.28	(2.7.1.9)	
Feedwater System	14.2.12.1.29	2.7.1.9	
Feedwater Heater and Drain Systems	14.2.12.1.30	(2.7.1.9)	
Condensate Polishing System	14.2.12.1.31	~~(2.7.1.8)~~ -	MAP-14-303
Main Condenser Evacuation System	14.2.12.1.32	~~(2.7.1.4)~~ -	
Circulating Water System	14.2.12.1.33	~~(2.7.1.7)~~ -	
Essential Service Water System (ESWS)	14.2.12.1.34	2.7.3.1	
Main and Unit Auxiliary Transformers	14.2.12.1.35	2.6.1	
Reserve Auxiliary Transformers	14.2.12.1.36	(2.6.1)	
Non-Class 1E Alternating Current (ac) Distribution	14.2.12.1.37	(2.6.1)	
6.9 kV Class 1E System	14.2.12.1.38	2.6.1	
480 V Class 1E Switchgear	14.2.12.1.39	2.6.1	
480 V Class 1E Motor Control Center	14.2.12.1.40	2.6.1	
120 V ac Class 1E	14.2.12.1.41	2.5.1, 2.6.3	
Emergency Lighting System	14.2.12.1.42	2.6.6	
Normal Lighting System	14.2.12.1.43	(2.6.6)	
Class 1E Gas Turbine Generator	14.2.12.1.44	2.6.4	

Table 14.2-202 (Sheet 4 of 6)

Comparison of Tier 2 Preoperational Tests with Tier 1 Test Requirements

Test Description	Tier 2 Section	Tier 1 Section
Class 1E Gas Turbine Generator Sequence – Loss of Offsite Power (LOOP) Sequence and LOOP Sequence with Emergency Core Cooling System (ECCS) Actuation Signal	14.2.12.1.53	2.6.4
Safety Injection System (SIS)	14.2.12.1.54	2.4.4
ECCS Actuation and Containment Isolation Logic	14.2.12.1.55	2.4.4, 2.11.2
Safety Injection Check Valve	14.2.12.1.56	2.4.4
Safety Injection Accumulator	14.2.12.1.57	2.4.4
Containment Spray System	14.2.12.1.58	2.11.3
Refueling Water Storage System	14.2.12.1.59	-
Essential Chilled Water System	14.2.12.1.60	2.7.3.5
Containment Structural Integrity	14.2.12.1.61	2.2
Containment Local Leakrate	14.2.12.1.62	2.2, 2.11.2
Containment Integrated Leak Rate	14.2.12.1.63	2.2
Containment Hydrogen Monitoring and Control System	14.2.12.1.64	2.11.4
CRDM Cooling System	14.2.12.1.65	(2.7.5.3)
Reactor Cavity Cooling System	14.2.12.1.66	(2.7.5.3)
Containment High Volume Purge System	14.2.12.1.67	2.8, (2.7.5.3)
Containment Low Volume Purge System	14.2.12.1.68	2.8, (2.7.5.3)
Containment Fan Cooler System	14.2.12.1.69	(2.7.5.3)
Annulus Emergency Exhaust System	14.2.12.1.70	2.7.5.2
RCS Leak Rate	14.2.12.1.71	-
Loose Parts Monitoring System	14.2.12.1.72	~~(2.4.3)~~ - MAP-14-303
Seismic Monitoring System	14.2.12.1.73	-
Incore Instrumentation System	14.2.12.1.74	(2.5.5)
Nuclear Instrumentation System	14.2.12.1.75	(2.5.5)
Remote Shutdown	14.2.12.1.76	2.5.2
Miscellaneous Leakage Detection System	14.2.12.1.77	(2.7.6.8)

Table 14.2-202 (Sheet 5 of 6)

Comparison of Tier 2 Preoperational Tests with Tier 1 Test Requirements

Test Description	Tier 2 Section	Tier 1 Section	
Process and Effluent Radiological Monitoring System, Area Radiation Monitoring System and Airborne Radioactivity Monitoring System	14.2.12.1.78	(2.5.5), (2.7.6.6), (2.7.6.13)	
High-Efficiency Particulate Air Filters and Charcoal Absorbers	14.2.12.1.79	2.7.5.1, 2.7.5.2	
Liquid Waste Management System	14.2.12.1.80	2.4.7, 2.7.4.1, (2.7.6.8)	
Gaseous Waste Management System	14.2.12.1.81	2.7.4.2	
Solid Waste Management System	14.2.12.1.82	(2.7.4.3)	
Steam Generator Blowdown System	14.2.12.1.83	2.7.1.10	
Sampling System	14.2.12.1.84	2.7.6.7	
Spent Fuel Pit Cooling and Purification System (SFPCS)	14.2.12.1.85	2.7.6.3	
Fuel Handling System	14.2.12.1.86	2.7.6.4	
Component Cooling Water System	14.2.12.1.87	2.7.3.3	
Turbine Component Cooling Water System	14.2.12.1.88	~~(2.7.3.4)~~	MAP-14-303
Secondary Side Chemical Injection System	14.2.12.1.89	~~(2.7.1.12)~~	
Fire Protection System	14.2.12.1.90	2.7.6.9	
Instrument Air System	14.2.12.1.91	~~(2.7.2)~~	MAP-14-303
Station Service Air System	14.2.12.1.92	~~(2.7.2)~~	
Boron Recycle System	14.2.12.1.93	-	
Offsite Communication System	14.2.12.1.94	2.7.6.10	
Inplant Communication System	14.2.12.1.95	2.7.6.10	
Safeguard Component Area Heating, Ventilation, and Air Conditioning (HVAC) System	14.2.12.1.96	2.7.5.2	
Emergency Feedwater Pump Area HVAC System	14.2.12.1.97	2.7.5.2	
Class 1E Electrical Room HVAC System	14.2.12.1.98	2.7.5.2	
Auxiliary Building HVAC System	14.2.12.1.99	2.7.5.4, 2.8	
Main Steam/Feedwater Piping Area HVAC System	14.2.12.1.100	2.7.5.4	
Main Control Room (MCR) HVAC System (including MCR Habitability)	14.2.12.1.101	2.7.5.1	
Non-Class 1E Electrical Room HVAC System	14.2.12.1.102	2.7.5.4	

Table 14.2-202 (Sheet 6 of 6)

Comparison of Tier 2 Preoperational Tests with Tier 1 Test Requirements

Test Description	Tier 2 Section	Tier 1 Section	
Technical Support Center HVAC System	14.2.12.1.103	2.7.5.4	
Non-Essential Chilled Water System	14.2.12.1.104	2.7.3.6	
Vessel Servicing	14.2.12.1.105	2.7.6.5	
Safety-Related Component Area HVAC System	14.2.12.1.106	2.7.5.2	
Pressurizer Heater and Spray Capability and Continuous Spray Flow Verification	14.2.12.1.107	-	
Non-Essential Service Water (non-ESW) System	14.2.12.1.108	~~(2.7.3.2)~~ -	MAP-14-303
Condensate Storage Facilities System	14.2.12.1.108	~~(2.7.6.11)~~ -	
Turbine Building Area Ventilation System (General Mechanical Area)	14.2.12.1.110	~~(2.7.5.5)~~ -	
Turbine Building Area Ventilation System (Electric Equipment Area)	14.2.12.1.111	~~(2.7.5.5)~~ -	
RCPB Leak Detection Systems Preoperational Test	14.2.12.1.115	2.4.7	
Equipment and Floor Drainage System Preoperational Test	14.2.12.1.116	2.7.6.8	
Compressed Gas System Preoperational Test	14.2.12.1.117	~~(2.7.2)~~ -	MAP-14-303
Equipment Hatch Hoist Preoperational Test	14.2.12.1.118	-	DCD_09.01.05-18

Note: Tier 1 sections in parentheses indicate inspection activities.

Chapter 15

Chapter 15 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01127	15.0.3.3	15.0-1	Consistency with DCD Rev2	Changed “15A-18 through 15A-23” to “15A-18 through 15A-24”	2
RCOL2_02.03.04-11	15.0.3.3 15.0.4	15.0-1	Response to RAI No 158 Luminant letter TXNB-10048 Date 6/25/2010	Added *x*/Q information for TSC	-
DCD 02.03.04-9	15.0.3.3	15.0-1	Reflect Response to DCD RAI No. 562	Removed text added in response to RAI 158 Question 02.03.04-11 because all DCD values now bound site specific x/Q values.	6
DCD 02.03.04-9	15.0.4	15.0-1	Reflect Response to DCD RAI No. 562	Removed text added in response to RAI 158 Question 02.03.04-11 because all DCD values now bound site specific x/Q values.	6

*Page numbers for the attached marked-up pages may differ from the revision 1 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 16

Chapter 16 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01130	16.2	16.2-1	Editorial Correction	Replaced instructions.	2

*Page numbers for the attached marked-up pages may differ from the revision 1 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 17

Chapter 17 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_17.05-3 RCOL2_17.05-8	17.3.1	17.3-2	Response to RAI No. 79 Luminant Letter no.TXNB-09065 Date 11/13/2009	17.3-202 NuBuild Quality Assurance Project Plan, Revision 1, Luminant, October 2008. 17.3-203 Comanche Peak Steam Electric Station Final Safety Analysis Report, Chapter 17, Amendment 101, Luminant, 2007. 17.3-204 US-APWR Quality Assurance Program Description, SQ-QD-070001, Revision 3, MNES, October 2008. 17.3-205 Quality Assurance Program Requirements for Nuclear Facilities, N45.2-1971, ANSI/ASME, 1971. 17.3-206 Quality Assurance Requirements for Nuclear Facility Applications, NQA-1-1994, ANSI/ASME, 1994.	-
RCOL2_17.05-8	17.5.3	17.5-1	Response to RAI No. 79 Luminant Letter no.TXNB-09065 Date 11/13/2009	Deleted “of this Final Safety Analysis Report (FSAR), for design, construction and operation phases” and “utilize” Added “initially use” and “for the engineering, procurement, and construction (EPC) phase.”	-
RCOL2_17.04-1	17.4.3	17.4-1	Response to RAI No. 92 Luminant Letter	Clarifying text to state the O-RAP objectives	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			no.TXNB-09077 Date 12/9/2009		
RCOL2_17.04-2	17.4.5	17.4-3	Response to RAI No. 92 Luminant Letter no.TXNB-09077 Date 12/9/2009	Added text to list other operational programs	-
RCOL2-17.04-3	Table 17.4-201	17.4-5	Response to RAI No. 92 Luminant Letter no.TXNB-09077 Date 12/9/2009	Revised table to list all cooling tower fans.	-
RCOL2-17.04-4	17.4.3	17.4-1	Response to RAI No. 92 Luminant Letter no.TXNB-09077 Date 12/9/2009	Revised text to emphasize the continuity of the basic RAP established during the design phase of the project.	-
CTS-01140	17.0 17.1 17.2 17.4.8 17.4.9 17.5.1 17.6	17.1-1 17.2-1 17.4-4 17.5-1 17.6-1	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4
RCOL2_17.5-12 S01	17.3.1 17.5.2	17.3-2 17.5-1	Response to RAI No. 189 Supplemental Luminant Letter no.TXNB-11008 Date 2/7/2011	Corrected Reference 17.3-201 and 17.5-201.	-
RCOL2_17.04-5	17.4.7 17.4.8	17.4-4	Response to RAI No. 197 Luminant Letter no.TXNB-11009 Date 2/18/2011	FSAR Subsections 17.4.7 and 17.4.8 revised to clarify that the RAP SSCs included in Phase II of the D-RAP include components listed in DCD Table 17.4-1 and to identify standard content.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_17.04-8	17.4.5	17.4-3	Response to RAI No. 197 Luminant Letter no.TXNB-11009 Date 2/18/2011	FSAR Subsection 17.4.5 has been revised to include maintenance programs and Technical Specification surveillances.	-
RCOL2_17.05-1	17.3	17.3-1	Response to RAI No. 79 Luminant Letter no.TXNB-09065 Date 11/13/2009	Added “Any future parties contracted for work establishing or developing the COLA shall be required to be compliant to 10CFR50 appendix B and meet the latest approved version of NQA-1.”	-
RCOL2_17.05-12	17.5 17.5.2	17.5-1	Response to RAI No. 189 Luminant Letter no.TXNB-10087 Date 12/16/2010	Added “The full transition to the QAPD will be completed no later than 30 days prior to fuel load. All nuclear operations will be conducted using a fully implemented QA program based on the QAPD.” Corrected reference.	-

*Page numbers for the attached marked-up pages may differ from the revision 1 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. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R

*Page numbers for the attached marked-up pages may differ from the revision 1 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 19

Chapter 19 Tracking Report Revision List

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01116	APPENDIX 19A	- 19A-i 19A-1	Consistency with DCD Rev.2	Added Appendix 19A	2
RCOL2_19-9	19.1.5	19.1-8	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added second paragraph to identify LOOP events and what they are applied to.	-
RCOL2_19-9	19.1.5	19.1-8	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced “tornado-induced” with “tornado—induced.”	-
RCOL2_19-9	19.1.5	19.1-8	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added fifth paragraph to clarify F-scale intensity F1 and F2 scenarios for CDF calculations. Added sixth paragraph to clarify the assumption of plant switchyard damage for enhanced F-scale intensity F1 and F2 LOOP scenarios that lead to the RCP seal LOCA CDF. Replaced “Tornado strike-induced” with “Enhanced F-scale intensity of F3, F4, and F5 tornado strike-induced.”	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_19-9	19.1.5	19.1-8	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Revised eighth paragraph to clarify the wind speed range for plant switchyard damage by the tornado strike.	-
RCOL2_19-9	19.1.5	19.1-8	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced “Reactor coolant pump (RCP) seal loss of coolant accident (LOCA)” with “RCP seal LOCA.”	-
RCOL2_19-9	Table 19.1-201	19.1-12 [19.1-13]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added the following to Table 19.1-201 for tornado strike and exceedance frequency: Beyond design base enhanced F-scale tornado intensity, wind speed, strike frequency, and strike exceedance frequency.	-
RCOL2_19-11	Table 19.1-206	19.1-39 [19.1-51]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added statement to clarify operational procedures will be prepared for main control room water level basin monitoring.	-
RCOL2_19-11	Table 19.1-206	19.1-39 [19.1-51]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added statement to clarify operational procedures will be prepared for main control room water level basin monitoring.	-
RCOL2_19-11	Table 19.1-206	19.1-39 [19.1-51]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added Subsection FSAR 19.1.5.1 and Subsection DCD Tier 1 ITAAC #24	-
RCOL2_19-10	Table 19.1-206	19.1-39 [19.1-51]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added Subsection FSAR 9.5 and description identifying Owner Controlled Area procedural maintenance and vegetation clearance with the NFPA 1144	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				minimum setback distance.	
RCOL2_19-11	19.1.5.1.1	19.1- 9 [19.1-10]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added Subsection 19.1.5.1.1 to describe the replacement of DCD Subsection 19.1.5.1.1 page 19.1-63 referring to the seismic margin analysis.	-
RCOL2_19-11	19.1.5.1.2	19.1- 9 [19.1-10]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added Subsection 19.1.5.1.2 to describe the addition of a paragraph to DCD Subsection 19.1.5.1.2 page 19.1-73 referring to the confirmation of plant-specific HCLPFs using the design specific in-structure response.	-
RCOL2_19-12	19.1.4.1.2	19.1-3	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced "the basins can be effective in removing decay heat more than 24 hours" with "two basins are effective in removing decay heat for more than 24 hours without replenishment or transferring water from another basin."	-
RCOL2_19-13	19.1.9	19.1-11 [19.1-12]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added new Subsection 19.1-202 with the reference "*Climatology Models for Extreme Hurricane Winds Near the United States*. Thomas H. Jagger and James B. Elsner, January 19.2006." Added new Subsection 19.1-203 with the reference "*A Simple Empirical Model for Predicting the Decay of Tropical*	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				Cyclone Winds after Landfall. John Kaplan and Mark Demaria. JOURNAL OF APPLIED METEOROLOGY, Volume 34. November, 1995."	
RCOL2_19-13	Table 19.1-205 (Sheet 2 of 34)	19.1- 17 [19.1-18]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added third paragraph to clarify which explosions will not affect the plant and why.	-
RCOL2_19-13	Table 19.1-205 (Sheet 4 of 34)	19.1-19 [19.1-20]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added third paragraph to clarify which flammable vapor clouds cannot affect the plant and why.	-
RCOL2_19-13	Table 19.1-205 (Sheet 6 of 34)	19.1-21 [19.1-22]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added fifth paragraph to clarify why the main control room is habitable for toxic chemicals from mobile or stationary sources.	-
RCOL2_19-10	Table 19.1-205 (Sheet 7 of 34)	19.1-22 [19.1-23]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added to second paragraph description identifying Owner Controlled Area procedural maintenance and vegetation clearance with the NFPA 1144 minimum setback distance. Also, added to second paragraph the established distances of the Protected Area and security isolation zone to ensure no wildfire temperature that would affect the PRA's CDF.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_19-13	Table 19.1-205 (Sheet 8 of 34)	19.1-22 [19.1-24]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added third paragraph describing what fire hazards and on-site fuel storage facilities cannot affect the plant and why.	-
RCOL2_19-13	Table 19.1-205 sheet 7 of 22 (9 of 34)	19.1-22 [19.1-25]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Revised first paragraph to clarify the role of the ESWS and CWS and explain that the intake structure is not safety related. Replaced Criteria value "3" with "1." Added second paragraph to clarify intake structure collision is of equal or lesser potential for which the plant has been designed. Replaced third paragraph to clarify the effects of the accidental release of petroleum and why they would not affect the operation of the plant. Added fourth paragraph to clarify why liquid spills cannot affect the plant.	-
RCOL2_19-10	Table 19.1-205 (Sheet 10 of 34)	19.1- 23 [19.1-26]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Deleted description as follows: "The probability of aircraft related accidents for CPNPP Units 3 and 4 is less than an order of magnitude of 10^{-7} per year for aircraft, airway, and airport information reflected in Subsection 2.2.2.7."	-
RCOL2_19-13	Table 19.1-205 (Sheet 10 of 34)	19.1- 23 [19.1-26]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced first paragraph defining the probability of aircraft-related hazards for CPNPP Units 3 and 4.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_19-10	Table 19.1-205 (Sheet 10 of 34)	19.1- 23 [19.1-26]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added the explanation and formula/conclusion for nearby airports to the CPNPP site and the probability of an aircraft crashing into the plant, respectively.	-
RCOL2_19-10	Table 19.1-205 (Sheet 11 of 34)	19.1- 23 [19.1-27]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added first paragraph clarifying the annual number of aircraft operations near CPNPP to explain the probability of aircraft-related hazards.	-
RCOL2_19-13	Table 19.1-205 (Sheet 11 of 34)	19.1- 23 [19.1-27]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Deleted description as follows: “No potential site proximity missile hazards.” Replaced second paragraph clarifying potential site-proximity missile hazards and where they are identified. Added third paragraph explaining that no site proximity missile hazard is identified.	-
RCOL2_19-10	Table 19.1-205 (Sheet 12 of 34)	19.1- 23 [19.1-28]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Deleted description as follows: “The probability of turbine failure resulting in the ejection of turbine rotor (or internal structure) fragments through the turbine casing, P1, as less than 10^{-5} per year. The acceptable risk rate P4 = P1 x P2 x P3 is therefore maintained as less than 10^{-7} per year.” Replaced first paragraph clarifying that no postulated low trajectory turbine missiles from CPNPP Units 1 and 2	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				can affect CPNPP Units 3 and 4. Added second paragraph explaining, mathematically, the acceptable risk rate for the probability of turbine missile accidents.	
RCOL2_19-13	Table 19.1-205 (Sheet 14through 16 of 34)	19.1-24 [19.1-30 through 19.1-32]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added paragraph explaining the determination of the possible hurricane frequency for the CPNPP site. Added paragraph describing background information of the tropical storm and hurricane history for the Texas coast in the past century. Added the formula provided by Kaplan and Demaria on calculating the tropical cyclone wind speed after landfall with a correction factor accounting for inland distance and a prediction for the upper bound of possible hurricane wind speed at the CPNPP site. Added paragraph describing the parameters for predicting the maximum possible wind speed (upper bound) at the CPNPP site. Added paragraph describing the history of hurricanes that came nearby the CPNPP site in the past 150 years, and paired with the upper	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				bound wind speed to explain why hurricane winds can be screened out as not risk significant.	
RCOL2_19-13	Table 19.1-205 (Sheet 19 of 34)	19.1-26 [19.1-35]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced fourth paragraph clarifying that thunder storms cannot affect the plant and why	-
RCOL2_19-13	Table 19.1-205 (Sheet 19 of 34)	19.1-26 [19.1-35]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced sixth paragraph clarifying that lightning cannot affect the plant and why.	-
RCOL2_19-13	Table 19.1-205 (Sheet 20 of 34)	19.1-27 [19.1-36]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced second paragraph clarifying that hail cannot affect the plant and why.	-
RCOL2_19-13	Table 19.1-205 (Sheet 21 of 34)	19.1-29 [19.1-37]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced second paragraph clarifying that air pollution is not a significant site hazard and is less severe than the impact from toxic chemicals and why.	-
RCOL2_19-13	Table 19.1-205 (Sheet 23 of 34)	19.1-30 [19.1-39]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added second paragraph clarifying that precipitation cannot affect the plant and why.	-
RCOL2_19-13	Table 19.1-205 (Sheet 23 of 34)	19.1-30 [19.1-39]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced fourth paragraph clarifying that dust storms cannot affect the plant and why.	-
RCOL2_19-13	Table 19.1-205 (Sheet 24 of 34)	19.1-32 [19.1-40]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added Subsection 3.3.1.1	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_19-13	Table 19.1-205 (Sheet 25 of 34)	19.1-32 [19.1-41]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Removed first paragraph. Replaced second paragraph describing the extreme winds' maximum wind speed and what potential hazards might exist from them. Added third paragraph clarifying that extreme winds are insignificant potential hazards.	-
RCOL2_19-13	Table 19.1-205 (Sheet 26 of 34)	19.1-33 [19.1-42]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced third paragraph clarifying that surface winds cannot severely affect the plant and why.	-
RCOL2_19-10	Table 19.1-205 (Sheet 27 of 34)	19.1-34 [19.1-43]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced "788.9" with "793.66," Criteria number "3" with "2," and Frequency number "None" with "$< 10^{-7}$."	-
RCOL2_19-10	Table 19.1-205 (Sheet 27 of 34)	19.1-34 [19.1-43]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced "4.56" with "4.59," "793.46" with "810.64," and "28" with "11."	-
RCOL2_19-10	Table 19.1-205	19.1-34 [19.1-	Response to RAI No. 165	Added second paragraph describing the Probable	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	(Sheet 27 of 34)	43]	Luminant Letter no.TXNB-10046 Date 6/24/2010	Maximum Precipitation (PMP) distribution to determine the Probable Maximum Flood (PMF).	
RCOL2_19-10	Table 19.1-205 (Sheet 27 of 34)	19.1-34 [19.1-43]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added third paragraph outlining the scenarios for the PMP distributions.	-
RCOL2_19-10	Table 19.1-205 sheet 19 of 22 (Sheet 28 of 34 Sheet 29 of 34)	19.1-34 [19.1-44 19.1-45]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added paragraph describing the critical storm center within the Paluxy River watershed used to determine the resulting peak runoff and the water surface elevation. Added paragraph describing the calculation for the overall and areal frequency of a U.S. PMP event for 6 hours and 25 inches over 10 square miles. Added paragraph clarifying the frequency of a PMP of 25 inches over 10 square miles is projected to be well below 10^{-7} per year.	-
RCOL2_19-10	Table 19.1-205 (Sheet 29 of 34)	19.1-34 [19.1-45]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced Criteria number “3” with “2” and Frequency number “None” with “< 10^{-7}.”	-
RCOL2_19-10	Table 19.1-205 (Sheet 29 of 34)	19.1-34 [19.1-45]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced “788.9” with “793.66.”	-
RCOL2_19-10	Table 19.1-205	19.1-34 [19.1-	Response to RAI No. 165	Replaced “809.28” with “810.64” and “805” with	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	(Sheet 29 of 34)	45]	Luminant Letter no.TXNB-10046 Date 6/24/2010	"795."	
RCOL2_19-13	Table 19.1-205 (Sheet 29 of 34)	19.1-34 [19.1-45]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added fourth paragraph clarifying that probable maximum flood cannot affect the plant and why.	-
RCOL2_19-10	Table 19.1-205 (Sheet 30 of 34)	19.1-34 [19.1-46]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added first paragraph describing the coincident wind wave activity and its effects on Squaw Creek Reservoir. Added second paragraph describing the estimated frequency of a PMF capable of reaching plant grade elevation.	-
RCOL2_19-10	Table 19.1-205 (Sheet 31 of 34)	19.1-35 [19.1-47]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced first paragraph clarifying the elevation of CPNPP safety-related facilities and that they could not be affected by flooding.	-
RCOL2_19-13	Table 19.1-205 (Sheet 31 of 34)	19.1-35 [19.1-47]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added second paragraph clarifying that no safety related structures could be affected by flooding due to dam failures and why.	-
RCOL2_19-13	Table 19.1-205 (Sheet 32 of 34)	19.1-35 [19.1-48]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added third paragraph clarifying that surge and seiche flooding cannot affect the plant and why.	-
RCOL2_19-13	Table 19.1-205 (Sheet 32 of 34)	19.1-35 [19.1-48]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added fifth paragraph clarifying that tsunamis cannot affect the plant and why.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_19-10	Table 19.1-205 (Sheet 33 of 34)	19.1-36 [19.1-49]	Response to RAI No. 165 Luminant Letter no.TXNB-10046 Date 6/24/2010	Replaced “788.9” with “793.66” and “30” with “28.”	-
RCOL2_19-13	Table 19.1-205 (Sheet 33 of 34)	19.1-36 [19.1-49]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added third paragraph clarifying that ice effects cannot affect the plant and why.	-
RCOL2_19-13	Table 19.1-205 (Sheet 33 of 34)	19.1-36 [19.1-49]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added “(criterion 3)” clarifying why the UHS does not rely on or depend on certain water formations.	-
RCOL2_19-13	Table 19.1-205 (Sheet 34 of 34)	19.1-37 [19.1-50]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added “(criterion 3)” clarifying why channel diversion cannot adversely affect CPNPP Units 3 and 4 safety-related structures or systems.	-
RCOL2_19-13	Table 19.1-205 (Sheet 34 of 34)	19.1-37 [19.1-50]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added “(criterion 3)” clarifying why no safety-related facilities could be affected by low-flow or drought conditions.	-
RCOL2_19-13	Table 19.1-205 (Sheet 34 of 34)	19.1-37 [19.1-50]	Response to RAI No. 166 Luminant Letter no.TXNB-10046 Date 6/24/2010	Added paragraph 4 clarifying that ground water cannot affect the plant and why.	-
CTS-01140	19.1.1.4.1 19.1.4.2.2 19.1.5.2.2 19.1.5.3.2 19.1.6.2 19.1.7.1 19.2.5 19.2.6.1 19.2.6.1.1	19.1-1 19.1-4 19.1-9 [19.1-10] 19.1-10 [19.1-11] 19.2-1 19.2-2	Standardization	Changed LMN to STD and where needed, removed or replaced reference to CPNPP Units 3 and 4	4

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	19.2.6.2 19.2.6.5 19.3.3	19.2-3 19.3-1			
DCD_19-426	19.1.7.6	19.1-11	Reflect Response to DCD RAI No. 564	Replaced “RTMS and SFCP” with “RTMS, SFCP and peer review”	4
DCD_19-426	19.3.3	19.3-1	Reflect Response to DCD RAI No. 564	Replaced “RTMS” with “RTMS and peer review”	4
RCOL2_19-14	19.1, Table 19.1-206	19.1-8 19.1-9 19.1-51	Response to RAI No.210 Supplemental Luminant Letter No.TXNB-11025 Date 04/19/2011	The risk from tornado striking the site during low power and shut down operation has been documented.	-
MAP-19-301	19.1.4.1.2	19.1-2	Consistency with DCD Revision 3	Removed “The fluid system of ESWS is the same as the standard US-APWR design except that the essential service water pump (ESWP) motor is air-cooled.”	7
CTS-01264	19.1.4.1.2	19.1-3	Clarification	Replace “Ventilation of the ESWP room is reliable not to significantly degrade the unavailability of ESWP” with “Ventilation of the essential service water pump (ESWP) room is sufficiently reliable that the availability of the ESWP is not degraded”	7
CTS-01227	19.1.4.1.2	19.1-3	Correction	Changed “Table 19.1-2 and 19.1-20” to “Table 19.1-2 and 19.1-23”	7
MAP-19-302	19.1.4.1.2	19.1-3	Consistency with DCD Revision 3	Changed “2.3E-05” to “2.4E-05” to reflect the updated DCD PRA.	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01228	19.1.4.1.2	19.1-3	PRA Update	Changed “2.4E-05/RY” to “2.6E-05/RY” to reflect the updated plant specific PRA	7
CTS-01229	19.1.5	19.1-4	Revision of referenced document	Changed “ANSI/ANS 58.21-2007” to “ASME/ANS RA-Sa-2009”	7
CTS-01229	19.1.5	19.1-4	Revision of referenced document	Changed “ANSI/ANS 58.21-2007” to “ASME/ANS RA-Sa-2009”	7
CTS-01229	19.1.5	19.1-4 [19.1-5]	Revision of referenced document	Changed “Section 4.4” to “Section 6-2”	7
CTS-01229	19.1.5	19.1-5	Revision of referenced document	Changed “ANSI/ANS 58.21-2007” to “ASME/ANS RA-Sa-2009”	7
CTS-01230	19.1.5	19.1-5	Editorial	Simplified list of specific section numbers	7
CTS-01230	19.1.5	19.1-5	Editorial	Added “/year” after “10^{-7}”	7
CTS-01229	19.1.5	19.1-5 [19.1-6]	Revision of referenced document	Changed “ANSI/ANS 58.21-2007 (Reference 19.1-8)” to “ASME/ANS RA-Sa-2009”	7
CTS-01230	19.1.5	19.1-6	Editorial	Changed “suppression” to “protection” Changed “suppression” to “protection water supply”	7
CTS-01230	19.1.5	19.1-6	Editorial	Added “supply” between “steam” and “system”	7
CTS-01230	19.1.5	19.1-6 [19.1-7]	Editorial	Changed “Fire suppression system” to “Fire protection water supply system”	7
CTS-01230	19.1.5	19.1-6 [19.1-7]	Editorial	Changed “Fire suppression system” to “Fire protection water supply system”	7
CTS-01230	19.1.5	19.1-7	Editorial	Changed “Alternative” to “Alternate”	7
CTS-01230	19.1.5	19.1-6 [19.1-7]	Editorial	Changed “fire suppression system” to “fire protection water supply system”	7
CTS-01230	19.1.5	19.1-8	Editorial	Changed “Alternative” to “Alternate”	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
CTS-01231	19.1.5	19.1-8	PRA Update	Changed “2.1E-08/RY” to “2.9E-08/RY”	7
CTS-01231	19.1.5	19.1-8 [19.1-9]	PRA Update	Changed “2.2E-08/RY” to “2.3E-08/RY”	7
CTS-01231	19.1.5	19.1-8 [19.1-9]	PRA Update	Changed “7E-08/RY” to “8E-08/RY”	7
CTS-01229	19.1.5	19.1-8 [19.1-9]	Revision of referenced document	Changed “ANSI/ANS 58.21-2007 (Reference 19.1-8)” to “ASME/ANS RA-Sa-2009”	7
CTS-01229	19.1.5	19.1-9	Revision of referenced document	Changed “ANSI/ANS 58.21-2007 (Reference 19.1-8)” to “ASME/ANS RA-Sa-2009”	7
CTS-01232	19.1.5.1.1	19.1-9 [19.1-10]	Editorial	Removed “page 19.1-63”	7
CTS-01232	19.1.5.1.2	19.1-9 [19.1-10]	Editorial	Removed “page 19.1-73”	7
CTS-01233	19.1.7 [Sheet 1, 3, 4, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 40 and 44 of 46]	19.1-11 [19.1-13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40]	Correction	Inserted a DCD Table 19.1-119R which originally referred COL action item numbers	7
CTS-01230	Table 19.1-203	19.1-14 [19.1-61]	PRA Update	Changed “1.5E-04” to “2.1E-04” and “2.1E-08” to “2.9E-08”	7
CTS-01230	Table 19.1-203	19.1-14 [19.1-61]	PRA Update	Changed “1.6E-03” to “1.7E-03” and “2.2E-08” to “2.3E-08”	7
CTS-01230	Table 19.1-204	19.1-15 [19.1-	PRA Update	Replaced Table 19.1-204 to the updated Table 19.1-	7

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
		62, 63, 64, 65, 66]		204	
MAP-19-305	Table 19.1-206	19.1-39 [19.1-101]	Consistency with DCD Revision 3	Removed a statement regarding backup actions.	7
MAP-19-304	Figure 19.1-2R (Sheet 18 of 36)	19.1-40 [19.1-108]	Simplified P & ID	Replaced to reflect new component ID numbers	7
CTS-01234	Figure 19.1-2R (Sheet 20 of 42)	19.1-40 [19.1-102]	Editorial	Changed sheet number “18 of 36” to “20 of 42” and “2 of 2” to “2 of 3”	7
CTS-01235	19.2.6.2	19.2-3	Editorial	Changed “CPNPP site” with “site-specific parameters”	7
CTS-01235	19.2.6.2	19.2-3	Correction	Changed the location of inserted text.	7
CTS-01235	19.2.6.2	19.2-3	Editorial	Added “and the fourth paragraph” between “paragraph” and “in”	7
CTS-01235	19.2.7	19.2-4	Editorial	Replace “Guildlines” with “Guidelines”	7
CTS-01336	19.1.5	19.1-6 [19.1-7]	Correction	Changed “structure, system, and components” to “Structures, systems, and components”.	8
CTS-01168	19.1.4	19.1-6 [19.1-7]	Erratum	Changed wind speed value from 90 mph to 96 mph	8
CTS-01322	19.1.5.1.1 19.1.5.1.2 19.1.9 Table 19.1-119R (Sheets 1, 3, 4, 12-15, 17, 19-36, 40 and 44)	19.1-4 [19.1-10] 19.1-11 [19.1-12] 19.1-12 19.1-13 through 19.1-40 19.3-1	Correction	Added missing LMN CP COL 19.3(4) to Section 19.1.5.1.1 and 19.1.5.1.2. Added missing LMN CP COL 19.3(6) to Section 19.3.3 and Table 19.1-119R. Added LMN “CP COL 19.3(6)” under “STD COL 19.3(6)”.	8

*Page numbers for the attached marked-up pages may differ from the revision 1 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.

Structures, systems, and components (SSCs) will be designed using the site-specific basic wind speed of ~~90~~96 mph or higher. Within this analysis, plant vulnerabilities located outdoors that are not seismic category I or II structures are assumed to be damaged for tornado strikes of intensity enhanced F-scale 1 and greater. In this analysis, the following systems are assumed to be damaged for tornado strikes of intensity enhanced F-scale 1 and greater: CTS-01336 CTS-01168

- Plant switchyard
- Fire ~~suppression~~protection water supply system CTS-01230
- Non-essential chilled water system

Seismic category II structures are designed to withstand a basic wind speed of 155 mph. The seismic category II structure that contains PRA related equipment is the turbine building (T/B). Tornado induced failure of the T/B is conservatively assumed to have an effect on the operability of alternate ac power system. In this analysis, the following systems are assumed to be damaged by tornado strikes resulting in failure of the T/B:

- Plant switchyard
- Fire ~~suppression~~protection water supply system CTS-01230
- Non-essential chilled water system
- Non-safety electric power system
- ~~Alternative~~Alternate ac power supply system CTS-01230

Direct damage to the seismic category I structures and the components within the structure can be caused by tornadoes exceeding the design basis tornado. In this analysis safety related systems are assumed to be damaged for tornado strikes of a design basis tornado or greater (wind speed ≥ 230 mph).

- Accident scenario

When a tornado strikes the plant, there is a probability that a tornado initiated accident scenario may be induced with some mitigation functions inoperable due to damage from a tornado strike. Based on plant vulnerabilities identified in the previous section, the internal events PRA was reviewed to identify initiating events or degradation of mitigation functions that may be caused by a tornado strike. The following internal events accident initiators may be caused by a below design basis tornado strike:

- Loss of offsite power (LOOP)
- Main steam line break downstream of main steam isolation valves
- Loss of feedwater flow

The effects of these events on the safety-related components of the plant are insignificant as discussed in Subsection 2.2.3.1. These events meet the preliminary screening criteria of ~~ANSI/ANS-58.21-2007 (Reference 19.1-8)~~ASME/ANS RA-Sa-2009. CTS-01229

Aircraft Crash

As described in Subsection 3.5.1.6, the probability of aircraft-related accidents for CPNPP Units 3 and 4 is less than the order of 10^{-7} per year for aircraft, airway, and airport information reflected in Subsection 2.2. Thus, this event is not addressed further.

19.1.5.1.1 Descriptions of the Seismic Risk Evaluation

RCOL2_19-11
CTS-01322
CTS-01232

CP COL 19.3(4)

Replace the last sentence of the first paragraph after the first bullet "Selection of review level earthquake" in DCD Subsection 19.1.5.1.1 ~~page 19.1-63~~ with the following.

The seismic margin analysis of the DCD is incorporated by reference although the RLE of CPNPP is less than the DCD RLE of 0.5g, which is 1.67 times the SSE (0.3g).

19.1.5.1.2 Results from the Seismic Risk Evaluation

RCOL2_19-11
CTS-01322
CTS-01232

CP COL 19.3(4)

Add a paragraph after the last paragraph in DCD Subsection 19.1.5.1.2 ~~page 19.1-73~~ with the following.

The plant-specific HCLPFs of CPNPP Units 3 and 4 that are not less than 1.67 times SSE will be confirmed using the design specific in-structure response and the results of the stress analysis of the US-APWR standard design.

19.1.5.2.2 Results from the Internal Fires Risk Evaluation

~~CP~~STD COL 19.3(4)

Add the following text at the beginning of DCD Subsection 19.1.5.2.2. CTS-01140

The only site-specific design that has potential effect on internal fires risk is the site-specific UHS.

Four-train separation is maintained in the site-specific UHS design. Modeling of the site-specific UHS shows a small effect on the reliability of CCWS for internal fire events. As was the case with the results of the Level 1 PRA for operations at power (Subsection 19.1.4.1.2), it has been determined that consideration of the

19.1.7.6 PRA Input to the Technical Specification

CP COL 19.3(1) Replace the last paragraph in DCD Subsection 19.1.7.6 with the following.

The PRA needed for implementation of RMTS, ~~and~~ SFCP, and peer review will be available one year prior to fuel load. DCD_19-426

19.1.9 References

CP COL 19.3(4) Add the following references after the last reference in DCD Subsection 19.1.9. CTS-01322

19.1-201 *Risk-Informed Method for Control of Surveillance Frequencies*, NEI 04-10, Rev. 1, Nuclear Energy Institute, Washington DC, April 2007.

19.1-202 *Climatology Models for Extreme Hurricane Winds Near the United States*, Thomas H. Jagger and James B. Elsner, January 19, 2006.

19.1-203 *A Simple Empirical Model for Predicting the Decay of Tropical Cyclone Winds after Landfall*, John Kaplan and Mark Demaria, JOURNAL OF APPLIED METEOROLOGY, Volume 34, November, 1995.

RCOL2_19-13

CP COL 19.3(6)

CTS-01322
CTS-01233

Table 19.1-119R Key Insights and Assumptions (Sheet 1 of 46)

Key Insights and Assumptions	Dispositions
Design features and insights	
1. High Head Safety Injection System	
- The high head safety injection system consists of four independent and dedicated SI pump trains.	6.3.2.1.1
- The SI pump trains are automatically initiated by ECCS actuation signal, and supply borated water from the RWSP to the reactor vessel via direct vessel injection line.	6.3.2.1.1
- Each SI pump is connected to a dedicated direct vessel injection nozzle for injection into the reactor downcomer region.	6.3.2.1.1
- SI pump suction isolation valves (SIS-MOV-001A/B/C/D) remain open during normal and emergency operations. These valves are remotely closed by operator action from MCR or RSC to isolate RWSP to terminate leak or if pump/valve maintenance requires it.	6.3.2.2.6.1
- This system provides the safety injection function during LOCA events and feed and bleed operation.	6.3.3 19.2.5 13.5.2 5.2.2.1.2
- During plant shutdown, safety injection provides RCS makeup function in loss of RHRS. In the case of failure of operable SI pump, the pumps that are locked out for LTOP compliance can be used if available.	5.2.2.2.2.2 19.2.5 13.5.2 7.8.1.1.1 Table 7.8-5
- SI pump can be manually actuated by DAS from MCR.	

CP COL 19.3(6)

Table 19.1-119R Key Insights and Assumptions (Sheet 3 of 46)

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Key Insights and Assumptions	Dispositions
3. Chemical and Volume Control System	
- The CVCS provides a means to maintain a programmed inventory of reactor coolant during all phases of plant operation.	9.3.4.1.2.1
- The CVCS continuously supplies seal water to the reactor coolant pump seals, as required by the reactor coolant pump design.	9.3.4.1.2.4 9.3.4.2.7.2
- The charging pumps are arranged in parallel with common suction and discharge headers. Each pump provides full capability for normal makeup.	9.3.4.2.6.1
- Charging injection is provided by the CVCS. One CVCS charging pump is capable of maintaining normal RCS inventory with small system leak if the leakage rate is less than that from a break of a pipe 3/8 inch in inside diameter.	9.3.4.2.7.4
- Normally, one charging pump is operating and takes suction from the VCT, supplies charging flow to the RCS and seal water to the reactor coolant pumps. The flow rate of the charging pump is controlled by the flow control valve located in the charging line and the flow control valve located in the reactor coolant pump seal injection line	9.3.4.2.1 9.3.4.2.6.1 9.3.4.2.7.2
- The pump can take suction from the VCT, the reactor makeup control system, the refueling water storage auxiliary tank and the spent fuel pit.	9.3.4.2.6
- During normal operation, the VCT water level is controlled by automatic makeup. In case the automatic makeup fails to actuate and the water level in the VCT decreases, low VCT water level is detected and actuates a low-low level signal that opens the stop valves in the refueling water storage auxiliary tank supply line, and closes No. 1 and No. 2 stop valves in the VCT outlet to provide emergency makeup.	9.3.4.2.1 9.3.4.5.4.1
- Two centrifugal boric acid transfer pumps are utilized for the transfer and circulation of the boric acid solution in the two boric acid tank.	9.3.4.2.3.1 9.3.4.2.6.2 9.3.4.2.6.9
- During plant shutdown, when the RHR system is in operation, the RHR system provides reactor coolant to the CVCS, upstream of the letdown heat exchanger in the letdown line.	9.3.4.2.7.3
- During plant shutdown, charging injection provides RCS makeup function in loss of RHRS. In the case of failure of operable charging pump, the pumps that are locked out for LTOP compliance can be used if available.	5.2.2.1.2 5.2.2.2.2.2 19.2.5 13.5.2

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Table 19.1-119R Key Insights and Assumptions (Sheet 4 of 46)

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Key Insights and Assumptions	Dispositions
4. Containment Spray System / Residual Heat Removal System	
- The containment spray system (CSS) and the residual heat removal system (RHRS) share major components which are containment spray/residual heat removal (CS/RHR) pumps and heat exchangers.	5.4.7.1 5.4.7.2.1 6.2.2 6.2.2.1 6.2.2.2
- The CSS/RHRS consists of four independent subsystems, each of which receives electrical power from one of four safety buses. Each subsystem includes one CS/RHR pump and one CS/RHR heat exchanger, which have functions in both the CS system and the RHRS.	6.2.2 5.4.7.2.1
- All four CS/RHR pumps automatically start to supply water in RWSP and containment spray header isolation valves are open automatically on the receipt of a containment spray signal.	6.2.2.2.1 6.2.2.2.7.2
- CSS/RHRS provides multiple functions such as,	3.2.2
(1) containment spray to decrease pressure and temperature in the containment, (2) alternate core cooling in case all safety injection systems fails during LOCA in conjunction with a fast depressurization of the RCS by using the EFW pumps to remove heat through the SGs and by manually opening the MSDVs especially in high RCS pressure sequences, (3) RHR operation for long term core cooling, (4) heat removal function for long term containment cooling, (5) providing water to flood the reactor cavity and (6) fission product removal. (7) During plant shutdown, RHRS provides function to remove decay heat from the RCS.	6.2.2 6.2.2.1 6.2.5 5.4.7.1 5.4.7.2.1 5.4.7.2.3.3 19.2.5 13.5.2 5.4.7.1
- The RHRS is designed and equipped with pressure relief valves to prevent RHRS over-pressurization and low temperature over-pressurization.	6.3.1.4
- Two motor operated valves in series on the RHR suction line with power lockout capability during normal power operation minimize the probability of RCS pressure entering the RHR system. Even if both these valves are opened during normal power operation, the RHR system is designed to discharge the RCS inventory to the in-containment RWSP. The RHRS is designed to prevent an interfacing system LOCA by having a design rating of 900 lb. The RHR 900 lb. design rated system can withstand the full RCS pressure. The current values are in accordance with Section III of the ASME Code for Service Level A.	5.4.7.1 5.4.7.2.1 5.4.7.2.2 Table 5.4.7-2

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Table 19.1-119R Key Insights and Assumptions (Sheet 12 of 46)

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Key Insights and Assumptions	Dispositions
10. Reactor Coolant System High Point Vents	
- Safety depressurization valves (SDVs) and depressurization valves (DVs) are provided at top head of the pressurizer in order to cool the reactor core by feed and bleed operation when loss of heat removal from steam generator occurs.	5.4.12.2 19.2.5 13.5.2
- RCS depressurization system dedicated for severe accident is provided to prevent high pressure melt ejection. The location of release point from the valve is in containment dome area.	5.4.12.2
- Safety depressurization valves can be manually actuated by DAS.	7.8.1.1.1 Table 7.8-5
11. Main Steam Supply System	
- The system consists of MSRV, MSDV, MSSVs, and MSIV in each main steam line and TBVs.	10.3 10.3.1.1
- Six MSSVs are provided per each main steam line and are located in the main steam piping upstream of the MSIVs. The MSSVs have the three kind of set pressure.	10.3.2.3.2 Table 10.3.2-2
- One air-operated MSRV and one motor-operated MSDV are installed on each main steam line piping.	10.3.2.3.3
- MSIVs are installed in each of the main steam lines to (1) limit uncontrolled steam release from one steam generator in the event of a steam line break, and to (2) isolate the faulted SG in the event of SGTR.The valve is designed to fully close by receipt the signal such as low main steam line pressure.	10.3.2.1 10.3.2.3.4
- In LOCA event with failure of all HHISs, operators open MSDVs to depressurize the RCS for alternate core injection.	19.2.5 13.5.2
- During shutdown operation, when the RCS is mid-loop state with the closed state, operators open MSDVs for heat removal via SGs.	19.2.5 13.5.2

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Table 19.1-119R Key Insights and Assumptions (Sheet 13 of 46)

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Key Insights and Assumptions	Dispositions
12. Component Cooling Water System	
- The CCWS consists of two independent subsystems. One subsystem consists of trains A & B, and the other subsystem consists of trains C & D, for a total of four trains. Each train has one CCW pump and CCW heat exchanger. Each subsystem is served by one CCW surge tank.	9.2.2.1.1 9.2.2.2
- The CCWS is designed to withstand leakage in one train without loss of the system's safety function.	9.2.2.1.1
- Two motor operated valves are located at the CCW outlet of the RCP thermal barrier Hx and close automatically upon a high flow rate signal at the outlet of this line in the event of in-leakage from the RCS through the thermal barrier Hx, and prevents this in-leakage from further contaminating the CCWS.	9.2.2.2.1.5
- During normal operation, heat loads of the CCWS are RCP, charging pump, letdown heat exchanger, instrument air, spent fuel pool cooling heat exchanger, etc.	9.2.2.1.2.1
- Normally open header tie line isolation valves, which are motor-operated valves, is automatically closed upon detection of ECCS actuation signal and under voltage signal or containment spray signal to separate each subsystem into two independent trains.	9.2.2.2.1.5
- CS/RHR heat exchanger outlet valves, which are motor-operated valves, are normally closed and automatically are opened by ECCS actuation signal.	9.2.2.2.1.5
- During normal operation, at least one train in each subsystem is operable. Total of two CCWP and two CCW heat exchangers are in operation. During accident, all CCWPs are automatically actuated by ECCS actuation signals.	9.2.2.2.2.1 9.2.2.2.2.4
- During a severe accident event, it is assumed that the containment fan cooler unit fans are non-operable and that the non-essential chilled water system is unavailable. Valves are provided to manually align the CCW to the containment fan cooler unit cooling coils. This supplies CCW to the cooling coils in the containment fan cooler unit for long term containment cooling.	9.4.6.2.1 19.2.5 13.5.2
- In the case of loss of CCW, a non-essential chilled water system or a fire system is able to connect to the CCWS in order to cool the charging pump and maintain RCP seal water injection.	19.2.5 13.5.2

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Table 19.1-119R Key Insights and Assumptions (Sheet 14 of 46)

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Key Insights and Assumptions	Dispositions
13. Essential Service water system	
- The ESWS is arranged into four independent trains (A, B, C, and D). Each train consists of one ESWP, two 100% strainers in the pump discharge line, one 100% strainer upstream of the CCW HX, one CCW HX, one essential chiller unit, and associated piping, valves, instrumentation and controls.	9.2.1 9.2.1.2.1 9.2.1.2.3.1 13.5.2
- In the case where ESW pump motors are air-cooled, backup actions can avoid excessive room heat up in the event of loss of ESW pump room ventilation. Operational procedures to avoid excessive room heat up will be prepared.	13.5.2
- During normal operation, two trains are operating and at least one other train is on standby.	9.2.1.2.3.1
- The motor-operated valve provided at the discharge of each ESW pump actuates in conjunction with the pump operation. The discharge valves are opened after the ESW pump start.	9.2.1.2.2.6
- During normal operation, two ESW trains are operating and at least one train is on standby.	9.2.1.2.3.1
- The motor-operated valve is provided at the ESWP discharge of each pump. While the ESW pump is running, the valve remains open. The valve position is monitored in the control room.	9.2.1.2.2.6 9.2.1.2.3.1
- All valves except the pump discharge valves in the flow path are locked open.	9.2.1.2.3.1
- When one ESW train is unavailable due to failure of the discharge line valve to open, operators start the standby ESWP, monitoring pump discharge pressure.	9.2.1.2.3.1 19.2.5 13.5.2

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Table 19.1-119R Key Insights and Assumptions (Sheet 15 of 46)

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Key Insights and Assumptions	Dispositions
14. Onsite Electric Power System	
- The onsite Class 1E electric power systems comprise four independent and redundant trains, each with its own power supply, buses, transformers, and associated controls.	8.3.1.1 8.3.1.1.2.1 8.3.1.1.3
- One independent Class 1E GTG is provided for each Class 1E train.	8.3.1.1.2.1
- Non-Class 1E 6.9kV permanent buses P1 and P2 are also connected to the non-Class 1E A-AAC GTG and B-AAC GTG, respectively. The loads which are not safety-related but require operation during LOOP are connected to these buses.	8.3.1.1.1
- In the event of SBO, power to one Class 1E 6.9kV bus can be restored manually from the AAC GTG.	8.3.1.1.1 8.3.1.1.2.2 8.3.1.1.2.3 19.2.5 13.5.2 8.3.1.1.1 8.4.1.3
- Common cause failure between class 1E GTG and non-class 1E GTG supply is minimized by design characteristics. Different rating GTGs with diverse starting system, independent and separate auxiliary and support systems are provided to minimize common cause failure.	
- The non-safety GTG can be started manually when connecting to the class 1E bus in the event of SBO.	8.4.1.3
- Power to the shutdown buses can be restored from the AAC sources within 60 minutes	8.4.1.3
- Power to the shutdown buses can be restored from the AAC sources within 60 minutes	8.4.1.3
- The GTG does not need cooling water system. Cooling of GTG is achieved by air ventilation system	8.3.1.1.3 8.3.1.1.3.10 9.5.5
- GTG combustion air intake and exhaust system for each of the four GTGs supply combustion air of reliable quality to the gas turbine and exhausts combustion products from the gas turbine to the atmosphere. The air intake also provides ventilation/cooling air to the GTG assembly.	9.5.8

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Table 19.1-119R Key Insights and Assumptions (Sheet 17 of 46)

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Key Insights and Assumptions	Dispositions
16. Containment System	
- The containment prevents or limits the release of fission products to the environment.	3.1.2.7 3.8.1
- Hydrogen control system that consists of igniters is provided to limit the combustible gas concentration. The igniters start with the ECCS actuation signal and are powered by two non-class 1E buses with non-class 1E GTGs.	6.2.5.2
- Alternate containment cooling system using the containment fan cooler units is provided to prevent containment over pressure even in case of containment spray system failure.	9.4.6.2.1 19.2.5 13.5.2
- Reactor cavity flooding system by firewater injection is provided to enhance heat removal from molten core ejected into the reactor cavity. This system is available as a countermeasure against severe accidents even in case of fire.	9.5.1.2.2 19.2.5 13.5.2
- The FSS is also utilized to promote condensation of steam. The FSS is lined up to the containment spray header when the CSS is not functional, and provides water droplet from top of containment. This will temporarily depressurize containment.	9.5.1.2.2 19.2.5 13.5.2
- A set of drain lines from SG compartment to the reactor cavity is provided in order to achieve reactor cavity flooding. Spray water which flows into the SG compartment drains to the cavity and cools down the molten core after reactor vessel breach.	3.4.1.5.1
- Reactor cavity has a core debris trap area to prevent entrainment of the molten core to the upper part of the containment.	3.8.1 19.2.3.3.4
- Reactor cavity is designed to ensure thinly spreading debris by providing sufficient floor area and appropriate depth.	3.8.1 19.2.3.3.3
- Reactor cavity floor concrete is provided to protect against challenge to liner plate melt through.	3.8.1 19.2.3.3.3
- Main penetrations through containment vessel are isolated automatically with the containment penetration signal even in case of SBO.	6.2.4

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Table 19.1-119R Key Insights and Assumptions (Sheet 19 of 46)

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Key Insights and Assumptions	Dispositions
18. Main equipments and instrumentations used for severe accident mitigation are designed to perform their function in the environmental conditions such as containment overpressure and temperature rise following hydrogen combustion.	19.2.3.3.7
19. Instrumentations for detecting core damage with high reliability are provided.	5.3.3.1
20. Risk significant SSCs are identified for the RAP.	17.4
21. Instrumentation piping are installed at upside of the RV. No penetrations through the RV are located below the top of the reactor core. This minimizes the potential for a loss of coolant accident by leakage from the reactor vessel, allowing the reactor core to be uncovered.	5.3.3.1
22. Check valves in accumulator, high head injection system, and other systems are in diverse configuration because: - The accumulator does not have any pumps to drive upon a failed closed check valve but other systems have pumps so the forces acting on the valves to open them (even if the valves are similar) are different - The duty cycles in the systems are different. They are cycled at different times when the systems are tested. - Maintenance practices including testing may also be different. Common cause failure between the check valves in accumulator and HHIS is therefore not model in the PRA.	19.1.4.1 Table 19.1-38
23. Surveillance test interval and refueling outages are consistent with Technical Specifications.	Chapter 16
24. The availability and reliability of all trains of safety related systems will be controlled by the maintenance and configuration risk management programs. Availability goals will be set for each train of all safety related systems and their availability will be tracked and compared to these goals.	17.6

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Table 19.1-119R Key Insights and Assumptions (Sheet 20 of 46)

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Key Insights and Assumptions	Dispositions
Operator actions (At Power)	
1. Operator actions modeled in the PRA are based on symptom oriented procedures. Risk significant operator actions identified in the PRA will be addressed in plant operating procedures including abnormal operating procedure (AOP), emergency operating procedure (EOP), etc.	19.2.5 13.5.2
2. In the operational VDU of US-APWR, the layout of controllers & monitoring alignment in each window are different and this feature would make the operator perceive them as different locations.	18.4 19.2.5 13.5.2
3. In the case of loss of CCW, operators connect a non-essential chilled water system or a fire protection water supply system to the CCWS in order to cool the charging pump and maintain RCP seal water injection. This operator action is risk important. Activities to minimizes the likelihood of human error in the human factors engineering is important in developing procedures, training and other human reliability related programs.	18.6 19.1.4 19.2.5 13.5.2
4. When station blackout occurs, operators connect the alternate ac power to class 1E bus in order to recovery emergency ac power. This operator action is risk important. Activities to minimizes the likelihood of human error in the human factors engineering is important in developing procedures, training and other human reliability related programs.	18.6 19.2.5 13.5.2
5. If emergency feed water pumps cannot feed water to two intact SGs, operators will attempt to open the cross tie-line of EFW pump discharge line in order to feed water to two more than SGs by one pump.	19.2.5 13.5.2

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Key Insights and Assumptions	Dispositions
6. The CS/RHR System has the function to inject the water from RWSP into the cold leg piping by switching over the CS/RHR pump lines to the cold leg piping if all safety injection systems failed (Alternate core cooling operation). In high RCS pressure sequences, a fast depressurization of the RCS by using the EFW pumps to remove heat through the SGs and by manually opening the MSRVs allows alternate core cooling injection using the CS/RHR pumps. Alternate core cooling operation may be required under conditions where containment protection signal is valid. In such cases, alternate core cooling operation is prioritized over containment spray, because prevention of core damage would have higher priority than prevention of containment vessel rupture.	19.2.5 13.5.2
7. When any two EFW pumps that commonly utilize at EFW pit have failed, operators supply water to operating EFW pumps from alternate EFW pit or demineralized water storage pit in order to ensure the water source.	19.2.5 13.5.2
8. In the case of failure to isolate failed SG, but success to sufficiently depressurize RCS by secondary side cooling and Safety depressurization valve in SGTR event, operators do RCS pressure control in order to prepare to early RHR cooling in order to ensure long term heat removal. (RCS pressure control means stopping SI safety injection and starting charging pump. RCS pressure under SI injection remains higher for connecting RHR system. Charging pump is back up for failure of RHR cooling after stopping SI injection.)	19.2.5 13.5.2
9. In the case of above, if operators fail to move RHR cooling after SI injection control, operators start to bleed and feed operation. Operators open safety depressurization valve and start the safety injection pump (if standby) in order to ensure long term heat removal.	19.2.5 13.5.2
10. When the main steam isolation valve fail to close in SGTR event, with status signal of this valve, operators try to close this valve in order to stop leakage of RCS coolant from the failed SG.	19.2.5 13.5.2
11. In the case of loss of failed SG isolation function in SGTR event, with SG pressure indication after above operation, operators open main steam depressurization valve of intact SG loop in order to promote SG heat removal and to depressurize RCS and move to cool down and recirculation operation.	19.2.5 13.5.2

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Key Insights and Assumptions	Dispositions
12. In the case of loss of secondary side cooling function by emergency feedwater system in transient events including turbine trip, load loss event etc., with emergency feedwater pump flow rate, operators start to recover main feedwater system in order to maintain secondary side cooling.	19.2.5 13.5.2
13. In the case of loss of SI injection function entirely in LOCA event, with SI flow rate and RCS temperature indication, operators provide secondary side cooling to reduce RCS pressure and temperature by opening the main steam depressurization valves manually and supplying water from the emergency feedwater system in order to enable low pressure injection with containment spray system / residual heat removal system.	19.2.5 13.5.2
14. In the case of loss of containment spray system function, alternate containment cooling operation is implemented utilizing CV natural recirculation in order to remove heat from CV. This preparation contains CCW pressurization with N2 gas, disconnection heat load of non-safety chiller and CRDM etc. and connection to containment fan cooler units. This operation is implemented when the containment pressure reaches the design pressure.	19.2.5 13.5.2
15. In the case of leakage of the RWSP water from HHIS piping, CSS/RHRS piping or refueling water storage system piping, with drain sump water level – abnormally high, operators close the RWSP suction isolation valves respectively in order to prevent leakage of RWSP water from failed piping.	19.2.5 13.5.2
16. When the containment isolation signal fail to automatically actuate, with CV pressure abnormally high signal, operators manually actuate the containment isolation signal in order to remove heat from the containment vessel.	19.2.5 13.5.2
17. When the CCW header tie-line isolation valves fail to automatically close with specific signals which contain ECCS actuation signal plus under-voltage signal, containment spray signal, and surge tank level low signal, operators manually close these valves in order to separate CCW header.	19.2.5 13.5.2
18. RCS is depressurized through operating the depressurization valve after onset of core damage and before reactor vessel breach. This operation prevents events due to high pressure melt ejection.	19.2.5 13.5.2
19. Operation of firewater injection to reactor cavity is implemented to flood reactor cavity in case of containment spray system failure, after onset of core damage and before reactor vessel breach.	19.2.5 13.5.2

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Key Insights and Assumptions	Dispositions
20. When the running charging pump is unavailable, operators start the standby charging pump.	19.2.5 13.5.2
21. Operators manually start SI pumps by DAS by detection of DAS alarm in the software CCF for recovery of the automatic injection using SI pump.	19.2.5 13.5.2
22. Operators manually open SDVs by DAS by detection of DAS alarm in the software CCF for RCS depressurization.	19.2.5 13.5.2
23. When reactor trip fails (i.e., ATWS event), operators initiate boric acid transfer to maintain the adequate boron concentration in the RCS using CVCS. This operator action is risk important. Activities to minimizes the likelihood of human error in the human factors engineering is important in developing procedures, training and other human reliability related programs.	18.6 19.2.5 13.5.2
24. When containment pressure is abnormally high due to failure of automatic containment spray actuation, operators manually actuate containment spray by opening containment spray isolation valve and CS/RHR heat exchanger cooling line valves and starting CS/RHR pumps.	19.2.5 13.5.2
25. When incoming breakers fail to automatically open in the loss of offsite power case, operators manually open the breakers to isolate Class 1E 6.9kV ac switchgears from the faulted offsite power.	19.2.5 13.5.2
26. After onset of core damage prior to reactor vessel breach, operators open the depressurization valves for RCS depressurization in order to prevent the breach caused by high pressure meld ejection.	19.2.5 13.5.2
27. Operation of fire injection to reactor cavity is implemented to flood reactor cavity in case of containment spray system failure, after onset of core damage and before reactor vessel breach.	19.2.5 13.5.2
28. Operators calibrate the EFW pit water level sensor, which is applied to changeover water source of EFW pump or to supply demineralized water to the EFW pit.	19.2.5 13.5.2
29. Operators calibrate CCW surge tank pressure sensor which is used to pressurize CCWS for alternate containment cooling.	19.2.5 13.5.2

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Key Insights and Assumptions	Dispositions
30. Operators calibrate containment pressure sensors used for ESF actuation signals (safety) and for alternate containment cooling (non-safety).	19.2.5 13.5.2
31. Action to open Unlocked motor-operated valve is performed in series through the communication between operators in electrical room and in main control room.	18.6
32. MCR crew members consists of the following team members at all times during the evolution of an accident scenario: - Reactor operator (RO) - Senior reactor operator (SR) - Shift technical advisor (STA) The RO operates the plant during normal and abnormal situations, and SRO and STA check the action of the RO. If the RO commits an error during the operation, SRO or STA would correct the circumstances. However, when there is not enough available time to take corrective action, recovery credit is not considered.	19.2.5 13.5.2
33. For operator actions at local area (action that takes place outside control room) auxiliary operators (licnsed and non-licensed) are available: - Auxiliary operator 1 - Auxiliary operator 2 Normally the auxiliary operators are stational in the MCR. If the local manipulation of equipment is required to mitigate accidents or to prevent core damage, the auxiliary operator moves to the appropriate area in the reactor building or auxiliary building, to access equipment such as manual valves. It is assumed that auxiliary operator 1 operates equipments and auxiliary operator 2 checks the actions of auxiliary operator 1. If auxiliary operator 1 commits an error during the operation, auxiliary operator 2 corrects it.	19.2.5 13.5.2
34. Misalignment of remote-operated valves (e.g. motor-operated valves, air-operated valves), pumps and gas turbine generators after test and maintenance will be fixed before initiating events occur. Remote-operated valve open/close positions and control switch positions are monitored in the main control room, so they will be detected in a short time	19.2.5 13.5.2
35. The controls and displays available in the US-APWR control room are superior to conventional control room HSIs and, therefore, human error probabilities in the US-APWR operation would be less than those in conventional plants.	19.2.5 13.5.2

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Key Insights and Assumptions	Dispositions
36. Misalignment of remote-operated valves (e.g. motor-operated valves, air-operated valves), pumps and gas turbine generators after test and maintenance will be fixed before initiating events occur. Remote-operated valve open/close positions and control switch positions are monitored in the main control room, so they will be detected in a short time.	19.1.4 19.1.5 13.5.2
37. The controls and displays available in the US-APWR control room are superior to conventional control room HSIs and, therefore, human error probabilities in the US-APWR operation would be less than those in conventional plants.	Chapter 18 19.1

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Key Insights and Assumptions	Dispositions
Operator actions (LPSD)	
1. Operator actions modeled in the PRA are based on symptom oriented procedures. Risk significant operator actions identified in the PRA will be addressed in plant operating procedures including AOP, EOP, etc.	19.2.5 13.5.2
2. Maintenance procedures indicate to check valve positions from the main control room after outages or testing. Valves that have been aligned in the wrong position will be detected and fixed to the correct position within a short period of time.	19.2.5 13.5.2
3. In the operational visual display unit (VDU) of US-APWR, the layout of controllers & monitoring alignment in each window are different and this feature would make the operator perceive them as different locations.	18.4 19.2.5 13.5.2
4. When the RCS is at atmospheric pressure, gravity injection from SFP is effective. Operator will perform the gravity injection by opening the injection flow path from SFP to RCS cold legs, and supplying water from RWSP to SFP.	19.2.5 13.5.2 5.4.7.2.3.6
5. When station blackout occurs, operators connect the alternative ac power with alternate gas turbines to class 1E bus in order to recover emergency ac power. This operator action is risk important. Activities to minimizes the likelihood of human error in the human factors engineering is important in developing procedures, training and other human reliability related programs.	18.6 19.2.5 13.5.2
6. In the case of loss of CCW/ESW, operators connect the fire suppression system to the CCWS and start the fire suppression pump in order to cool the charging pump and maintain injection to RCS. This operator action is risk important. Activities to minimizes the likelihood of human error in the human factors engineering is important in developing procedures, training and other human reliability related programs.	18.6 19.2.5 13.5.2
7. In the case of loss of decay heat removal functions by RHRS and SGs operators start the charging pump in order to recover water level in the RCS. If water level in the RWSAT, which is the water source of charging pumps, indicates low level the operator will supply RWSP water to the RWSAT by the refueling water recirculation pump. This operator action is risk important. Activities to minimizes the likelihood of human error in the human factors engineering is important in developing procedures, training and other human reliability related programs.	18.6 19.2.5 13.5.2

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Key Insights and Assumptions	Dispositions
8. In case LOCA occurs in RHR line, operator will perform isolation of the RHR hot legs suction isolation valves and stop leakage of RCS coolant from RHRS where LOCA occurs.	19.2.5 13.5.2
9. In case the RCS water level decreases during mid-loop operation and the failure of automatic isolation valve occurs, operator will perform the manual isolation of low-pressure letdown line.	19.2.5 13.5.2
10. When over-draining occurs and the automatic isolation valve fails, with RCS water level – low, operators close the valve on the letdown line in order to stop draining.	19.2.5 13.5.2
11. In the case of loss of decay heat removal functions by RHRS and SGs, operators start the safety injection pump in order to maintain RCS water level. This operator action is risk important. Activities to minimizes the likelihood of human error in the human factors engineering is important in developing procedures, training and other human reliability related programs.	18.6 19.2.5 13.5.2
12. In the case of failure of running RHRS, with RHR flow rate – low, operators open the valves on the standby RHR suction line and discharge line and start the standby RHR pump in order to maintain RHR operating.	19.2.5 13.5.2
13. In the case of leakage of the RWSP water from HHIS piping, CSS/RHR piping or refueling water storage system piping, with drain sump water level – abnormally high, operators close the RWSP suction isolation valves respectively in order to prevent leakage of RWSP water from failed piping.	19.2.5 13.5.2
14. In the case of failure of running CCWS, with CCW flow rate – low, operators start the standby CCW pump in order to maintain CCWS operating.	19.2.5 13.5.2
15. In the case of failure of running ESWS, with CCW flow rate – low, operators start the standby ESW pump in order to maintain ESWS operating.	19.2.5 13.5.2
16. When ESW strainer plugs up, with ESW pump pressure – normal, ESW flow rate – low and differential pressure – significant, operators switch from plugged strainer to standby strainer in order to maintain ESWS operating.	19.2.5 13.5.2
17. In the case of loss of decay heat removal functions from RHR, with RCS temperature – high or RCS water level – low, operators feed water to SGs by motor-driven EFW pump, open MSDVs and close pressurizer spray vent valve (if open) in order to remove decay heat from RCS.	19.2.5 13.5.2

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Key Insights and Assumptions	Dispositions
18. In the case of failure of feed or steam line associated with available motor-driven EFW pump during secondary side cooling, operators open the EFW tie-line valves in order to feed water to multiple SGs.	19.2.5 13.5.2
19. When incoming breakers fail to automatically open in the loss of offsite power case, operators manually open the breakers to isolate Class 1E 6.9kV ac switchgears from the faulted offsite power	19.2.5 13.5.2
20. When running CS/RHR pumps are tripped due to loss of offsite power, operators restart the CS/RHR pumps to maintain the RHR operation.	19.2.5 13.5.2
21. Operators manually start charging pump and safety injection pump as a local action when the software CCF occurs.	19.2.5 13.5.2
22. Action to open Unlocked motor-operated valve is performed in series through the communication between operators in electrical room and in main control room.	18.6
23. In the event of decreasing RCS water level, operator actions to trip the CS/RHR pumps before cavitation and to restart the pumps after water level is restored will improve the reliability of RHR recovery. This operator action is important to reduce risk during shutdown.	5.4.7.2.3.6 13.5.2
24. In the event of decreasing RCS water level, operators trip CS/RHR pumps before pump cavitation occurrence. After recover the water level, operators restart the pump. The action to restart the pump has high reliability, which reduces the risk during shutdown operation.	5.4.7.2.3.6 13.5.2
25. MCR crew members consists of the following team members at all times during the evolution of an accident scenario: - Reactor operator (RO) - Senior reactor operator (SR) - Shift technical advisor (STA) The RO operates the plant during normal and abnormal situations, and SRO and STA check the action of the RO. If the RO commits an error during the operation, SRO or STA would correct the circumstances. However, when there is not enough available time to take corrective action, recovery credit is not considered.	19.2.5 13.5.2

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Key Insights and Assumptions	Dispositions
26. For operator actions at local area (action that takes place outside control room) auxiliary operators (licnsed and non-licensed) are available: - Auxiliary operator 1 - Auxiliary operator 2 Normally the auxiliary operators are stational in the MCR. If the local manipulation of equipment is required to mitigate accidents or to prevent core damage, the auxiliary operator moves to the appropriate area in the reactor building or auxiliary building, to access equipment such as manual valves. It is assumed that auxiliary operator 1 operates equipments and auxiliary operator 2 checks the actions of auxiliary operator 1. If auxiliary operator 1 commits an error during the operation, auxiliary operator 2 corrects it.	19.2.5 13.5.2
27. Misalignment of remote-operated valves (e.g. motor-operated valves, air-operated valves), pumps and gas turbine generators after test and maintenance will be fixed before initiating events occur. Remote-operated valve open/close positions and control switch positions are monitored in the main control room, so they will be detected in a short time.	19.1.6 13.5.2
28. The controls and displays available in the US-APWR control room are superior to conventional control room HSIs and, therefore, human error probabilities in the US-APWR operation would be less than those in conventional plants.	Chapter 18 19.1

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Key Insights and Assumptions	Dispositions
Operator actions (Severe Accidents)	
1. Operators manually initiate severe accident mitigation systems in accordance with the instructions from the technical support centre staff.	13.5.2
2. In the loss of support system sequences, operators will attempt to recover CCW/ESW or ac power while suppressing containment overpressure with firewater injection into spray header.	13.5.2

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Table 19.1-119R Key Insights and Assumptions (Sheet 31 of 46)

Key Insights and Assumptions	Dispositions
LPSD assumptions	
1. Freeze plug may not be used for US-APWR because the isolation valves are installed considering maintenance and CCWS has been separated individual trains. Therefore, the freeze plug failure is excluded from the potential initiator.	13.5.2
2. Hydrogen peroxide addition is adopted instead of aeration because it decreases the duration of the mid-loop operation: hydrogen peroxide addition operation does not require mid-loop duration. As a result of adopting hydrogen peroxide addition which is done at a higher SG nozzle level, the mid-loop operation is needed only to drain the SG primary side water while, thus reducing overall duration mid-loop operation.	5.4.7.2.3.6
3. Redundant narrow range water level instrument and a mid-range water level instrument are provided to measure mid-loop water level. Installation of a redundant water narrow level instrument enhances reliability of the mid-loop operation. A temporary mid-loop water level sensor that measures the RCS water level with reference to pressure at the reactor vessel head vent line and cross over leg is installed in addition to these permanent water level sensors to cope with surge line flooding events.	5.4.7.2.3.6 Figure 5.1-2
4. When the RCS is mid-loop operation with the closed state, the reflux cooling with the SGs is effective.	19.1.6 19.2.5 13.5.2
5. Various equipments will be possible temporary in the containment during LPSD operation for maintenance. However, there are few possibilities that these materials fall into the sump because the debris interceptor is installed on the sump of US-APWR. Therefore, potential plugging of the suction strainers due to debris is excluded from the PRA modeling.	6.2.2

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Key Insights and Assumptions	Dispositions
6. Low-pressure letdown line isolation valves are installed. One normally closed air-operated valve is installed in each of two low-pressure letdown lines that are connected to two of four RHR trains. During normal plant cooldown operation, these valves are opened to divert part of the normal RCS flow to the CVCS for purification and the RCS inventory control. These valves are automatically closed and the CVCS is isolated from the RHRS by the RCS loop low-level signal to prevent loss of RCS inventory at mid-loop operation during plant shutdown. There are no features that automate the response to loss of RHR.	5.4.7.2.2.3 5.4.7.2.3.6 7.6.1.7 19.2.5 13.5.2 TS 3.4.8 TS 3.9.6
7. The time when loss of RHR occur were set to be 12 hours after plant trip, which is the time POS 4 (mid-loop operation) is entered after plant trip, since this condition gives the most severe condition for mid-loop operation from a decay heat perspective. The pressurizer spray-line vent line with 3/4 inch diameter is assumed to be open at the initial condition. One hour after loss of RHR function, the operator is assumed to perform the following actions: - Close pressurizer spray line vent, - Start emergency feed water (EFW) pump, and - Open main steam depressurization valve.	19.2.5 13.5.2
8. Nitrogen will not be injected in the SG tubes to speed draining in the US-APWR design. The SG tubes will be filled with air during midloop operation.	19.2.5 13.5.2
9. Operator actions assumed in the PRA will be considered in the shutdown response guideline, which will be developed satisfying NUMRAC 91-06 and following other recent guidelines such as INPO 06-008.	19.2.5 13.5.2
10. Cleanliness, housekeeping and foreign material exclusion areas are administrative controls and programs to be developed by any applicant referencing the certified US-APWR design for construction and operation	6.2 Table 6.2.2-2 19.2.5 13.5.2
11. The reactivity insertion event due to boron dilution has been judged to be insignificant to risk because of the following factors: - Strict administrative controls are in place to prevent boron dilution - Boron dilution events are highly recoverable - The CVCS design inherently limits te maximum boron duration rate. - The consequences of re-criticality are minor unless they continue for very long.	15.4.6.2 19.2.5 13.5.2

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Key Insights and Assumptions	Dispositions
12. Administrative controls ensure the RCS water level, temperature and pressure indication are available during shutdown.	19.2.5 13.5.2
13. Maintenance rule process is implemented to evaluate the risk of configurations being entered during shutdown. These practices assure that removing a number of related systems from service at the same time is carefully considered and virtually never done when the conditional risk impacts are high.	17.6
14. The SG nozzle dam installation level for the US-APWR is higher than in most conventional operating plants. The installation and removal of SG nozzle dams are done when the RCS water level is above the top of the main coolant piping (MCP).	5.4.7.2.3.6
15. The de-tensioning and tensioning of RV head stud bolts are performed at an RCS water level between the flange and the top of the MCP.	5.4.7.2.3.6
16. The installation and removal of the in-core instrumentation system (ICIS) is not done at mid-loop operation but is done when the RCS water level is above the top of the MCP.	5.4.7.2.3.6
17. Loss of SFP cooling is also progress the phenomena and has sufficient time to recovery because of large coolant inventory in the pool.	

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Key Insights and Assumptions	Dispositions
18. Surge line flooding may occur if decay heat removal function is lost during plant operating states where the pressurizer manway is the only vapor release pass from the RCS. Water held up in the pressurizer can erroneous readings of water level indicators measured with reference to the pressurizer. This phenomenon can also prevent gravity injection from the SFP. Measures to prevent accident evolution caused by surge line flooding are important. Adoption of both measures listed below can reduce risk from surge line flooding event. - Installation of an temporary RCP water level sensor that measure the MCP water level with reference to pressure at the reactor vessel head vent line and cross over leg when the RCS is vented at a high elevation. - Operational procedures to perform continuous RCS injections when loss of RHR occurs under conditions where the pressurizer manway is the only vapor release pass from the RCS. The temporary water level will satisfy the following specifications. - Water level can be read outside the containment vessel (CV) in order to be effective during events which involve harsh environment in the CV - Tygon tubing monometer will not be used - Instrumentation piping diameter will be sufficient enough to prevent delay in response	5.4.7.2.3.6 19.2.5 13.5.2
19. Two types of instruments are provided in US-APWR design to measure the temperature representative of the core exit whenever the reactor vessel head is located on top of the reactor vessel. The first one is core exit thermocouples located inside the RV. The second is resistance temperature detectors in the reactor coolant hot leg. These two independent instruments will be available whenever the RCS is in a mid-loop condition and the reactor vessel head is located on top of the reactor vessel.	5.4.7.2.3.6

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Key Insights and Assumptions	Dispositions
Expeditious actions outlined in GL 88-17 The following actions described as expeditious actions in Generic Letter 88-17 (Reference 19.1-54) are important to plant safety and should be implemented prior to operating in a reduced inventory condition. The expeditious actions applicable to the US-APWR design are the followings:	
1. Discuss the Diablo Canyon event, related events, lessons learned, and implications with appropriate plant personnel. Provide training shortly before entering a reduced inventory condition.	13.5.2
2. Implement procedures and administration controls that reasonably assure that containment closure will be achieved prior to the time at which a core uncover could result from a loss of decay heat removal coupled with an inability to initiate alternate cooling or addition of water to the RCS inventory. These procedures and administrative controls should be active and in use prior to entering a reduced RCS inventory condition.	13.5.2
3. Provide at least two independent, continuous temperature indications that are representative of the core exit conditions whenever the RCS is in a mid-loop condition and the reactor vessel head is located on top of the reactor vessel.	13.5.2
Two types of instruments provided in the US-APWR design to measure RV temperature are core exit thermocouples located inside the RV and the resistance temperature detectors in the reactor coolant hot leg.	7.5.1.1.3.1 7.5.1.1.3.3
4. Provide at least two independent, continuous RCS water level indications whenever the RCS is in a reduced inventory condition.	13.5.2
Two types of instruments are provided in US-APWR design to measure RCS water level are the middle range RCS water level sensor and the narrow level middle range water level sensor .	5.4.7.2.3.6
5. Implement procedures and administrative controls that generally avoid operations that deliberately or knowingly lead to perturbations to the RCS and/or to systems that are necessary to maintain the RCS in a stable and controlled condition while the RCS is in a reduced inventory condition.	13.5.2
6. Provide at least two available or operable means of adding inventory to the RCS that are in addition to pumps that are a part of the normal DHR systems.	13.5.2
Means of adding inventory to the RCS in the US-APWR design can be safety injection pumps, charging pump and gravity injection from the SFP.	6.3.2.1.1 5.4.7.2.3.6 9.3.4.2.6.1

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Key Insights and Assumptions	Dispositions
7. Implement procedures and administrative controls that reasonably assure that all hot legs are not blocked simultaneously by nozzle dams unless a vent path is provided that is large enough to prevent pressurization of the upper plenum of the RV. Pressurizer safety valves are removed to prevent the damage of SG nozzle dams caused by loss of RHR function while SG nozzle dams and reactor vessel head are placed. Removal of the pressurizer safety valves is done during the period between removal of the SG manyays and installation of the SG nozzle dams. Installation of the pressurizer safety valves is performed during a period between removal of the SG nozzle dams and installation of SG manways.	5.4.7.2.3.6 13.5.2

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Key Insights and Assumptions	Dispositions
Internal fire assumption	
1. All fire doors serving as fire barriers between redundant safety train fire compartments are normally closed.	9.5.1
2. For transient combustibles, “three Airline trash bags” has been assumed in each fire compartment.	9.5.1
3. Transient combustibles with total heat release capacity of 93,000 Btu (obtained from NUREG/CR-6850, “AppendixG-table-7LBL-Von Volkinburg, Rubbish Bag” Test results) is assumed for Fire ignition source within Containment Vessel.	9.5.1
4. The Heat Release Rate of various items as specified in Chapter-11 of NUREG/CR-6850 is used.	9.5.1
5. Damage temperature of thermoplastic cables as shown in Appendix-H of NUREG/CR-6850 is used as the target damage temperature.	9.5.1
6. Operators are well trained in responding to fire event.	9.5.1
7. One of RCS letdown isolation valves and one of RCS vent line isolation valves are locked close by administrative controls	13.5.2
8. Each yard transformer is separated by a fire barrier.	19.1.5.2.1

CP COL 19.3(6)

Table 19.1-119R Key Insights and Assumptions (Sheet 44 of 46)

CTS-01322
CTS-01233

Key Insights and Assumptions	Dispositions
Internal flood assumption	
1. Drain systems are designed to compensate with flood having flow rate below 100 gpm. Flood with flow rate below 100 gpm will not propagate to other areas due to the drain systems.	3.4.1.3
2. R/B is separated in two divisions (i.e. east area and west area). This design is prevents loss of all safety systems though postulated major floods that leak water over the capacities of flood mitigation systems. East side and west side of reactor building (R/B) are physically separated by flood propagation preventive equipment such as water tight doors. Therefore, flood propagation between east side and west side in the reactor building is not considered.	3.4.1.3 19.2.5 13.5.2
3. Watertight doors are provided for the boundaries between R/B and A/B in the bottom floor and between R/B and T/B in flood area 1F. This measure prevents flood propagation from non-safety building to R/B.	3.4.1.3
4. Flooding of ESW system can to be isolated within 15 minutes.	
5. Four trains of ESW system have physical separation and flooding in one train does not propagate to other trains.	9.2.1.2.1 13.5.2
6. The components that are environmentally qualified are considered impregnable to spraying or submerge effects. Also component failure by flooding will not result in the loss of an electrical bus.	
7. Penetrations within the boundaries between the restricted area and non-restricted area are sealed and doors or dikes are provided for openings. Therefore, flood propagation, except for major flood events is not considered.	3.4.1.3
8. The administrative controlled flood barriers that separated the reactor building between the east side and the west side are effective. The other water tight doors may be opened during maintenance.	19.2.5 13.5.2
9. The outage states of mitigation systems are important for LPSD risk. From the insight of flooding risk, one train of mitigation system on each side in R/B should be available. So that assumed the available safety injection pumps trains A and C are available during POS 8-1. B and D pumps are assumed out of service.	19.2.5 13.5.2
10. A water leak in the break room that adjoins the MCR would be isolated immediately by the operators in the MCR.	19.5.3.1

19.3 OPEN, CONFIRMATORY, AND COL ACTION ITEMS IDENTIFIED AS UNRESOLVED

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

19.3.3 Resolution of COL Action Items

Replace the content of DCD Subsection 19.3.3 with the following.

CP COL 19.3(1)

19.3(1) *Update of PRA and SA evaluation for input to RMTS and peer review* DCD_19-426

This COL item is addressed in Subsection 19.1.7.6.

19.3(2) *Deleted from the DCD.*

19.3(3) *Deleted from the DCD.*

CP COL 19.3(4)
STD COL 19.3(4)

19.3(4) *Update of PRA and SA evaluation based on site-specific information* CTS-01140

This COL item is addressed in Subsections 19.1.1.2.1, 19.1.4.1.2, 19.1.4.2.2, 19.1.5, 19.1.5.1.1, 19.1.5.2, 19.1.5.2.2, 19.1.5.3.2, 19.1.6.2, 19.1.7.1, 19.1.9, 19.2.6.1, 19.2.6.1.1, 19.2.6.2, 19.2.6.4, 19.2.6.5 and 19.2.6.6, Tables 19.1-201, 19.1-202, 19.1-203, 19.1-204, 19.1-205, 19.1-206 and 19.2-9R, and Figures 19.1-201 and 19.1-2R. CTS-01140 CTS-01322 CTS-01140

19.3(5) *Deleted from the DCD.*

~~CP~~STD COL 19.3(6)
CP COL 19.3(6)

19.3(6) *Accident management program* CTS-01140

This COL item is addressed in Subsections 19.2.5, 19.2.7 and Table 19.1-119R. CTS-01322