PMComanchePekNPEm Resource

From: Willingham, Michael
Sent: Monday, July 12, 2010 5:50 PM
To: Emch, Richard
Subject: FW: Submittal Regarding Opening Squaw Creek Reservoir
Attachments: TXNB-10051 SCR dose.pdf

FYI

From: John.Conly@luminant.com [mailto:John.Conly@luminant.com]
Sent: Monday, July 12, 2010 4:18 PM
To: diane.aitken@dom.com; rjb@nei.org; david.beshear@txu.com; Biggins, James; rbird1@luminant.com; regina.borsh@dom.com; Dennis.Buschbaum@luminant.com; russell_bywater@mnes-us.com; JCaldwell@luminant.com; Ronald.Carver@luminant.com; cp34update@certrec.com; Ciocco, Jeff; Timothy.Clouser@luminant.com; Collins, Elmo; John.Conly@luminant.com; Carolyn.Cosentino@luminant.com; brock.degeyter@energyfutureholdings.com; nancy.douglas@txu.com; Eric.Evans@luminant.com; Rafael.Flores@luminant.com; sfrantz@morganlewis.com; Goldin, Laura; Hamzehee, Hossein; mutsumi_ishida@mnes-us.com; Johnson, Michael; shinji_kawanago@mnes-us.com; kak@nei.org; nicholas_kellenberger@mnes-us.com; Allan.Koenig@luminant.com; Kramer, John; mlucas3@luminant.com; Fred.Madden@luminant.com; Matthews, David; tmatthews@morganlewis.com; Monarque, Stephen; Ashley.Monts@luminant.com; Bill.Moore@luminant.com; ComanchePeakCOL Resource; masanori_onozuka@mnes-us.com; ck_paulson@mnes-us.com; Plisco, Loren; Robert.Reible@luminant.com; jrund@morganlewis.com; jeff.simmons@energyfutureholdings.com; Singal, Balwant; nan_sirirat@mnes-us.com; Takacs, Michael; joseph_tapia@mnes-us.com; Tindell, Brian; Bruce.Turner@luminant.com; Vrahoretis, Susan; Matthew.Weeks@luminant.com; Williamson, Alicia; Willingham, Michael; Donald.Woodlan@luminant.com; diane_yeager@mnes-us.com
Cc: James.Hill2@luminant.com
Subject: Submittal Regarding Opening Squaw Creek Reservoir

Luminant has submitted the attached letter to the NRC regarding the dose consequences of opening Squaw Creek Reservoir to the public. If there are any questions about the submittal, please contact me or contact Don Woodlan (254-897-6997, Donald.Woodlan@luminant.com).

Thanks,

John Conly

Luminant
COLA Project Manager
(254) 897-5256

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Hearing Identifier: ComanchePeak_COL_NonPublic
Email Number: 1939

Mail Envelope Properties (F371D08C516DE74F81193E6D891DC4AF36C05F18E0)

Subject: FW: Submittal Regarding Opening Squaw Creek Reservoir
Sent Date: 7/12/2010 5:49:53 PM
Received Date: 7/12/2010 5:49:00 PM
From: Willingham, Michael

Created By: Michael.Willingham@nrc.gov

Recipients:
"Emch, Richard" <Richard.Emch@nrc.gov>
Tracking Status: None

Post Office: HQCLSTR02.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	2491	7/12/2010 5:49:00 PM
TXNB-10051 SCR dose.pdf	1322765	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

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CP-201000922
Log # TXNB-10051

Ref. # 10 CFR 52

July 12, 2010

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

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 3 AND 4
DOCKET NUMBERS 52-034 AND 52-035
UPDATE TRACKING REPORTS REGARDING OPENING SQUAW CREEK RESERVOIR

Dear Sir:

Luminant Generation Company LLC (Luminant) submits herein Update Tracking Report (UTR) Revision 3 for the Final Safety Analysis Report and UTR Revision 5 for the Environmental Report, which are both parts of the Combined License Application (COLA) for Comanche Peak Nuclear Power Plant Units 3 and 4. Both UTRs involve dose consequences as a result of opening Squaw Creek Reservoir to the public. Each tracking report revision list provides a summary of and a reason for each change, and addresses any differences in page numbers between COLA Revision 1 and the UTR.

Should you have any questions regarding these UTRs, please contact Don Woodlan (254-897-6887, Donald.Woodlan@luminant.com) or me. Addressees on the distribution list will receive the UTRs via e-mail rather than on CD.

There are no commitments in this letter.

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

Executed on July 12, 2010.

Sincerely,

Luminant Generation Company LLC

Rafael Flores

Rafael Flores

Attachments:
1. COL Application Part 2, Final Safety Analysis Report Revision 1, Update Tracking Report Revision 3 (on CD)
2. COL Application Part 3, Environmental Report Revision 1, Update Tracking Report Revision 5 (on CD)

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Attachment 1

COL Application Part 2, Final Safety Analysis Report Revision 1, Update Tracking Report Revision 3

July 8, 2010

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

Part 2

FSAR Revision1

Update Tracking Report

Revision 3

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

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_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

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
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 Luminant Letter no.TXNB-10048 Date 6/25/2010	Changed “operational aspect” to “operational 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.	-

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

*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 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 2.2-214	2.2-43	Response to RAI No.31 Luminant Letter No. TXNB-09054 Date 10/15//2009	Revised table to show hypochlorite and dimethylamine.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
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.	-
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	Revised graph based on updated data and removed	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			No. TXNB-09055 Date 10/19/2009	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.	-
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.	-

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

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
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.	-
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-	Added "and radionuclide releases at adjacent units."	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			09072 Date 11/18/2009		
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	-
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.	-

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

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
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 2.5.2-239 Figures 2.5.2-246 through 2.5.2-251 Figure 3.7-201	-	Response to RAI No. 11 Luminant Letter no.TXNB-09084 Date 12/14/2009	Figures were updated due to calculation revision	
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	0

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				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…"	
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; 2.2-234; and 2.2-236	0
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	-

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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	-
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	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.05.02-16 S02	2.5.2.2.1.5	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	-
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	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.05.02-16 S02	2.5.2.4.2.2.5	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-10011 Date 02/22/2010	Added sources to Law Engineering screening analysis	-
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	-

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 2.5.2-202	2.5-305	Response to RAI No.11 Supplemental. Luminant Letter No.TXNB-10011 Date 02/22/2010	Clarified that Meers fault was replaced	-
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 with DCD Rev 2.	2

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

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
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	-
RCOL2_02.03.03-11	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.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.03.03-12	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_02.03.03-13	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_02.03.05-3	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_02.03.05-4	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_02.03.04-12	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	-
RCOL2_02.03.04-10	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	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_02.03.02-04	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_02.03.02-04	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_02.03.02-04	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
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

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

*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.

Terrain recirculation factor was not considered because the meteorological data does not show any conclusive or systematic up and down or cross valley flow.

Off-site receptor locations for the CPNPP site were also evaluated (Table 2.3-336). χ/Q and/or D/Q at points of potential maximum concentration outside the site boundary, at points of maximum individual exposure, and at points within a radial grid of sixteen 22½ degree sectors (centered on true north, north-northeast, northeast, etc.) and extending to a distance of 80 km (50 mi) from the station were determined. A set of data points were located within each sector at increments of 0.4 km (0.25 mi) to a distance of 1.6 km (1 mi) from the plant, at increments of 0.8 km (0.5 mi) from a distance of 1.6 km (1 mi) to 8 km (5 mi), at increments of 4 km (2.5 mi) from a distance of 8 km (5 mi) to 16 km (10 mi), and at increments of 8 km (5 mi) thereafter to a distance of 80 km (50 mi). Estimates of χ/Q (undecayed and undepleted; depleted for radioiodines) and D/Q radioiodines and particulates is provided at each of these grid points. Receptor locations representing recreational users of Squaw Creek Reservoir (SCR) were also evaluated. The limiting SCR receptor locations are given in Table 2.3-336. CTS-01105

The results of the analysis, based on the five years of on-site data for years 2001 through 2004 and 2006, are presented in Tables 2.3-340, 2.3-341, 2.3-342, 2.3-343, 2.3-344, 2.3-345, and 2.3-346.

Annual average undecayed and undepleted dilution factors to a distance of 50 mi from the plant are shown in Table 2.3-340. The maximum value at the actual EAB is 5.5 x 10^{-6} seconds/meter^3 and occurs north-northwest of the plant at a distance of 0.37 mi. There are no higher values beyond the site boundary because for ground level releases concentrations monontonically decrease from the release point to all locations downwind. Annual values for undecayed and depleted χ/Qs are given in Table 2.3-241. Annual average undecayed and undepleted dilution and deposition factors for special off-site receptor locations, including recreational users of SCR, are given in Table 2.3-342. Values for eight day decay depleted χ/Qs are given in Table 2.3-244 D/Q values out to a distance of 50 mi are given in Table 2.3-245. CTS-01105

2.3.5.2.2 Evaporation Pond

An additional CPNPP Units 3 and 4 gaseous release source is the evaporation pond (EP). The purpose of the EP is to prevent tritium concentration in the SCR from exceeding the limit described in the existing CPNPP Off-site Dose Calculation Manual (ODCM) , Revision 26, due to tritium discharge from Units 3 and 4. The EP decreases the level of tritium discharge into the SCR by accepting liquid wastes, including tritium, from the liquid waste management system (LWMS) and evaporating the liquid wastes by natural processes. The atmospheric transport and dispersion of radioactive materials, in the form of aerosols, vapors, or gases, released from the EP are discussed below. RCOL2_02.03.05-4

The χ/Q and D/Q values for the evaporation pond are determined at points of potential maximum concentration, outside the site boundary, at points of CTS-01105

Table 2.3-336
~~Off-site~~ Receptor Locations Within Five Miles CTS-01105

CP COL 2.3(2)

Sector	Residence(1)	Garden	SCR(2)
S	5751		
SSW	4185		
SW	4185		
WSW	6132		
W	6132		
WNW	11959		517
NW	11532		517
NNW	11532		517
N	10504		517
NNE	10504		517
NE	12640		517
ENE	12675	15120	517
E	14598	15120	517
ESE	12804		517
SE	10320		
SSE	9653		

CTS-01105

~~Note:~~ CTS-01105

1. Distances, in ft, from the center point between Units 3 ~~&~~and 4 to the nearest receptor (residence, ~~or~~ garden, or recreational use of SCR) in each sector.

2. SCR refers to Squaw Creek Reservoir.

CP COL 2.3(3)

Table 2.3-348 (Sheet 14 of 15)
CPNPP Units 3 and 4 Evaporation Pond

			χ/Q and D/Q values at each receptor location			
RELEASE	DIRECTION	DIST. (MI)	χ/Q (SEC/M^3) NO DECAY, UNDEPLETED	χ/Q (SEC/M^3) 2.26 DAY DECAY, UNDEPLETED	χ/Q (SEC/M^3) 8 DAY DECAY, DEPLETED	D/Q (M^{-2})
Residence	WSW	0.31	2.20E-06	2.20E-06	2.10E-06	1.20E-08
Residence	W	0.83	5.50E-07	5.50E-07	4.90E-07	2.90E-09
Residence	WNW	0.83	9.00E-07	9.00E-07	8.00E-07	4.60E-09
Residence	NW	2.16	3.90E-07	3.90E-07	3.20E-07	2.00E-09
Residence	NNW	2.31	4.40E-07	4.30E-07	3.60E-07	2.60E-09
Residence	N	2.44	2.80E-07	2.70E-07	2.20E-07	2.00E-09
Residence	NNE	2.44	2.60E-07	2.60E-07	2.10E-07	8.20E-10
Residence	NE	2.87	1.90E-07	1.80E-07	1.50E-07	3.80E-10
Residence	ENE	2.87	1.50E-07	1.40E-07	1.20E-07	2.80E-10
Residence	E	2.91	7.60E-08	7.50E-08	6.00E-08	1.20E-10
Residence	ESE	1.86	2.00E-07	2.00E-07	1.60E-07	5.10E-10
Residence	SE	1.59	3.20E-07	3.20E-07	2.70E-07	1.20E-09
Residence	SSE	0.67	7.60E-07	7.60E-07	6.80E-07	7.30E-09
Garden	ENE	3.27	1.20E-07	1.20E-07	9.50E-08	2.20E-10
Garden	E	3.27	6.40E-08	6.30E-08	5.00E-08	1.00E-10
SCR	NNW	0.41	7.90E-06	7.90E-06	7.30E-06	4.80E-08
SCR	N	0.41	5.50E-06	5.50E-06	5.00E-06	4.20E-08
SCR	NNE	0.41	5.10E-06	5.00E-06	4.60E-06	1.70E-08
SCR	NE	0.41	4.50E-06	4.50E-06	4.10E-06	1.00E-08

CTS-01105

CP COL 2.3(3)

Table 2.3-348 (Sheet 15 of 15)
CPNPP Units 3 and 4 Evaporation Pond

			χ/Q and D/Q values at each receptor location			
RELEASE	DIRECTION	DIST. (MI)	χ/Q (SEC/M^3) NO DECAY, UNDEPLETED	χ/Q (SEC/M^3) 2.26 DAY DECAY, UNDEPLETED	χ/Q (SEC/M^3) 8 DAY DECAY, DEPLETED	D/Q (M^{-2})
SCR	ENE	0.41	3.50E-06	3.50E-06	3.20E-06	7.80E-09
SCR	E	0.41	1.90E-06	1.90E-06	1.70E-06	3.50E-09
SCR	ESE	0.41	2.50E-06	2.50E-06	2.30E-06	6.50E-09

CTS-01105

Note:

SCR refers to Squaw Creek Reservoir.

CP COL 2.3(3)

Table 2.3-350
CPNPP Units 3 and 4 Evaporation Pond Distances, in Meters, from the Center Point of the Evaporation Pond to the Nearest Receptor ~~(residence or garden)~~ in each Sector CTS-01105

Sector	Nearest Residence	Nearest Garden	SCR
S	1073		
SSW	493		
SW	493		
WSW	493		
W	1328		
WNW	1328		
NW	3472		
NNW	3723		655
N	3927		655
NNE	3927		655
NE	4621		655
ENE	4621	5265	655
E	4680	5265	655
ESE	2995		655
SE	2565		
SSE	1073		

CTS-01105

Note: CTS-01105

SCR refers to Squaw Creek Reservoir.

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 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 columns "Inservice Testing Type and Frequency and "IST 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 10/26/2009	Delete COL item 3.9(9)	-

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

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				(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-09063 Date 11/11/2009	Added "The provision in the US-APWR DCD for environmental qualification (EQ) of 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).	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_03.05.02-1	3.5.2	3.5-4	Response to RAI No. 80 Luminant Letter no.TXNB-09065 Date 11/13/2009	Changed the second paragraph to clarify the basis for externally generated 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_03.08.01-6	3.8.1.7	3.8-1 3.8-2	Response to RAI No. 106 Luminant Letter no. TXNB-09067 Date 11/13/2009	Add sentences into Subsection 3.8.1.7 to clarify the description of Prestressed Concrete	-

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

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
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-09073 Date 11/24/2009	Added description for SSI analysis in third and fifth paragraph.	-
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-09073 Date 11/24/2009	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
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 Luminant Letter no.TXNB-09073 Date 11/24/2009	Deleted description for peak clipping	-
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	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
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 Date 11/24/2009	Added description for SSI analysis	-
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	-
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.	-

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

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
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 12/10/2009	Revised to incorporate an appropriate reference to the safety-related components in Table 3.2-201 that are protected from tornado missile impacts and to clarify the statement.	-
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 Date 12/14/2009	Clarify the description for soil spring model for UHSRS	-
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	-

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

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
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	-
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 Date 12/14/2009	Clarify the combination of cross-directional contribution	-
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.	-

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

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
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.	-
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-09081 Date 12/16/2009	Added seventh paragraph to provide description that tornado missile 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"	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
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
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	Added “and” between “EQ program” and “assembles”.	-

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		
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 no.TXNB-10018 Date 3/5/2010	Replaced “The provision in the US-APWR DCD for environmental 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	-

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

*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 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_05.02.05-1	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 prolonged low-level leakage conditions.	-
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.	-

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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.	-

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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

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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.	-

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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.	-
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).	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
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.	-
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	Replaced the last bullet of Subsection 9.2.5.1 with a bullet to explain that the UHS components and	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			Dated 12/16/2009	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.	-
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.	-

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	9.2-12	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…"	-
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	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				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. 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_09.02.05-04	-
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,	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				algae and grass into the makeup water.	
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	Revised the bullet to add description that the performance of the UHS is based on 30 years of site specific wet bulb	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			Dated 12/16/2009	temperature conditions.	
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.	-
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.	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
RCOL2_09.04.05-07	9.4.5.2.6	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.	-
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.	-

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

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
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 Letter no. TXNB-10007 Date 2/19/2010	Revised Subsection to add more detail regarding combustibles control program.	-
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	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				2” will be removed	
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

*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 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

*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.	-
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. "	-

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

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

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

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

*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 11.3(6) Replace the fifth and sixth paragraph in DCD Subsection 11.3.3.1 with the following.

The site-specific long-term annual average atmospheric dispersion factors (χ/Q) ~~are~~ given in Tables 2.3-340 through 2.3-346 are bounded by the value given in DCD Table 2.0-1 (1.6E-05 s/m^3). These values are calculated by methods presented in RG1.111. Therefore, ~~also~~ the radioactive concentrations at the exclusion area boundary (EAB) are bounded by the values given in DCD Tables 11.3-5 through 11.3-7. The maximum individual doses are calculated using the GASPAR II Code (Reference 11.3-17) which implements the ~~exposure~~ methodology described in RG 1.109. The site-specific parameters for the GASPAR II Code calculation are tabulated in Table 11.3-8R. Calculated doses are tabulated in Table 11.3-9R. The gamma dose in air is ~~5.77E-03~~8.42E-02 mrad/yr and the beta dose in air is ~~4.46E-02~~6.50E-01 mrad/yr, which are less than the criteria of 10 mrad/yr and 20 mrad/yr, respectively, ~~that are required~~ in 10 CFR 50, Appendix I. ~~All of the dose~~The doses to the total body, the ~~dose to~~ skin, and the ~~dose to~~maximum organ are less than the criteria in 10 CFR 50, Appendix I: ~~3.69E-03~~5.38E-02 mrem/yr ~~for~~ (5 mrem/yr Appendix I limit), ~~3.45E-02~~5.03E-01 mrem/yr ~~for~~ (15 mrem/yr Appendix I limit), and ~~1.40E+00~~1.46E+00 mrem/yr [child's bone] ~~for~~ (15 mrem/yr Appendix I limit), respectively. The compliance with 10 CFR 20.1302 is also demonstrated. The doses to the maximally exposed individual at Squaw Creek Reservoir due to normal effluent releases from the plant vent and the evaporation pond are also calculated. These doses are calculated at the point of maximum exposure at Squaw Creek Reservoir, which occurs at a distance of 0.10 miles NNW of Units 3 & 4 for plant vent releases and at a distance of 0.41 miles NNW of the evaporation pond for evaporation pond releases. The doses to the maximally exposed individual at SCR were calculated based on a person occupying the worst-case location for 134 hours per year. The number of hours was conservatively assumed to be twice the number of hours of shoreline exposure for the maximum age group from Table E-5 of RG 1.109. The doses to an individual at SCR were conservatively included in the maximum individual doses even though SCR is a restricted area per the definition provided in 10 CFR 20.1003 because CPNPP has control of access to the reservoir and has restricted public access in the past. Doses to the maximum individual using SCR are given in Table 11.3-206. CTS-01105 CTS-01105 CTS-01105 CTS-01105

The population doses within ~~the~~ 50~~mi~~ miles are calculated using the GASPAR II Code (Reference 11.3-17). The GASPAR II Code input parameters for the population dose are tabulated in Table 11.3-8R and Table 11.3-201. ~~Calculated doses~~The calculated doses due to plant vent releases are ~~1.58~~2.71 person-rem (Total body) and ~~1.98~~3.25 person-rem (Thyroid). CTS-01105

Additionally, the dose from the evaporation pond is also calculated using the GASPAR II Code (Reference 11.3-17). ~~The h~~Half of the liquid effluent is assumed to be diverted into the evaporation pond. Conservatively, all of the radioactive nuclides in the evaporation pond are assumed to be discharged to atmosphere as CTS-01105

aerosol ~~and~~or vapor. The annual release rates from the evaporation pond to atmosphere are listed in Table 11.3-202, and parameters for the GASPAR II Code calculation are listed in Table 11.3-203. Liquid effluents contain no noble gases. Therefore, noble gases are not presented in the evaporation pond. Calculated individual doses are listed in Table 11.3-204. ~~t~~The maximum organ dose is 2.37E+00 mrem/yr (Adult's GI-Tract). ~~And~~The population doses, including recreational use of SCR, are ~~1.01~~1.05 person-rem (Total body) and ~~0.995~~1.04 person-rem (Thyroid). Moreover, the total of individual doses from the vent stack and the evaporation pond are listed in Table 11.3-205. ~~t~~The maximum organ dose is ~~2.48E+00~~2.55E+00 mrem/yr (Adult's GI-Tract). ~~And the total of population doses~~The total population doses resulting from normal plant and evaporation pond releases are ~~2.59~~3.77 person-rem (Total body) and ~~2.97~~4.29 person-rem (Thyroid). The results are well below the dose criteria in 10 CFR 50 Appendix I. According to NUREG-0543 (Reference 11.3-201), there is reasonable assurance that sites with up to four operating reactors that have releases within Appendix I design objective values are also in conformance with the EPA Uranium Fuel Cycle Standard, 40 CFR 190. Once the proposed CPNPP Units 3 and 4 are constructed, the Comanche Peak site will consist of four operating reactors. CTS-01105 CTS-01105

11.3.7 Combined License Information

Replace the content of DCD Subsection 11.3.7 with the following.

11.3(1) *Deleted from the DCD.*

11.3(2) *Deleted from the DCD.*

CP COL 11.3(3) ***11.3(3)*** *Onsite vent stack design parameters*

This COL item is addressed in Subsection 11.3.2.

11.3(4) *Deleted from the DCD.*

11.3(5) *Deleted from the DCD.*

CP COL 11.3(6) ***11.3(6)*** *Site-specific dose calculation*

This COL item is addressed in Subsection 11.3.3.1, Table 11.3-8R, Table 11.3-9R, Table 11.3-201, Table 11.3-202, Table 11.3-203, Table 11.3-204 and Table 11.2-205.

11.3(7) *Deleted from the DCD.*

CP COL 11.3(8) ***11.3(8)****Site-specific cost-benefit analysis*

This COL item is addressed in Subsection 11.3.1.5.

STD COL 11.3(9) ***11.3(9)*** *Piping and instrumentation diagrams*

This COL item is addressed in Subsection 11.3.2 and Figure 11.3-201.

CP COL 11.3(6)

Table 11.3-8R

Input Parameters for the GASPAR II Code (Sheet 1 of 2)

Parameter	Value	
χ/Q (s/m^3)		
For maximum individual dose calculation		
No Decay, Undepleted	4.40E-07	
2.2~~8~~6 Day Decay, Undepleted	4.40E-07	CTS-01105
Day Decay, Depleted	3.90E-07	
For population dose calculation	Section 2.3	
D/Q ($1/m^2$)		
For maximum individual dose calculation	4.50E-09	
For population dose calculation	Section 2.3	
Distance to Residence (mi)	0.79	
Midpoint of plant life (s)	9.46E+08 (30yr)	CTS-01105
Fraction of the year that leafy vegetables are grown.	1.0	
Fraction of the year that milk cows are on pasture.	1.0	
Fraction of milk-cow feed intake that is from pasture while on pasture.	1.0	
Fraction of the year that goats are on pasture.	1.0	
Fraction of goat feed intake that is from pasture while on pasture.	1.0	
Fraction of the maximum individual's vegetable intake that is from his own garden.	0.76	
Average absolute humidity over the growing season (g/m^3).	8.0	CTS-01105
Fraction of the year that beef cattle are on pasture.	1.0	
Fraction of beef-cattle feed intake that is from pasture while the cattle are on pasture	1.0	
Animal considered for milk pathway	Cow and Goat	
Annual milk production for each distance and direction within 50 miles (~~L~~l)	9.08E+08	CTS-01105
Annual meat production for each distance and direction within 50 miles (kg)	4.25E+07	CTS-01105
Annual vegetable production for each distance and direction within 50 miles (kg)	4.81E+08	
Population Distribution	Table 11.3-201	
Source term	DCD Table 11.3-5 (Sheet 1 to 3)	

CP COL 11.3(6)

Table 11.3-8R

Input Parameters for the GASPAR II Code (Sheet 2 of 2)

Parameter	Value
Other parameters	RG 1.109(1)
SCR χ/Q and D/Q values for plant vent release	
No decay, undepleted	6.0×10^{-5} s/m^3
2.26 day decay, undepleted	6.0×10^{-5} s/m^3
8.00 day decay, depleted	5.6×10^{-5} s/m^3
D/Q for maximum individual dose calculation	3.9×10^{-7} m^{-2}

Note:

1. The dose conversion factors from GASPAR II are used instead of those found in RG 1.109 because they have been updated to reflect more current information. NUREG/CR-4653 provides further information on the dose factors used by GASPAR II.

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Table 11.3-9R

Calculated Doses from Gaseous Effluents (Sheets 1 of 2)

Type of Dose	Dose (1)
Gamma dose in air (mrad/yr)	~~5.77E-03~~8.42E-02
Beta dose in air (mrad/yr)	~~4.46E-02~~6.50E-01
Dose to total body (mrem/yr)	~~3.69E-03~~5.38E-02
Dose to skin (mrem/yr)	~~3.45E-02~~5.03E-01

Note:

1. Dose due to noble gases ~~that include Ar-41~~, including Ar-41.

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Table 11.3-9R

Calculated Doses from Gaseous Effluents (Sheets 2 of 2)

Doses from Vent Stack Only CTS-01105

Pathway	Dose to each organ (1) (mrem/yr)					
	GI-Tract	Bone	Liver	Kidney	Thyroid	Lung
Ground	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~ 1.01E-01
Vegetable						
Adult	3.44E-02	2.50E-01	3.09E-02	2.48E-02	5.70E-02	2.27E-02
Teen	4.75E-02	3.62E-01	4.76E-02	3.83E-02	7.71E-02	3.53E-02
Child	8.77E-02	7.99E-01	1.01E-01	8.53E-02	1.59E-01	8.04E-02
Meat						
Adult	1.42E-02	3.70E-02	8.36E-03	7.68E-03	8.79E-03	7.42E-03
Teen	9.96E-03	3.09E-02	6.90E-03	6.35E-03	7.13E-03	6.16E-03
Child	1.33E-02	5.77E-02	1.23E-02	1.16E-02	1.28E-02	1.13E-02
Cow Milk						
Adult	9.72E-03	5.06E-02	1.65E-02	1.14E-02	5.40E-02	9.43E-03
Teen	1.66E-02	9.04E-02	2.91E-02	2.02E-02	8.75E-02	1.69E-02
Child	3.72E-02	2.17E-01	5.95E-02	4.42E-02	1.82E-01	3.87E-02
Infant	7.52E-02	3.96E-01	1.19E-01	8.71E-02	4.28E-01	7.89E-02
Goat Milk						
Adult	1.09E-02	6.92E-02	3.33E-02	1.78E-02	6.42E-02	1.23E-02
Teen	1.83E-02	1.21E-01	5.78E-02	3.07E-02	1.03E-01	2.19E-02
Child	3.97E-02	2.86E-01	1.07E-01	6.13E-02	2.13E-01	4.63E-02
Infant	7.90E-02	4.95E-01	2.09E-01	1.14E-01	5.03E-01	9.18E-02
Inhalation						
Adult	~~1.91E-03~~ 5.89E-03	~~4.80E-04~~ 1.53E-03	~~1.87E-03~~ 5.79E-03	~~1.85E-03~~ 5.70E-03	~~4.27E-03~~ 1.33E-02	~~2.98E-03~~ 9.33E-03
Teen	~~1.92E-03~~ 5.93E-03	~~5.67E-04~~ 1.81E-03	~~1.91E-03~~ 5.90E-03	~~1.88E-03~~ 5.81E-03	~~5.09E-03~~ 1.59E-02	~~3.59E-03~~ 1.13E-02
Child	~~1.65E-03~~ 5.09E-03	~~6.72E-04~~ 2.15E-03	~~1.70E-03~~ 5.25E-03	~~1.66E-03~~ 5.13E-03	~~5.74E-03~~ 1.79E-02	~~3.08E-03~~ 9.67E-03
Infant	~~9.38E-04~~ 2.90E-03	~~2.97E-04~~ 9.47E-04	~~9.92E-04~~ 3.07E-03	~~9.60E-04~~ 2.96E-03	~~4.74E-03~~ 1.48E-02	~~1.95E-03~~ 6.13E-03
Total(2)						
Adult	~~1.15E-01~~ 1.76E-01	~~4.51E-01~~ 5.10E-01	~~1.34E-01~~ 1.96E-01	~~1.07E-01~~ 1.69E-01	~~2.32E-01~~ 2.98E-01	~~9.83E-02~~ 1.62E-01
Teen	~~1.38E-01~~ 1.99E-01	~~6.48E-01~~ 7.07E-01	~~1.87E-01~~ 2.48E-01	~~1.41E-01~~ 2.03E-01	~~3.23E-01~~ 3.92E-01	~~1.27E-01~~ 1.93E-01
Child	~~2.23E-01~~ 2.84E-01	~~1.40E+00~~ 1.46E+00	~~3.25E-01~~ 3.86E-01	~~2.48E-01~~ 3.09E-01	~~6.16E-01~~ 6.86E-01	~~2.23E-01~~ 2.88E-01
Infant	~~1.99E-01~~ 2.58E-01	~~9.35E-01~~ 9.93E-01	~~3.72E-01~~ 4.32E-01	~~2.46E-01~~ 3.05E-01	~~9.79E-01~~ 1.05E+00	~~2.16E-01~~ 2.78E-01

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Table 11.3-203

Input Parameters for Dose Calculation from Evaporation Pond (Sheet 1 of 2)

Parameter	Value	
χ/Q (s/m^3)		
For maximum individual dose calculation		
No Decay, Undepleted	3.10E-06	
2.2~~8~~6 Day Decay, Undepleted	3.10E-06	CTS-01105
8 Day Decay, Depleted	2.90E-06	
For population dose calculation	Section 2.3	
D/Q (1/m^2)		
For maximum individual dose calculation	2.10E-08	
For population dose calculation	Section 2.3	
Distance to Residence (mi)	0.31	
Midpoint of plant life (s)	9.46E+08(30yr)	
Fraction of the year that leafy vegetables are grown.	1.0	
Fraction of the year that milk cows are on pasture.	1.0	
Fraction of milk-cow feed intake that is from pasture while on pasture.	1.0	
Fraction of the year that goats are on pasture.	1.0	
Fraction of goat feed intake that is from pasture while on pasture.	1.0	
Fraction of the maximum individual's vegetable intake that is from his own garden.	0.76	
Average absolute humidity over the growing season (g/m^3).	8.0	CTS-01105
Fraction of the year that beef cattle are on pasture.	1.0	
Fraction of beef-cattle feed intake that is from pasture while the cattle are on pasture	1.0	
Animal considered for milk pathway	Cow and Goat	
Annual milk production for each distance and direction within 50 miles (~~L~~l)	9.08E+08	CTS-01105
Annual meat production for each distance and direction within 50 miles (kg)	4.25E+07	CTS-01105
Annual vegetable production for each distance and direction within 50 miles (kg)	4.81E+08	
Population Distribution	Table 11.3-201	
Source term	Table 11.3-202	

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Table 11.3-203

Input Parameters for Dose Calculation from Evaporation Pond (Sheet 2 of 2)

Parameter	Value
Other parameters	RG 1.109(1)
SCR χ/Q and D/Q values for evaporation pond release	
No decay, undepleted	7.9×10^{-6} s/m^3
2.26 day decay, undepleted	7.9×10^{-6} s/m^3
8.00 day decay, depleted	7.3×10^{-6} s/m^3
D/Q for maximum individual dose calculation	4.8×10^{-8} m^{-2}

Note:

1. The dose conversion factors from GASPAR II are used instead of those found in RG 1.109 because they have been updated to reflect more current information. NUREG/CR-4653 provides further information on the dose factors used by GASPAR II.

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Table 11.3-204

Calculated Doses from Evaporation Pond

Pathway	Dose to each organ (1) (mrem/yr)					
	GI-Tract	Bone	Liver	Kidney	Thyroid	Lung
Ground	~~2.20~~2.27E-02	~~2.20~~2.27E-02	~~2.20~~2.27E-02	~~2.20~~2.27E-02	~~2.20~~2.27E-02	~~2.20~~2.27E-02
Vegetable						
Adult	2.87E-01	1.33E-02	1.16E-01	1.13E-01	1.10E-01	1.04E-01
Teen	3.38E-01	2.04E-02	1.38E-01	1.34E-01	1.26E-01	1.19E-01
Child	3.54E-01	4.68E-02	2.17E-01	2.09E-01	1.99E-01	1.85E-01
Meat						
Adult	1.89E+00	2.97E-02	1.62E-02	7.12E-02	1.50E-02	1.48E-02
Teen	1.18E+00	2.50E-02	9.98E-03	5.62E-02	9.01E-03	8.91E-03
Child	7.22E-01	4.69E-02	1.21E-02	7.31E-02	1.10E-02	1.08E-02
Cow Milk						
Adult	3.97E-02	7.69E-03	5.11E-02	4.18E-02	4.38E-02	3.61E-02
Teen	5.10E-02	1.36E-02	7.35E-02	5.73E-02	5.95E-02	4.80E-02
Child	7.53E-02	3.18E-02	1.18E-01	9.07E-02	1.00E-01	7.58E-02
Infant	1.13E-01	5.32E-02	2.00E-01	1.39E-01	1.78E-01	1.17E-01
Goat Milk						
Adult	7.39E-02	2.24E-02	1.19E-01	9.15E-02	8.15E-02	7.51E-02
Teen	9.59E-02	3.97E-02	1.76E-01	1.27E-01	1.09E-01	1.01E-01
Child	1.48E-01	9.33E-02	2.83E-01	2.02E-01	1.80E-01	1.59E-01
Infant	2.23E-01	1.56E-01	4.93E-01	3.09E-01	3.05E-01	2.47E-01
Inhalation						
Adult	~~5.85E-02~~ 6.08E-02	~~5.16E-04~~ 5.36E-04	~~5.68E-02~~ 5.90E-02	~~5.69E-02~~ 5.92E-02	~~5.68E-02~~ 5.90E-02	~~7.43E-02~~ 7.72E-02
Teen	~~5.91E-02~~ 6.14E-02	~~7.25E-04~~ 7.53E-04	~~5.75E-02~~ 5.97E-02	~~5.75E-02~~ 5.98E-02	~~5.74E-02~~ 5.96E-02	~~8.74E-02~~ 9.08E-02
Child	~~5.13E-02~~ 5.33E-02	~~9.89E-04~~ 1.03E-03	~~5.08E-02~~ 5.28E-02	~~5.09E-02~~ 5.29E-02	~~5.08E-02~~ 5.28E-02	~~7.74E-02~~ 8.04E-02
Infant	~~2.93E-02~~ 3.04E-02	~~5.44E-04~~ 5.65E-04	~~2.93E-02~~ 3.04E-02	~~2.93E-02~~ 3.04E-02	~~2.94E-02~~ 3.05E-02	~~5.08E-02~~ 5.28E-02
Total(2)						
Adult	2.37E+00	~~9.57E-02~~ 9.64E-02	~~3.81E-01~~ 3.84E-01	~~3.97E-01~~ 4.00E-01	~~3.29E-01~~ 3.32E-01	~~3.26E-01~~ 3.30E-01
Teen	1.75E+00	~~1.21E-01~~ 1.22E-01	~~4.78E-01~~ 4.80E-01	~~4.54E-01~~ 4.57E-01	~~3.83E-01~~ 3.86E-01	~~3.86E-01~~ 3.90E-01
Child	~~1.37E+00~~ 1.38E+00	~~2.42E-01~~2.43E-01	~~7.02E-01~~ 7.05E-01	~~6.48E-01~~ 6.51E-01	~~5.63E-01~~ 5.65E-01	~~5.30E-01~~ 5.34E-01
Infant	~~3.87E-01~~ 3.89E-01	~~2.32E-01~~2.33E-01	~~7.45E-01~~ 7.47E-01	~~4.99E-01~~ 5.01E-01	~~5.34E-01~~ 5.36E-01	~~4.37E-01~~4.40E-01

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Table 11.3-205

Total Doses Due to Gaseous Effluent from Vent Stack and Evaporation Pond

Pathway	Dose to each organ [1] (mrem/yr)					
	GI-Tract	Bone	Liver	Kidney	Thyroid	Lung
Ground	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~ 1.24E-01
Vegetable						
Adult	3.21E-01	2.63E-01	1.47E-01	1.38E-01	1.67E-01	1.27E-01
Teen	3.86E-01	3.82E-01	1.86E-01	1.72E-01	2.03E-01	1.54E-01
Child	4.42E-01	8.46E-01	3.18E-01	2.95E-01	3.58E-01	2.65E-01
Meat						
Adult	1.90E+00	6.67E-02	2.46E-02	7.89E-02	2.38E-02	2.22E-02
Teen	1.19E+00	5.59E-02	1.69E-02	6.25E-02	1.61E-02	1.51E-02
Child	7.35E-01	1.05E-01	2.44E-02	8.47E-02	2.38E-02	2.21E-02
Cow Milk						
Adult	4.94E-02	5.83E-02	6.76E-02	5.32E-02	9.78E-02	4.55E-02
Teen	6.76E-02	1.04E-01	1.03E-01	7.75E-02	1.47E-01	6.49E-02
Child	1.12E-01	2.49E-01	1.77E-01	1.35E-01	2.82E-01	1.15E-01
Infant	1.88E-01	4.49E-01	3.19E-01	2.26E-01	6.06E-01	1.96E-01
Goat Milk						
Adult	8.48E-02	9.16E-02	1.52E-01	1.09E-01	1.46E-01	8.74E-02
Teen	1.14E-01	1.61E-01	2.34E-01	1.58E-01	2.12E-01	1.23E-01
Child	1.88E-01	3.79E-01	3.90E-01	2.63E-01	3.93E-01	2.05E-01
Infant	3.02E-01	6.51E-01	7.02E-01	4.23E-01	8.08E-01	3.39E-01
Inhalation						
Adult	~~6.04E-02~~ 6.66E-02	~~9.96E-04~~ 2.07E-03	~~5.87E-02~~ 6.48E-02	~~5.88E-02~~ 6.49E-02	~~6.11E-02~~ 7.23E-02	~~7.73E-02~~ 8.65E-02
Teen	~~6.10E-02~~ 6.73E-02	~~1.29E-03~~ 2.56E-03	~~5.94E-02~~ 6.56E-02	~~5.94E-02~~ 6.56E-02	~~6.25E-02~~ 7.55E-02	~~9.10E-02~~ 1.02E-01
Child	~~5.29E-02~~ 5.84 E-02	~~1.66E-03~~ 3.18E-03	~~5.25E-02~~ 5.80E-02	~~5.26E-02~~ 5.80E-02	~~5.65E-02~~ 7.07E-02	~~8.05E-02~~ 9.01E-02
Infant	~~3.02E-02~~ 3.33E-02	~~8.41E-04~~ 1.51E-03	~~3.03E-02~~ 3.35E-02	~~3.03E-02~~ 3.34E-02	~~3.41E-02~~ 4.54E-02	~~5.28E-02~~ 5.89E-02
Total[2]						
Adult	~~2.48E+00~~ 2.55E+00	~~5.47E-01~~ 6.06E-01	~~5.16E-01~~ 5.80E-01	~~5.04E-01~~ 5.68E-01	~~5.61E-01~~ 6.30E-01	~~4.25E-01~~ 4.92E-01
Teen	~~1.88E+00~~ 1.95E+00	~~7.70E-01~~ 8.29E-01	~~6.64E-01~~ 7.29E-01	~~5.95E-01~~ 6.59E-01	~~7.06E-01~~ 7.78E-01	~~5.14E-01~~ 5.83E-01
Child	~~1.60E+00~~ 1.66E+00	~~1.65E+00~~ 1.71E+00	~~1.03E+00~~ 1.09E+00	~~8.96E-01~~ 9.60E-01	~~1.18E+00~~ 1.25E-01	~~7.53E-01~~ 8.21E-01
Infant	~~5.86E-01~~ 6.47E-01	~~1.17E+00~~ 1.23E+00	~~1.12E+00~~ 1.18E+00	~~7.45E-01~~ 8.06E-01	~~1.51E+00~~ 1.58E+00	~~6.53E-01~~ 7.18E-01

CTS-01105

CTS-01105

CTS-01105

Table 11.3-206

Total Gaseous Doses to the Maximally Exposed Individual at Squaw Creek Reservoir

Pathway	Calculated Dose (mrem) per unit
Whole Body	7.22E-02
Thyroid	8.02E-02
TEDE	7.46E-02

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.	-

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

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				ascension testing and proceeds to commercial operation, the remaining construction workers doses will be maintained ALARA in accordance 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	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				ANSI N323A-1997, as it relates to the calibration and maintenance of portable radiation survey instruments."	
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	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				Unit 1 Turbine Building. In accordance with the 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 be controlled through the Radiation Work Permit	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
				(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 during construction, operation and decommissioning. This will include the use of photographs and video	-

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

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

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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 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	Change describes the Training Program accreditation time	-

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	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 no.TXNB-09061 Date 11/5/2009	Added reporting line and duties of the System 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	13.4-2	Response to RAI No. 71 Luminant Letter	Items 1 and 2 have been revised to reference the FSAR,	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
	7)		no.TXNB-09061 Date 11/5/2009	Program Source, and milestones for the Primary- to-Secondary Leakage Monitoring Program.	
RCOL_13.04-3	Table 13.4-201 (Sheets 1 and 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 Reference 13.7-202	-
RCOL2_NONE-2	Table 13.4-201 (Sheet 7 and 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.	-

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

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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 no. TXNB-09063 Date 11/11/2009	Incorporated ANS-3.1 Requirements for test personnel qualifications in 14.2.2.	-
RCOL2_14.02-4	14.2	14.2-18	Response to RAI No. 75	Added Table 14.2-203 "Comparison with the Qualification	-

Change ID No.	Section	FSAR Rev. 1 Page*	Reason for change	Change Summary	Rev. of FSAR T/R
			Luminant Letter no. TXNB-09063 Date 11/11/2009	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.	-
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	-

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

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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	-

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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_17.04-4	17.4.3	17.4-1	Response to RAI No. 92 Luminant Letter no.TXNB-09077 Date 12/9/2009	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
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.	-

*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

*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.

Attachment 2

COL Application Part 3, Environmental Report Revision 1, Update Tracking Report Revision 5

July 8, 2010

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

Part 3

Environmental Report Revision 1

Update Tracking Report

Revision 5

Revision History

Revision	Date	Update Description
-	11/20/2009	COLA Revision 1 Transmittal See Luminant Letter no. TXNB-09074 Date 11/20/2009
0	12/7/2009	Updated Chapters: Ch. 9
1	1/13/2010	Updated Chapters: Ch. 7
2	1/19/2010	Updated Chapters: Ch. 7
-	11/11/2009	Updated Chapters: Ch. 2 See Luminant Letter no. TXNB-09020 Date 11/11/2009 Incorporated responses to following RAIs: No. 72
-	12/18/2009	Updated Chapters: Ch. 2, 3, 4, 5, 6, 9 See Luminant Letter no. TXNB-09087 Date 12/18/2009 Incorporated responses to following RAIs: ER Supplemental Response
3	3/2/2010	Updated Chapters: Ch. 2, 4, 5, 6
-	2/24/2010	Updated Chapters: Ch. 1, 2, 3, 4, 5 See Luminant Letter no. TXNB-10013 Date 2/24/2010 Incorporated responses to following RAIs: No. GEN-07, GEN-08, HYD-27, GEN-11, HYD-29

-	3/19/2010	Updated Chapters: Ch. 3 See Luminant Letter no. TXNB-10023 Date 3/19/2010 Incorporated responses to following RAIs: No. GEN-07 Supplemental
4	5/5/2010	Updated Chapters: Ch. 2, 7, 10
-	6/25/2010	Updated Chapters: Ch. 5 See Luminant Letter no. TXNB-10048 Date 6/25/2010 Incorporated responses to following RAIs: No. 157
5	7/8/2010	Updated Chapters: Ch. 2, 5

Chapter 1

Chapter 1 Tracking Report Revision List

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
RAI GEN-08	Figure 1.1-5	-	Response to RAI No. GEN-08 Luminant Letter no. TXNB-10013 Date 2/24/2010	Revised text, Table, and Figure to show that the proposed transmission line will run adjacent to the existing lines, adding an additional ROW of 160ft.	-

*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 2

Chapter 2 Tracking Report Revision List

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
RCOL2_02.03.04-3	2.7.3.2	2.7-28	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.	-
RAI GEN-03 RAI HYD-23 RAI LU-03	2.3.2.2	2.3-43	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised water withdraw values to coincide with the conceptual design.	-
RAI GEN-03 RAI HYD-23 RAI LU-03	Table 2.3-39	2.3-164	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised the "Average Water Discharge to Lake Granbury CPNPP Units 3 and 4 with BDTF" to be consistent with the conceptual design.	-
CTS-01105	2.2.1.2	2.2-3	Access change to SCR.	Revised text to reflect that SCR is located within site boundary and opened for recreational uses.	3
CTS-01105	2.3.2.2.2	2.3-42	Access change to SCR.	Revised text to reflect to the change from "closed to the public and is not used for recreation or navigation" to "open to the public for full recreational use but access will be controlled."	3
CTS-01105	2.4.1.1.5.5	2.4-22	Access change to SCR	Revised text to reflect to the change from "Although SCR is closed to the public for recreational fishing" to "SCR will be open to the public for full recreational use, including boating; however, access will be controlled."	3
CTS-01105	2.4.2.2	2.4-26	Access change to SCR.	Revised text to state that SCR will be reopened to the public for full recreational uses but will have controlled access.	3

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
CTS-01105	2.4.2.5.2	2.4-31	Access change to SCR	Deleted text stating that SCR has been closed to the public.	3
CTS-01105	2.4.2.5.3	2.4-31	Access change to SCR	Deleted text stating that recreational fishing does not occur in SCR.	3
CTS-01105	Table 2.4-11	2.4-56 2.4-57	Access change to SCR	Revised table to include Squaw Creek Park and Squaw Creek Reservoir.	3
CTS-01105	2.5.1.3	2.5-5	Access change to SCR	Revised text to reflect to the change from “is closed to the public” to “is open to members of the public via controlled access for recreational uses, such as boating fishing.” Additional text added to reflect the 100 boats expected at a maximum but not including special events.	3
CTS-01105	2.5.2.2.6	2.5-13	Access change to SCR	Revised text to reflect the change from “not accessible by the public” to “open the public for full recreational uses with controlled access”. Additional text added to reflect the 100 boats expected at a maximum but not including special events.	3
CTS-01105	2.5.2.5	2.5-16	Access change to SCR	Revised text to include Squaw Creek Reservoir information.	3
CTS-01105	2.5.5	2.5-40	Access change to SCR	Deleted text stating SCR is, “now closed to the public” and revised the location from 2 to 15.	3
RAI GEN-08	2.2.2 Table 2.2-4	2.2-5 2.2-13	Response to RAI No. GEN-08 Luminant Letter no. TXNB-10013 Date 2/24/2010	Revised text, Table, and Figure to show that the proposed transmission line will run adjacent to the existing lines, adding an additional ROW of 160ft.	-
RAI HYD-29	Table 2.3-26 (Sheet 2 of 3)	2.3-114	Response to RAI HYD-29 Luminant Letter No. TXNB-10013 Date 2/24/2010	Revised the copper screening number from 0.50700 to 0.027.	-

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
RAI HYD-29	Table 2.3-46 (Sheet 3 of 6)	2.3-173	Response to RAI HYD-29 Luminant Letter No. TXNB-10013 Date 2/24/2010	Revised the copper screening number from 0.50700 to 0.027.	-
CTS-01117	2.3.2.2	2.3-43	Correction to be consistent with previous change	Revised the expected time to drawdown Lake Granbury based on the revised consumptive water use value.	4
CTS-01117	Table 2.3-38	2.3-154 [2.3-155 through 2.3-163]	Correction to be consistent with previous change	Revised the consumptive water use values in Table 2.3-38.	4
CTS-01117	2.4.1.1.5.5	2.4-22	Correction to be consistent with previous change	Removed last sentence that stated "Boating is not permitted."	4
CTS-01105	2.7.4.2	2.7-33	Access change to SCR	Revised text to reflect the inclusion of receptor locations on SCR.	5
CTS-01105	2.7.4.3	2.7-34	Access change to SCR	Revised text to reflect values related to the inclusion of SCR	5
CTS-01105	Table 2.7-120	2.7-196	Access change to SCR	Revised table to reflect the inclusion of SCR.	5
CTS-01105	Table 2.7-124 (Sheet 2 of 3) (Sheet 3 of 3)	2.7-205 [2.7-206]	Access change to SCR	Revised table to reflect the inclusion of SCR.	5
CTS-01105	Table 2.7-128	2.7-215 2.7-216 [2.7-217]	Access change to SCR	Revised table to reflect the inclusion of SCR and revised the "X/Q" to be the Greek chi symbol as expressed in the text.	5
CTS-01105	Table 2.7-130	2.7-218	Access change to SCR	Revised table to reflect the inclusion of SCR and removed the grid lines to be consistent with standard table formatting.	5
CTS-01105	Table 2.7-135 (Sheet 2 of 3) (Sheet 3 of 3)	2.7-232 [2.7-233]	Access change to SCR	Revised table to reflect the inclusion of SCR.	5

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
CTS-01105	Table 2.7-135	2.7-231 2.7-232 [2.7-233]	Errata	Standardize the formatting: changed the “X/Q” to be the Greek chi symbol as expressed in the text; and removed the grid lines to be consistent with table formatting.	5

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(centered on true north, north-northeast, northeast, etc.) and extending to a distance of 80 km (50 mi) from the station were determined. A set of data points were located within each sector at increments of 0.4 km (0.25 mi) to a distance of 1.6 km (1 mi) from the plant, at increments of 0.8 km (0.5 mi) from a distance of 1.6 km (1 mi) to 8 km (5 mi), at increments of 4 km (2.5 mi) from a distance of 8 km (5 mi) to 16 km (10 mi), and at increments of 8 km (5 mi) thereafter to a distance of 80 km (50 mi). Estimates of χ/Q (undecayed and undepleted; depleted for radioiodines) and D/Q radioiodines and particulates is provided at each of these grid points. Receptor locations representing recreational users of SCR were also evaluated. The limiting SCR receptor locations are given in Table 2.7-120. CTS-01105

The results of the analysis, based on five years of on-site data, are presented in Table 2.7-122, Table 2.7-123, Table 2.7-124, Table 2.7-125, Table 2.7-126, Table 2.7-127, and Table 2.7-128.

Annual average undecayed and undepleted dilution factors to a distance of 50 mi from the plant are shown in Table 2.7-122. The maximum value at the actual EAB is 5.5 x 10^{-6} s/m^3 and occurs north-northwest of the plant at a distance of 0.37 mi. There are no higher values beyond the site boundary because for ground level releases, concentrations monontonically decrease from the release point to all locations downwind. Annual average undecayed and undepleted dilution and deposition factors for special off-site receptor locations, including recreational users of SCR, are given in Table 2.7-124. CTS-01105

2.7.4.3 Evaporation Pond

An additional CPNPP Units 3 and 4 gaseous release source is the evaporation pond (EP). The purpose of the EP is to prevent tritium concentration in the Squaw Creek Reservoir (SCR) from exceeding the limit described in the existing CPNPP Offsite Dose Calculation Manual (ODCM), Revision 26, due to tritium discharge from Units 3 & 4. The EP decrease the level of tritium discharge into the SCR by accepting liquid wastes, including tritium, from the liquid waste management system (LWMS) and evaporating the liquid wastes by natural processes. The atmospheric transport and dispersion of radioactive materials, in the form of aerosols, vapors, or gases, released from the EP are discussed below.

The χ/Q and D/Q values for the evaporation pond are determined at points of potential maximum concentration, outside the site boundary, at points of maximum individual exposure and at points within a radial grid of sixteen 22.5° sectors extending to a distance of 50 miles. Radioactive decay and dry deposition are considered. The atmospheric dispersion calculation uses meteorological data collected at CPNPP for the five-year period beginning January 1, 2001 and ending December 31, 2006, excluding January 1 through December 31 of 2005.

The evaporation pond is located approximately 0.4 mi southwest of CPNPP Units 3 and 4 power blocks. Given the distance from the power block, the effects of building wake are conservatively neglected in the atmospheric dispersion analysis. Consistent with the guidance of Regulatory Guide 1.111, a ground level release mode is used. The release elevation of the EP is 0.0 m relative to the plant grade. The evaporation pond has a surface area of approximately one acre. Although the evaporation pond is a diffuse area source, in the atmospheric dispersion evaluation, it is assumed to be a point source. This assumption is conservative since for a given release rate, a ground level point source has a higher concentration than a ground level diffuse area source at the release location and locations downwind. Near ground level releases usually produce

concentrations that decrease from the release point to all locations downwind. Therefore, for distant receptors, the assumption of a point source results in conservatively high relative concentrations.

Distances from the center of the evaporation pond to the closest point on the EAB in each of the 16 compass directions are given in Table 2.7-129. The nearest receptor locations include residences or locations at which plants or animals that become food for the public may be exposed to either direct radiation or contamination. No milk or meat animals (cows or goats) were identified near the CPNPP based on the land use census presented in the CPNPP Annual Radiological Environmental Operating Report for 2006 (AREOR). For each of the 16 compass directions, the shortest distance from the center point of the evaporation pond to a receptor within a 45° angle centered on the compass direction was used. Because of this conservative methodology, the nearest garden is captured in both the ENE and E sectors instead of just the ENE sector (the direction relative to Units 1 & 2 given in the ODCM). The distances from the center point of the evaporation pond to the nearest receptor in each sector are given in Table 2.7-130. The XOQDOQ software (NUREG/CR-2919) was used to determine the EP atmospheric dispersion values.

From Table 2.7-~~248~~135, the highest χ/Q and D/Q values for the EAB occur in the south sector and are 5.2x10^{-5} s/m3 and 2.~~7~~3x10^{-7} m^{-2}, respectively. ~~The maximum χ/Q value is not bounded by the EAB (annual average) value of 1.6x10^{-5} s/m3 given in Table 2.0-1 of the US-APWR Design Control Document (DCD). Table 2.0-1 also gives an EAB (annual average) D/Q value of 4.0x10^{-8} m^{-2}. The maximum site D/Q value is also not bounded by the DCD value.~~ Table 2.7-131 gives the annual average χ/Q and D/Q values for no decay and no depletion. Table 2.7-132 gives the 2.26 day decay undepleted results. Table 2.7-133 gives the 8.00 day decay depleted results. Annual average D/Q values are given in Table 2.7-134. Atmospheric dispersion values for recreational users of SCR are given in Table 2.7-135.~~, undepleted, as well as 2.26 day decay, undepleted and 8.00 day decay, depleted.~~ CTS-01105

There are no meat animals identified in the area surrounding the CPNPP site. Therefore, it is assumed that the χ/Q and D/Q values at any location of meat animals within five miles of the plant would be bounded by values determined at other receptors, and no specific χ/Q or D/Q values are provided.

2.7.5 REFERENCES

(ALA 2004) Extreme Ice Thicknesses from Freezing Rain. American Lifelines Alliance, a public-private partnership between the Federal Emergency Management Agency (FEMA) and the National Institute of Building Sciences (NIBS). September 2004. www.americanlifelinesalliance.org.

(Alessandro 1998) A Statistical Analysis of Strike Data from Real Installations Which Demonstrates Effective Protection of Structures Against Lightning. F. D'Alessandro. ERICO Lightning Technologies, Hobart, Australia, 1998.

(ASCE 2005) Minimum Design Loads for Buildings and Other Structures. American Society of Civil Engineers, ANSI/ASCE 7-05.

TABLE 2.7-120
OFF-SITE RECEPTOR LOCATIONS

Sector	Residence(1)	Garden	SCR(2)
S	5751		
SSW	4185		
SW	4185		
WSW	6132		
W	6132		
WNW	11959		517
NW	11532		517
NNW	11532		517
N	10504		517
NNE	10504		517
NE	12640		517
ENE	12675	15120	517
E	14598	15120	517
ESE	12804		517
SE	10320		
SSE	9653		

CTS-01105

CTS-01105

~~NOTE:~~

CTS-01105

1. Distances, in feet, from the center point between Units 3 ~~&~~and 4 to the nearest receptor (residence, ~~or~~ garden or recreational use of SCR) in each sector.

2. SCR refers to Squaw Creek Reservoir.

TABLE 2.7-124 (Sheet 2 of 3)
χ/Q AND D/Q VALUES FOR NORMAL RELEASES

No Decay, Undepleted and Depleted, at Each Receptor Location

Type of Location	Sector	Distance (miles)	Distance (meters)	χ/Q (s/m^3) No Decay Undepleted	χ/Q (s/m^3) No Decay Depleted	D/Q (m^{-2})
Residence	SW	0.79	1276	3.30E-07	3.00E-07	3.10E-09
Residence	WSW	1.16	1869	1.80E-07	1.60E-07	1.40E-09
Residence	W	1.16	1869	2.60E-07	2.20E-07	1.60E-09
Residence	WNW	2.26	3645	1.60E-07	1.30E-07	8.00E-10
Residence	NW	2.18	3515	3.30E-07	2.70E-07	1.90E-09
Residence	NNW	2.18	3515	4.10E-07	3.40E-07	2.80E-09
Residence	N	1.99	3202	3.20E-07	2.60E-07	2.90E-09
Residence	NNE	1.99	3202	2.70E-07	2.30E-07	1.20E-09
Residence	NE	2.39	3853	1.80E-07	1.50E-07	5.20E-10
Residence	ENE	2.4	3863	1.30E-07	1.10E-07	3.90E-10
Residence	E	2.76	4449	6.10E-08	4.90E-08	1.40E-10
Residence	ESE	2.43	3903	9.80E-08	8.00E-08	3.20E-10
Residence	SE	1.95	3146	1.80E-07	1.50E-07	8.70E-10
Residence	SSE	1.83	2942	1.20E-07	1.00E-07	1.30E-09
G~~ARDEN~~arden	ENE	2.86	4609	1.10E-07	8.50E-08	2.90E-10
G~~ARDEN~~arden	E	2.86	4609	5.80E-08	4.60E-08	1.30E-10
SCR	WNW	0.1	158	2.40E-05	2.30E-05	1.20E-07
SCR	NW	0.1	158	4.80E-05	4.50E-05	2.70E-07
SCR	NNW	0.1	158	6.00E-05	5.60E-05	3.90E-07

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TABLE 2.7-124 (Sheet 3 of 3)
χ/Q AND D/Q VALUES FOR NORMAL RELEASES

No Decay, Undepleted and Depleted, at Each Receptor Location

Type of Location	Sector	Distance (miles)	Distance (meters)	χ/Q (s/m^3) No Decay Undepleted	χ/Q (s/m^3) No Decay Depleted	D/Q (m^{-2})
SCR	N	0.1	158	4.30E-05	4.00E-05	3.40E-07
SCR	NNE	0.1	158	3.80E-05	3.60E-05	1.40E-07
SCR	NE	0.1	158	3.40E-05	3.10E-05	8.40E-08
SCR	ENE	0.1	158	2.60E-05	2.40E-05	6.40E-08
SCR	E	0.1	158	1.40E-05	1.30E-05	2.90E-08
SCR	ESE	0.1	158	1.90E-05	1.70E-05	5.30E-08

CTS-01105

Note:

SCR refers to Squaw Creek Reservoir.

TABLE 2.7-128 (Sheet 1 of 3)
χ/Q AND D/Q VALUES FOR 2.26 AND 8 DAY DECAY HALF-LIVES

CTS-01105

Type of Location	Sector	Distance (miles)	Distance (meters)	~~X~~χ/Q (s/m^3) 2.26 Day Decay Undepleted	~~X~~χ/Q (s/m^3) 8.00 Day Decay Depleted	D/Q (m^{-2})
EAB	S	0.37	600	1.70E-06	1.50E-06	2.30E-08
EAB	SSW	0.37	600	1.30E-06	1.20E-06	1.50E-08
EAB	SW	0.37	600	1.00E-06	9.40E-07	1.10E-08
EAB	WSW	0.37	600	9.80E-07	9.00E-07	9.10E-09
EAB	W	0.37	600	1.40E-06	1.30E-06	1.10E-08
EAB	WNW	0.37	600	2.20E-06	2.00E-06	1.70E-08
EAB	NW	0.37	600	4.40E-06	4.10E-06	3.80E-08
EAB	NNW	0.37	600	5.50E-06	5.10E-06	5.50E-08
EAB	N	0.37	600	3.90E-06	3.60E-06	4.90E-08
EAB	NNE	0.37	600	3.50E-06	3.20E-06	1.90E-08
EAB	NE	0.37	600	3.10E-06	2.80E-06	1.20E-08
EAB	ENE	0.37	600	2.40E-06	2.20E-06	9.00E-09
EAB	E	0.37	600	1.30E-06	1.20E-06	4.00E-09
EAB	ESE	0.37	600	1.70E-06	1.60E-06	7.50E-09
EAB	SE	0.37	600	2.20E-06	2.00E-06	1.40E-08
EAB	SSE	0.37	600	1.30E-06	1.20E-06	1.90E-08
Residence	S	1.09	1753	3.50E-07	3.10E-07	3.90E-09

TABLE 2.7-128 (Sheet 2 of 3)
χ/Q AND D/Q VALUES FOR 2.26 AND 8 DAY DECAY HALF-LIVES

CTS-01105

Type of Location	Sector	Distance (miles)	Distance (meters)	~~X~~χ/Q (s/m^3) 2.26 Day Decay Undepleted	~~X~~χ/Q (s/m^3) 8.00 Day Decay Depleted	D/Q (m^{-2})
Residence	SSW	0.79	1276	4.40E-07	3.90E-07	4.50E-09
Residence	SW	0.79	1276	3.30E-07	3.00E-07	3.10E-09
Residence	WSW	1.16	1869	1.80E-07	1.60E-07	1.40E-09
Residence	W	1.16	1869	2.60E-07	2.20E-07	1.60E-09
Residence	WNW	2.26	3645	1.50E-07	1.30E-07	8.00E-10
Residence	NW	2.18	3515	3.30E-07	2.70E-07	1.90E-09
Residence	NNW	2.18	3515	4.10E-07	3.40E-07	2.80E-09
Residence	N	1.99	3202	3.20E-07	2.60E-07	2.90E-09
Residence	NNE	1.99	3202	2.70E-07	2.30E-07	1.20E-09
Residence	NE	2.39	3853	1.80E-07	1.50E-07	5.20E-10
Residence	ENE	2.4	3863	1.30E-07	1.10E-07	3.90E-10
Residence	E	2.76	4449	6.00E-08	4.90E-08	1.40E-10
Residence	ESE	2.43	3903	9.70E-08	8.00E-08	3.20E-10
Residence	SE	1.95	3146	1.80E-07	1.50E-07	8.70E-10
Residence	SSE	1.83	2942	1.20E-07	1.00E-07	1.30E-09
Garden	ENE	2.86	4609	1.10E-07	8.50E-08	2.90E-10
Garden	E	2.86	4609	5.70E-08	4.60E-08	1.30E-10

TABLE 2.7-128 (Sheet 3 of 3)
χ/Q AND D/Q VALUES FOR 2.26 AND 8 DAY DECAY HALF-LIVES

CTS-01105

Type of Location	Sector	Distance (miles)	Distance (meters)	~~X~~χ/Q (s/m^3) 2.26 Day Decay Undepleted	~~X~~χ/Q (s/m^3) 8.00 Day Decay Depleted	D/Q (m^{-2})
SCR	WNW	0.1	158	2.40E-05	2.30E-05	1.20E-07
SCR	NW	0.1	158	4.80E-05	4.50E-05	2.70E-07
SCR	NNW	0.1	158	6.00E-05	5.60E-05	3.90E-07
SCR	N	0.1	158	4.30E-05	4.00E-05	3.40E-07
SCR	NNE	0.1	158	3.80E-05	3.60E-05	1.40E-07
SCR	NE	0.1	158	3.30E-05	3.10E-05	8.40E-08
SCR	ENE	0.1	158	2.60E-05	2.40E-05	6.40E-08
SCR	E	0.1	158	1.40E-05	1.30E-05	2.90E-08
SCR	ESE	0.1	158	1.80E-05	1.70E-05	5.30E-08

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Note:

SCR refers to Squaw Creek Reservoir.

TABLE 2.7-130 DISTANCES, IN METERS, FROM THE CENTER POINT OF THE EVAPORATION POND TO THE NEAREST RECEPTOR ~~(RESIDENCE OR GARDEN)~~ IN EACH SECTOR CTS-01105

Sector	Nearest Residence	Nearest Garden	SCR
S	1073		
SSW	493		
SW	493		
WSW	493		
W	1328		
WNW	1328		
NW	3472		
NNW	3723		655
N	3927		655
NNE	3927		655
NE	4621		655
ENE	4621	5265	655
E	4680	5265	655
ESE	2995		655
SE	2565		
SSE	1073		

Note:

SCR refers to Squaw Creek Reservoir.

TABLE 2.7-135 (Sheet 1 of 3)
~~X~~χ/Q AND D/Q VALUES AT EACH RECEPTOR LOCATION

CTS-01105

Release	Direction	Dist. (mi)	~~X~~χ/Q (sec/m^3) No Decay, Undepleted	~~X~~χ/Q (sec/m^3) 2.26 Day Decay, Undepleted	~~X~~χ/Q (sec/m^3) 8 Day Decay, Depleted	D/Q (m^{-2})
EAB	S	0.08	5.20E-05	5.10E-05	5.00E-05	2.30E-07
EAB	SSW	0.08	4.10E-05	4.10E-05	4.10E-05	1.60E-07
EAB	SW	0.09	2.20E-05	2.20E-05	2.20E-05	8.50E-08
EAB	WSW	0.1	1.90E-05	1.90E-05	1.80E-05	6.60E-08
EAB	W	0.13	1.60E-05	1.60E-05	1.60E-05	5.30E-08
EAB	WNW	0.18	1.30E-05	1.30E-05	1.30E-05	4.90E-08
EAB	NW	0.3	1.10E-05	1.10E-05	1.00E-05	5.30E-08
EAB	NNW	0.51	5.30E-06	5.30E-06	4.80E-06	3.30E-08
EAB	N	0.75	1.90E-06	1.90E-06	1.70E-06	1.60E-08
EAB	NNE	0.89	1.30E-06	1.30E-06	1.10E-06	4.70E-09
EAB	NE	1.05	8.60E-07	8.50E-07	7.50E-07	2.10E-09
EAB	ENE	0.88	9.00E-07	8.90E-07	7.90E-07	2.20E-09
EAB	E	0.54	1.10E-06	1.10E-06	1.00E-06	2.20E-09
EAB	ESE	0.27	5.20E-06	5.20E-06	4.90E-06	1.20E-08
EAB	SE	0.16	1.70E-05	1.70E-05	1.70E-05	5.10E-08
EAB	SSE	0.11	1.80E-05	1.80E-05	1.80E-05	1.10E-07
Residence	S	0.67	9.70E-07	9.70E-07	8.70E-07	9.00E-09
Residence	SSW	0.31	3.10E-06	3.10E-06	2.90E-06	2.10E-08

TABLE 2.7-135 (Sheet 2 of 3)
~~X~~χ/Q AND D/Q VALUES AT EACH RECEPTOR LOCATION

CTS-01105

Release	Direction	Dist. (mi)	~~X~~χ/Q (sec/m^3) No Decay, Undepleted	~~X~~χ/Q (sec/m^3) 2.26 Day Decay, Undepleted	~~X~~χ/Q (sec/m^3) 8 Day Decay, Depleted	D/Q (m^{-2})
Residence	SW	0.31	2.30E-06	2.30E-06	2.10E-06	1.50E-08
Residence	WSW	0.31	2.20E-06	2.20E-06	2.10E-06	1.20E-08
Residence	W	0.83	5.50E-07	5.50E-07	4.90E-07	2.90E-09
Residence	WNW	0.83	9.00E-07	9.00E-07	8.00E-07	4.60E-09
Residence	NW	2.16	3.90E-07	3.90E-07	3.20E-07	2.00E-09
Residence	NNW	2.31	4.40E-07	4.30E-07	3.60E-07	2.60E-09
Residence	N	2.44	2.80E-07	2.70E-07	2.20E-07	2.00E-09
Residence	NNE	2.44	2.60E-07	2.60E-07	2.10E-07	8.20E-10
Residence	NE	2.87	1.90E-07	1.80E-07	1.50E-07	3.80E-10
Residence	ENE	2.87	1.50E-07	1.40E-07	1.20E-07	2.80E-10
Residence	E	2.91	7.60E-08	7.50E-08	6.00E-08	1.20E-10
Residence	ESE	1.86	2.00E-07	2.00E-07	1.60E-07	5.10E-10
Residence	SE	1.59	3.20E-07	3.20E-07	2.70E-07	1.20E-09
Residence	SSE	0.67	7.60E-07	7.60E-07	6.80E-07	7.30E-09
Garden	ENE	3.27	1.20E-07	1.20E-07	9.50E-08	2.20E-10
Garden	E	3.27	6.40E-08	6.30E-08	5.00E-08	1.00E-10
SCR	NNW	0.41	7.90E-06	7.90E-06	7.30E-06	4.80E-08
SCR	N	0.41	5.50E-06	5.50E-06	5.00E-06	4.20E-08

TABLE 2.7-135 (Sheet 3 of 3)
~~X~~χ/Q AND D/Q VALUES AT EACH RECEPTOR LOCATION

CTS-01105

Release	Direction	Dist. (mi)	~~X~~χ/Q (sec/m^3) No Decay, Undepleted	~~X~~χ/Q (sec/m^3) 2.26 Day Decay, Undepleted	~~X~~χ/Q (sec/m^3) 8 Day Decay, Depleted	D/Q (m^{-2})
SCR	NNE	0.41	5.10E-06	5.10E-06	4.60E-06	1.70E-08
SCR	NE	0.41	4.50E-06	4.50E-06	4.10E-06	1.00E-08
SCR	ENE	0.41	3.50E-06	3.50E-06	3.20E-06	7.80E-09
SCR	E	0.41	1.90E-06	1.90E-06	1.70E-06	3.50E-09
SCR	ESE	0.41	2.50E-06	2.50E-06	2.30E-06	6.50E-09

Note:

SCR refers to Squaw Creek Reservoir.

Chapter 3

Chapter 3 Tracking Report Revision List

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
RAI GEN-03 RAI HYD-23 RAI LU-03	3.4.1.4	3.4-4	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised flow rates discussed in the “Circulating Water System” category to be consistent with the conceptual design.	-
RAI GEN-03 RAI HYD-23 RAI LU-03	3.6.1.1	3.6-2	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised discussion of permeate, TDS, and chloride concentrations to be consistent with the conceptual design.	-
RAI GEN-03 RAI HYD-23 RAI LU-03	3.6.1.1	3.6-2	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised the dimensions of the evaporation pond depth.	-
RAI GEN-03 RAI HYD-23 RAI LU-03	3.6.1.4	3.6-4	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Added a new subsection to provide an overview of the BDTF and the functions of the conceptual design.	-
RAI GEN-03 RAI HYD-23 RAI LU-03	Figure 3.6-1	-	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Added a figure to illustrate the BDTF.	-
RAI HYD-27	3.4.3 Table 3.3-1 Figure 3.3-1	3.4-5 3.3-5	Response to RAI HYD-27 Luminant Letter No. TXNB-10013 Date 2/24/2010	Revised text, Table, and Figure to indicate whether the values are per unit, for two units, or for the entire site (four units). Since some of the values from Figure 3.3-1 changed Table 3.3-1 and text was revised to be consistent.	-
RAI GEN-09	3.6.2	3.6-11 3.6.12 3.6.13	Response to RAI HYD-27 Luminant Letter No. TXNB-10013 Date 2/24/2010	Revised to include paragraph on Sanitary Waste Treatment Plant	-

RAI GEN-07	Figures 3.1-1 3.3-1 3.4.1	-	Response to RAI GEN-07 Luminant Letter No. TXNB-10013 Date 2/24/2010	Figure 3.1-1 revised to include UHS Cooling System/ESW Pump House Figure 3.3-1 revised to include BDTF. Figure 3.4-1 revised cooling tower designation to be consistent with Figure 3.3-1.	-
RAI GEN-14	Table 3.6-6	3.6-14	Response to RAI HYD-27 Luminant Letter No. TXNB-10013 Date 2/24/2010	Revised Table 3.6-6 to include the annual emissions of reportable pollutants under the CAA for the auxiliary boilers.	-
RAI GEN-07 S01	Figure 3.4-1	-	Response To RAI GEN-07 Supplemental Response Luminant Letter no.TXNB-10023 Date 3/19/2010	Revised Figure 3.4-1 to include boxes for Condenser and BDTF.	-

*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 4

Chapter 4 Tracking Report Revision List

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
RAI GEN-03 RAI HYD-23 RAI LU-03	4.2.1.1.5	4.2-3	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised the reference from Subsection 3.6.1.1 to new Subsection 3.6.1.4 in the last sentence.	-
CTS-01105	4.1.1.1	4.1-2	Access change to SCR	Revised text to reflect controlled access to SCR and park.	3
CTS-01105	4.2.2.3	4.2-11	Access change to SCR	Deleted text stating that SCR has no other users because it is for CPNPP use.	3
CTS-01105	4.3.1.3	4.3-8	Access change to SCR	Revised text in 3rd paragraph of subsection to reflect to the change from SCR being closed to the public to reflect that it will be open for full recreational uses with controlled access.	3
CTS-01105	4.3.2.4	4.3-12	Access change to SCR	Added text to reflect the change the status of SCR and the common type of fish found.	3
CTS-01105	4.4.1.4	4.4-4	Access change to SCR	Added text to include visitors to SCR.	3
CTS-01105	4.4.1.5	4.4-6	Access change to SCR	Added text to discuss Squaw Creek Reservoir and Park activities.	3
CTS-01105	4.4.2.6	4.4-20	Access change to SCR	Added text to discuss controlled access to SCR and to state that no new visual impact are anticipated due to the proximity of CPNPP are Units 1 and 2.	3
RAI GEN-08	4.1.2	4.1-5	Response to RAI No. GEN-08 Luminant Letter no. TXNB-10013 Date 2/24/2010	Revised text, Table, and Figure to show that the proposed transmission line will run adjacent to the existing lines, adding an additional ROW of 160ft.	-

RAI HYD-28	4.2.1.3	4.2-5	Response to RAI HYD-27 Luminant Letter No. TXNB-10013 Date 2/24/2010	Revised text to reflect the availability of water from Wheeler Branch.	-
RAI HYD-28	4.2.1.8	4.2-8	Response to RAI HYD-27 Luminant Letter No. TXNB-10013 Date 2/24/2010	Revised text to reflect the availability of water from Lake Granbury.	-
RAI GEN-11	4.3.1.1	4.3-3 4.3-4	Response to RAI GEN-11 Luminant Letter No. TXNB-10013 Date 2/24/2010	Revised text to delete the option of burning vegetation and to estimate the amount of mulch that will be created.	-
RAI HYD-28	4.4.2.3	4.4-16 4.4-17	Response to RAI HYD-27 Luminant Letter No. TXNB-10013 Date 2/24/2010	Revised text to reflect the availability of water from Wheeler Branch.	-

*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 5

Chapter 5 Tracking Report Revision List

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
RAI GEN-03 RAI HYD-23 RAI LU-03	5.2.1.3	5.2-4	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised the water loss estimates for BDTF to be consistent with the conceptual design.	-
RAI GEN-03 RAI HYD-23 RAI LU-03	5.2.2.3.1	5.2-12	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised the referenced subsection from 3.6.1.1 to the new subsection 3.6.1.4.	-
RAI GEN-03 RAI HYD-23 RAI LU-03	5.2.3.4	5.2-15	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Added new paragraph to describe the water quality affects as a result of the BDTF.	-
RAI GEN-03 RAI HYD-23 RAI LU-03	5.5.1.2.1	5.5-4	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised the referenced subsection from 3.6.1.1 to the new subsection 3.6.1.4.	-
RAI-HYD-15	5.2.1.7	5.2-6 5.2-7	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised subsection 5.2.1.7 to reflect the discussions in the Freese & Nichols' memorandum attached to the RAI Supplemental response.	-
RAI-HYD-15	5.2.2.1	5.2-9	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Added Possum Kingdom Lake.	-
RAI-HYD-15	5.2.2.2	5.2-9	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised reference from Subsection 5.2.1.1 to Subsection 5.2.1, in the first paragraph.	-
RAI-HYD-15	5.2.2.2	5.2-10	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised third paragraph to reflect the discussions in the Freese & Nichols' memorandum attached to the RAI Supplemental response.	-

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
RAI-HYD-15	5.2.2.2	5.2-10	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised the environmental impacts from SMALL to MODERATE.	-
RAI-HYD-15	5.2.2.3.1	5.2-11	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Changed “Standard” to “System.”	-
RAI-HYD-15	5.2.3	5.2-19	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Added reference citation for Freese & Nichols’ work cited in the text.	-
RAI TE-11	5.3.2.3	5.3-10	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Added new subsection to discuss environmental impacts to terrestrial ecosystems for the BDTF.	-
CTS-01105	5.4.1.1	5.4-2	Access change to SCR	Revised text to reflect the change of access to SCR and to identify the types of activity that are expected to be allowed. Additional text added to reflect that 100 boats maximum will be allowed but more may be allowed at special events.	3
CTS-01105	Table 5.4-1	5.4-14 5.4-15	Access change to SCR	Revised table to reflect additional pathways due to status change of SCR and clarification for dose.	3
CTS-01105	Table 5.4-8	5.4-29	Access change to SCR	Revised table to reflect estimated max individual dose due to status change of SCR.	3
CTS-01105	Table 5.4-11	5.4-32	Access change to SCR	Revised table to reflect estimated population dose due to status change of SCR.	3

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
CTS-01105	5.8.1.5	5.8-4	Access change to SCR	Revised text to reflect the change of access to SCR and to identify the types of activity that are expected to be allowed. Also to include information concerning Squaw Creek Reservoir and Park and associated activities.	3
CTS-01105	5.8.2.3.4	5.8-15	Access change to SCR	Revised text to reflect the change of access to SCR.	3
CTS-01105	Table 5.10-1 (Sheet 5 of 10)	5.10-7	Access change to SCR	Revised text to reflect to the change of access to SCR.	3
RAI HYD-29	5.2.3.4	5.2-15	Response to RAI HYD-29 Luminant Letter No. TXNB-10013 Date 2/24/2010	Revised text to provide a discussion of the estimated copper concentration at 2.4 cycle concentration at low flow and mean annual flow.	-
RAI HP-04	5.3.4.1	5.3-15 5.3-16	Response to RAI HYD-27 Luminant Letter No. TXNB-10013 Date 2/24/2010	Revised text to address the potential for the BDTF evaporation ponds to increase the growth of thermophilic microorganisms.	-
RCOL2_02.03.02-04	5.3.3.1.3 5.3.3.2.1	5.3-13 5.3-15	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_02.03.02-04	Tables 5.3-3 through 5.3-6	5.3-22 through 5.3-29	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.	-
CTS-01105	5.4.1.2	5.4-6	Access change to SCR	Revised table to reflect the inclusion of SCR.	5
CTS-01105	5.4.1.3	5.4-7	Access change to SCR	Revised table to reflect the inclusion of SCR.	5

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
CTS-01105	5.4.2.2	5.4-8	Access change to SCR	Revised text to include discussion of the doses to the maximally exposed individual at SCR.	5
CTS-01105	5.4.3.2	5.4-8 [5.4-9]	Access change to SCR	Revised text to include discussion of the maximum dose to an individual using SCR.	5
CTS-01105	Table 5.4-1	5.4-14 5.4-15	Access change to SCR	Revised table to reflect inclusion of the gaseous effluent pathway parameters for SCR and changed L/yr to l/yr.	5
CTS-01105	Table 5.4-3 (Sheet 1 of 2)	5.4-17	Errata	Revised the “X/Q” to be the Greek chi symbol as expressed in the text and changed L/yr to l/yr.	5
CTS-01105	Table 5.4-3 (Sheet 2 of 2)	5.4-18	Access change to SCR	Revised table to reflect the inclusion of the gaseous effluent pathway parameters for SCR.	5
CTS-01105	Table 5.4-9	5.4-30	Access change to SCR	Revised table to reflect the inclusion of SCR.	5
CTS-01105	Table 5.4-10	5.4-31	Access change to SCR	Revised table to reflect the inclusion of SCR.	5
CTS-01105	Table 5.4-12	5.4-33 through 5.4-38	Access change to SCR	Revised table to reflect the inclusion of SCR and corrected table formatting.	5
CTS-01105	Table 5.4-13	5.4-39	Access change to SCR	Revised table to reflect the inclusion of SCR.	5
CTS-01105	Table 5.4-14	5.4-40	Access change to SCR	Revised table to reflect the inclusion of SCR.	5
CTS-01105	Table 5.4-15	5.4-41	Access change to SCR	Revised table to reflect the inclusion of SCR.	5
CTS-01105	Table 5.4-16	5.4-42	Access change to SCR	Revised table to reflect the inclusion of SCR.	5

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
CTS-01105	Table 5.4-27	5.4-54 [5.4-55]	Access change to SCR	Developed a new table to reflect the total gaseous doses to the maximally exposed individual at SCR.	5

*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.

5.4.1.2 Gaseous Pathways

Two release points are considered in the evaluation of off-site dose consequences due to gaseous releases. These release points are the plant vent and the evaporation pond (EP). The purpose of the EP is to prevent tritium concentration in the SCR from exceeding the limit described in the existing CPNPP Off-site Dose Calculation Manual (ODCM) , Revision 26, due to tritium discharge from Units 3 & 4. The EP decreases the level of tritium discharge into the SCR by accepting liquid wastes, including tritium, from the liquid waste management system (LWMS) and evaporating the liquid wastes by natural processes.

The methodology contained in the GASPAR II program (described in NUREG/CR-4653) was used to determine the doses for gaseous pathways. This program implements the radiological exposure models described in Regulatory Guide 1.109, Revision 1, for radioactivity releases in gaseous effluent. The code calculates the radiation exposure to man from:

- External exposure to airborne radioactivity.
- External exposure to deposited activity on the ground.
- Inhalation of airborne activity.
- Ingestion of contaminated agricultural products.

Tables 5.4-3, 5.4-4, and 5.4-5 present the gaseous pathway parameters used to calculate doses for both the maximally exposed individual and for the population. Pathway doses for the maximally exposed individual are determined at the receptor location with the highest atmospheric dispersion (χ/Q) and deposition (D/Q) values. Details of the χ/Q and D/Q calculations are given in Section 2.7. The nearest residence in the south-southwest (SSW) sector results in the highest χ/Q and D/Q values for releases from the plant vent or the evaporation pond. The maximum point of concentration at the EAB is used for evaluation of noble gas external doses. The maximum point of concentration at SCR is used for evaluation of noble gas, ground, and inhalation doses to an individual at SCR for recreational purposes. CTS-01105

Doses due to milk ingestion are determined assuming milk ingestion from both cows and goats. This assumption is conservative because it assumes the individual consumes twice the annual milk ingestion. This assumption is also conservative because, there are no identified milk animals (cows or goats) near the site (within five mi). Where there are no identified milk cows in counties within the 50-mi radius of the plant, or where the number of milk cows was withheld for the 2002 U.S. Department of Agriculture (USDA) agricultural census, data from the 1997 agricultural census were used and assumed to represent current values.

For counties within 50 mi of the Comanche Peak site where the number of milk goats was unavailable, it was assumed that the number of milk goats is equal to the number of milk cows in the county. The dose evaluation conservatively assumed that leafy vegetables are grown all year long and that the maximally exposed individual ingests 76 percent of his annual vegetable intake from his own contaminated garden. It is also assumed that cows and goats are on pasture all year long, and their entire food intake is from the pasture. The population within a 50-mi radius of

the CPNPP site, projected to the year 2058, is 3,493,553 persons. Vegetable, milk and meat production data was determined from USDA county farm statistics.

A discussion pertaining to doses calculated for the gaseous pathway is presented in Subsection 5.4.2.2.

5.4.1.3 Direct Radiation from Station Operation

As stated in referenced DCD Subsection 12.4.2.1, the direct radiation from the containment and other plant buildings is negligible. The General Area Monitoring (GAM) program at CPNPP Units 1 and 2 gives an annual average dose rate of 0.001 mrad/hr at the protected area fence. Using this dose rate ~~for the direct radiation dose gives an annual dose of 8.76 person-mrad (0.001 mrad/hr * 365 day/yr * 24 hr/day).~~and assuming the maximum individual spends 134 hours per year at the worst-case location gives an annual dose of 0.134 person-mrad (0.001 mrad/hr * 134 hrs/yr). This is conservative because the nearest location a member of the public would occupy for an extended amount of time is SCR. As described in Section 5.4.3.2, the maximally exposed individual is assumed to use SCR 134 hours per year. Using the dose rate at the PA fence for an individual assumed to be at SCR is very conservative because the dose due to direct radiation decreases by the inverse square of the distance from the source. CTS-01105

5.4.2 RADIATION DOSES TO MEMBERS OF THE PUBLIC

5.4.2.1 Liquid Pathways Doses

Maximum dose rate estimates to man due to liquid effluent releases were determined for the following pathways:

- Eating fish or invertebrates.
- Using the shoreline for activities, such as sunbathing or fishing.
- Swimming and boating.
- Ingestion of contaminated drinking water.
- Consumption of food produced with contaminated water.

The concentrations of radioactive effluents in SCR are estimated using a completely mixed impoundment model (Regulatory Guide 1.113). Table 5.4-6 provides the expected annual liquid radionuclide releases to SCR. The impoundment receives plant effluents and allows additional time for radiological decay before release of effluents to the receiving water body (Squaw Creek). Dilution of the impoundment occurs due to precipitation, flow from tributaries of Squaw Creek, and make-up flow from Lake Granbury. Mixing is promoted by drawing water from the impoundment for Units 1 and 2 plant cooling and return of plant cooling water to SCR. Table 5.4-1 summarizes parameters used in the calculation of nuclide concentrations in SCR.

The estimates for the maximum individual whole-body and critical organ doses from these interactions are presented in Table 5.4-8. These doses would only occur under conditions that

maximize the resultant dose. It is unlikely that any individual would receive doses of the magnitude calculated.

5.4.2.2 Gaseous Pathways Doses

Dose rate estimates were calculated for hypothetical individuals of various ages exposed to gaseous radioactive effluents through the following pathways:

- Direct radiation from immersion in the gaseous effluent cloud and from particulates deposited on the ground;
- Inhalation of gases and particulates;
- Ingestion of milk; and
- Ingestion of foods contaminated by gases and particulates.

Tables 5.4-3, 5.4-4 and 5.4-5 provide the parameters used in the gaseous effluents dose evaluation. Table 5.4-7 gives the expected annual gaseous releases for the plant vent and the evaporation pond. Table 5.4-12 provides the estimated whole-body and critical organ doses for the identified gaseous effluent pathways. These doses would only occur under conditions that maximize the resultant dose. It is unlikely that any individual would receive doses of the magnitude calculated. The doses to the maximally exposed individual at SCR due to normal effluent releases from the plant vent and the evaporation pond are also calculated. These doses are calculated at the point of maximum exposure at SCR, which occurs at a distance of 0.10 miles NNW of Units 3 and 4 for plant vent releases and at a distance of 0.41 miles NNW of the evaporation pond for evaporation pond releases. CTS-01105

5.4.3 IMPACTS TO MEMBERS OF THE PUBLIC

5.4.3.1 Impacts from Liquid Pathways

The most conservative maximum individual dose resulted from Case 1, which used the minimum flow from SCR to Squaw Creek. The maximally exposed individual dose calculated was compared to 10 CFR 50, Appendix I criteria and is presented in Table 5.4-8. The estimated maximum individual doses are compared to the 10 CFR 20.1301 criteria in Table 5.4-9. The maximally exposed individual dose calculated for all units at the site was also compared to 40 CFR 190 criteria and is presented in Table 5.4-10. The estimated population dose due to liquid effluent releases is given in Table 5.4-11. The most conservative population dose resulted from Case 2, which used a higher (more realistic) flow from SCR to Squaw Creek.

5.4.3.2 Impacts from Gaseous Pathways

The gaseous effluent release pathway dose to maximally exposed individuals is given in Table 5.4-12. Table 5.4-13 gives a comparison between the calculated maximally exposed individual dose and 10 CFR 50, Appendix I criteria. In addition, the maximally exposed individual gaseous effluent dose calculated for all units at the site was also compared to 40 CFR 190 criteria (Table 5.4-14). The maximum doses to an individual using SCR for recreational activities are given in CTS-01105

Table 5.4-27. The doses to the maximally exposed individual at SCR were calculated based on a person occupying the worst-case location for 134 hours per year. The number of hours was conservatively assumed to be twice the number of hours of shoreline exposure for the maximum age group from Table E-5 of RG 1.109. The doses to an individual at SCR were conservatively included in the maximum individual doses even though SCR is a restricted area per the definition provided in 10 CFR 20.1003 because CPNPP has control of access to the reservoir and has restricted public access in the past. CTS-01105

The population dose due to gaseous effluents from CPNPP Units 3 and 4 was also calculated. The population within a 50-mi radius of the CPNPP site was projected to the year 2058 using the cohort component method. The population dose for the various pathways (immersion, inhalation, ingestion, recreational use of SCR, and ground deposition) is provided in Table 5.4-15. CTS-01105

5.4.3.3 Direct Radiation Doses

As reported in the CPNPP Units 1 and 2 Annual Radiological Environmental Operating Report for 2006, the background radiation dose rate equivalent for the area surrounding Fort Worth, Texas is 0.22 mrad/day. This calculated value varies widely with changes in location but represents an appropriate reference value to compare with actual measured thermoluminescence dosemeter (TLD) readings. Using data from the pre-operational program for the two years prior to the startup of Unit 1, the quarterly TLDs averaged a calculated dose rate of 0.14 mrad/day while the yearly TLDs averaged a calculated dose rate of 0.16 mrad/day. The range of measured values from this same two-year period varied from a minimum of 0.11 mrad/day to a maximum of 0.22 mrad/day. For comparative purposes, a minimum dose rate of 0.11 mrad/day will be assumed for natural background radiation giving an annual background dose of 0.04 rad.

The dose due to direct radiation and skyshine from all units on-site is reported in Table 5.4-16. Population doses resulting from natural background radiation to individuals living within a 50-mi radius of the CPNPP site are also presented in this table for comparison.

Radioactive wastes stored inside the plant structures are shielded so that areas outside the structures meet Radiation Zone I criteria. If it becomes necessary to temporarily store radioactive wastes/materials outside the plant structures, radiation protection measures will be taken by the radiation protection staff to ensure compliance with 10 CFR 20 and to be consistent with the recommendations of RG 8.8.

5.4.4 IMPACTS TO BIOTA OTHER THAN MEMBERS OF THE PUBLIC

Radiation exposure pathways to biota other than man or members of the public are examined to determine if the pathways could result in doses to biota greater than those predicted for man. This assessment uses surrogate species that provide representative information on the various dose pathways potentially affecting broader classes of living organisms. Surrogates are used because important attributes are well defined and are accepted as a method for judging doses to biota. Important biota considered are state or federally listed species that are endangered, threatened, commercial, recreationally valuable, or important to the local ecosystem.

Table 5.4-17 identifies important biota from Section 2.4 and the assigned surrogates in this assessment. Surrogate biota used includes algae (also taken as aquatic plants), invertebrates

TABLE 5.4-1 (Sheet 1 of 2)
LIQUID EFFLUENT PATHWAY PARAMETERS

Description	Parameter	
Completely Mixed Impoundment Model		
SCR Volume[a]	144,700 ac-ft (6.3E+09 ft^3)	
Effluent Discharge Flow rate	247,500 gpm	
SCR minimum discharge flow rate (Case 1)	1.5 ft^3/s	
SCR expected average discharge flow rate (Case 2)	45.4 ft^3/s (32,900 ac-ft/year)	
Midpoint of plant life	30 yr	
Maximally Exposed Individual		
Shoreline and fishing use location	On SCR ~~2 mi below Squaw Creek Dam~~	CTS-01105
Shore-width factor (Squaw Creek)	0.2	
Shore-width factor (SCR)	0.3	CTS-01105
Squaw Creek stream velocity	0.4 ft/sec	
Transit time to location of maximum individual dose	7.3 hr	
Transit time (SCR)	0.0	CTS-01105
Dilution factor for Squaw Creek	1	
Dilution factor for SCR	1	CTS-01105
Downstream distance to first potential drinking water location (City of Cleburne diversion)		
Along Squaw Creek	4.3 mi (22,704 ft)	
Along Paluxy and Brazos Rivers	44.5 mi (235,046 ft)	
Brazos River stream velocity	1.3 ft/sec	
Transit time to first potential drinking water location	66 hr	
Brazos River monthly average stream flow	1,234 ft^3/sec	
Dilution factor for drinking closest drinking water (Case 1) (complete mixing of Squaw Creek and Brazos River)	822.7	
Dilution factor for drinking closest drinking water (Case 2) (complete mixing of Squaw Creek and Brazos River)	27.2	
Population Dose		
2058 projected 50-mile population including transients	3,493,553 persons	
Location of potential drinking water location		
City of Cleburne diversion	given above	
City of Whitney diversions	9.6 mi (50,654 ft) downstream of Cleburne	
Transit time to assumed City of Whitney diversion	77 hr	
Dilution factor for drinking water, multiplied by a factor of two for dilution in Whitney Reservoir (Case 1)	1645.4 (822.7*2)	

TABLE 5.4-1 (Sheet 2 of 2)
LIQUID EFFLUENT PATHWAY PARAMETERS

Description	Parameter
Dilution factor for drinking water, multiplied by a factor of two for dilution in Whitney Reservoir (Case 2)	54.4 (27.2*2)
Projected population of Cleburne	53,440
Projected population of Whitney	3,722
Distance to assumed location of fish harvest (above Whitney Reservoir, City of Cleburne diversion)	given above
Total annual fish harvest, Whitney Reservoir and the Brazos River	715,125 lb/yr (324,375 kg/yr)
Transit time for aquatic food	66 hrs
Dilution factor for aquatic foods (Case 1 / Case 2)	822.7 / 27.2
Downstream distance of shoreline, boating and swimming use (midpoint of Whitney Reservoir)	9.6 mi (50,654 ft) downstream of Cleburne
Shore-width factor for shoreline use (Whitney Reservoir)	0.3
Transit time for recreational usage	77 hr
Dilution factor for recreational usage (Case 1 / Case 2)	1645.4 / 54.2
Shoreline, boating and swimming usage based on RG 1.109 exposure times and age group fractions and 50 percent of the 50 mile population (population dose due to public use of SCR is estimated to be 250 times the maximum SCR individual dose based on an estimated maximum usage of 250 people)	22,358,746 person-hr/yr (each activity)
Location of assumed irrigation diversion (City of Cleburne)	given above
Transit time for irrigation usage	66 hr
Dilution factor (Case 1 / Case 2)	822.7 / 27.2
Irrigation rate	74.6 L/m^2/mo
Total Meat Production along the Brazos River	281,000 (kg/yr)
Total Milk Production along the Brazos River	943,000 (~~L~~l/yr)
Irrigated Agricultural Products along the Brazos River	
Total Leafy Vegetables	54,038 lb (25,000 kgm)
Total All Other Vegetables	11,619,279 lb (5,270,000 kgm)

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a) Based on USGS minimum pool elevation of 772.98 ft

Note: Default values from RG 1.109 used for all input values not listed above.

TABLE 5.4-3 (Sheet 1 of 2)
GASEOUS EFFLUENT PATHWAY PARAMETERS

Description	Value	
Population Data	Table 5.4-5	
Milk Production	908,000,000 ~~L~~l/yr	CTS-01105
Vegetable Production	481,000,000,kgm	
Meat Production	42,500,000 kg/yr	
Source Term	Table 5.4-7	
Nearest Residence (for plant vent release)	0.79 mi SSW	
Point of Maximum Concentration at the EAB (for plant vent release)	0.37 mi NNW	
Nearest Residence (for evaporation pond release)	0.31 mi SSW	
Midpoint of plant life	30 yrs	
Nearest Residence ~~X~~χ/Q and D/Q values for plant vent release		CTS-01105
No decay, undepleted	4.4×10^{-7} s/m^3	
2.26 day decay, undepleted	4.4×10^{-7} s/m^3	
8 day decay, depleted	3.9×10^{-7} m^{-2}	
D/Q for maximum individual dose calculation	4.5×10^{-9} m^{-2}	
EAB ~~X~~χ/Q and D/Q values for plant vent release		CTS-01105
No decay, undepleted	5.5×10^{-6} s/m^3	
2.26 day decay, undepleted	5.5×10^{-6} s/m^3	
8 day decay, depleted	5.1×10^{-6} s/m^3	
D/Q for maximum individual dose calculation	5.5×10^{-8} m^{-2}	
Nearest Residence ~~X~~χ/Q and D/Q values for evaporation pond release		CTS-01105
No decay, undepleted	3.10×10^{-6} s/m^3	
2.26 day decay, undepleted	3.10×10^{-6} s/m^3	
8 day decay, depleted	2.90×10^{-6} s/m^3	
D/Q for maximum individual dose calculation	2.10×10^{-8} m^{-2}	
Annual Average ~~X~~χ/Q (worst location)	4.4×10^{-7} s/m^3	CTS-01105
Annual Average D/Q (worst location)	4.5×10^{-9} m^{-2}	
Annual Average Decayed ~~X~~χ/Q (worst location)	3.9×10^{-7} s/m^3 for 8.00 day decay (depleted)	CTS-01105

TABLE 5.4-3 (Sheet 2 of 2)
GASEOUS EFFLUENT PATHWAY PARAMETERS

Description	Value
SCR χ/Q and D/Q values for plant vent release	
No decay, undepleted	6.0×10^{-5} s/m^3
2.26 day decay, undepleted	6.0×10^{-5} s/m^3
8.00 day decay, depleted	5.6×10^{-5} s/m^3
D/Q for maximum individual dose calculation	3.9×10^{-7} m^{-2}
SCR χ/Q and D/Q values for evaporation pond release	
No decay, undepleted	7.9×10^{-6} s/m^3
2.26 day decay, undepleted	7.9×10^{-6} s/m^3
8.00 day decay, depleted	7.3×10^{-6} s/m^3
D/Q for maximum individual dose calculation	4.8×10^{-8} m^{-2}
Fraction of the year that leafy vegetables are grown.	1
Fraction of the year that milk cows are on pasture.	1
Fraction of the maximum individual's vegetable intake that is from his own garden.	0.76
Fraction of milk-cow feed intake that is from pasture while on pasture.	1
Average absolute humidity over the growing season	8 g/m^3
Fraction of the year that goats are on pasture.	1
Fraction of milk-goats feed intake that is from pasture while on pasture.	1
Fraction of the year that beef cattle are on pasture.	1
Fraction of beef-cattle feed intake that is from pasture while the cattle are on pasture	1

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Note: Default values from RG 1.109 used for all input values not listed above.

TABLE 5.4-9
10 CFR 20.1301 COMPARISON ESTIMATED MAXIMUM INDIVIDUAL DOSE FROM LIQUID EFFLUENTS (MREM/YR, PER UNIT)

Dose	10 CFR 20.1301 Objective	CPNPP Unit 3 or 4 Assessment
Total Body	-	9.00E-01[a]
Thyroid Dose	-	~~1.52E-01~~1.53E-01 CTS-01105
TEDE	100	9.05E-01[b]
Dose in any hour (mrem/hr)	2	1.03E-04

a) An adult receives the maximum individual total body dose.

b) The total effective dose equivalent (TEDE) is approximated by the sum of the whole body dose and 3 percent of the thyroid dose. (Regulatory Guide 1.183)

TABLE 5.4-10
DOSE EQUIVALENT FROM LIQUID EFFLUENTS TO ANY MEMBER OF THE PUBLIC (MREM/YR, PER SITE)

Dose	40 CFR 190 Requirements	CPNPP Assessment of all Units
Whole Body Dose Equivalent[c]	25	7.79E+00
Thyroid Dose	75	~~9.17E+00~~9.18E+00[a]
Dose to Another Organ[b]	25	1.14E+01

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a) Note that the collective thyroid dose includes the maximum organ dose due to ~~gaseous~~liquid effluents from Units 1 and 2. This value bounds the thyroid dose. CTS-01105

b) A teenager receives the maximum individual organ dose, which is to the liver.

c) An adult receives the maximum individual total body dose.

TABLE 5.4-12 (Sheet 1 of 6)
GASEOUS PATHWAYS - MAXIMUM EXPOSED INDIVIDUAL DOSE SUMMARY

PLANT VENT

CTS-01105

Pathway/Age Group	~~T.BODY~~Total Body	GI-~~TRACT~~Tract	~~BONE~~Bone (max organ)	~~LIVER~~Liver	~~KIDNEY~~Kidney	~~THYROID~~Thyroid	~~LUNG~~Lung	~~SKIN~~Skin
~~PLUME~~Plume	~~4.61E-02~~5.38E-02	~~4.61E-02~~ 5.38E-02	~~4.61E-02~~5.38E-02	~~4.61E-02~~ 5.38E-02	~~4.61E-02~~ 5.38E-02	~~4.61E-02~~ 5.38E-02	~~5.13E-02~~ 5.99E-02	~~4.31E-01~~ 5.03E-01
~~GROUND~~Ground	~~4.35E-02~~1.01E-01	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~1.01E-01	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~ 1.01E-01	~~5.10E-02~~ 1.19E-01
Vegetables								
~~ADULT~~Adult	3.20E-02	3.44E-02	2.50E-01	3.09E-02	2.48E-02	5.70E-02	2.27E-02	2.17E-02
~~TEEN~~Teen	4.44E-02	4.75E-02	3.62E-01	4.76E-02	3.83E-02	7.71E-02	3.53E-02	3.36E-02
~~CHILD~~Child	9.28E-02	8.77E-02	7.99E-01	1.01E-01	8.53E-02	1.59E-01	8.04E-02	7.78E-02
Meat								
~~ADULT~~Adult	8.31E-03	1.42E-02	3.70E-02	8.36E-03	7.68E-03	8.79E-03	7.42E-03	7.31E-03
~~TEEN~~Teen	6.61E-03	9.96E-03	3.09E-02	6.90E-03	6.35E-03	7.13E-03	6.16E-03	6.06E-03
~~CHILD~~Child	1.18E-02	1.33E-02	5.77E-02	1.23E-02	1.16E-02	1.28E-02	1.13E-02	1.12E-02
Cow Milk[(a)]								
~~ADULT~~Adult	1.46E-02	9.72E-03	5.06E-02	1.65E-02	1.14E-02	5.40E-02	9.43E-03	8.57E-03
~~TEEN~~Teen	2.12E-02	1.66E-02	9.04E-02	2.91E-02	2.02E-02	8.75E-02	1.69E-02	1.52E-02
~~CHILD~~Child	4.12E-02	3.72E-02	2.17E-01	5.95E-02	4.42E-02	1.82E-01	3.87E-02	3.61E-02
~~INFANT~~Infant	7.94E-02	7.52E-02	3.96E-01	1.19E-01	8.71E-02	4.28E-01	7.89E-02	7.42E-02

TABLE 5.4-12 (Sheet 2 of 6)
GASEOUS PATHWAYS - MAXIMUM EXPOSED INDIVIDUAL DOSE SUMMARY

PLANT VENT

CTS-01105

Pathway/Age Group	~~T.BODY~~Total Body	GI-~~TRACT~~Tract	~~BONE~~Bone (max organ)	~~LIVER~~Liver	~~KIDNEY~~Kidney	~~THYROID~~Thyroid	~~LUNG~~Lung	~~SKIN~~Skin
Goat Milk								
~~ADULT~~Adult	2.72E-02	1.09E-02	6.92E-02	3.33E-02	1.78E-02	6.42E-02	1.23E-02	9.72E-03
~~TEEN~~Teen	3.37E-02	1.83E-02	1.21E-01	5.78E-02	3.07E-02	1.03E-01	2.19E-02	1.67E-02
~~CHILD~~Child	5.20E-02	3.97E-02	2.86E-01	1.07E-01	6.13E-02	2.13E-01	4.63E-02	3.85E-02
~~INFANT~~Infant	9.08E-02	7.90E-02	4.95E-01	2.09E-01	1.14E-01	5.03E-01	9.18E-02	7.78E-02
Inhalation								
~~ADULT~~Adult	~~1.86E-03~~5.75E-03	~~1.91E-03~~ 5.89E-03	~~4.80E-04~~1.53E-03	~~1.87E-03~~ 5.79E-03	~~1.85E-03~~ 5.70E-03	~~4.27E-03~~ 1.33E-02	~~2.98E-03~~ 9.33E-03	~~1.80E-03~~ 5.56E-03
~~TEEN~~Teen	~~1.87E-03~~5.77E-03	~~1.92E-03~~ 5.93E-03	~~5.67E-04~~1.81E-03	~~1.91E-03~~ 5.90E-03	~~1.88E-03~~ 5.81E-03	~~5.09E-03~~ 1.59E-02	~~3.59E-03~~ 1.13E-02	~~1.82E-03~~ 5.61E-03
~~CHILD~~Child	~~1.64E-03~~5.07E-03	~~1.65E-03~~ 5.09E-03	~~6.72E-04~~2.15E-03	~~1.70E-03~~ 5.25E-03	~~1.66E-03~~ 5.13E-03	~~5.74E-03~~ 1.79E-02	~~3.08E-03~~9.79E-02	~~1.61E-03~~ 4.96E-03
~~INFANT~~Infant	~~9.42E-04~~2.92E-03	~~9.38E-04~~ 2.90E-03	~~2.97E-04~~9.47E-04	~~9.92E-04~~ 3.07E-03	~~9.60E-04~~ 2.96E-03	~~4.74E-03~~ 1.48E-02	~~1.95E-03~~ 6.13E-03	~~9.24E-04~~ 2.85E-03

a) The nearest milking cow for human consumption is located beyond 5 mi.

TABLE 5.4-12 (Sheet 3 of 6)
GASEOUS PATHWAYS - MAXIMUM EXPOSED INDIVIDUAL DOSE SUMMARY

EVAPORATION POND

Pathway/Age Group	~~T.BODY~~Total Body	GI-~~TRACT~~Tract	~~BONE~~Bone (max organ)	~~LIVER~~Liver	~~KIDNEY~~Kidney	~~THYROID~~Thyroid	~~LUNG~~Lung	~~SKIN~~Skin
~~PLUME~~Plume	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
~~GROUND~~Ground	~~2.20E-02~~2.27E-02	~~2.20E-02~~ 2.27E-02	~~2.20E-02~~2.27E-02	~~2.20E-02~~ 2.27E-02	~~2.20E-02~~ 2.27E-02	~~2.20E-02~~ 2.27E-02	~~2.20E-02~~ 2.27E-02	~~2.59E-02~~ 2.66E-02
Vegetables								
~~ADULT~~Adult	1.13E-01	2.87E-01	1.33E-02	1.16E-01	1.13E-01	1.10E-01	1.04E-01	1.02E-01
~~TEEN~~Teen	1.28E-01	3.38E-01	2.04E-02	1.38E-01	1.34E-01	1.26E-01	1.19E-01	1.17E-01
~~CHILD~~Child	1.94E-01	3.54E-01	4.68E-02	2.17E-01	2.09E-01	1.99E-01	1.85E-01	1.82E-01
Meat								
~~ADULT~~Adult	1.94E-02	1.89E+00	2.97E-02	1.62E-02	7.12E-02	1.50E-02	1.48E-02	1.47E-02
~~TEEN~~Teen	1.24E-02	1.18E+00	2.50E-02	9.98E-03	5.62E-02	9.01E-03	8.91E-03	8.76E-03
~~CHILD~~Child	1.68E-02	7.22E-01	4.69E-02	1.21E-02	7.31E-02	1.10E-02	1.08E-02	1.06E-02
Cow Milk								
~~ADULT~~Adult	4.64E-02	3.97E-02	7.69E-03	5.11E-02	4.18E-02	4.38E-02	3.61E-02	3.45E-02
~~TEEN~~Teen	5.96E-02	5.10E-02	1.36E-02	7.35E-02	5.73E-02	5.95E-02	4.80E-02	4.49E-02
~~CHILD~~Child	8.86E-02	7.53E-02	3.18E-02	1.18E-01	9.07E-02	1.00E-01	7.58E-02	7.12E-02
~~INFANT~~Infant	1.28E-01	1.13E-01	5.32E-02	2.00E-01	1.39E-01	1.78E-01	1.17E-01	1.08E-01

TABLE 5.4-12 (Sheet 4 of 6)
GASEOUS PATHWAYS - MAXIMUM EXPOSED INDIVIDUAL DOSE SUMMARY

EVAPORATION POND

CTS-01105

Pathway/Age Group	~~T.BODY~~Total Body	GI-~~TRACT~~Tract	~~BONE~~Bone (max organ)	~~LIVER~~Liver	~~KIDNEY~~Kidney	~~THYROID~~Thyroid	~~LUNG~~Lung	~~SKIN~~Skin
Goat Milk								
~~ADULT~~Adult	1.05E-01	7.39E-02	2.24E-02	1.19E-01	9.15E-02	8.15E-02	7.51E-02	7.05E-02
~~TEEN~~Teen	1.35E-01	9.59E-02	3.97E-02	1.76E-01	1.27E-01	1.09E-01	1.01E-01	9.17E-02
~~CHILD~~Child	1.96E-01	1.48E-01	9.33E-02	2.83E-01	2.02E-01	1.80E-01	1.59E-01	1.45E-01
~~INFANT~~Infant	2.78E-01	2.23E-01	1.56E-01	4.93E-01	3.09E-01	3.05E-01	2.47E-01	2.20E-01
Inhalation								
~~ADULT~~Adult	~~5.67E-02~~5.89E-02	~~5.85E-02~~ 6.08E-02	~~5.16E-04~~5.36E-04	~~5.68E-02~~ 5.90E-02	~~5.69E-02~~ 5.92E-02	~~5.68E-02~~ 5.90E-02	~~7.43E-02~~ 7.72E-02	~~5.65E-02~~ 5.87E-02
~~TEEN~~Teen	~~5.72E-02~~5.95E-02	~~5.91E-02~~ 6.14E-02	~~7.25E-04~~7.53E-04	~~5.75E-02~~ 5.97E-02	~~5.75E-02~~ 5.98E-02	~~5.74E-02~~ 5.96E-02	~~8.74E-02~~ 9.08E-02	~~5.70E-02~~ 5.92E-02
~~CHILD~~Child	~~5.05E-02~~5.25E-02	~~5.13E-02~~ 5.33E-02	~~9.89E-04~~1.03E-03	~~5.08E-02~~ 5.28E-02	~~5.09E-02~~ 5.29E-02	~~5.08E-02~~ 5.28E-02	~~7.74E-02~~ 8.04E-02	~~5.03E-02~~ 5.23E-02
~~INFANT~~Infant	~~2.90E-02~~3.02E-02	~~2.93E-02~~ 3.04E-02	~~5.44E-04~~5.65E-04	~~2.93E-02~~ 3.04E-02	~~2.93E-02~~ 3.04E-02	~~2.94E-02~~ 3.05E-02	~~5.08E-02~~ 5.28E-02	~~2.89E-02~~ 3.00E-02

TABLE 5.4-12 (Sheet 5 of 6)
GASEOUS PATHWAYS - MAXIMUM EXPOSED INDIVIDUAL DOSE SUMMARY

(PLANT VENT AND EVAPORATION POND)

CTS-01105

Pathway/Age Group	~~T.BODY~~Total Body	GI-~~TRACT~~Tract	~~BONE~~Bone (max organ)	~~LIVER~~Liver	~~KIDNEY~~Kidney	~~THYROID~~Thyroid	~~LUNG~~Lung	~~SKIN~~Skin
Plume	5.38E-02	5.38E-02	5.38E-02	5.38E-02	5.38E-02	5.38E-02	5.99E-02	5.03E-01
~~GROUND~~Ground	~~6.55E-02~~1.24E-01	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~1.24E-01	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~ 1.24E-01	~~7.69E-02~~ 1.45E-01
Vegetables								
~~ADULT~~Adult	1.45E-01	3.21E-01	2.63E-01	1.47E-01	1.38E-01	1.67E-01	1.27E-01	1.24E-01
~~TEEN~~Teen	1.72E-01	3.86E-01	3.82E-01	1.86E-01	1.72E-01	2.03E-01	1.54E-01	1.51E-01
~~CHILD~~Child	2.87E-01	4.42E-01	8.46E-01	3.18E-01	2.95E-01	3.58E-01	2.65E-01	2.60E-01
Meat								
~~ADULT~~Adult	2.78E-02	1.90E+00	6.67E-02	2.46E-02	7.89E-02	2.38E-02	2.22E-02	2.20E-02
~~TEEN~~Teen	1.90E-02	1.19E+00	5.59E-02	1.69E-02	6.25E-02	1.61E-02	1.51E-02	1.48E-02
~~CHILD~~Child	2.86E-02	7.35E-01	1.05E-01	2.44E-02	8.47E-02	2.38E-02	2.21E-02	2.18E-02
Cow Milk								
~~PLUME~~	~~4.61E-02~~	~~4.61E-02~~	~~4.61E-02~~	~~4.61E-02~~	~~4.61E-02~~	~~4.61E-02~~	~~5.13E-02~~	~~4.31E-01~~
~~ADULT~~Adult	6.10E-02	4.94E-02	5.83E-02	6.76E-02	5.32E-02	9.78E-02	4.55E-02	4.31E-02
~~TEEN~~Teen	8.08E-02	6.76E-02	1.04E-01	1.03E-01	7.75E-02	1.47E-01	6.49E-02	6.01E-02
~~CHILD~~Child	1.30E-01	1.12E-01	2.49E-01	1.77E-01	1.35E-01	2.82E-01	1.15E-01	1.07E-01
~~INFANT~~Infant	2.07E-01	1.88E-01	4.49E-01	3.19E-01	2.26E-01	6.06E-01	1.96E-01	1.82E-01

TABLE 5.4-12 (Sheet 6 of 6)
GASEOUS PATHWAYS - MAXIMUM EXPOSED INDIVIDUAL DOSE SUMMARY

(PLANT VENT AND EVAPORATION POND)

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Pathway/Age Group	~~T.BODY~~Total Body	GI-~~TRACT~~Tract	~~BONE~~Bone (max organ)	~~LIVER~~Liver	~~KIDNEY~~Kidney	~~THYROID~~Thyroid	~~LUNG~~Lung	~~SKIN~~Skin
Goat Milk								
~~ADULT~~Adult	1.32E-01	8.48E-02	9.16E-02	1.52E-01	1.09E-01	1.46E-01	8.74E-02	8.02E-02
~~TEEN~~Teen	1.69E-01	1.14E-01	1.61E-01	2.34E-01	1.58E-01	2.12E-01	1.23E-01	1.08E-01
~~CHILD~~Child	2.48E-01	1.88E-01	3.79E-01	3.90E-01	2.63E-01	3.93E-01	2.05E-01	1.84E-01
~~INFANT~~Infant	3.69E-01	3.02E-01	6.51E-01	7.02E-01	4.23E-01	8.08E-01	3.39E-01	2.98E-01
Inhalation								
~~ADULT~~Adult	~~5.86E-02~~6.47E-02	~~6.04E-02~~ 6.66E-02	~~9.96E-04~~2.07E-03	~~5.87E-02~~ 6.48E-02	~~5.88E-02~~ 6.49E-02	~~6.11E-02~~ 7.23E-02	~~7.73E-02~~ 8.65E-02	~~5.83E-02~~ 6.43E-02
~~TEEN~~Teen	~~5.91E-02~~6.52E-02	~~6.10E-02~~ 6.73E-02	~~1.29E-03~~2.56E-03	~~5.94E-02~~ 6.56E-02	~~5.94E-02~~ 6.56E-02	~~6.25E-02~~ 7.55E-02	~~9.10E-02~~ 1.02E-01	~~5.88E-02~~ 6.48E-02
~~CHILD~~Child	~~5.22E-02~~5.76E-02	~~5.29E-02~~ 5.84E-02	~~1.66E-03~~3.18E-03	~~5.25E-02~~ 5.80E-02	~~5.26E-02~~ 5.80E-02	~~5.65E-02~~ 7.07E-02	~~8.05E-02~~ 9.01E-02	~~5.19E-02~~ 5.72E-02
~~INFANT~~Infant	~~3.00E-02~~3.31E-02	~~3.02E-02~~ 3.33E-02	~~8.41E-04~~1.51E-03	~~3.03E-02~~ 3.35E-02	~~3.03E-02~~ 3.34E-02	~~3.41E-02~~ 4.54E-02	~~5.28E-02~~ 5.89E-02	~~2.98E-02~~ 3.29E-02

TABLE 5.4-13
GASEOUS PATHWAYS - COMPARISON OF MAXIMUM INDIVIDUAL DOSE COMPARED TO 10 CFR 50, APPENDIX I CRITERIA (PER UNIT)

Type of Dose	10 CFR 50 Design Objective	Calculated Dose
Gaseous Effluents (Noble Gases~~ and Ground~~)		
Gamma Air Dose	10 mrad	~~7.22E-02~~8.42E-02 mrad
Beta Air Dose	20 mrad	~~5.57E-01~~6.05E-01 mrad
Total Body Dose	5 mrem	~~3.69E-02~~5.38E-02 mrem
Skin Dose	15 mrem	~~3.45E-01~~5.03E-01 mrem
Radioiodines and Particulates		
Maximum to any organ	15 mrem	~~1.65~~2.55 mrem ~~(bone of child)~~

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~~Locations of highest pathway doses off-site.~~
Notes:

Doses were calculated at the locations resulting in the highest pathway doses to the public.

~~Note:~~ mrad = millirad

TABLE 5.4-14
GASEOUS PATHWAYS COMPARISON OF MAXIMUM INDIVIDUAL DOSE
COMPARED TO 40 CFR 190 CRITERIA (MREM/YR, PER SITE)

Type of Dose (Annual)	40 CFR 190 Design Objective	Calculated Doses
Whole Body ~~Dose Equivalent~~	25 mrem	~~1.78~~2.01
~~Dose To~~ Thyroid	75 mrem	~~4.57~~5.47
Max to any organ	25 mrem	~~7.17~~7.40

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Note that the collective thyroid dose includes the maximum organ dose due to gaseous effluents from Units 1 and 2. This value bounds the thyroid dose.

TABLE 5.4-15
GASEOUS PATHWAYS – ANNUAL POPULATION DOSE RESULTS

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Pathway	Calculated Dose~~s~~ (Person rem) per unit
Whole Body ~~Dose Equivalent~~	~~2.59~~3.77
~~Dose To~~ Thyroid	~~2.98~~4.29
TEDE	~~2.68~~3.89

Note:

The population doses in this table include gaseous doses due to effluents from the evaporation pond and plant vent.

TABLE 5.4-16
DIRECT RADIATION DOSE

	Location	Estimated Annual Dose	
Direct radiation from site	Maximum Individual at site boundary	~~8.76~~1.34E-01 mrad	CTS-01105
~~Background radiation~~	~~Population within 50 mi~~	~~1.4E+05 person-rad~~	CTS-00629

~~The total population within 50 mi of the CPNPP site projected to the year 2058 is 3,493,553 people.~~

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TABLE 5.4-27
TOTAL GASEOUS DOSES TO THE MAXIMALLY EXPOSED INDIVIDUAL AT SQUAW CREEK RESERVOIR

Pathway	Calculated Dose (mrem) per unit
Whole Body	7.22E-02
Thyroid	8.02E-02
TEDE	7.46E-02

Chapter 6

Chapter 6 Tracking Report Revision List

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
RAI-HYD-20	6.3.5	6.3-8	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Added new subsection to describe post-construction groundwater monitoring.	-
RAI-HYD-20	6.3.6	6.3-9	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Changed Reference subsection from 6.3.5 to 6.3.6.	-
CTS-01105	6.2.5	6.2-4	Access change to SCR	Revised text to reflect the change of status for SCR.	3

*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 7

Chapter 7 Tracking Report Revision List

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
CTS-01101	7.5	7.4-8	Address ASLB Contention 13	Added Section 7.5 to provide description of impacts of a severe accident in one unit on other Comanche Peak units.	1
CTS-01103	7.5	7.5-1	Editorial	Change “the distance between the center point between Units 3 and 4 and the center point between Units 1and 2 is approximately 1700ft” to “the distance between the center point between Units 3 and 4 and the center point between Units 1 and 2 is approximately 1700ft” by adding a space between “Units 1” and ”and”.	2
CTS-01103	7.5	7.5-3	Editorial	Change “The following table presents the release frequencies” to “The following table presents the release frequencies”.	2
CTS-01103	7.5	7.5-11	Editorial	Change “CONCLUSION” to “CONCLUSIONS”	2
CTS-01104	7.5	7.5-11	Cost change	Change “$402,747” to “$400,073”. Change “$584,533” to “$692,576” at two places.	2
CTS-01117	7.3.3	7.3-4	Correction to be consistent with previous change	Revised values to be consistent with ER Section 7.5 (changed all values to November 2009 dollars).	4
CTS-01117	Table 7.3-1	7.3-5	Correction to be consistent with previous change	Revised values to be consistent with ER Section 7.5 (changed all values to November 2009 dollars).	4
CTS-01117	Table 7.3-2	7.3-6	Correction to be consistent with previous change	Revised values to be consistent with ER Section 7.5 (changed all values to November 2009 dollars).	4

*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 8

Chapter 8 Tracking Report Revision List

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER 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 9

Chapter 9 Tracking Report Revision List

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
CTS-00920	9.2.2.11	9.2-30 Through 9.2-50	Address ASLB Contention 18	Added Section 9.2.2.11 to provide discussion of energy alternatives in combination with energy storage.	0
CTS-00920	9.2.5	9.2-44 through 9.2-49	Address ASLB Contention 18	Included references found in Section 9.2.2.11.	0
RAI GEN-03 RAI HYD-23 RAI LU-03	Table 9.2-6	9.2-57 9.2-58	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Added new table to reflect alternatives that have been considered in the past.	-
RAI GEN-03 RAI HYD-23 RAI LU-03	9.4.2.1.4	9.4-17	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised the percent diversion from 46 percent to 83 percent to reflect the conceptual design.	-
RAI GEN-03 RAI HYD-23 RAI LU-03	9.4.2.2.5	9.4-22	ER Supplemental Response Luminant Letter no.TXNB-09087 Date 12/18/2009	Revised the percent diversion from 46 percent to 83 percent and cited the effluent concentrations of 2500 mg/l and 1000 mg/l to reflect the conceptual design.	-

*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 10

Chapter 10 Tracking Report Revision List

Change ID No.	Section	ER Rev. 1 Page*	Reason for change	Change Summary	Rev. of ER T/R
CTS-01097	Table 10.4-3 (Sheet 1 of 2)	10.4-16	Editorial	Corrected “679” to “675” in the “Land Use” category.	4

*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.