

PMComanchePekNPEm Resource

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Subject: Responses to RAI #9 and #10
Attachments: TXNB-09030 RAIs #9 and #10.pdf

Luminant has submitted the attached responses to RAI #9 and #10 to the NRC. If there are any questions regarding these responses, please contact me or contact Don Woodlan (254-897-6887, Donald.Woodlan@luminant.com). This electronic distribution is the only distribution of this letter; there are no hard copies or CDs involved with this letter.

Thanks,

John Conly
COLA Project Manager NuBuild
Luminant Power
(254) 897-5256

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Ref. # 10 CFR 52

August 11, 2009

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
RESPONSES TO REQUESTS FOR ADDITIONAL INFORMATION NO. 2328 AND 2576

Dear Sir:

Luminant Generation Company LLC (Luminant) hereby submits the attached responses to Requests for Additional Information No. 2328 (CP RAI #10) and No. 2576 (CP RAI #9) for the Combined License Application for Comanche Peak Nuclear Power Plant Units 3 and 4. Should you have any questions regarding the responses, please contact Don Woodlan (254-897-6887, Donald.Woodlan@luminant.com) or me.

There are no commitments in this letter.

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

Executed on August 11, 2009.

Sincerely,

Luminant Generation Company LLC

Rafael Flores

- Attachments -
1. Response to Request for Additional Information No. 2328 (CP RAI #10)
 2. Response to Request for Additional Information No. 2576 (CP RAI #9)

Electronic Distribution w/attachments

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RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-1

Please revise the Comanche Peak Nuclear Power Plant (CPNPP) Final Safety Analysis Report (FSAR) Subsection 9.5.1.6.2.1.5 to clarify that fire protection training records will be kept for at least 3 years and be available for NRC inspection, as stated in Table 9.5.1-1R, position number 1.6.4.4.

ANSWER:

FSAR Subsection 9.5.1.6.2.1.5 is revised to identify that records will be retained for at least 3 years and that these records will be available for NRC inspection. See attached mark-up for changes.

Impact on R-COLA

FSAR Revision 0 page 9.5-9 will be revised to reflect this response.

See attached page 9.5-10. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-2

Please revise the CPNPP FSAR Subsection 9.5.1.6 and/or FSAR Chapter 17 to provide a description of the quality assurance (QA) plan for fire protection (FP) systems or program as stated in Table 9.5.1-1R. Subsection 9.5.1.6.5 of the FSAR states that the QA program for FP is addressed under QA program reference in FSAR Chapter 17, but FSAR Chapter 17 does not contain a specific description of the fire protection QA program. The applicant should include the detailed descriptions of this QA program in a future revision of the FSAR. Regulatory Guide (RG) 1.189, Revision 1 (March 2007) Regulatory Position 1.7, "Quality Assurance," provides guidance as to what the plant's overall QA plan should include for fire protection.

ANSWER:

FSAR Section 17.5 specifies the QA program will transition to the Quality Assurance Program Description (QAPD) after the COL is issued and as the project progresses. The QAPD is in full compliance with NQA-1 and is written in conformance with Nuclear Energy Institute (NEI) 06-14A endorsed by the NRC. The QAPD is included in COLA Part 11, "COLA Enclosures."

Part III of the QAPD discusses Non-Safety-Related Systems, Structures, and Components (SSCs) Quality Control. In Section 1 of Part III, specific QA Program requirements for SSCs that are significant contributors to plant safety are discussed. Fire protection SSCs are subject to these requirements.

In Section 2 of Part III of the QAPD, the first bullet states that the quality requirements of the fire protection systems are in accordance with Regulatory Position 1.7, "Quality Assurance," in Regulatory Guide 1.189, "Fire Protection for Operating Nuclear Power Plants."

FSAR Subsection 9.5.1.6.5 has been clarified. See attached mark-up for changes.

Impact on R-COLA

FSAR Revision 0 page 9.5-14 will be revised to reflect this response.

See attached page 9.5-18. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-3

Please revise the CPNPP FSAR Subsection 9.5.1.6 to include a description of the FP program change procedures as stated in Table 9.5.1-1R. RG 1.189, Regulatory Position 1.8.1.3 provides guidance as to the information the applicant should include in a future revision of this subsection to the FSAR.

ANSWER:

The first paragraph of FSAR Subsection 9.5.1.6.4.2.1 is replaced with two new paragraphs to incorporate the requirements of RG 1.189, Regulatory Position 1.8.1.3, and FSAR Table 9.5.1-1R. See attached mark-up for changes.

Impact on R-COLA

FSAR Revision 0 page 9.5-11 and 9.5-12 will be revised to reflect this response.

See attached pages 9.5-12 and 9.5-13. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-4

Please revise the CPNPP FSAR Subsection 9.5.1.6 to describe the FP program record maintenance procedures, as stated in Table 9.5.1-1R. RG 1.189, Regulatory Position 1.8.1.5 provides guidance as to the information the applicant should include in a future revision of this subsection of the FSAR.

ANSWER:

FSAR Subsection 9.5.1.6.4 is revised to clearly define conformance to RG 1.189, Regulatory Position 1.8.1.5 regarding fire protection preventative maintenance procedures. See attached mark-up for revised text.

Impact on R-COLA

FSAR Revision 0 page 9.5-10 will be revised to reflect this response.

See attached page 9.5-11. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-5

Please review CPNPP FSAR Subsection 9.5.1.6, to describe the requirements the applicant must meet when the applicant opts not to change or modify the FP program without seeking prior NRC approval, as stated in Table 9.5.1-1R. RG 1.189, Regulatory Position 1.8.3, provides guidance as to the information the applicant should provide in a future revision of this subsection of the FSAR.

ANSWER:

FSAR Subsection 9.5.1.6.4.2.1 is revised to clarify conformance with RG 1.189, Regulatory Position 1.8.3. See attached mark-up for revised text.

Impact on R-COLA

FSAR Revision 0 page 9.5-12 will be revised to reflect this response.

See attached page 9.5-13. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-6

Please revise the CPNPP FSAR, Subsection 9.5.1.6, to include a description of the FP program reporting procedures in accordance with 10 CFR 50.72 and 10 CFR 50.73, as stated in Table 9.5.1-1R. RG 1.189, Regulatory Position 1.8.5, provides guidance as to the information the applicant should provide in a future revision of this subsection of the FSAR.

ANSWER:

FSAR Subsection 9.5.1.6.4.2.2 will be revised to include clarification on the notification and reporting requirements identified in RG 1.189. See attached mark-up for revised text.

Impact on R-COLA

FSAR Revision 0 pages 9.5-12 and 9.5-19 will be revised to reflect this response.

See attached pages 9.5-14 and 9.5-23. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-7

Please revise the CPNPP FSAR, Subsection 9.5.1.1, to include a description of the deviation from the National Fire Protection Association (NFPA) codes and standards, as stated in Table 9.5.1-1R. RG 1.189, Regulatory Position 1.8.6 provides guidance as to the information the applicant should include in a future revision of this subsection of the FSAR.

ANSWER:

DCD Tier 2 Subsection 9.5.1.1 will be revised to include a method of evaluating a deviation from the NFPA codes and standards as identified in RG 1.189, Regulatory Position 1.8.6, and FSAR Table 9.5.1-1R. A change to the CPNPP FSAR is not needed based on the committed change to the DCD.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

Page 9.5-3 of DCD Tier 2 will be changed as described.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-8

RG 1.189, Regulatory Position 2.1.1, states that unused ion exchange resins and hazardous chemicals should not be stored in areas that contain or expose equipment important to safety. Please revise the CPNPP FSAR Subsection 9.5.1.6.4.2.4, to clarify whether storage of unused ion exchange resins or hazardous chemicals and/or any other combustible materials will be permitted in safety-related areas and describe what, if any, effective administrative controls exist for such storage. Please also provide justification for allowing storage of these types of materials in safety-related equipment, and demonstrate why this is an acceptable deviation from the regulatory guide.

ANSWER:

FSAR Subsection 9.5.1.6.4.2.4 is revised to clarify the storage of unused ion exchange resins or hazardous chemicals used in safety-related areas. See attached mark-ups for revised text.

Impact on R-COLA

FSAR Revision 0 pages 9.5-13 and 9.5-19 will be revised to reflect this response.

See attached pages 9.5-14, 9.5-15 and 9.5-22. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-9

Please revise the CPNPP FSAR Subsection 9.5.1.6, to include a description of the modification review procedure for the FP program, as stated in Table 9.5.1-1R. RG 1.189, Regulatory Position 2.1.2, provides guidance as to the information the applicant should provide in a future revision of this subsection of the FSAR.

ANSWER:

FSAR Subsection 9.5.1.6.4.2.4 is revised to clarify conformance with RG 1.189, Regulatory Position 2.1.2. See attached mark-up for revised text.

Impact on R-COLA

FSAR Revision 0 page 9.5-13 will be revised to reflect this response.

See attached page 9.5-15. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-10

Please revise CPNPP FSAR, Subsection 9.5.1.6, to clarify whether the FP program complies with NFPA 30 standards for the use, handling, and storage of flammable and combustible liquids, as stated in Table 9.5.1-1R.

RG 1.189, Regulatory Position 2.1.3, provides guidance as to the information the applicant should provide in a future revision of this subsection of the FSAR.

ANSWER:

FSAR Subsection 9.5.1.6.4.2.4 is revised to clarify that the section complies with NFPA 30. See response to NRC Question 09.05.01-8.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-11

Please revise the CPNPP FSAR, Subsection 9.5.1.6, to include a description of the fire risk evaluation procedure, as stated in Table 9.5.1-1R. RG 1.189, Regulatory Position 2.1.4, provides guidance as to the information the applicant should provide in a future revision of this subsection of the FSAR.

ANSWER:

FSAR Subsection 9.5.1.6.4.2.1 is revised to clarify that the fire protection program includes fire risk evaluations in accordance with applicable codes and standards. See attached mark-up for revised text.

Impact on R-COLA

FSAR Revision 0 page 9.5-12 will be revised to reflect this response.

See attached pages 9.5-13 and 9.5-14. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-12

Please revise the CPNPP FSAR Subsection 9.5.1.6, to include a detailed description of the ignition sources control procedures, as stated in Table 9.5.1-1R. RG 1.189, Regulatory Position 2.2, provides guidance as to the information the applicant should provide in a future revision of this subsection of the FSAR.

ANSWER:

FSAR Subsection 9.5.1.6.4.2.5 discusses the control of ignition sources. This subsection is revised to further clarify the RG 1.189, Regulatory Position 2.2 requirements. See attached mark-up for revised text.

Impact on R-COLA

FSAR Revision 0 pages 9.5-13 and 9.5-14 will be revised to reflect this response.

See attached pages 9.5-16 and 9.5-17. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-13

Please revise the CPNPP FSAR Subsection 9.5.1.6.4.2.4, to include provisions for the removal of waste, debris, scrap, and oil spills resulting from work activities in safety-related areas upon completion of the work activity or at the end of each shift

RG 1.189, Regulatory Position 2.3, provides guidance as to the information the applicant should provide in a future revision of this subsection of the FSAR.

ANSWER:

FSAR Subsection 9.5.1.6.4.2.4 describes procedural controls to minimize the combustible load to which plant equipment may be exposed during modifications, maintenance and operation periods of the plant. The subsection is revised to include clarification that any waste, debris, scrap, and oil spills resulting from work activities in safety-related areas will be removed at the end of each shift and upon completion of an activity, whichever is shorter.

Also, the subsection is revised to clarify that the periodic inspection for accumulation of combustibles is part of the plant housekeeping procedure.

See attached mark-up for revised text.

Impact on R-COLA

FSAR Revision 0 page 9.5-13 will be revised to reflect this response.

See attached page 9.5-15. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-14

Please revise the CPNPP FSAR Subsection 9.5.1.6, to include a detailed description of the fire protection administration control procedures, as stated in Table 9.5.1-1R. RG 1.189, Regulatory Position 2.4, provides guidance as to the information the applicant should provide in a future revision of this subsection to the FSAR.

ANSWER:

New FSAR Subsection 9.5.1.6.4.2.8 is added to address fire protection system maintenance and impairments. This new subsection incorporates the requirements of RG 1.189, Regulatory Position 2.4. See attached mark-up for revised text.

Impact on R-COLA

FSAR Revision 0 page 9.5-14 will be revised to reflect this response.

See attached page 9.5-17. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-15

Please revise the CPNPP FSAR Subsection 9.5.1.2.2 to clarify whether the CPNPP the FP water storage tanks will be designed based on NFPA 22. If so, please include NFPA 22, "Standard for Water Tanks for Private Fire Protection," in the reference section. If not, please justify the deviation from this standard for FP water storage tanks. RG 1.189, Regulatory Position 3.2.1, provides guidance as to the information the applicant should provide in a future revision of this subsection of the FSAR.

ANSWER:

FSAR Subsection 9.5.1.2.2 is revised to clarify that the fire water storage tank design complies with NFPA 22 as required in RG 1.189, Regulatory Position 3.2.1. Also, NFPA 22 is added to the reference list. See attached mark-up for revised text.

Impact on R-COLA

FSAR Revision 0 pages 9.5-2 and 9.5-19 will be revised to reflect this response.

See attached pages 9.5-2 and 9.5-22. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-16

If one of the references for the FP portable fire extinguishers was NFPA 10, "Standard for Portable Fire Extinguishers," please revise the reference section of subsection, 9.5.10 of the FSAR to include this reference.

RG 1.189, Regulatory Position 3.4.4, provides guidance as to the information the applicant should provide in a future revision of this subsection of the FSAR.

ANSWER:

FSAR Subsection 9.5.10 is revised to add NFPA 10 as a reference. See attached mark-up for revised text.

Impact on R-COLA

FSAR Revision 0 page 9.5-19 will be revised to reflect this response.

See attached pages 9.5-23. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-17

Please revise the CPNPP FSAR, Subsection 9.5.1.6.1.8, to include a description of the requirement for the fire brigade leader to have keys for locked doors as stated in Table 9.5.1-1R, and describe how this requirement will be met. RG 1.189, Regulatory Position 3.5.1, provides guidance as to the information the applicant should provide in a future revision of this subsection of the FSAR.

ANSWER:

FSAR Subsection 9.5.1.6.1.8 describes the fire brigade equipment and does not describe the members of the fire brigade. FSAR Subsection 9.5.1.6.1.6 describes the fire brigade members and is the more appropriate place to address the fire brigade or team leader. Therefore, FSAR Subsection 9.5.1.6.1.6 is revised to clarify that the fire team leader has ready access to keys for any locked doors. FSAR Table 9.5.1-1R (Sheet 20 of 53) is also revised to reflect the correct subsection for Position Number 3.5.1. See attached mark-up for revised text.

Impact on R-COLA

FSAR Revision 0 pages 9.5-5 and Table 9.5.1-1R, (Sheet 20 of 53), page 9.5-39 will be revised to reflect this response.

See attached pages 9.5-5 and 9.5-43. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-18

Please revise the CPNPP FSAR Subsection 9.5.1.6.1.8, "Fire Brigade Equipment," to clarify whether at least 10 self-contained breathing apparatus (SBA) masks are available for fire brigade use. Please also clarify whether each SBA will be provided with an additional 1-hour supply of breathing air in extra bottles, and whether there will be an on-site 6-hour supply of reserve air to provide for quick and complete replenishment of exhausted breathing air bottles. Please also revise this subsection, so that it includes, descriptions of the portable emergency communications equipment and portable lighting that are parts of the fire brigade equipment requirement.

RG 1.189, Regulatory Position 3.5.1.2, provides guidance as to the information the applicant should provide in a future revision of this subsection of the FSAR.

ANSWER:

FSAR Subsection 9.5.1.6.1.8 is revised to clarify that at least 10 self-contained breathing apparatus (SCBA) masks are available for fire brigade use. This subsection is also revised to clarify that each SCBA will be provided with an additional 1-hour supply of breathing air in extra bottles and that there is an on-site 6-hour supply of reserve air to provide for quick and complete replenishment of exhausted breathing air bottles.

Finally, this subsection is revised to clarify that portable emergency communications equipment and portable lighting is provided as part of the fire brigade equipment.

See attached mark-ups for revised text.

Impact on R-COLA

FSAR Revision 0 page 9.5-7 will be revised to reflect this response.

See attached pages 9.5-7. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-19

Please revise the CPNPP FSAR, Subsection 9.5.1.6, to include a description of the explosion hazards control measures that will be implemented at CPNPP, as stated in Table 9.5.1-1R. RG 1.189, Regulatory Position 4.1.8, provides guidance as to the information the applicant should provide in a future revision of this subsection of the FSAR.

ANSWER:

DCD Tier 2 Section 9.5.1.2.1, including the sub-section entitled “Control of Combustible Materials,” which is incorporated by reference in the FSAR, discusses the storage and use of hydrogen and the restriction on hydrogen gas build-up.

COLA FSAR Subsection 9.5.1.6.4.2.4 is revised to identify that the storage, use and handling of compressed gas will comply with NFPA 55. See attached mark-ups for revised text.

See the response to Question 09.05.01-8, which discusses control of combustibles during operation and maintenance periods. Also, see the response to Question 09.05.01-11 which discusses the use of fire risk evaluations to assess potential exposure fires to safety-related Systems Structures, and Components (SSCs).

Systems and processes such as the Gaseous Waste Management System (GWMS) that involve high-concentrations of hydrogen gas will include design features that will prevent the development of explosive mixtures. This system design utilizes hydrogen/oxygen analyzers to periodically monitor the gas levels which are set at administrative levels. More detail on this system is provided in DCD Tier 2 Section 11. Hydrogen is also utilized in the Volume Control Tank (VCT) of the Chemical and Volume Control System in which the gas can be purged to and processed by the GWMS. The gas in the VCT is also periodically monitored by gas analyzers. All equipment which contains high-concentrations of hydrogen gas is designed to be leak-tight and associated equipment cubicles are ventilated to reduce the hazardous gas accumulation.

Impact on R-COLA

FSAR Revision 0 page 9.5-13 will be revised to reflect this response.

See attached page 9.5-15. Because of text additions and deletions, the page numbers on the marked-up FSAR pages may not be the same as the page numbers in FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 – Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-20

Please revise the CPNPP FSAR Subsection 9.5.1.6, to include a description of the fire protection features that will be implemented at CPNPP in new fuel areas, as stated in Table 9.5.1-1R. RG 1.189, Regulatory Position 6.2.1, provides guidance as to the information the applicant should provide in a future revision of this subsection of the FSAR.

ANSWER:

The fire hazards analysis (FHA), which is incorporated in the FSAR by reference, identifies the new fuel areas as part of fire area 2FA-117-27. The FHA states that this area is equipped with automatic fire detection. The primary fire suppression for this area is provided from manual fire hoses and the secondary fire suppression is provided from portable fire extinguishers.

Combustibles throughout the plant, including the new fuel area, are limited to a minimum by procedural compliance as described in FSAR Subsection 9.5.1.6. See response to Questions 09.05.01-08 and 09.05.01-13.

The storage configuration of new fuel is described in DCD Tier 2 Subsection 9.1.1, which is incorporated in the FSAR by reference. New and spent fuel storage racks are designed to maintain the required degree of sub-criticality. The fuel racks will secure the new fuel assemblies at an appropriate spacing such that the application of fire water in the area will not lead to criticality.

DCD Tier 2 Subsection 9.1.2, which is incorporated in the FSAR by reference describes drain facilities to prevent the new fuel area from flooding. These drains will prevent the accumulation of fire water in the area.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.

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CP COL 9.5(2) Replace the third paragraph in **DCD Subsection 9.5.1.2.2** with the following.

The fire protection water supply system (FSS) for CPNPP Units 3 and 4 is depicted in Figure 9.5.1-201. The make-up capability for the storage tanks from the water treatment system is capable of refilling an empty tank within an eight-hour period. Each storage tank has sufficient capacity to support two hours of the largest sprinkler system operation plus hose stream allowances and provides excess capacity to support normal operations without affecting the amount of water reserved for the design requirements. This allows system testing and periodic activities, such as hydrant flushing, without adversely affecting the ability to retain sufficient water to meet the total system design flow requirement in the event of a fire. The fire water storage tank design complies with NFPA 22.

RCOL2_09.0
5.01-15

The design parameters associated with primary fire protection water supply equipment are the followings.

- The total rated head of fire pumps are 350 feet of water at a flow of 2500 gpm
- The water storage for largest sprinkler system operation and hose streams is 318,180 gallons
- The eight-hour storage refill requirement is 318,180 gallons
- The storage tank nominal capacity is 500,000 gallons

9.5.1.2.3 Fire Water Supply Piping, Yard Piping, and Yard Hydrants

CP COL 9.5(2) Replace the seventh paragraph in **DCD Subsection 9.5.1.2.3** with the following.

The yard main loop is shown in Figure 9.5.1-202. The underground yard piping is 12-inch diameter high-density polyethylene piping that is very resistant to corrosion and biofouling. A minimum of 6-inch diameter piping supplies each hydrant and is provided with an isolation valve for hydrant servicing. Building feeds have a minimum 8-inch diameter.

9.5.1.2.4 Manual Suppression Means

CP COL 9.5(2) Replace the second and third sentences of third paragraph in **DCD Subsection 9.5.1.2.4** with the following.

That standpipe can be isolated from the normal fire protection water source after a SSE and the standpipe can be aligned to the ESWS for water supply of at least two hose streams of 75 gpm each. To support two hours operation of these hose streams, the ESWS is designed to supply at least 18,000 gallons for this need.

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- The continued implementation of the fire protection engineering requirements such that modifications and changes do not affect the ability to safely shutdown the plant in the event of a fire

9.5.1.6.1.5 Nuclear Training Manager

The Nuclear Training Manager reports to the Site Vice President and assists in the development and implementation of fire protection training programs for operating personnel and the fire brigade at CPNPP, as requested. The Nuclear Training Manager documents and maintains records of the fire protection training of operations personnel and fire brigade.

9.5.1.6.1.6 CPNPP Fire Brigade

CPNPP maintains an organized fire brigade to deal with fires and related emergencies when they occur. The minimum staffing level for the CPNPP fire brigade is adequate to address the potential magnitude of a fire emergency at CPNPP. For additional support, arrangements exist with offsite departments to provide backup to the CPNPP fire brigade. The CPNPP fire brigade consists of several fire teams with a minimum of five members for each team. This fire team size is consistent with the equipment that is used in responding to a fire event (2 ½ in. hose station, 1 ½ in. hose station, and wheeled and hand held portable extinguishers). Each fire team has a designated fire team leader to direct the action of the fire team. The fire team leader has ready access to keys to any locked doors. The fire team leader maintains close communication with the Shift Manager, keeping him or her apprised of the situation at the fire event. Two fire brigade members perform the primary fire fighting function (i.e., serve as fire attack team operating the fire suppression equipment). The remaining two fire brigade members serve as the rapid intervention team, providing backup, and rescue functions as required.

RCOL2_09.0
5.01-17

A sufficient number of operations personnel receive fire brigade training and qualify to be members of the CPNPP fire brigade to allow the five person fire team consisting of the fire team leader and four additional personnel to be on duty during each working shift and at periods when the plant is shutdown. The fire brigade does not include the Shift Manager and the other member(s) of the minimum shift crew necessary for the safe-shutdown of the unit and any personnel required for other essential functions during a fire emergency. Personnel from other departments may also be used to staff the fire brigade if they have received fire brigade training and meet all qualifications for CPNPP fire brigade membership. The fire brigade may be one less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate an unexpected absence of on-duty crew members, provided immediate action is taken to restore the brigade composition to within the minimum requirements. This provision does not permit the brigade to be unmanned below the minimum upon shift change due to an oncoming member being late or absent.

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CP COL 9.5(1) **9.5.1.6.1.8 Fire Brigade Equipment**

The members of the fire brigade receive the appropriate equipment to enable them to perform the required response duties. The selection of equipment includes the consideration of the nature of the hazards in the facility and the required fire response actions. Storage space for the fire brigade equipment is such that ready accessibility to the fire fighting equipment exists. A written equipment list that the industrial fire brigade is expected to use is maintained onsite, reviewed annually, and updated as necessary. This list includes the location of the equipment and procedures for obtaining the equipment when needed.

The fire brigade equipment includes thermal protective clothing and protective equipment in sufficient quantities and sizes to fit each fire brigade member expected to respond to a fire event. The protective clothing including helmets, gloves, and footwear is in accordance with NFPA 1971, "Standard on Protective Ensemble for Structural Fire Fighting" (Reference 9.5.1-202). All fire brigade members responding to a fire event use self-contained breathing apparatus and personal alert safety systems devices in accordance with NFPA 1982, "Standard on Personal Alert Safety Systems" (Reference 9.5.1-204) and with NFPA 1981, "Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services" (Reference 9.5.1-203). Self-contained breathing apparatus's are approved by the National Institute for Occupational Health and Safety and Mine Safety and Health Administration with minimum service duration of 30 minutes and operate in the positive pressure mode only. At least 10 masks are readily available for fire brigade personnel. Also, a 1-hour supply of breathing air in extra bottles is located at the plant for each self-contained breathing apparatus. In addition, an onsite 6-hour supply of reserve air is provided for fire brigade personnel and is arranged to permit quick and complete replenishment of exhausted air supply bottles as they are returned.

RCOL2_09.0
5.01-18

All fire brigade equipment undergoes inspection and maintenance at least annually. Operation and maintenance manuals and maintenance reports for the fire brigade equipment are retained on file and available to the fire brigade. Thermal protective clothing and protective equipment are used and maintained in accordance with manufacturer's instructions and subject to a maintenance and inspection program.

Fire brigade members using self-contained breathing apparatus operate in teams of two or more who are in communication with each other through visual, audible, physical, safety guide rope, electronic, or other means to coordinate their activities and are in close proximity to each other to provide assistance in case of an emergency.

In addition to the appropriate protective clothing, fire brigade equipment provided includes fire hoses, the appropriate fire hose nozzles for electric plant usage, portable fire extinguishers, wheeled fire extinguishers, portable exhaust fans, portable emergency communication equipment, portable lighting, and fire fighting foam carts suitable for responding to fires involving hydrocarbon lube oil.

RCOL2_09.0
5.01-18

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Afterwards, to determine how well the training objectives are met, a drill critique is held which includes the following.

- Assessment of fire alarm effectiveness, time required to notify and assemble fire brigade, and selection, placement, and use of equipment
- Assessment of brigade leader's effectiveness in directing the fire fighting effort
- Assessment of brigade member's knowledge of fire fighting strategy, procedures, and use of equipment in the area assumed to contain the fire

Employees who receive plant access authorization receive instruction in fire response including evacuation during initial and annual refresher training. Demonstration of evacuation (site evacuation/accountability) is an element of the CPNPP Emergency Plan.

9.5.1.6.2.1.4 Fire Watch Training

Specific fire watch training includes instruction on fire watch duties, responsibilities, and required actions for both one-hour roving and continuous fire watches. The training includes hands-on training on a practice fire with the extinguishing equipment to be used while on fire watch. For fire watch personnel who are trained to provide compensatory action fire watches, the training includes recordkeeping requirements.

9.5.1.6.2.1.5 Fire Protection Training Records

Records of training provided for each fire brigade member, including drill critiques, are maintained for at least 3 years to ~~assure~~ensure that each member of the fire brigade receives training in all parts of the program. These records are available for NRC inspection.

RCOL2_09.0
5.01-01

9.5.1.6.3 Qualifications of Fire Protection Personnel

The Manager, Technical Support, is responsible to the Director, Maintenance, and has available staff personnel knowledgeable in both fire protection and nuclear safety for overall the development and coordination of the CPNPP FPP. The staff includes personnel prepared by training and experience in fire protection and in nuclear plant safety with proven capability to provide a comprehensive approach in directing the FPP for the nuclear power plant. The staff includes at least one fire protection engineer (or a consultant) who is a graduate of an engineering curriculum of accepted standing and satisfies the eligibility requirements as a Member in the Society of Fire Protection Engineers.

The assigned Maintenance Team Manager, responsible to the Director, Maintenance, for the overall implementation of the FPP, has available personnel adequately trained in the administrative procedures that implement the FPP and the emergency procedures relative to fire protection that are knowledgeable in both fire protection and nuclear safety.

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Fire brigade members must be able to satisfactorily complete a physical examination for performing strenuous activity and the fire brigade training prior to being assigned to the fire brigade. Completion of initial fire brigade training is required prior to assigning an individual to the fire brigade. The brigade leader and at least two brigade members have sufficient training in or knowledge of plant systems to understand the effects of fire and fire suppressants on safe-shutdown capability. The brigade leader is competent as evidenced by possession of an operator's license or equivalent knowledge of plant systems to assess the potential safety consequences of a fire and advise MCR personnel. To maintain fire brigade membership, personnel must satisfactorily complete periodic physical exams, participate in at least two fire drills per year, and satisfactorily complete yearly retraining.

Personnel responsible for training of the fire brigade have the knowledge, suitable training, and experience for such work. Personnel responsible for maintenance and testing of the FPSs have the appropriate training and experience for such work.

Personnel assigned fire watch duties have completed training that provides instruction on fire watch duties, responsibilities, and required actions for both 1-hour roving and continuous fire watches. Fire watch qualifications include hands-on training on a practice fire with the extinguishing equipment used while on fire watch. If fire watches serve as compensatory actions, the fire watch training includes recordkeeping requirements.

9.5.1.6.4 Fire Protection Procedures

The Manager, Technical Support, is responsible for the development of procedures for fire protection. The assigned Maintenance Team Manager is responsible for the implementation of fire protection procedures.

Records of FPP-related changes in the facility, changes in procedures, and tests and experiments made in accordance with the standard fire protection license condition are maintained. These records include the written evaluation that provides the bases for the determination that the change does not adversely affect safe-shutdown capability.

A current record of all such changes is available to NRC inspectors upon request. All changes to the approved program are reported along with the FSAR revisions required by 10 CFR 50.71(e).

In accordance with 10 CFR 50.48, all changes in the facility are maintained until the termination of the license. Records of superseded procedures are maintained for a period of 3 years from the date the record was superseded.

RCOL2_09.0
5.01-4

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9.5.1.6.4.1 Fire Fighting Procedures

Fire fighting procedures cover such items as notification of a fire, fire emergency procedures, and coordination of fire fighting activities with local fire departments. The procedures identify the following:

- Actions required of the individual discovering the fire, such as notification to the control room, an attempt to extinguish the fire, and the activation of local fire suppression systems
- Actions required of the control room personnel, such as sounding fire alarms and notifying the shift manager/fire brigade leader of the type, size, and the location of the fire
- Actions required of the fire brigade after notification of a fire, including the location to assemble, directions given by the fire brigade leader, and the responsibilities of the brigade members such as the selection of fire fighting and protective equipment and the use of pre-planned strategies for fighting fires in specific areas
- Actions required of the plant management and security after the notification of fire
- Actions that coordinate fire fighting activities with offsite fire departments including the identification of the person responsible for assessing the situation and calling in the local fire department's assistance, if deemed necessary
- Actions necessary to accommodate the response from an offsite fire department assuring appropriate contact with the CPNPP 3 and 4 incident commander, emergency personnel, and the fire brigade
- The strategies established for fighting fires in safety-related areas and areas presenting a hazard to safety-related equipment; strategies such as the identification of combustibles in each plant zone covered by a fire fighting procedure, the type of fire extinguishers best suited for controlling the fires with the combustible loadings of the zone, and instructions for plant operators and general plant personnel during a fire

9.5.1.6.4.2 Administrative Procedures and Controls

Administrative procedures and controls ensure the reliable performance of fire protection personnel, systems and equipment. Effective measures are in place to control the use and storage of combustibles and control ignition sources. Administrative controls also include procedures for performing and maintaining periodic housekeeping inspections to ensure continued compliance with fire protection controls.

9.5.1.6.4.2.1 Design Control Procedures

~~Design control procedures assure that changes to the plant receive a documented evaluation that indicates no adverse impact to the FPP. If a change-~~

RCOL2_09.0
5.01-3

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~~to the FPP can result from a proposed change, implementation of the change occurs only if the change cannot adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. In addition to an evaluation of planned changes, an evaluation may also be required for nonconforming conditions.~~ Design control procedures are in place to ensure that changes to the plant receive a documented evaluation that concludes no adverse impact to the fire protection program. The evaluation includes the effect of the design change on the fire hazards analysis and considers whether SSCs for a success path for safe shutdown are affected or a new element is introduced in the area. For evaluations which conclude that there is no adverse affect, the evaluations are retained and are available for future inspection and reference.

RCOL2_09.0
5.01-3

If a proposed change alters compliance with a rule, then an exemption from the rule is required in accordance with 10 CFR 50.12. If a proposed change alters a license condition or Technical Specification that was used to satisfy NRC requirements, the licensee will submit a license amendment request. If neither an amendment to the license nor an exemption to the rule is requested for changes that adversely impact the FPP, then modifications to achieve conformance are provided.

In the case of a degraded or nonconforming condition, an evaluation may depend on compensatory and corrective actions. Three potential conditions exist for determining the need for an evaluation. These conditions are: (1) the use of interim compensatory actions, (2) corrective actions that result in a change, or (3) corrective actions that restore the nonconforming or degraded condition to the previous condition.

Temporary changes to specific fire protection features may be necessary to accomplish maintenance or modifications. These changes are acceptable, provided interim compensatory measures such as fire watches, temporary fire barriers, or backup suppression capability exist. For common types of deficiencies, the technical requirements manual and/or the CPNPP program note select specific compensatory measures. For unique situations or for measures that the program does not address, the CPNPP fire protection staff determines appropriate compensatory measures in accordance with the licensing basis.

Where the evaluation of a program change considers the results from fire modeling, documentation is developed that demonstrates the fire models and methods used meet NRC requirements, are used within their limitations, and with the rigor required by the nature and scope of the analyses. These analyses may use simple hand calculations or more complex computer models, depending on the specific conditions of the scenario under consideration. If prior NRC review and approval of certain Appendix R requirements is not sought, a fire protection engineer (assisted by others as needed) performs an Appendix R equivalency evaluation, which is retained for a future NRC inspection. These equivalency evaluations are written and organized to facilitate review by a person not involved in the evaluation. The equivalency evaluation includes all supporting calculations and clearly states all assumptions at the outset. The fire protection program includes fire risk evaluations to identify potential exposure fires to safety related

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SSCs. A fire protection engineer (assisted by others as needed) performs an assessment of SSCs installed in close proximity to potential fire hazards such as flammable liquid and gas storage facilities. The fire protection engineer consults with the appropriate codes and standards to ensure that such installations are minimized and, for such installations, appropriate protective measures are provided.

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5.01-11

9.5.1.6.4.2.2 Safe Shutdown Procedures

Procedures for effecting safe-shutdown for CPNPP use two normal safety trains of equipment, which allows safe plant shutdown without further degradation of plant safety functions should a fire occur in one of the four separate safety train areas. Time-critical operations for effecting safe-shutdown are identified in the safe-shutdown analysis and incorporated in post-fire procedures. These time governed steps were validated prior to procedural incorporation. Procedures govern the tasks to implement remote shutdown capability when offsite power is available and when offsite power is not available for 72 hours. These procedures also address necessary actions to compensate for spurious operations and high-impedance faults if such actions are required. Fire events and fire protection deficiencies that meet the criteria of 10 CFR 50.72 and 10 CFR 50.73 will be reported to the NRC as appropriate in accordance with the requirements of these regulations and the guidelines provided in NUREG 1022.

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5.01-6

9.5.1.6.4.2.3 Low Power and Non-Power Procedures

Low power and non-power operating procedures serve to minimize the potential for fire events to affect safety functions during shutdown operations (i.e., maintenance or refueling outages) when fire risk may increase significantly because of work activities. The procedures assure sufficient redundancy. They also assure that critical safety functions (e.g., reactivity control, reactor decay heat removal, and spent fuel pool cooling) are shielded from potential adverse impact of a fire that could result in the unacceptable release of radioactive materials, under the differing conditions that may be present during shutdown operations.

9.5.1.6.4.2.4 Control of Combustibles

Effective administrative controls minimize the amount of combustibles that safety-related areas are exposed to during operation or maintenance periods. These controls are patterned after the recommendations in NFPA 804 and govern the following.

- ~~Proper storage and handling of flammable gases and liquids, HEPA and charcoal filters, dry, unused ion exchange resins or other combustible supplies in safety-related areas~~Proper control of flammable and combustible liquids and gases throughout the plant including safety-related areas. The handling, use and storage of flammable and combustible liquids complies with the provisions of NFPA 30. The amounts of these materials are controlled and the materials are handled

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using approved containers. The storage, use and handling of compressed gases comply with the provisions of NFPA-55.

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- Proper control of combustible materials such as HEPA and charcoal filters, dry ion exchange resins or other combustible materials used in safety-related areas. Such materials will be allowed in safety-related areas only in amounts which will be used immediately.

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5.01-8

- Restrict the storage of unused ion exchange resin and hazardous materials in safety-related areas.

- Transient fire loads during maintenance and modifications such as combustibles and flammable liquids, wood, and plastic materials in buildings containing safety-related systems or equipment. Only fire retardant wood is allowed within safety-related areas and this is on a case-by-case basis. This control requires an in-plant review of work activities to identify transient fire loads. The supervisor or foreman responsible for reviewing the work activity will specify any required additional fire protection consulting the fire protection engineer as required.

- The fire protection program includes fire prevention element reviews of proposed plant modifications. A fire protection engineer (assisted by others as necessary) reviews proposed plant modifications to ensure the following: fixed fire loads are not adversely increased beyond that accounted for in the fire hazards analysis, suitable fire protection is provided in the affected area, and the fire hazards analysis is updated accordingly.

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- Waste, debris, scrap, and oil spills resulting from work activities in safety-related areas are minimized while work is in progress and removed at the end of each shift or upon completion of an activity, whichever is shorter.

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5.01-13

- Periodic housekeeping inspection for accumulation of combustibles is performed to assure that procedural controls in place are effective.

All interior temporary structures will be constructed of noncombustible, limited-combustible, or fire-retardant pressure-impregnated wood. Structures constructed of noncombustible or limited-combustible materials will be protected by an automatic fire suppression system unless a fire hazard analysis determines that automatic suppression is not required. Structures constructed of fire-retardant pressure-impregnated wood are protected by an automatic fire suppression system. The use of interior temporary coverings is limited to special conditions where interior temporary coverings are necessary and constructed of approved fire-retardant tarpaulins. Where framing is required, it is constructed of noncombustible, limited-combustible, or fire-retardant pressure-impregnated wood. All interior temporary facilities have the appropriate type and size of portable fire extinguisher.

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9.5.1.6.4.2.5 Control of Ignition Sources

~~Effective administrative controls exist to protect safety-related equipment from fire damage or loss resulting from work involving ignition sources, such as welding, cutting, grinding, or open flame. Administrative controls prohibit the use of open flame or combustion smoke for leak testing and minimize unnecessary ignition sources in critical plant areas.~~

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~~Established administrative controls ensure that the following precautions are taken:~~

- ~~• Welding, cutting, grinding, or open flame work will be authorized by the responsible foreman or supervisor through a work permit. The responsible foreman or supervisor receives sufficient fire fighting and fire prevention training covering anticipated fires, such as electrical fires, fires in cables and cable trays, hydrogen fires, hydrocarbon fires, solvent fires, waste/debris fires, and record file fires~~
- ~~• Before work is performed on or near safety-related equipment, combustible materials located near cutting, welding, or open flame work will be removed or protected by metal guards, or flameproof curtains. Fire extinguishers or other fire fighting equipment will be provided in the immediate vicinity of the work location, if needed~~

~~Smoking is not allowed in safety-related areas. Smoking is only allowed in outside areas as outlined by the company smoking policy.~~ Effective procedural controls exist to protect plant equipment from fire damage or loss resulting from work activities involving ignition sources. A hot works program is integrated in installation, modification, maintenance and operational procedures to ensure control of ignition sources during various plant activities. These procedural controls prohibit the use of open flame or combustion smoke for leak testing and minimize unnecessary ignition sources in critical plant areas. Smoking is also prohibited in safety-related areas of the plant. The company smoking policy identifies where smoking is allowed.

Established procedural controls ensure that the following precautions are taken:

- Hot work activities including open flame, welding, cutting, or grinding is authorized by the responsible foreman or supervisor through a hot work permit. The hot work permit identifies the fire hazards in the immediate work area and the fire prevention methods to be used during the hot work activities. The fire prevention methods may include protecting surrounding equipment with fire retardant covering and providing a portable fire extinguisher of appropriate class and size dedicated for the specific hot work activity.
- The responsible foreman, supervisor or worker receives sufficient fire fighting and fire prevention training for the anticipated fires to be

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considered qualified as a fire watch for hot work activities. See Subsection 9.5.1.6.1.9 for more information on fire watches.

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5.01-12

- Prior to any hot work performed on or near plant equipment, the responsible foreman or supervisor ensures that the hot work permit is posted at the work area and that all required fire prevention methods identified on the hot work permit are in place. The responsible foreman, supervisor assigns a qualified individual as a fire watch to the hot work permit.
- Upon completion of the hot works activities, the assigned fire watch will remain at the work location for a period of time to ensure that all hot works are completed and the risk of fire from the hot work activity is removed.

9.5.1.6.4.2.6 Fire Protection Rounds

A fire prevention surveillance plan integrated with recorded rounds to all accessible sections of the plant is performed periodically. Inspections of the plant are conducted in accordance with NFPA 601, "Standard for Security Services in Fire Loss Prevention" (Reference 9.5.1-201). A proceduralized checklist is used for the inspection and retained as documentation for a period of 2 years. Areas of primary containment and high-radiation areas normally inaccessible during plant operation are inspected as plant conditions permit but at least during each refueling outage. For any plant areas inaccessible for periods greater than 2 years, the most recent inspection is retained.

9.5.1.6.4.2.7 Fire Protection Preventative Maintenance

Fire protection preventative maintenance procedures are provided to perform periodic maintenance on fire protection equipment such as the fire pumps and drivers as recommended by the manufacturers of the equipment. Additionally, procedures are provided to address periodic inspection of fire doors, fire dampers, penetration seals and fire barrier wraps.

9.5.1.6.4.2.8 Fire Protection System Maintenance and Impairments

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The fire protection program provides procedural control for the periodic inspection, testing, and maintenance of fire protection SSCs. The testing and maintenance of fire protection SSCs are performed by qualified personnel. Applicable codes, standards and manufacturer's recommendations provide the basis for the testing, and maintenance procedures. Additionally, the fire protection program provides periodic inspection procedures for fire barriers, fire doors, fire dampers and fire barrier penetration seals. Identified impairments to fire protection features, such as fire barriers and associated features, fire detection and fire suppression systems, fire pumps, fire detection and suppression systems, are also procedurally controlled where an impairment permit is generated, corrective actions are initiated and appropriate compensatory measures are established until the impairment is corrected.

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9.5.1.6.5 Fire Protection Quality Assurance Program

The QA program for fire protection is prepared and implemented under QA program reference in Chapter 17, and the “Comanche Peak Nuclear Power Plant Units 3 and 4 Quality Assurance Program Description,” (which is described in FSAR Section 17.5) Part III Sections 1 and 2.

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5.01-2

9.5.2 Communication Systems

CP COL 9.5(4) Replace the first sentence of the second paragraph in **DCD Subsection 9.5.2** with the following.

The intra-plant communications systems consist of a public address/page party line system, intra-plant telephone system, intra-plant sound powered telephone system, plant radio transmitter and receiver system, broadband (internet) communications, and offsite radio systems. The offsite communications systems include telephone, radio frequency system, privately-owned microwave and fiber optic systems, broadband (internet), and personal cell phone.

9.5.2.2.2 Private Automatic Branch Telephone Exchange (PABX)

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

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

9.5.2.2.2.2 Emergency Telephones

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

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

In emergency offsite communication, as the emergency notification system is connected through a local telephone company system, then a station package is

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CP COL 9.5(7) **9.5(7)** *Continuously manned alarm station*

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

CP COL 9.5(8) **9.5(8)** *Offsite communications for the onsite operations support center.*

This COL item is addressed in Subsection 9.5.2.2.5.2

CP COL 9.5(9) **9.5(9)** *Emergency communication system*

This COL item is addressed in Subsection 9.5.2.2.5.2.

9.5(10) *Deleted from the DCD.*

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

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

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

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

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

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

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

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

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

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

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<u>9.5.1-209</u>	<u>NFPA 10, <i>Standard for Portable Fire Extinguishers</i>, 2007 Edition, National Fire Protection Association, Quincy, MA.</u>	RCOL2_09.0 5.01-16
<u>9.5.1-210</u>	<u>NUREG 1022, <i>Event Reporting Guidelines 10 CFR 50.72 and 50.73, Rev. 2.</i></u>	RCOL2_09.0 5.01-6

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**Table 9.5.1-1R (Sheet 20 of 53)
CPNPP Units 3 & 4 Fire Protection Program Conformance with RG 1.189**

	Regulatory Position	Position Number	Conformance	Remarks
CP COL 9.5(1)	A site fire brigade trained and equipped for firefighting should be established and should be on site at all times to ensure adequate manual firefighting capability for all areas of the plant containing SSCs important to safety. The fire brigade leader should have ready access to keys for any locked doors.	3.5.1	Conform	See Subsection 9.5.1.6.1.86.
CP COL 9.5(1)	The equipment provided for the brigade should consist of personal protective equipment such as turnout coats, bunker pants, boots, gloves, hard hats, emergency communications equipment, portable lights, portable ventilation equipment, and portable extinguishers. Self-contained breathing apparatuses using full-face positive-pressure masks approved by the National Institute for Occupational Safety and Health (approval formerly given by the U.S. Bureau of Mines) should be provided for fire brigade, damage control, and MCR personnel.	3.5.1.2	Conform	See Subsection 9.5.1.6.1.8.
CP COL 9.5(1)	Procedures should be established to control actions by the fire brigade upon notification by the MCR of a fire and to define firefighting strategies.	3.5.1.3	Conform	See Subsection 9.5.1.6.3.1.
CP COL 9.5(1)	Fire brigade drills should be performed in the plant so that the fire brigade can practice as a team. Drills should be performed quarterly for each shift fire brigade. Each fire brigade member should participate in at least two drills annually.	3.5.1.4	Conform	See Subsection 9.5.1.6.2.1.3.
CP COL 9.5(1)	Onsite fire brigades typically fulfill the role of first responder, but may not have sufficient personnel, equipment, and capability to handle all possible fire events. Arrangements with offsite fire services may be necessary to augment onsite firefighting capabilities, consistent with the fire hazards analysis and prefire planning documents. The fire protection program should describe the capabilities (e.g., equipment compatibility, training, drills, and command control) of offsite responders.	3.5.2	Conform	See Subsection 9.5.1.6.1.7.

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5.01-17

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2576 (CP RAI #9)

SRP SECTION: 08.01 – Electric Power - Introduction

QUESTIONS for Electrical Engineering Branch (EEB)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 08.01-1

The regulatory basis for this question is discussed in 10 CFR Part 50, Appendix A, General Design Criterion 17.

NUREG-0800, Standard Review Plan (SRP), Chapter 8.1 'Electric Power' establishes criteria that the NRC staff intends to use to evaluate whether an applicant meets the NRC's regulations.

FSAR Figure 8.1-1R shows the addition of a circuit breaker on the high side of the main transformer. Similarly, Figure 8.1-1R shows the addition of two circuit breakers on the high side of the reserve auxiliary transformers (RATs). An applicant is required to identify differences between the design features, analytical techniques, and procedural measures proposed for its facility and the SRP acceptance criteria and evaluate how the proposed alternatives to the SRP acceptance provide an acceptable method for complying with the NRC regulations. Since these additions introduce another failure mode for the normal and alternate sources, the applicant should indicate the rationale for the addition of the circuit breakers and the acceptability of the added failure mode.

ANSWER:

The additional breakers were added based on a requirement of the Public Utility Commission of Texas (PUCT) as stated below:

Paragraph (c)(1) of the PUCT Rule 25.195, 06/20/01

When an eligible transmission service customer requests transmission service for a new generating source that is planned to be interconnected with a TSP's transmission network, the transmission service customer shall be responsible for the cost of installing step-up transformers to transform the output of the generator to a transmission voltage level and protective devices at the point of interconnection capable of electrically isolating the generating source owned by the transmission service customer. The TSP shall be responsible, pursuant to paragraph (2) of this subsection, for

the cost of installing any other interconnection facilities that are designed to operate at a transmission voltage level and any other upgrades on its transmission system that may be necessary to accommodate the requested transmission service.

As a result Luminant was requested by the Electric Reliability Council of Texas (ERCOT) to comply with the PUCT and add the unit switchyard. The addition of the circuit breakers on the high side of the main transformers and reserve auxiliary transformers does not introduce an additional failure mode. The function of these breakers is similar to the breaker in the plant switching station. If the breaker in question does not open on demand, the breakers in the plant switching station will. Since the breakers are in series there will be no other load lost due to the breaker trip. On the other hand, it is very uncommon for a circuit breaker to open without a trip signal.

In addition, the circuit breaker on the high side of the main transformer is the supply breaker for the alternate preferred power supply system. The circuit breakers on the high side of the reserve auxiliary transformers are the supply breakers for the normal preferred power supply system. The preferred power systems are physically separated and do not share any common equipment as described in Subsection 8.2.1.2.1.2. Therefore, failure of any circuit breaker does not affect both preferred power systems and one preferred power system will remain available.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 2576 (CP RAI #9)

SRP SECTION: 08.01 – Electrical Power - Introduction

QUESTIONS for Electrical Engineering Branch (EEB)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 08.01-02

The regulatory basis for this question is discussed in 10 CFR Part 50, Appendix A, General Design Criterion 5 “Sharing of Structures, Systems, and Components” and Regulatory Guide 1.81, “Shared Emergency and Shutdown Electric Systems for Multi-Unit Nuclear Power Plants,” Revision 1 (January 1975), which describes the NRC staff’s techniques in evaluating applications and provides guidance to applicants.

Table 8.1-1 of the US-APWR DCD indicates that 10 CFR Part 50, Appendix A, General Design Criterion (GDC) 5, “Sharing of Structures, Systems, and Components” and RG 1.81, “Shared Emergency and Shutdown Electric Systems for Multi-Unit Nuclear Power Plants,” are not applicable to the US-APWR DCD.

(1) Please explain how a sharing of structures, systems and components will not occur at Comanche Peak Nuclear Power Plant (CPNPP), which, if a license is granted in this proceeding will become a four-unit plant.

(2) Discuss the applicability or non-applicability of the 10 CFR Part 50, Appendix A, GDC 5 and/or of RG 1.81 to CPNPP, Units 3 and 4.

ANSWER:

(1) Comanche Peak Unit 3 and 4 are designed as a single-unit plant and onsite power systems important to safety are not shared by Units 3 and Unit 4. The only portions of power systems shared between Unit 3 and Unit 4 are the plant switching station and the transmission system. Unit 3 and Unit 4 are completely separate from Unit 1 and Unit 2 as shown in Figure 8.2-201.

(2) The shared system described above is defined as the offsite power system. 10 CFR Part 50, Appendix A, GDC 5 and RG 1.81 are not applicable to the offsite power system based on the latest discussion between industry and NRC as documented in an e-mail from Thomas Bergman (NRC) to the Nuclear Energy Institute (NEI) on January 23, 2009.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.