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December 9, 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
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION NO. 3688

Dear Sir:

Luminant Generation Company LLC (Luminant) herein submits the response to Request for Additional Information No. 3688 for the Combined License Application for Comanche Peak Nuclear Power Plant Units 3 and 4. The affected Final Safety Analysis Report pages are included with the response.

Should you have any questions regarding these 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 December 9, 2009.

Sincerely,

Luminant Generation Company LLC

Donald R. Woodlan for

Rafael Flores

Attachment - Response to Request for Additional Information No. 3688 (CP RAI #92)

D090
NRO

Electronic distribution w/attachment

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Attachment

Response to Request for Additional Information No. 3688 (CP RAI #92)

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.: 3688 (CP RAI #92)

SRP SECTION: 17.04 - Reliability Assurance Program (RAP)

QUESTIONS for PRA Licensing, Operations Support and Maintenance Branch 1 (AP1000/EPR Projects) (SPLA)

DATE OF RAI ISSUE: 9/29/2009

QUESTION NO.: 17.04-1

NUREG-0800, Standard Review Plan, Chapter 17.4, 'Reliability Assurance Program (RAP),' establishes criteria that the NRC staff intends to use to evaluate whether an applicant meets the NRC's regulations.

Section 17.4.4 of the Comanche Peak combined license (COL) application states "These organizations will ensure that the objectives of site operational (O)-RAP are incorporated into existing programs." The staff requests that the applicant explain in FSAR Section 17.4 what the O-RAP objectives are.

ANSWER:

FSAR Subsection 17.4.3 has been revised to state the O-RAP objectives.

Impact on R-COLA

See attached marked-up FSAR Revision 1 page 17.4-1.

Impact on S-COLA

None.

Impact on DCD

None.

17.4 RELIABILITY ASSURANCE PROGRAM

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

17.4.3 Scope

CP COL 17.4(1)
CP COL 17.4(2)

Add the following paragraph after the last paragraph in DCD Subsection 17.4.3.

The site-specific phase, Phase II design reliability assurance program (D-RAP), introduces the site-specific design to the D-RAP process. Phase III, the last phase of the D-RAP, implements the procurement, fabrication, construction, and pre-operational testing in accordance with the site-specific D-RAP. The operational reliability assurance program (O-RAP) addresses the site-specific plant operation and maintenance activities. As described in Section 17.4.2 of US-APWR DCD, the objective during this stage is to ensure that the reliability for the SSCs within the scope of the RAP is maintained during plant operation. The RAP activities should be integrated into the existing operational program (i.e., Maintenance Rule, surveillance testing, in-service inspection, in-service testing, and QA) in the O-RAP. RCOL2_17.04-1

The Phase II and Phase III programs continue the structure and quality controls of the Phase I process used in the Design Certification of the US-APWR as described in DCD Subsection 17.4.4. The continuity of Phase II and III of the D-RAP program uses the process and information developed for Phase I and supplements it with site specific input using additional Luminant organizations in the evaluation process (e.g. Luminant Engineering, Procurement, Construction and Startup, etc.). The Phase I program migrates through Phases II and III to become the basis and records for O-RAP after fuel load. RCOL2_17.04-4

17.4.4 Quality Controls

CP COL 17.4(1)
CP COL 17.4(2)

Add the following paragraphs after the last paragraph of "a. Organization" in DCD Subsection 17.4.4.

Phases II and III of the D-RAP and the O-RAP are the responsibility of Luminant.

Phases II and III of the D-RAP occur before initial fuel load. The startup organization is created to perform the initial test program including pre-operational and startup tests. This temporary group administratively reports to the plant Operation organization and includes members from on-site organizations such as Luminant Engineering, Operations, QA representatives, Mitsubishi Heavy

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.: 3688 (CP RAI #92)

SRP SECTION: 17.04 - Reliability Assurance Program (RAP)

QUESTIONS for PRA Licensing, Operations Support and Maintenance Branch 1 (AP1000/EPR Projects) (SPLA)

DATE OF RAI ISSUE: 9/29/2009

QUESTION NO.: 17.04-2

NUREG-0800, Standard Review Plan, Chapter 17.4, 'Reliability Assurance Program (RAP),' establishes criteria that the NRC staff intends to use to evaluate whether an applicant meets the NRC's regulations.

Section 17.4.5 of the Comanche Peak COL application states "The O-RAP is integrated into the Maintenance Rule Program (Section 17.6), and other operational programs." The NRC staff requests that the applicant list these other operational programs in FSAR Section 17.4 and provide cross-references to the specific sections of chapters of the application where these programs are described.

ANSWER:

FSAR Subsection 17.4.5 has been revised to respond to the request.

Impact on R-COLA

See attached marked-up FSAR Revision 1 page 17.4-3

Impact on S-COLA

None.

Impact on DCD

None.

17.4.5 Integration into Existing Operational Programs

CP COL 17.4(2) Add the following paragraphs after the last paragraph in DCD Subsection 17.4.5.

The O-RAP is integrated into the Maintenance Rule Program (Section 17.6), and other operational programs as listed below. The O-RAP SSCs are included in the high-safety-significant category within the scope of the Maintenance Rule Program. The Maintenance Rule Program incorporates the evaluation process of risk-significant SSCs, the maintenance of the reliability of risk-significant SSCs, and monitoring of the effectiveness of maintenance needed for reliability assurance. Industry operational experience will be used in the monitoring process to verify that reliability assumptions remain valid. RCOL2_17.04-2

Quality Assurance Program	FSAR Table 13.4-201, 17.5
Maintenance Rule Program	FSAR Table 13.4-201, 17.6
Inservice Inspection Program	FSAR 5.2, 6.1, 6.6, Table 13.4-201
Inservice Testing Program	FSAR 3.9, 5.2, Table 13.4-201
Reactor Vessel Material Surveillance Program	FSAR 5.3, Table 13.4-201; ITAAC Part 10, 3

RCOL2_17.04-2

The scope of the Maintenance Rule Program includes safety-related SSCs and certain nonsafety-related SSCs, as determined using a Maintenance Rule scoping procedure, consistent with SECY 95-132. Procurement, fabrication, construction, and test specifications for safety-related and nonsafety-related SSCs within the scope of the RAP are prepared and implemented under QAP referenced in Sections 17.1, 17.2, 17.3, and 17.5. These elements of the QAPs provide adequate confidence that SSCs will perform satisfactorily in service and ensure that significant assumptions, such as equipment reliability, are realistic and achievable.

17.4.7 D-RAP

CP COL 17.4(1)
CP COL 17.4(2) Add the following paragraphs after the paragraph in DCD Subsection 17.4.7.

Phases II and III of the D-RAP occur before initial fuel load.

Phase II, the site-specific phase, introduces the site-specific design information to the D-RAP process.

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.: 3688 (CP RAI #92)

SRP SECTION: 17.04 - Reliability Assurance Program (RAP)

QUESTIONS for PRA Licensing, Operations Support and Maintenance Branch 1 (AP1000/EPR Projects) (SPLA)

DATE OF RAI ISSUE: 9/29/2009

QUESTION NO.: 17.04-3

Table 17.4-201 lists "Cooling tower fan," but there is more than one cooling tower fan. The staff requests that the applicant list all cooling tower fans in this table.

ANSWER:

Table 17.4-201 has been revised to reflect the request.

Impact on R-COLA

See attached marked-up FSAR Revision 1 page 17.4-5.

Impact on S-COLA

None.

Impact on DCD

None.

CP COL 17.4(1)

Table 17.4-201

Risk-significant SSCs (Phase II D-RAP)

#	Systems, Structures and Components (SSCs)	Rationale[1]	Insights and Assumptions
1	Essential service water system (ESWS)		
1	Ultimate Heat Sink Cooling Tower Fan 1 [UHS-OEQ-001A, (B, C, D)] Ultimate Heat Sink Cooling Tower Fan 2 [UHS-OEQ-002A, (B, C, D)] ~~Cooling tower fan~~ ~~[Equipment Number - TBD]~~	RAW /CCF/LPSD	The essential service water system (ESWS) transfers heat from the component cooling water (CCW) system as ultimate heat sink (UHS), which is the cooling tower. This system supports the CCW system (CCWS), which supports various safety and non-safety mitigation systems. Accordingly, reliability of CCWS emergency feedwater (EFW) system has significant impact on risk. Since ESWS consists of four independent trains, failure of one train does not have significant impact on risk. However, failures of SSCs that impact multiple trains have risk significant impact on risk. Accordingly, SSCs that have potential to cause common cause failures among multiple trains are risk significant.

RCOL2_17.04-3

Notes:

1.Definition of Rationale Terms:

RAW = risk achievement worth
CCF = common cause failure
LPSD =low power and shut down operation

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.: 3688 (CP RAI #92)

SRP SECTION: 17.04 - Reliability Assurance Program (RAP)

QUESTIONS for PRA Licensing, Operations Support and Maintenance Branch 1 (AP1000/EPR Projects) (SPLA)

DATE OF RAI ISSUE: 9/29/2009

QUESTION NO.: 17.04-4

Regulatory Guide 1.206, Section C.III.1, Subsection C.I.17.4.4 states that the COL applicant should provide in Chapter 17.4 of the FSAR the quality controls (organization, design control, procedures and instructions, records, corrective action, and audit plans) for developing and implementing the design (D)-RAP. [Note that these "quality controls" are identified as "quality elements" in Section 17.4 of the SRP and as "essential elements" in SECY 95-132.] Section 17.4.4 ("Quality Controls") of the US-APWR Design Control Document (DCD) discusses these essential elements for developing and implementing an effective D-RAP during the design certification phase. While the essential elements that are applied by a COL applicant referencing the US-APWR DCD may be similar to that described in Section 17.4.4 of the US-APWR DCD, the COL applicant should specify its own essential elements for developing and implementing an effective D-RAP.

It is not clear as to whether the information incorporated by reference in Section 17.4.4 of the FSAR, Parts a ("Organization") and b ("Design Control"), also applies to the COL applicant. If this information does not apply to the COL applicant, then the COL applicant should provide supplemental information in the FSAR in accordance with the provisions in SRP Section 17.4 to address it's own essential elements for developing and implementing an effective D-RAP.

The NRC staff requests that the COL applicant clarify whether the information incorporated by reference in Section 17.4.4 of the FSAR, Parts a ("Organization") and b ("Design Control"), applies to the COL applicant's organization and design control process. If this information does not apply to the COL applicant, then provide supplemental information in the FSAR in accordance with the provisions in SRP Section 17.4 (i.e., SRP Acceptance Criteria A.2.a and A.2.b) to address it's own essential elements for developing and implementing an effective D-RAP.

ANSWER:

The information incorporated by reference in FSAR Section 17.4.4, Parts a ("Organization") and b ("Design Control"), applies to the COL applicant's organization and design control process. The

process developed in the design phase will be continued during implementation of Phase II and III. The principal additions in these phases are the inclusion of site specific equipment, new organization input as needed (e.g., Luminant Engineering, Procurement, Operations, Start Up, etc.) and the transfer of oversight for the program to Luminant. Each of the Phases of implementation will build on the information and records of the earlier phase and these programs ultimately form the basis and input to O-RAP after fuel load.

Section 17.4.3 has been clarified to emphasize the continuity of the basic RAP established during the design phase of the project.

Impact on R-COLA

See attached marked-up FSAR Revision 1 page 17.4-1.

Impact on S-COLA

None.

Impact on DCD

None.

17.4 RELIABILITY ASSURANCE PROGRAM

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

17.4.3 Scope

CP COL 17.4(1)
CP COL 17.4(2)

Add the following paragraph after the last paragraph in DCD Subsection 17.4.3.

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The Phase II and Phase III programs continue the structure and quality controls of the Phase I process used in the Design Certification of the US-APWR as described in DCD Subsection 17.4.4. The continuity of Phase II and III of the D-RAP program uses the process and information developed for Phase I and supplements it with site specific input using additional Luminant organizations in the evaluation process (e.g. Luminant Engineering, Procurement, Construction and Startup, etc.). The Phase I program migrates through Phases II and III to become the basis and records for O-RAP after fuel load. RCOL2_17.04-4

17.4.4 Quality Controls

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