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May 1, 2009

U. S. Nuclear Regulatory Commission  
Attn: 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. 2317 and 2332

Dear Sir:

Luminant Generation Company LLC (Luminant) hereby submits the attached responses to Requests for Additional Information No. 2317 (CP RAI #2) and 2332 (CP RAI #1) for the Combined License Application for Comanche Peak Nuclear Power Plant Units 3 and 4. Should you have any questions regarding these responses or matters relating more generally to Luminant's nuclear generation development program, please contact Don Woodlan (254-897-6887, Donald.Woodlan@luminant.com) or me.

This letter contains one regulatory commitment as identified in Attachment 1.

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

Executed on May 1, 2009.

Sincerely,

Luminant Generation Company LLC

Rafael Flores

- Attachments:
1. Regulatory Commitments in this Letter
  2. Response to Request for Additional Information No. 2317 (CP RAI #2), Question No. 05.03.02-1
  3. Response to Request for Additional Information No. 2332 (CP RAI #1), Question No. 14.03-1

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Email Distribution w/attachments

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## Regulatory Commitments in this Letter

This communication contains the following new or revised commitments which will be completed or incorporated into the CPNPP licensing basis as noted:

<u>Number</u>	<u>Commitment</u>	<u>Due Date/Event</u>
5761	In order to enable timely NRC review of the pressurized thermal shock (PTS) evaluation using the as-procured reactor vessel material properties, the evaluation will be provided within 12 months after acceptance of the reactor vessel. This commitment will be included as part of the proposed License Condition identified in Table 13.4-201, item 5.	This commitment will be implemented prior to initial criticality.

The Commitment Number is used by Luminant for internal tracking.

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**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION**

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**Comanche Peak, Units 3 and 4**

**Luminant Generation Company LLC**

**Docket Nos. 52-034 and 52-035**

**RAI NO.: 2317, Revision 0 (CP RAI #2)**

**SRP SECTION: 5.3.2 – Pressure-Temperature Limits, Upper-Shelf Energy, and Pressurized Thermal Shock**

**QUESTIONS for Component Integrity, Performance, and Testing Branch 1 (AP1000/EPR Projects) (CIB1)**

**DATE OF RAI ISSUE: 04/01/2009**

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**QUESTION NO.: 05.03.02-1**

The as-procured reactor vessel material properties will be available to the COL holder after the acceptance of the reactor vessel. In order to provide sufficient time for projected values of reference temperature pressurized thermal shock ( $RT_{PTS}$ ) values, using the as-procured reactor vessel material properties to be verified by the NRC, the staff requests that a more specific and timely milestone for submitting the pressurized thermal shock (PTS) evaluation to the NRC staff. Therefore, the NRC staff requests that a license condition be added, related to Section 5.3.2.3 that states, within a reasonable period of time following acceptance of the reactor vessel (e.g., 1 year after acceptance of the reactor vessel), the COL holder will submit to the NRC staff its plant-specific, projected values of  $RT_{PTS}$  for each reactor vessel bellline material for the end-of-life fluence of the material.

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**ANSWER:**

In order to enable timely NRC review of the pressurized thermal shock (PTS) evaluation using the as-procured reactor vessel material properties, the evaluation will be provided within 12 months after acceptance of the reactor vessel. This commitment will be included as part of the proposed License Condition identified in Table 13.4-201, item 5.

Impact on R-COLA

See attached change for FSAR page 5.3-3 of FSAR Revision 0.

Impact on S-COLA

None.

Impact on DCD

None.

Attachments

None.

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

CP COL 5.3(4) Replace the last paragraph with the following in DCD Subsection 5.3.2.3.

The reference pressurized thermal shock temperature ( $RT_{PTS}$ ) values for CPNPP Units 3 and 4 are calculated based on the material property requirements detailed in DCD Subsection 5.3.1.5, and the results are as shown in DCD Table 5.3-4. In order to enable timely NRC review of the pressurized thermal shock (PTS) evaluation using the as-procured reactor vessel material properties, it will be provided within 12 months after acceptance of the reactor vessel. This commitment will be included as part of the proposed license condition identified in Table 13.4-201, item 5.

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**5.3.2.4 Upper Shelf Energy**

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CP COL 5.3(4) Replace the last paragraph with the following in DCD Subsection 5.3.2.4.

The upper shelf energy (USE) at end-of-life (EOL) for CPNPP Units 3 and 4 is calculated based on material property requirements detailed in DCD Subsection 5.3.1.5, and the results are as shown in DCD Table 5.3-4.

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**5.3.3.7 Inservice Surveillance**

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CP COL 5.3(5) Replace the fourth and fifth sentences in the first paragraph of DCD Subsection 5.3.3.7 with the following.

The detailed list of inservice and preservice inspections for the CPNPP Units 3 and 4 reactor vessel is shown in DCD Tables 5.3-2 and 5.3-3.

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**5.3.4 Combined License Information**

Replace the content of DCD Subsection 5.3.4 with the following.

STD COL 5.3(1) **COL 5.3(1) Pressure-Temperature Limit Curves**

*This COL item is addressed in Subsections 5.3.2.1 and 5.3.2.2.*

CP COL 5.3(2) **COL 5.3(2) Reactor Vessel Material Surveillance Program**

STD COL 5.3(2)

*This COL item is addressed in Subsection 5.3.1.6.*

CP COL 5.3(3)

**COL 5.3(3) Surveillance Capsule Orientation and Lead Factors**

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**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION**

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**Comanche Peak Units 3 and 4  
Luminant Generation Company LLC  
Docket No. 52-034 and 52-035**

**RAI NO.: 2332, REVISION 0 (CP RAI #1)**

**SRP SECTION: 14.3 – Inspections, Tests, Analyses, and Acceptance Criteria**

**QUESTIONS for Fire Protection Team (SFPT)**

**DATE OF RAI ISSUE: 3/30/2009**

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**QUESTION NO. : 14.03-1**

RG 1.189, Regulatory Position 3.4.2, Hydrants and Hose Houses, states that "Threads compatible with those used by local fire departments should be provided on all hydrants, hose couplings, and standpipe risers. Alternatively, a sufficient number of hose thread adapters may be provided."

The importance of ensuring that installed plant fire equipment be compatible with the equipment used by local fire departments warrants the inclusion of plant fire equipment (hydrants, hoses, couplings, and standpipe risers) in the Verification Program. This is to verify either the compatibility of threads, or the provision of an adequate supply of hose thread adaptors that will be readily available in the event of a fire.

FSAR Section 14.3 does not include this information regarding fire equipment compatibility. Please revise FSAR Section 14.3 to include an ITAAC to address this issue, or justify an alternative.

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**ANSWER:**

FSAR Subsection 9.5.1.6.1.7 describes the provisions for using offsite fire departments and mutual aid. CPNPP establishes prior to pre-operational testing, formal written mutual aid agreements between the utility and the offsite fire departments that are listed in the fire hazards analysis and pre-fire plans as providing a support response to a plant fire. Local offsite fire department personnel who provide back up for manual fire fighting resources are trained to ensure familiarity with CPNPP and have the following capabilities:

- Personnel and equipment with capacities consistent with those assumed in the CPNPP fire hazards analysis and pre-fire plans.
  
- Hose threads or adapters to connect with onsite hydrants, hose couplings, and standpipe risers.

The CPNPP Fire Protection System Preoperational Test program is part of the Initial Test Program and is incorporated by reference from the US-APWR Design Control Document. It is described in DCD Section 14.2.12.1.90. The CPNPP COLA Part 2, FSAR Chapter 14, Section 14.2.12 will be revised to add new item to ensure verification that local offsite fire departments utilize hose threads or adapters capable of connecting with onsite hydrants, hose couplings, and standpipe risers.

Impact on R-COLA

FSAR Rev.0 pages 1.8-69, 14.2-3, 14.2-7, and 14.2-8 will be revised to reflect this response.

Attached marked-up pages 1.8-69, 14.2-3, 14.2-4, 14.2-8, and 14.2-9 demonstrate how the changes will be incorporated.

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 Rev.0.

Impact on S-COLA

None.

Impact on DCD

None.

Attachments

None.



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

**Table 1.8-201 (Sheet 60 of 68)**

**Resolution of Combined License Items for Chapters 1 - 19**

COL Item No.	COL Item	FSAR Location	COL Applicant Item	COL Holder Item	Rationale
COL 14.2(6)	The COL applicant develops a description of the specific controls for the preparation and retention of test records. [14.2.6]	14.2.6 Appendix 14AA	A		
COL 14.2(7)	The COL applicant provides a schedule for the development of plant procedures that assures required procedures are available for use during the preparation, review and performance of preoperational and startup testing. [14.2.9]	14.2.9		H	c
COL 14.2(8)	The COL applicant provides an event-based schedule, relative to fuel loading, for conducting each major phase of the test program. For multiunit sites, the COL applicant discusses the effects of overlapping initial test program schedules on organizations and personnel participating in each ITP. [14.2.11]	14.2.11		H	c
COL 14.2(9)	The COL applicant identifies and cross-references each test or portion of a test required to be completed prior to fuel load which satisfies ITAAC requirements. [14.2.11]	14.2.11 Table 14.2-202	A		
COL 14.2(10)	The COL applicant is responsible for the testing outside scope of the certified design in accordance with the test criteria described in subsection 14.2.1. And testing of the following is required. [14.2.12]  • Personnel monitors and radiation survey instruments	<u>Item C8 in</u> <u>14.2.12.1.90</u> 14.2.12.1.112 14.2.12.1.113 14.2.12.1.114 Table 14.2-201 Appendix 14A	A		RCOL2_14.0 3-1
COL 14.3(1)	The COL applicant provides the ITAAC for the site specific portion of the plant systems specified in Subsection 14.3.5, Interface Requirements. [14.3.4.7]	14.3.4.7	A		

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

required to support testing are available for test procedure preparation, review and performance.

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**14.2.11 Test Program Schedule**

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- CP COL 14.2(8) Replace the first and second sentences of the last paragraph in DCD Subsection 14.2.11 with the following.

An event-based schedule for conducting each major phase of the test program for the Comanche Peak Nuclear Power Plant (CPNPP) Units 3 and 4, relative to the start of fuel loading, will be provided to the NRC six months prior to the start of preoperational testing. The schedule will be periodically updated to reflect actual progress. Schedule preparation will include an assessment of overlapping test program schedules between CPNPP Units 3 and 4 and provide assurance that CPNPP Unit 3 will be given priority during the period when testing and plant staff personnel will be working on both units.

- CP COL 14.2(9) Replace the third sentence of the last paragraph in DCD Subsection 14.2.11 with the following.

Preoperational tests which satisfy inspections, tests analyses, and acceptance criteria (ITAAC) test requirements, and ITAAC test requirements which can be incorporated into preoperational tests, are correlated in Table 14.2-202. This correlation is used to assure that ITAAC test requirements are included in the development of preoperational testing procedures.

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**14.2.12 Individual Test Descriptions**

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- CP COL 14.2(10) Replace the last paragraph and bullet in DCD Subsection 14.2.12 with the following.

Testing outside the scope of the certified design is addressed in Subsections 14.2.12.1.112, 14.2.12.1.113, and 14.2.12.1.114. Additional testing for the Fire Protection System Preoperational Test is identified in Subsection 14.2.12.1.90. Table 14.2-201 shows the comprehensive list for the new added subsections.

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

**14.2.12.1 Preoperational Tests**

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STD COL 14.2(10) Add new item after item C.7 in DCD Subsection 14.2.12.1.90 as follows.

RCOL2\_14.0  
3-1

8. Verify that local offsite fire departments utilize hose threads or adapters capable of connecting with onsite hydrants, hose couplings, and standpipe risers.

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Add new subsections after DCD Subsection 14.2.12.1.111 as follow.

STD COL 14.2(10) **14.2.12.1.112 Personnel Monitors and Radiation Survey Instruments  
Preoperational Test**

A. Objective

1. To demonstrate the operation, indication, and alarm functions of radiological personnel monitors and radiation survey instruments.

B. Prerequisites

1. Required construction testing is completed.
2. Test instrumentation is available and calibrated.
3. Required support systems are available.
4. Indicators, power supplies, and sensors have been calibrated as required in accordance with vendor instructions.

C. Test Method

1. Performance of each monitor and survey unit is observed and recorded during individual component tests for each unit during calibration using standard radiation sources, including verification of all alarms, annunciators, and indicators, operation of bypass, interlock, permissive, self-test and loss of power functions, as applicable.

D. Acceptance Criterion

1. Component and, where applicable, integrated testing demonstrates that each monitor or survey unit operates as specified by vendor technical information and plant procedures, including the following, as applicable:
  - i. Alarms, annunciators, and indicators.

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CP COL 14.2(10) **14.2(10)** *Site-specific test abstracts*  
STD COL 14.2(10)

This COL item is addressed in Subsections 14.2.12.1.90.C.8, 14.2.12.1.112, 14.2.12.1.113, and 14.2.12.1.114, Table 14.2-201, and Appendix 14A.

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RCOL2\_14.0  
3-1

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

**Table 14.2-201**

**Comprehensive Listing of Additional Tests**

	<b>Section</b>	<b>Test</b>	
<u>STD COL 14.2(10)</u>	<u>14.2.12.1.90.C.8</u>	<u>Local Fire Department Hose Thread Compatibility Test</u>	RCOL2_14.0 3-1
STD COL 14.2(10)	14.2.12.1.112	Personnel Monitors and Radiation Survey Instruments Preoperational Test	
CP COL 14.2(10)	14.2.12.1.113	Ultimate Heat Sink (UHS) Preoperational Test	
CP COL 14.2(10)	14.2.12.1.114	UHS ESW Pump House Ventilation System Preoperational Test	