

## PMComanchePeakPEm Resource

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**Sent:** Wednesday, December 14, 2011 1:56 PM  
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**Cc:** ComanchePeakCOL Resource; Kallan, Paul  
**Subject:** Comanche Peak RCOL Chapter 9 - Section 9.4.5 - RAI Number 243  
**Attachments:** RAI 6124 (RAI 243).docx

The NRC staff has identified that additional information is needed to continue its review of the combined license application. The NRC staff's request for additional information (RAI) is contained in the attachment. Luminant is requested to inform the NRC staff if a conference call is needed.

The response to this RAI is due within 35 calendar days of **December 14, 2011**.

Note: The NRC staff requests that the RAI response include any proposed changes to the FSAR.

thanks,

Stephen Monarque  
U. S. Nuclear Regulatory Commission  
NRO/DNRL/NMIP  
301-415-1544

**Hearing Identifier:** ComanchePeak\_COL\_Public  
**Email Number:** 1582

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Request for Additional Information No. 6124, COLA Revision 2

RAI Letter Number 243

12/14/2011

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

SRP Section: 09.04.05 - Engineered Safety Feature Ventilation System  
Application Section: FSAR 9.4.5 Combined License Information

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

09.04.05-19

This is a follow-up RAI to RAI Letter No. 123 (3232), Question No. 09.04.05-12 and RAI Letter No. 213 (5585), Question No. 09.04.05-14.

The applicant's response to Part (1) of RAI No. 5585, Question No. 09.04.05-14 resulted in FSAR subsection 9.4.5.4.6 documenting the requisite factory testing of the dampers.

In response to part (2), the applicant amended ITAAC Table A.2-2, "UHS ESW Pump House Ventilation System Equipment Characteristics" with a note that indicates that the backdraft dampers are passive components that have the safety function to open in the direction of airflow and to close by counterbalance when no air flow is present. The staff found both of these FSAR changes acceptable and verified that Revision 2 of the FSAR included both changes. However, the applicant did not amend ITAAC Table A.2-1, "UHS ESW Pump House Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria" to include verification of this safety function as requested by the staff in Question No. 09.04.05-14. That is, the staff believes that demonstrating the operational capability of the installed safety related backdraft dampers to open fully upon exhaust fan induced flow and to fully close after exhaust fan shut down is essential to maintaining the ESW Pump House room within design basis limits. More specifically, this damper operational capability is as fundamental to system operability as are the exhaust fans and the unit heaters whose active safety functions are verified in ITAAC Item 5.b of Table A.2-1.

As such, the staff requests that the applicant add a line item to Table A.2-1 demonstrate the operational capability of the installed safety related backdraft dampers.

09.04.05-20

RCOLA Revision 2 FSAR subsection 9.4.5 (page 9.4-2), states: "Delete the third paragraph and insert the following text to the end of the list of ESF ventilation systems in first paragraph of DCD Subsection 9.4.5.

- UHS ESW Pump House Ventilation System"

The staff notes that the US-APWR DCD third paragraph reads “*The ESF ventilation system complies with 10 CFR 50, Appendix A, GDC 2,4, and 60.*” The staff believes the last paragraph of 9.4.5 which reads “*The COL Applicant is to provide a system information and flow diagram of ESW pump area ventilation system if the ESW pump area requires the ventilation system.*” is the correct paragraph to be deleted.

The staff requests that the applicant provide additional information and amend the RCOLA FSAR, as necessary.

09.04.05-21

The staff notes that Revision 2 FSAR Figure 9.4-203 “UHS ESW Pump House Ventilation Systems Flow Diagram” has a “STD COL 9.2(6)” identifier. In Revision 1 of the RCOLA FSAR, Figure 9.4-201 (changed to Figure 9.4-203 in Revision 2) was tagged with a “CP COL 9.4(6)” identifier. The staff believes this is a typographical error that warrants correction as it is doubtful that “STD COL 9.2(6)” could apply to this drawing.

The staff believes that “STD COL 9.4(6)” is the appropriate tag for FSAR Figure 9.4-203. The staff requests the applicant provide a response about this issue and requests that the RCOL applicant amend the FSAR as necessary.

09.04.05-22

This is a follow-up RAI to RAI 3232, Question No. 09.04.05-3. The applicant responded:

“All ventilation system equipment and components are classified as equipment class 3, seismic category I. There is no seismic classification break needed. A note has been added to FSAR Figure 9.4-201 stating that all UHS ESW Pump House Ventilation System equipment and components (fans, heaters, dampers) are seismic category I.”

The staff notes that Note 1 of FSAR Figure 9.4-203 (i.e. changed to 9.4-203 with Revision 2 of FSAR from 9.4-201) does not address the seismic category of instrumentation (e.g. flow switches, temperature switches) attached to the unit heaters and exhaust fans. Nor does the Note address the seismic classification of the detached temperature switches and temperature controllers contained within the pump rooms. The staff notes that FSAR Table 3.2-201 also fails to address the seismic classification of the UHS ESW Pump House Ventilation System’s instrumentation. The staff also notes that Revision 2 FSAR Figure 9.4-203 “dropped” the display of the MCR alarms discussed in FSAR subsection 9.4.5.5.6. These high and low area temperature alarms were previously displayed in Figure 9.4-201 (Revision 1 of RCOLA)

The staff requests the applicant provide additional information about these issues and amend FSAR Figure 9.4-203 and FSAR Table 3.2-201 to remove these technical deficiencies from the FSAR.

09.04.05-23

This is a follow-up RAI to RAI Letter Number 123 (3232), Question No. 09.04.05-5 and RAI No. 5585, Question No. 09.04.05-17.

In the response to Question 09.04.05-5 the applicant wrote *“The access door is set at a sill height of 6” and is required to be structurally designed for the static head of flood waters that may accumulate above the sill height before being drained away by the floor drains.”* The applicant committed to describe the flooding event evaluation in a new FSAR Subsection 3.4.1.5.3 and to show the details of the floor drain and sill design in FSAR Figure 3.8-209 or related FSAR Section 3.8 figures in a future FSAR Update Tracking Report.

In the response to Question 09.04.05-17, the applicant indicated that “CPNPP Units 3 and 4 had been evaluated for internal flood protection for site-specific structures. The evaluation concluded that postulated internal flooding due to events including MELB and fire suppression activities cannot adversely affect safe plant operations or the ability of the plant to achieve and maintain a safe shutdown condition. Floor drains are provided in the ESW pump rooms and UHS transfer pump rooms to allow internal flood waters to drain to the basin below. The applicant committed to amend FSAR 3.4.1.3, subsection 9.4.5.3.6, Figure 3.8-208 and Figure 3.8-209 with the relevant facts from the evaluation. The staff has verified that Revision 2 of the COLA FSAR contains these changes.

In the latter response, the staff notes that there was neither a discussion of the structural design of the access door nor of the door sill height between the ESW pump room and the UHS transfer pump room. Nor was there a discussion in the response, of the internal flood protection evaluation findings with respect to the required floor drain sizing and the maximum internal flood water height, that prevent these other design details from being a factor in the evaluation’s conclusions. The staff believes that the minimum floor drain sizing to prevent cross divisional flooding should be captured in FSAR 3.4.1.3, subsection 9.4.5.3.6, Figure 3.8-208 and Figure 3.8-209.

As such, the staff requests to review the applicant’s technical evaluation of the internal flood analysis. The applicant’s evaluation can be made available to the staff either: through a formal audit, the electronic reading room, or by submittal to the staff as a Technical Report.

09.04.05-24

This is a follow-up to RAI to RAI No. 3232, Question No. 09.04.05-12 and RAI No. 5585, Question No. 09.04.05-15.

The staff believes the words for the “Design Commitment” and “Acceptance Criteria” of ITAAC Table A.2-1 of Item 4 should be modified to put equal emphasis on the ventilation “cooling” function of the exhaust fans and the heating function of the unit heaters. Therefore, the staff requests that the wording of ITAAC Table A.2-1 of Item 4 be made more precise.

In addition, the staff notes that the first paragraph of Revision 2 FSAR subsection 9.4.5.1.1.6 reads:

“The UHS ESW pump house ventilation system provides and maintains the proper environmental conditions within the required temperature range of 40°F – 120°F to support the operation of the instrumentation and control equipment and components in the individual UHS ESW pump houses during a design basis accident and LOOP. The ventilation system is designed based on the outside ambient design temperature conditions (-5°F – 115°F) using 100-year return period temperature values.”

In contrast ITAAC Table A.2-1 of Item 4 reads:

“A report exists and concludes that the as-built UHS ESW pump house ventilation system is capable of providing ventilation air to maintain area temperature within design limits in the UHS ESW pump houses during normal operations, abnormal and accident conditions of the plant with outside ambient design temperature condition (i.e. -5°F – 115 °F).”

The staff believes that to ensure consistency and to remove ambiguity from the RCOLA, the operational phase of normal operations should be added to the domain of subsection 9.4.5.1.1.6 to make it clear that the UHS ESW pump house ventilation system is not a standby system that only runs during accident scenarios. The staff requests that the applicant make these or similar changes to improve the clarity and consistency of the RCOLA.

09.04.05-25

This is a follow-up RAI to RAI Letter Number 123 (3232), Question No. 09.04.05-10 and RAI Letter No. 213 (5585), Question No. 09.04.05-18.

The applicant in its response to Question 09.04.05-18, (5) stated that Figure 9.4-201 has been revised to indicate that the temperature controllers are part of the plant control system. The staff notes that Figure 9.4-201 (COLA FSAR Revision 1) became Figure 9.4-203 (COLA FSAR Revision 2). The staff notes that Figure 9.4-203 does not contain any notation to indicate that the temperature controllers are part of the plant control system. The staff requests that the applicant amend COLA Revision 2 FSAR, Figure 9.4-203 to demarcate the change of system status for these temperature controllers. In addition, the applicant is requested to create an ITAAC and Chapter 7 supplement for the Plant Control System, since the addition of these safety related temperature controllers to the Plant Control System are not incorporated by reference to the US-APWR DCD.