

## PMComanchePeakPEm Resource

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**Sent:** Monday, September 12, 2011 8:47 AM  
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**Cc:** ComanchePeakCOL Resource; Galvin, Dennis  
**Subject:** Comanche Peak RCOL Chapter 3 section 3.9.6 - RAI Number 228  
**Attachments:** RAI 6027 (RAI 228).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 **September 12, 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:** 1493

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Request for Additional Information (RAI) No. 6027, COLA, Revision 2

RAI Letter Number 228

9/12/2011

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

SRP Section: 03.09.06 - Functional Design Qualification and Inservice Testing Programs for Pumps,  
Valves, and Dynamic Restraints  
Application Section: 3.9.6

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

03.09.06-13

In RAI 03.09.06-1 (RAI letter Number 57 (2772), Question 11174), the NRC staff requested that the Comanche Peak COL applicant describe the implementation of the functional design and qualification process specified in the US-APWR DCD for pumps, valves, and dynamic restraints to be used at Comanche Peak Units 3 and 4. In its response to RAI 03.09.06-1, dated October 26, 2009, the Comanche Peak COL applicant stated that MHI Technical Report MUAP-08015(R1), "US-APWR Equipment Environmental Qualification Program," would provide the implementation milestones for the equipment qualification process for the US-APWR and for site-specific components through its incorporation by reference.

The NRC staff requests that the Comanche Peak COL applicant discuss the implementation of the provisions in the US-APWR DCD for the functional design and qualification of pumps, valves, and dynamic restraints. For example, the staff requests that the Comanche Peak COL applicant address its application of ASME QME-1-2007, "Qualification of Active Mechanical Equipment used in Nuclear Power Plants," as accepted in Revision 3 to NRC Regulatory Guide (RG) 1.100, "Seismic Qualification of Electrical and Active Mechanical Equipment and Functional Qualification of Active Mechanical Equipment for Nuclear Power Plants," consistent with the US-APWR DCD.

The staff routinely audits COL applicants regarding their IST program as part of the COL application review. The staff also requests that the Comanche Peak COL applicant provide a schedule for the availability of a sample of design and procurement specifications for pumps, valves, and dynamic restraints for audit by the NRC staff.

03.09.06-14

In RAI 03.09.06-2 (RAI Letter Number 57 (2772), Question 11175), the NRC staff requested that the Comanche Peak COL applicant describe the inservice testing (IST) and motor-operated valve (MOV) testing operational programs as discussed in Commission paper SECY-05-0197 (October 28, 2005), "Review of Operational Programs in a Combined License Application and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria," through a combination of the US-APWR DCD and Comanche Peak FSAR. In its response to RAI 03.09.06-2, dated October 26, 2009, the Comanche Peak COL applicant stated that the IST programs for

pumps, valves, and dynamic restraints are described through a combination of the US-APWR DCD and the Comanche Peak FSAR.

The NRC staff requests that the Comanche Peak COL applicant confirm that the Comanche Peak FSAR combined with the US-APWR DCD provides a full description of the IST program for pumps, valves, and dynamic restraints for Comanche Peak Units 3 and 4 in light of the supplemental RAIs, dated August 5, 2011, issued by the NRC staff on US-APWR DCD Tier 2, Section 3.9.6. The staff requests that the Comanche Peak COL applicant submit any planned modifications to the Comanche Peak FSAR to fully describe the IST program where the US-APWR DCD provisions need to be supplemented. The staff also requests that the Comanche Peak COL applicant clarify the reference to Nonmandatory Appendix A, "Preparation of Test Plans," of the ASME *Operation and Maintenance of Nuclear Power Plants* (OM Code) in the Comanche Peak FSAR to specify that the IST program for Comanche Peak Units 3 and 4 must satisfy the ASME OM Code as incorporated by reference in 10 CFR 50.55a.

#### 03.09.06-15

In RAI 03.09.06-3 (RAI Letter Number 57 (2772), Question 11176), the NRC staff requested that the Comanche Peak COL applicant specify the most recent edition and addenda of the ASME OM Code incorporated by reference in 10 CFR 50.55a that will be used as the basis for the IST program description to provide support for NRC review of the COL application for Comanche Peak Units 3 and 4. In addition, the staff requested that the applicant discuss the planned use of any code cases and their implementation consistent with RG 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," and any requests for relief from or alternatives to the OM Code, and their justification. In its response to RAI 03.09.06-3, dated October 26, 2009, the Comanche Peak COL applicant stated that the 1995 Edition through the 2003 Addenda of the ASME OM Code would be used as the basis for the IST program description for Comanche Peak Units 3 and 4. The applicant stated that the ASME OM Code Cases listed in RG 1.192 are applied to the IST program as necessary. The applicant indicated that the application of any relief or alternatives to the OM Code and their justification would be provided in response to RAI 03.09.06-10. The NRC staff requests that the Comanche Peak COL applicant specify in the Comanche Peak FSAR the specific edition and addenda to the ASME OM Code that will be used as the basis for the full description of the IST program for pumps, valves, and dynamic restraints to support the COL application for Comanche Peak Units 3 and 4. The staff also requests that the COL applicant specify in the Comanche Peak FSAR any ASME OM Code Cases included as part of the full description of the IST program to be implemented at Comanche Peak Units 3 and 4.

#### 03.09.06-16

In RAI 03.09.06-4 (RAI Letter Number 57 (2772), Question 11177), the NRC staff requested that the Comanche Peak COL applicant clarify the Comanche Peak FSAR to ensure that the IST program (as compared to a program plan) will be available to the NRC staff for review and inspection in a timely manner to allow evaluation for compliance with the NRC regulations applicable to the IST programs for pumps, valves, and dynamic restraints, prior to operation of Comanche Peak Units 3 and 4. In its response to RAI 03.09.06-4, dated October 26, 2009, the Comanche Peak COL applicant provided Regulatory Commitment 6591 for submittal of a schedule that

supports the planning and conduct of NRC inspections of operational programs, including the IST program, no later than 12 months after issuance of the COL or at the start of construction as defined in 10 CFR 50.10a, whichever is later. The NRC staff requests that the Comanche Peak COL applicant clarify the Comanche Peak FSAR to specify that the IST program (rather than a program plan) for Comanche Peak Units 3 and 4 will be available for NRC inspection consistent with the operational program schedule.

#### 03.09.06-17

In RAI 03.09.06-6 (RAI 2772, Question 11179), the NRC staff requested that the Comanche Peak COL applicant provide (1) actuator type; (2) Code Class; (3) normal, safety, and fail safe position; (4) containment isolation function; and (5) test parameters and frequency, for the listed plant-specific valves. The staff also requested that the applicant to provide this information for valves listed in US-APWR DCD Tier 2, Table 3.9-14, "Valve Inservice Test Requirements." In its response to RAI 03.09.06-6, October 26, 2009, the Comanche Peak COL applicant provided a planned revision to Comanche Peak FSAR Table 3.9-203, "Site-Specific Valve IST Requirements," to include valve and actuator type, safety-related missions, safety functions, ASME IST Category, IST type and frequency, and applicable notes. The applicant stated that the ASME Code Class of the valves listed in FSAR Table 3.9-203 is provided in FSAR Table 3.2-201, "Classification of Site-Specific Mechanical and Fluid Systems, Components, and Equipment," and applicable figures identified in Revision 2 to Comanche Peak FSAR as Figure 9.2.1-1R, "Essential Service Water System Piping and Instrumentation Diagram," and Figure 9.2.5-1R, "Ultimate Heat Sink System Piping and Instrumentation Diagram." The Comanche Peak COL applicant indicated that these figures provide the normal and fail safe position of the valves within the IST program in the system piping and instrumentation diagram. The applicant noted that Comanche Peak FSAR Table 3.9-203 would specify any containment isolation function for the listed valves. Revision 2 to Comanche Peak FSAR Table 3.9-203 includes changes specified in the RAI response.

The staff notes that the information in the "Inservice Testing Type and Frequency," column in FSAR Table 3.9-203 is unclear. The NRC staff requests that the Comanche Peak COL applicant clarify the specified IST type and frequency for power-operated valves listed in FSAR Table 3.9-203 to be consistent with the regulatory requirement in 10 CFR 50.55a to implement the ASME OM Code IST provisions, and the regulatory requirement in 10 CFR 50.55a(b)(3)(ii) to establish a program to ensure that motor-operated valves continue to be capable of performing their design-basis safety functions.

#### 03.09.06-18

In RAI 03.09.06-10 (RAI 2772, Question 11183), the NRC staff requested that the COL applicant provide justification for requests for relief from or alternatives to the ASME OM Code edition and addenda used as the basis for the IST program description in the Comanche Peak COL application following the guidance in RG 1.206, or an application-specific approach in justifying relief or alternative requests. In its response to RAI 03.09.06-10, the Comanche Peak COL applicant states that there are no Code relief requests specified in the Comanche Peak FSAR. The applicant notes that relief requests might become necessary in the course of developing the IST program. Revision 3 to US-APWR DCD Tier 2, Subsection 3.9.6.5 states that considerable experience has been used in designing and locating pumps, valves, and dynamic restraints to permit

preservice testing and IST required by the ASME OM Code. The US-APWR DCD specifies that relief from the testing requirements of the ASME OM Code will be requested when full compliance with the requirements of the ASME OM Code is not practical. The NRC staff requests that the Comanche Peak COL applicant clarify whether any alternatives (rather than relief requests) to the ASME OM Code are currently planned for the development and implementation of the Comanche Peak IST program.

#### 03.09.06-19

In RAI 03.09.06-11 (RAI 2772, Question 11184), the NRC staff requested that the Comanche Peak COL applicant discuss the planned implementation of the program indicated in the US-APWR DCD to address potential adverse flow effects on safety-related components within the IST program in the reactor coolant, steam, and feedwater systems at Comanche Peak Units 3 and 4 from hydraulic loading and acoustic resonance during plant operation. In its response to RAI 03.09.06-11, the Comanche Peak COL applicant stated that the Comanche Peak FSAR incorporates by reference the planned implementation of the US-APWR DCD operational program to address potential adverse flow effects on safety-related components within the IST program in the reactor coolant, steam, and feedwater systems. The NRC staff requests that the Comanche Peak COL applicant discuss its plans to implement the provisions in the US-APWR DCD to provide reasonable assurance that potential adverse flow effects will be addressed at Comanche Peak Units 3 and 4.

#### 03.09.06-20

In RAI 03.09.06-12 (RAI 2772, Question 11185), the NRC staff requested that the Comanche Peak COL applicant discuss the plans to develop license conditions for implementation of the Comanche Peak operational programs consistent with the guidance in RG 1.206 and Commission paper SECY-05-0197. In its response to RAI 03.09.06-12, the Comanche Peak COL applicant stated that Section 2.3, "Operational Programs," of Part 10, "Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) and Proposed License Conditions," of the Comanche Peak COL application had been revised to state in a proposed license condition that Luminant shall implement the programs or portions of programs identified in FSAR Table 13.4-201, "Operational Programs Required by NRC Regulations," on or before the associated milestones in Table 13.4-201. Rather than propose a license condition for the operational program schedule, the Comanche Peak COL applicant provided Regulatory Commitment 6591 that commits Luminant to submit a schedule to the NRC that supports the planning and conduct of NRC inspections of operational programs no later than 12 months after issuance of the COL or at the start of construction as defined in 10 CFR 50.10a, whichever is later. The Comanche Peak COL applicant provided a planned revision to FSAR Part 10, Section 2.3 that included milestones for individual operational programs.

The NRC staff requests that the Comanche Peak COL applicant clarify its plans regarding license conditions for operational programs and their milestones with planned changes to the Comanche Peak COL application in support of its RAI response. In addition, the staff requests that the Comanche Peak COL applicant include a note in FSAR Table 13.4-201 for the milestone of full implementation of the IST program after generator on-line on nuclear heat specifying that appropriate portions of the IST program

will be implemented as necessary to support the system operability requirements of the technical specifications.