

## ComanchePeakPE Resource

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**From:** Monarque, Stephen  
**Sent:** Monday, August 15, 2011 2:06 PM  
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**Cc:** ComanchePeakCOL Resource; Otto, Ngola; LaVera, Ronald  
**Subject:** Comanche Peak RCOL Chapter 12 section 12.3 - RAI Number 225  
**Attachments:** RAI 5981 (RAI 225).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 August 15, 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

Request for Additional Information (RAI) No. 5981, COLA Revision 1

RAI Letter Number 225

8/15/2011

Comanche Peak Units 3 and 4  
Luminant Generation Company, LLC.

Docket No. 52-034 and 52-035

SRP Section: 12.03-12.04 - Radiation Protection Design Features

Application Section: 12.3

QUESTIONS for Health Physics Branch (CHPB)

12.03-12.04-12

Title 10 of the Code of Federal Regulations (10 CFR), Part 20, "Standards for Protection Against Radiation," Section 1101(b) "Radiation protection programs" requires that Occupational Radiation Exposures (ORE) be maintained as low as is reasonably achievable (ALARA) as defined in 10 CFR 20.1003, "Definitions", that is, making every reasonable effort to maintain exposure as low as possible. The guidance contained in Regulatory Guide (RG) 8.8 "Information Relevant for Ensuring that Occupational Radiation Exposures at Nuclear Power Stations is Reasonably Achievable," RG 1.206 Subsection C.I.12.3 "Radiation Protection Design Features" and Standard Review Plan Section 12.3-12.4 "Radiation Protection Design Features," state that control of Reactor Coolant System chemistry maintains ORE ALARA. 10 CFR 20.1406(b) "Minimization of contamination" requires licensees to describe design feature to reduce contamination of the facility, facilitate eventual decommissioning, and minimize, to the extent practicable, the generation of radioactive waste.

As noted in "Audit Report: June 23 - 24, 2009, "Health Physics Audit of the Comanche Peak Nuclear Power Plant, Units 3 and 4 Combined License Application" dated December 14<sup>th</sup>, 2009, ADAMS Accession Number ML092730382, Luminant stated that one of the ALARA design features specified in COL application Part 2, FSAR, Chapter 12, that would be implemented, was the zinc injection program.

US-APWR DCD Tier 2 Subsection 12.1.2.1 "General Design Considerations for Keeping Exposures ALARA" states that the US-APWR design supports the use of Zinc injection as one of the possible methods to reduce radiation exposure. Mitsubishi Heavy Industries (MHI), the applicant for the US-APWR DCD has stated that while the standard design does ensure that zinc injection can be employed and includes provisions for future implementation by applicants, the zinc injection system is not directly a part of the standard certified design, and no specific equipment is included for zinc injection in the standard certified design. Industry literature documents the impact zinc injection has on reducing ORE and reducing facility contamination.

Comanche Peak Nuclear Power Plant (CPNPP) Units 3 & 4 combined license (COL) FSAR Chapter 12 "Radiation Protection" does not state whether the applicant intends to use zinc injection, nor does CPNPP COL FSAR Chapter 9 "Auxiliary Systems" describe the locations of components, piping and interfaces to plant systems, of the zinc injection

system, nor does CPNPP COL FSAR Section 12.3 "Radiation Protection Design Features" describe the use of the zinc injection components for ORE.

Please revise and update CPNPP COL FSAR Chapter 9 and Chapter 12 "Radiation Protection" to describe the use of zinc injection at CPNPP, and to include the description of the locations of components, piping and interfaces of the zinc injection system to plant systems described in the CPNPP COL FSAR Chapter 9, or provide the specific alternative approaches used and the associated justification.