



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, DC 20555 - 0001**

March 14, 2014

Mr. Mark A. Satorius  
Executive Director for Operations  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**SUBJECT:    CHAPTERS 3 (PARTIAL), 9, AND 14 OF THE SAFETY EVALUATION REPORT  
              WITH OPEN ITEMS FOR THE COMANCHE PEAK NUCLEAR POWER PLANT,  
              UNITS 3 AND 4, US-APWR REFERENCE COMBINED LICENSE APPLICATION**

Dear Mr. Satorius:

During the 612<sup>th</sup> meeting of the Advisory Committee on Reactor Safeguards, March 6-8, 2014, we met with representatives of the NRC staff and Luminant Generation Company, LLC (Luminant). We reviewed the following chapters of the Safety Evaluation Report (SER) with Open Items associated with the Comanche Peak Nuclear Power Plant, Units 3 and 4, reference combined license (COL) application for the United States Advanced Pressurized Water Reactor (US-APWR) design:

- Chapter 3, "Design of Structures, Systems, Components and Equipment"
- Chapter 9, "Auxiliary Systems"
- Chapter 14, "Verification Programs"

Our review of Chapter 3 did not address Section 3.4.1, "Internal Flood Protection for Onsite Equipment Failures," Section 3.7, "Seismic Design," and Section 3.8, "Design of Category I Structures." These sections of the SER will be submitted at a later date.

Our US-APWR Subcommittee also reviewed these chapters during meetings on November 20-21, 2013, and March 4, 2014. Technical aspects of the US-APWR design as well as the open items identified in each of these SER chapters were discussed at those meetings. We also had the benefit of the documents referenced.

## **CONCLUSIONS**

1. We have not identified any issues in SER Chapter 3, Chapter 9, or Chapter 14 that would preclude issuance of the combined license for Comanche Peak, Units 3 and 4.
2. We plan to review the staff's resolution of the open items in these SER chapters during future meetings.
3. Hazards evaluated in Chapter 3 have the potential to affect multiple structures and systems. We will comment on potential safety implications from these hazards in future interim letters and in our final report.

## **BACKGROUND**

Luminant submitted its application for a COL for Comanche Peak Nuclear Power Plant, Units 3 and 4, on September 19, 2008. This is the reference COL application for the US-APWR design. Revision 3 of the Final Safety Analysis Report (FSAR) was submitted on June 28, 2012.

We have agreed to review the SER on a chapter-by-chapter basis to identify technical issues that may merit further consideration by the staff. This process aids the resolution of concerns and facilitates timely completion of the US-APWR design certification review. Accordingly, the staff has provided Chapters 3, 9, and 14 of the SER with Open Items for our review. The staff's SER and our review of these chapters address FSAR Revision 3.

## **DISCUSSION**

The staff has identified a small number of site-specific open items in their review of these chapters of the COL FSAR. We plan to review the resolution of these open items during future meetings.

We have not identified any additional issues in these SER chapters that would preclude issuance of the COL for Comanche Peak, Units 3 and 4. As part of our review, we have requested information about details of selected evaluations and tests that are addressed in these chapters. Based on our experience to date, we expect that these questions will be resolved to our satisfaction before all open items are closed and the final SER chapters are issued. At this time, we do not have any observations or recommendations on these chapters.

Chapter 3 summarizes evaluations of hazards such as high winds, tornadoes, hurricanes, flooding that originates inside plant structures, flooding from external sources, ruptures of high energy piping, turbine missiles, wind-generated missiles, and aircraft crashes. These evaluations depend on the Comanche Peak site-specific meteorology, geohydrology,

commercial and military aircraft flight patterns, and other activities in the site surroundings. They also depend on structural design information from the sections of Chapter 3 that we have not yet reviewed. These hazards have the potential to affect multiple structures and systems. Except for internal flooding, these hazards have only cursory treatment in the design certification probabilistic risk assessment, and their risk is not quantified. We will examine potential safety implications from these hazards in future steps of our review of this application.

Sincerely,

*/RA/*

John W. Stetkar  
Chairman

## REFERENCES

1. Comanche Peak Nuclear Power Plant, Units 3 and 4 – FSAR Chapter 3, "Design of Structures, Systems, Components and Equipment," Revision 3, June 28, 2012 (ML12202A986, ML12202A987, ML12202A988)
2. Comanche Peak Nuclear Power Plant, Units 3 and 4 – FSAR Chapter 9, "Auxiliary Systems," Revision 3, June 28, 2012 (ML12202A994)
3. Comanche Peak Nuclear Power Plant, Units 3 and 4 – FSAR Chapter 14, "Verification Programs," Revision 3, June 28, 2012 (ML12202A999)
4. Mitsubishi Heavy Industries, MUAP-DC003, Revision 4, Design Control Document for the US-APWR, Chapter 3, "Design of Structures, Systems, Components and Equipment," September 10, 2013 (ML13262A464 & ML13262A466)
5. Mitsubishi Heavy Industries, MUAP-08009, Revision 1, "US-APWR Test Program Description," October 29, 2009 (ML093070197)
6. Comanche Peak Nuclear Power Plant, Units 3 and 4 – Safety Evaluation Report with Open Items for Chapter 3, "Design of Structures, Systems, Components and Equipment," October 2, 2013 (ML13276A153)
7. Comanche Peak Nuclear Power Plant, Units 3 and 4 – Safety Evaluation Report with Open Items for Chapter 9, "Auxiliary Systems," July 19, 2013 (ML13199A311)
8. Comanche Peak Nuclear Power Plant, Units 3 and 4 – Safety Evaluation Report with Open Items for Chapter 14, "Verification Programs," February 24, 2014 (ML14052A125)

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