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**Subject:** Comanche Peak Onsite Audit Needs List  
**Date:** Wednesday, February 1, 2023 10:41:00 AM

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Luminant Team,

For the record, our original request for the Onsite Audit.

## **Comanche Peak LRA On-Site Audit Needs List**

January 31, 2023 – February 2, 2023

### **I. Structural**

- a. On-Site Audit Team: George Wang, Bryce Lehman
- b. Water leaks
  1. The staff reviewed OE documents on the portal and identified water leaks on roofs and walls in variety of buildings. The staff would like a general tour of the buildings with water leaks so that we can get an understanding of the extent of structural degradation caused by the water leaks. The staff would also like to understand how water leaks are evaluated and found acceptable or identified for repair to maintain structural integrity of roofs and walls during the PEO.
  2. Potential locations/areas we would like to see are listed below:
    - i. Service Water Intake Structure - multiple locations at roof
    - ii. Auxiliary Boiler Building - around roof exhaust fan 45
    - iii. Emergency Diesel Building - equipment room on the 844 elevation
    - iv. Turbine Building - at TB.2, EL 803, room # 283
    - v. Fuel Building - 841' elevation in new fuel receipt area
    - vi. Train B Switchgear area fan cooler room (room 1-105) roof penetration (CR-2018-006373)
    - vii. Roof plug in Room 2-108F (CR-2018-005963)
    - viii. Roof leak in Room 1-108G (CR-2017-012537)
    - ix. South wall of room X-113 (CR-2015-010187)
    - x. South wall of Unit 1 normal switchgear room (1-031) (CR-2015-011476)
- c. Increase in porosity and permeability, and loss of strength due to leaching of calcium hydroxide and carbonation
  1. The staff noticed the applicant's claim of no plant-specific OE indicating leaching of calcium hydroxide or carbonation in the accessible areas of RCB, but the staff could not find OE related to leaching for other buildings. We would like a general tour of the buildings with potential leaching so that we can get an understanding of this potential aging effect on structural components at site.
  2. Potential locations/areas we would like to see (interior walls below grade) are listed below:
    - i. Auxiliary Building
    - ii. Diesel General Buildings
    - iii. Fuel Building
    - iv. Yard Structures
    - v. Switch Structures
- d. Loss of material (spalling, scaling) and cracking due to freeze-thaw
  1. The staff noticed the applicant's non-applicable claim for this aging effect.

However, CPNPP is located in a region where weathering conditions are considered moderate, as shown in ASTM C33-90, Figure 1. Therefore, this aging effect is applicable. The staff noticed some freeze damage for some components during OE audit on the portal, the staff would like to get an understanding of this potential aging effect on structural components at site while we tour the buildings mentioned above.

e. Falling Concrete

1. The staff noticed significant OE related to falling concrete from the ceiling of the Service Water Intake Structure (SWIS). The staff would like to tour the SWIS to get an understanding of the extent of structural degradation. The staff would also like to understand how falling concrete from the ceiling is evaluated and found acceptable or identified for repair/replace. The staff would like to audit NDE investigation and analysis documents while we are on the site.

f. Containment

1. There was minimal OE provided in the LRA related to containment degradation. The staff would like a tour of accessible areas of the containment structure to get an understanding of the concrete condition. If available, we would also like to review representative pictures of the containment liner.

g. Others

1. Two staff members in ESEB have not started the OE audit because they are not available due to extended travel. The staff might provide additional structural on-site audit items after their OE audit on the portal.

## II. Electrical

a. On-Site Audit Team: Jorge Cintron-Rivera, Gurcharan Matharu

b. Station Blackout Coping and Recovery Paths

Insulated cables and connections Electrical continuity

Metal enclosed bus – conductors

Metal enclosed bus – insulators

Cable bus – insulated cables (sections used for SBO offsite power recovery)

High-voltage insulators

Switchyard bus and connections

Transmission conductors and connections – concern related to loss of material due to wind-induced abrasion, loss of conductor strength due to corrosion, and increased resistance of connection due to oxidation or loss of preload for transmission conductors, switchyard bus, and connections

Transformer cables and connections

Breaker Control and Instrumentation Cables

Cables and breakers connections associated with onsite AC power systems including Alternate AC source.

c. Electrical Insulation for Cables and Connections Not Subject to 10 CFR 50.49

Environmental Qualification Requirements Including Instrumentation and Control Systems

Components in scope include those associated with FP, EQ, PTS, ATWS, and SBO functions (10 CFR 54.4(a)(3)). The staff is interested in walkdowns/discussions related to the following elements:

1. Cables and connectors where adverse localized conditions (e.g., moisture, temperature, heat, etc.)
  2. Cables, connections with fire retardant
  3. Cables in conduits that have fire seals (watertight) that can result in water accumulation in the conduit.
  4. Medium voltage cables entering and exiting electrical manholes and methodology used to keep water out. (if applicable)
  5. Cables and components associated with Ultimate Heat Sink with potential salt water and high humidity exposure.
  6. Discussion on Cables and connections that are not accessible but in AMP scope.
  7. Review of cables/connectors that have 'degraded' over the years and corrective actions taken.
  8. Containment Cable Inspection Program (if applicable)
  9. Visual inspection of electrical raceways (conduits and cable trays)
- d. LRA APPENDIX B Sections – General Discussion
1. Discuss LRA B-26 Plant-Specific OE:
    - i. B.2.3.39. Inaccessible Power Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements
    - ii. B.2.3.41. Electrical Cable Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements

Thank You,  
Very Respectfully,  
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