



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

November 22, 2013

Mr. Rafael Flores  
Senior Vice President and  
Chief Nuclear Officer  
Attention: Regulatory Affairs  
Luminant Generation Company LLC  
P.O. Box 1002  
Glen Rose, TX 76043

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 1 AND 2 – AUDIT REPORT FOR THE JULY 7-11, 2013, AUDIT REGARDING SEISMIC WALKDOWNS TO SUPPORT IMPLEMENTATION OF NEAR-TERM TASK FORCE RECOMMENDATION 2.3 RELATED TO THE FUKUSHIMA DAI-ICHI NUCLEAR POWER PLANT ACCIDENT (TAC NOS. MF0110 AND MF0111)

Dear Mr. Flores:

On March 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) staff issued a request for information letter pursuant to Title 10 of the *Code of Federal Regulations*, Subpart 50.54(f) (50.54(f) letter) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12053A340). The 50.54(f) letter was issued to power reactor licensees and holders of construction permits requesting addressees to provide further information to support the NRC staff's evaluation of regulatory actions to be taken in response to lessons learned from Japan's March 11, 2011, Great Tōhoku Earthquake and subsequent tsunami. The request addressed the methods and procedures for plants to conduct seismic and flooding hazard walkdowns to identify and address degraded, nonconforming, or unanalyzed conditions through the corrective action program, and to verify the adequacy of the monitoring and maintenance procedures.

By letter dated November 27, 2012 (ADAMS Accession No. ML13009A269), as supplemented by letter dated July 1, 2013 (ADAMS Accession No. ML13192A179), Luminant Generation Company LLC (the licensee) submitted a Seismic Walkdown Report for the Comanche Peak Nuclear Power Plant, Units 1 and 2, as requested by Enclosure 3 of the 50.54(f) letter. From July 9-11, 2013, an NRC audit team completed the on-site audit to gain a better understanding of the methods and procedures used by the licensee to conduct the seismic walkdowns and facilitate the NRC staff's review of the walkdown report. The audit report is enclosed.

R. Flores

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If you have any questions, please contact me at 301-415-3016 or by e-mail at [Balwant.Singal@nrc.gov](mailto:Balwant.Singal@nrc.gov).

Sincerely,

Handwritten signature in black ink, appearing to read "CFlyon for".

Balwant K. Singal, Senior Project Manager  
Projects Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-445 and 50-446

Enclosure:  
Audit Report

cc w/encl: Distribution via Listserv

AUDIT REPORT FOR THE JULY 7-11, 2013 AUDIT  
SEISMIC WALKDOWNS TO SUPPORT IMPLEMENTATION OF  
NEAR-TERM TASK FORCE RECOMMENDATION 2.3 RELATED TO  
THE FUKUSHIMA DAI-ICHI NUCLEAR POWER PLANT ACCIDENT  
LUMINANT GENERATION COMPANY LLC  
COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 1 AND 2  
DOCKET NOS. 50-445 AND 50-446

BACKGROUND

On March 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) staff issued a request for information letter pursuant to Title 10 of the *Code of Federal Regulations*, Subpart 50.54(f) (50.54(f) letter) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12053A340). The 50.54(f) letter was issued to power reactor licensees and holders of construction permits requesting addressees to provide further information to support the NRC staff's evaluation of regulatory actions to be taken in response to lessons learned from Japan's March 11, 2011, Great Tōhoku Earthquake and subsequent tsunami. The request addressed the methods and procedures for plants to conduct seismic and flooding hazard walkdowns to identify and address degraded, nonconforming, or unanalyzed conditions through the corrective action program, and to verify the adequacy of the monitoring and maintenance procedures.

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REGULATORY AUDIT BASIS

The guidance for performing the seismic walkdowns was developed by the Electric Power Research Institute (EPRI) with review and input from NRC staff in numerous public meetings, webinars, and public conference calls during its development. The EPRI submitted EPRI-1025286, "Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic," May 2012 (ADAMS Accession No. ML12164A181) (walkdown guidance), for endorsement, and the staff subsequently endorsed the walkdown guidance by letter dated May 31, 2012 (ADAMS Accession No. ML12145A529). By letter dated July 10, 2012 (ADAMS Accession No. ML12201A095), the licensee indicated that it would utilize the walkdown guidance in the performance of the walkdowns at CPNPP, Units 1 and 2.

Enclosure

The 50.54(f) letter and the walkdown guidance are used as the basis documents upon which the audit was performed.

### AUDIT ACTIVITIES

The NRC audit team consisted of James Isom (NRC/NRR), Thomas Herrity (NRC/RES), Tze-Jer Chuang (NRC/NRO), John Kramer (NRC/RIV) and Nilesh Chokshi (NRC/NRO).

The audit team reviewed the following types of information:

- Engineering reports and procedures which contain requirements or guidelines for the implementation of the seismic walkdown guidance including current seismic licensing basis.
- Description of the process used for the peer review and the peer review report.
- Condition reports (CRs) issued for conditions identified during the walkdowns and area walk-bys.
- Pre-audit self-assessment report – document used to help the licensee prepare for the audit. Several issues were identified by the licensee and noted in this report.
- Implementing procedures for the 50.54(f) letter, Enclosure 3, Seismic Walkdowns.
- Procedure for the development of the seismic walkdown base lists and equipment lists (i.e., SWEL 1 and SWEL 2).
- Drawings of equipment anchorages for equipment selected for anchorage verifications.
- Training and qualifications for personnel associated with seismic walkdown activities.
- Completed walkdown checklists, including seismic walkdown checklists (SWCs) and area walkdown checklists (AWCs).

The audit team performed an independent review of selected SWC items and AWC areas based on the licensee's walkdowns. The team's observations and the conditions were discussed with the licensee to further understand the licensee's overall walkdown processes, are documented below:

- Remote Shutdown Panel, CP2-ECPRLV-01 – this remote shutdown panel located in the safeguard (SG) building (832 ft. elevation) was found to have flexible supported overhead lights approximately 18 inches from the top of the panel which could potentially collide with the equipment during a seismic event.

However, commodity clearance specification CPES-S-1021 justified its acceptability. Meanwhile, in the same room, a portable ladder was found leaning against the wall which may have interaction effects. The ladder was immediately moved to a secured location, resolving this housekeeping issue (CR-2013-006303).

- Centrifugal Charging Pump, TCX-CSAPCH-02 – the centrifugal charging pump located in the Auxiliary Building (810 ft. elevation) was found by the Seismic Walkdown Engineers (SWEs) to have a small grout crack intermittently along the pump edge. However, a close eye inspection by the team revealed that the crack appears more than minor. Several photos were taken to show the severity of the damage. This condition was entered into the Corrective Action Program (CR-2013-007246). The team also observed the overhead scaffolding structure. The SWE determined the structure met the design specification of STA-690, and is not a seismic concern.
- SG Building (AWC) – in Room 2-103, 852 ft. elevation, the NRC staff observed the possible adverse seismic conditions for the embedded channel at the back corner of the VAC transformer CP2-EPTRET-04, which is curved and the end is not flush with floor (CR-2012-011886). Also, the staff noted for in-progress outage work, equipment staged was a concern; a 12-foot ladder was too long to stage at ladder rack No. 2. This housekeeping issue was entered into the Corrective Action Program (CR-2013-006303).
- Control Building (AWC) – in Room X-134, 807 ft. elevation, the NRC staff observed the possible adverse seismic special interaction condition for cable spreading room cabinet CP1-ECPRTC-26 with the surrounding steel frame structure. The SWEs noted that due to the rigidity of the panel, it will not displace enough to exceed the half-inch gap. The team reviewed the calculations performed by the licensee on which the conclusion was based, and found they failed to consider the displacements of the steel frame. CR-2013-007277 was generated by the licensee to evaluate the dynamic response of the steel frame during the design basis seismic event.
- SG Building (AWC) – in Room 2-100, 852 ft. elevation, the NRC staff observed the seismic interaction between the chemical storage drum stored in contact with the safety-related junction box JB2S-5385G (CR-2012-008683). The NRC staff also observed a tool cabinet located 10 inches from the junction box JB25-5313G.
- Control Building (AWC) – in Room X-118, 792 ft. elevation, the NRC staff observed the 3/4-inch clearance on the cabinet CP2-EPSWED-04 to conduit support (CR-2012-008968). Also, the staff noted missing screws in the Train B uninterruptible power supply cooling fan CP2-VAAUPR-02. CR-2013-007024 was issued to address this issue.

## AUDIT SUMMARY

Discussions with the licensee led to an increased level of clarity on the processes that the licensee followed when preparing for and conducting seismic walkdowns related to Fukushima Recommendation 2.3. Specifically, the NRC staff was able to obtain additional clarification regarding: (1) the detailed planning and preparation that the licensee performed prior to conducting seismic walkdowns, (2) more details on background and qualifications of individuals conducting seismic walkdown activities, (3) participation and roles of operations staff, (4) scope of peer review and the experience and independence of the peer reviewers, (5) development of the SWEL, (6) the conduct and reporting of the seismic walkdowns and area walk-bys, and (7) the approach used to disposition potential issues identified during the walkdown activities. By discussing in depth with the licensee these specific topics and reviewing the documentation mentioned above, the team was able to meet the objectives of the audit and has an understanding of the licensee's processes regarding seismic walkdowns sufficient to address the issues identified in the audit plan.

The licensee committed to submit additional information in response to the team's requests.

### Entrance Meeting (July 9, 2013)

The NRC staff discussed the audit plan including the scope, topics of discussions, and possible path forward with the licensee. The licensee stated its intention to submit an addendum to the reports for each of the units, based largely on the licensee's pre-audit self-assessment report.

### Exit Meeting (July 11, 2013)

The NRC team summarized issues identified during the audit. These issues were clearly identified and the licensee was given the opportunity to ask questions. The NRC described its path forward, which included issuance of an audit report and the development of the formal staff assessment for the CPNPP walkdown reports. The licensee agreed to provide additional information regarding the seismic walkdown program to the NRC.

## POST-AUDIT SUBMITTAL

Based on the NRC staff's request during the audit, by letter dated September 12, 2013 (ADAMS Accession No. ML13267A158), the licensee provided the following information:

- Individual description of the 94 items identified by the SWEs during the walkdown.
- Detailed description of the overall seismic walkdown process used at CPNPP including the pre-audit and support team activities that allowed completion of the seismic walkdowns in a relatively brief time period.
- Additional details on the two SWEs experience in the seismic area.

- Disposition of findings and recommendations of the licensee's pre-audit report and open items generated by the NRC audit team.

## CONCLUSION

During the audit, the NRC staff gained a better understanding of the preparation for the conduct of the seismic walkdowns and the licensee's handling of the items identified by the walkdown team. Specific clarifications and additional information needed by the NRC staff regarding the licensee's seismic walkdown report were discussed. In response, the licensee provided the requested information by letter dated September 12, 2013.

Based on the information gained during the audit and in conjunction with the original and subsequent information submitted by the licensee, the NRC staff has sufficient information to complete its staff assessment of the licensee's response to Enclosure 3 of the 50.54(f) letter.

R. Flores

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If you have any questions, please contact me at 301-415-3016 or by e-mail at [Balwant.Singal@nrc.gov](mailto:Balwant.Singal@nrc.gov).

Sincerely,

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Balwant K. Singal, Senior Project Manager  
Projects Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

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**ADAMS Accession No. ML13296A543**

**\* concurrence by e-mail**

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