



Luminant

Rafael Flores
Senior Vice President
& Chief Nuclear Officer
Rafael.Flores@Luminant.com

Luminant Power
P O Box 1002
6322 North FM 56
Glen Rose, TX 76043

T 254 897 5590
C 817 559 0403
F 254 897 6652

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TXX-15155

Ref. # 10CFR50.55a(z)(1)

December 14, 2015

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT
DOCKET NO. 50-446
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION FOR
RELIEF REQUEST B-9 FOR UNIT 2 SECOND TEN YEAR INSERVICE INSPECTION
INTERVAL FROM 10CFR50.55a INSPECTION REQUIREMENTS DUE TO PHYSICAL
INTERFERENCES (1998 EDITION OF ASME CODE, SECTION XI, 2000ADDENDA
THIRD INTERVAL START DATE: AUGUST 3, 2004 THIRD INTERVAL END DATE:
AUGUST 2, 2014) CAC NO. MF6554

- REFERENCES:**
1. Letter logged TXX-15116 dated August 3, 2015 from Rafael Flores to the NRC submitting Relief Request B-9 for Unit 2 Second Ten Year Inservice Inspection Interval from 10CFR50.55a Inspection Requirements due to Physical Interferences
 2. Email dated November 13, 2015 from Balwant Singal of the NRC to Timothy Hope of Luminant Power requesting additional information regarding Relief Request B-9 (CAC No. MF6554)

Dear Sir or Madam:

Per Reference 1, Luminant Generation Company, LLC (Luminant Power) submitted Relief Request B-9 for Comanche Peak Unit 2 for the second ten year inservice inspection interval. Per Reference 2, the NRC provided a request for additional information regarding the subject relief request.

Attached is the Luminant Power response to the request for additional information.

This communication contains no new licensing basis commitments regarding Comanche Peak Unit 2.

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NRR

Should you have any questions, please contact Mr. Jack Hicks at (254) 897-6725.

Sincerely,

Luminant Generation Company LLC

Rafael Flores

By: 

Thomas P. McCool

Vice President, Engineering and Support

Attachment – Response to Request for Information Regarding Unit 2 Relief Request B-9 Second Ten
Year Interval Inspection Requirements due to Physical Interferences

c - Marc L. Dapas, Region IV
Balwant K. Singal, NRR
Resident Inspectors, Comanche Peak
Robert Free, TDLR
Jack Ballard, ANII, Comanche Peak

**COMANCHE PEAK NUCLEAR POWER PLANT UNIT 2
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING
RELIEF REQUEST B-9 FOR SECOND TEN YEAR INTERVAL INSPECTION REQUIREMENTS
DUE TO PHYSICAL INTERFERENCES
(SECOND 10-YEAR ISI INTERVAL END DATE: August 2, 2014)
CAC NO. MF6553**

NRC REQUEST 1:

The NRC staff notes that for the ultrasonic testing (UT) personnel qualification and procedures demonstration, the licensee utilized the requirements in Supplements 2 and 10 of Appendix VIII to the ASME Code, Section XI. Please provide the edition and addenda of the ASME Code used for Appendix VIII.

LUMINANT POWER RESPONSE TO REQUEST 1:

1998 Edition through 2000 Addenda to the ASME Code, Section XI, Appendix VIII was used.

NRC REQUEST 2:

Please provide the following information:

- a. Material specifications (e.g., austenitic stainless steel pipes SA-376, TP-304 and austenitic stainless steel ER-308 weldment) for the weld and associated components (e.g., safe ends, pipes, and elbows).
- b. Thickness of the pipe.

LUMINANT POWER RESPONSE TO REQUEST 2:

- a. Cast stainless steel SA-351 Type CF8A pipe with ER-308 weldment material.
- b. The minimum wall thickness of the pipe segments associated with welds TCX-1-4300-2 and TCX-1-4400-2 is 2.33". The minimum wall thickness of the pipe segments associated with welds TCX-1-4100-13, TCX-1-4200-13 and TCX-1-4400-13 is 2.21".

NRC REQUEST 3:

Please describe the following:

- a. The inservice inspection history (i.e., inspection years, disposition of detected flaws, extent of condition assessment, and corrective actions).
- b. Whether the licensee identified any indications during construction and preservice inspections (i.e., radiographic testing or surface examination, or both) on the volume not covered by UT.
- c. Disposition of identified flaws.

LUMINANT POWER RESPONSE TO REQUEST 3:

- a. The inservice inspection history of the subject welds are as follows:
 - TCX-1-4300-2, TCX-1-4400-2, TCX-1-4100-13, TCX-1-4200-13 and TCX-1-4400-13 were examined from the inside radius in the Spring of 2002 (2RF06) using the Westinghouse SUPREEM Robot

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and the Paragon UT data acquisition system with no flaws or indications identified and no corrective actions required.

- TCX-1-4300-2, TCX-1-4400-2, TCX-1-4100-13, TCX-1-4200-13 and TCX-1-4400-13 were examined from the inside radius in the Fall of 2009 (2RF11) using the WesDyne SQUID nozzle scanner and the Paragon UT multi-channel data acquisition system with no flaws or indications identified and no corrective actions required.
- b. Construction inspections of welds TCX-1-4300-2, TCX-1-4400-2, TCX-1-4100-13, TCX-1-4200-13 and TCX-1-4400-13 were satisfactorily performed. During construction examinations surface indications were identified in weld TCX-1-4100-13 and a lack of fusion was identified in weld TCX-1-4400-13 which were repaired and satisfactorily re-examined. Preservice inspections identified a minor surface indication in weld TCX-1-4200-13 which was re-worked and satisfactorily re-examined with no identified flaws.
- c. Construction and Preservice indications that were identified were repaired and satisfactorily re-examined. No other flaws have been identified in welds TCX-1-4300-2, TCX-1-4400-2, TCX-1-4100-13, TCX-1-4200-13 and TCX-1-4400-13, therefore, no dispositions have been required.

NRC REQUEST 4:

Given the reduced inspection coverage of the welds under consideration, please discuss the following:

- a. Any walkdowns (e.g., under Boric Acid Corrosion Control Program or normal operator rounds) usually performed to monitor and identify leakage in an unlikely event of a through wall leak.
- b. Reactor coolant system leakage detection capabilities at the plant, or any measures taken, to monitor and identify leakage during operation in an unlikely event of a through wall leak in the weld.

LUMINANT POWER RESPONSE TO REQUEST 4:

- a. Due to the location of the subject welds (inside the "sandboxes" on the Reactor Cavity floor) the only time they are accessed is for the VE examinations of the adjacent dissimilar metal welds associated with Code Case N-722-1 during each refueling outage. These examinations are specifically looking for evidence of pressure boundary leakage and corrosion on adjacent ferritic steel components. Therefore, in the unlikely event of a through wall leak, it would be identified during these examinations.
- b. CPNPP has a Leakage-detection system with design objectives in accordance with the requirements of 10 CFR Part 50, GDC 30, and NRC Regulatory Guide 1.45. The leakage-detection systems are capable of detecting leakage as low as 0.1-gpm using the air particulate monitor and as low as 1-gpm using the condensate flow rate and the sump level alarm. The sensitivity is reasonably adequate to detect an increase in unidentified leakage rate. The following are also plant indications of evidence of leakage that are procedurally monitored at CPNPP: Containment humidity high or increasing, Containment radiation levels high or increasing, Containment temperature high or

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increasing, Containment pressure high or increasing and Containment dew point increasing. An RCS water inventory balance is also performed daily by operations for evidence of RCS leakage.

NRC REQUEST 5:

In an unlikely event of a potential through wall flaw and leakage, please discuss significance of the leak and potential for structural failure of the subject welds.

LUMINANT POWER RESPONSE TO REQUEST 5:

Based on the containment leakage detection as discussed in RAI 4 above, a potential through wall flaw of the weld should be detected and the plant would be shut down before significant weld failure could occur. Then corrective action would be performed as required.

NRC REQUEST 6:

Please discuss any industry or plant-specific operating experience regarding potential degradation (e.g., stress corrosion cracking, corrosion, and fatigue) and potential severe loading (e.g., vibration, water hammer, and overloading) for the subject weld and associated components.

LUMINANT POWER RESPONSE TO REQUEST 6:

No industry or plant-specific operating experience regarding potential degradation of the subject welds could be identified. Also, the potential severe loadings for these subject welds have all been extensively analyzed.

NRC REQUEST 7:

Please discuss whether use of alternative volumetric examination techniques (e.g., the radiographic testing and phased array UT) would increase examination coverage.

LUMINANT POWER RESPONSE TO REQUEST 7:

Radiographic testing of the subject welds is not possible due to configuration limitations. Also, the CPNPP NDE vendor Ultrasonic qualification does not include Phased Array qualification techniques.

NRC REQUEST 8:

Please clarify whether the UT covered the regions (i.e., the weld root and the heat affected zone of the base material near the inside diameter surface of the joint) that are typically susceptible to higher stresses and potential degradation.

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LUMINANT POWER RESPONSE TO REQUEST 8:

The WesDyne SQUID nozzle scanner with the Paragon multi-channel data acquisition system has Ultrasonic and Eddy Current qualifications with the following coverage estimates:

- Eddy current essentially covers 100% of the Inside Diameter of the surface of the required examination volume.
- Ultrasonic examination circumferential scanning for axial flaws is limited as stated in CP-201500776 (Relief Request B-9). The areas of severe counter bore and protruding weld root are the areas of limitation for the detection of axial flaws.
- Ultrasonic examination for circumferential oriented flaws achieved 100% required examination volume.