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Ref. # 10CFR50.55a

May 29, 2008

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION
DOCKET NO. 50-446
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION, RELIEF REQUEST NO. B-2 FOR THE UNIT 2 SECOND 10 YEAR ISI INTERVAL FROM 10CFR50.55a INSPECTION REQUIREMENTS DUE TO PHYSICAL INTERFERENCES (SECOND INTERVAL START DATE: AUGUST 3, 2004) (TAC NO. MD7527)

REFERENCES:
1. Letter logged TXX-07177 dated December 19, 2007 from Mike Blevins to the NRC submitting Relief Request No. B-2 for the Unit 2 Second 10 Year ISI Interval.
2. Letter dated March 12, 2008 from Balwant Singal of the NRC to Mike Blevins of Luminant Power requesting additional information regarding Relief Request No. B-2.

Dear Sir or Madam:

Per Reference 1, Luminant Generation Company LLC (Luminant Power) previously submitted relief from the applicable requirements of Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, as identified in the referenced relief request. Luminant Power has determined that certain inspection requirements of ASME Section XI are impractical due to physical interferences.

The geometry of the subject component makes the Code required examination coverage requirements impractical. Ultrasonic Testing (UT) of the subject weld was performed during Unit 2 refueling outage 2RF08 to the maximum extent practical based on design configuration restrictions. Pressure test VT-2 visual examinations were also performed with no evidence of leakage identified for the subject component. No undue risk to the public health and safety is presented by this request.

Luminant Power has provided the information requested per Reference 2 in the Attachment to this letter.

A047
NRR

This communication contains no new commitment regarding Comanche Peak Unit 2.

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

Sincerely,

Luminant Generation Company LLC

Mike Blevins

By: _____
Fred W. Madden
Director, Oversight & Regulatory Affairs

Attachment Response to Request for Additional Information

c - E. E. Collins, Region IV
B. K. Singal, NRR
Resident Inspectors, Comanche Peak
Brian Welch, ANII, Comanche Peak

Ms. Alice Rogers
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Texas Department of State Health Services
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RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
FOR RELIEF REQUEST NO.B-2 FOR THE UNIT 2 SECOND 10 YEAR ISI INTERVAL FROM
10CFR50.55a INSPECTION REQUIREMENTS DUE TO PHYSICAL INTERFERENCES (SECOND
INTERVAL START DATE: AUGUST 3, 2004) (TAC NO. MD7527)

1. **NRC QUESTION**

For weld no. TXC-1-4105, please:

a. Discuss the inspection history (including methods and results);
b. Indicate what system this weld is located in; and
c. Discuss the potential degradation mechanism that may occur in this weld. Also include in your discussion the (1) most likely crack-initiation location resulting from this potential degradation mechanism and (2) industry-wide service experience for welds such as this one.

LUMINANT POWER RESPONSE

a. Weld TCX-1-4105-06 has been examined accordingly;

2RF08 in April, 2005	UT (RR B-2)	No Indications (NI)
	PT	NI
2RF01 in October, 1994	PT	NI
PSI in October, 1987	PT	NI

b. The subject weld is a valve (2-8379A)-to-pipe weld identified by a reactor coolant (RC) line number, 3-RC-2-019-2501R-1. The Risk Informed (RI) – ISI analysis of ASME Code Class 1 and 2 piping welds considered this weld as part of the charging/alternate charging for the CVCS system since the line is over 270°F and can have rapid temperature changes as a result of a switch over between charging and alternate charging to the RC system.

c. The potential degradation mechanism for the subject weld is thermal transient (TT) based on the joint geometry for this valve-to-piping weld and is identified in CVCS checklist 1 to Report, ER-ME-107, "Degradation Mechanisms Evaluation of Class 1 and 2 Piping in Support of ASME Code Case N-578."

(1) Pipe segments/welds identified as susceptible to thermal stratification, cycling, striping (TASCS) and thermal transients, such as the subject weld, are grouped together and identified as thermal fatigue, following the EPRI methodology for Risk-Informed ISI, which is used at CPNPP. Thermal fatigue cracking usually initiates as many small cracks, with one becoming predominant, and propagates from the inner surface of the weld. This particular type of degradation has been most commonly observed at or near the pipe-to-nozzle weld, where the wall thickness is thinner because of a counterbore or previous grinding of the weld on the inside surface.

(2) Table 2-2 from EPRI document, TR-112657 revision B-A, provides service experience for piping failures associated with thermal fatigue, and identifies 15 and 23 failures associated with <2" diameter and > 2" diameter piping, respectively. This particular degradation mechanism is not new to the nuclear industry and has previously been identified and addressed in documents such as NRC Bulletins 88-08 and 88-11 and MRP-24 and -146. A review of the IOER data base revealed instances of thermal fatigue, but

none were directly associated with our subject piping configuration. In addition, the area in close proximity of the subject weld is monitored as part of the Thermal Fatigue and Stratification Program for CPNPP.

2. NRC QUESTION

Why was this weld rather than a different weld selected for this examination?

LUMINANT POWER RESPONSE

This weld was originally selected for examination in the element selection of the RI-ISI process because it was the only weld in segment RCS-007 and had a medium risk ranking assigned (5a), based on a degradation of TT and a medium consequence. Since similar welds had previously been selected for ISI prior to RI-ISI with coverage limitations (less than 90%) and were acceptable, selecting another weld was not considered for this examination. Since that time, the position taken is another weld will be selected, based on similar risk ranking and degradation mechanism, when the examination is known beforehand that it cannot meet the Code requirements for coverage.

3. NRC QUESTION

In light of the fact that manual-phased array ultrasonics are capable of being qualified on tapered surfaces of austenitic materials, please describe your efforts in improving the area of coverage at the far side of the weld.

LUMINANT POWER RESPONSE

The PDI UT examination of subject weld used an additional transducer at 70 degrees to obtain additional coverage for the weld. Although phased-array techniques may be capable of being qualified on tapered surfaces, there are currently no personnel or procedures qualified per ASME Section XI, Appendix VIII to perform examinations on tapered surfaces for austenitic piping with either dual or single sided techniques. Additionally, there is no current Appendix VIII qualification employing either phased- array or conventional ultrasonic techniques for examination from the cast (valve) side of the subject weld configuration

4. NRC QUESTION

During what period of the second inservice inspection interval were the inspections performed?

LUMINANT POWER RESPONSE

The examinations were performed during the first outage in the first period of the second interval for Unit 2 refueling outage 2RF08.