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CP-200700181
TXX-07177

Ref: 10CFR50.55a

December 19, 2007

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT (CPNPP)
DOCKET NO. 50-446
RELIEF REQUEST NO. B-2 FOR THE UNIT 2 SECOND 10 YEAR ISI INTERVAL FROM 10 CFR 50.55a INSPECTION REQUIREMENTS DUE TO PHYSICAL INTERFERENCES
(SECOND INTERVAL START DATE: AUGUST 3, 2004)

Dear Sir or Madam:

Pursuant to 10 CFR 50.55a(g)(5)(iii), Luminant Generation Company LLC (Luminant Power) hereby requests NRC approval of the attached relief request (B-2 for the second ten-year inservice inspection interval for Unit 2. 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 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.

A047
NRR

This communication contains no new licensing basis commitments regarding CPNPP.

If you have any questions or need additional information regarding this request, please contact Jack Hicks at (254) 897-6725.

Sincerely,

Luminant Generation Company LLC

Mike Blevins

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

Attachment

JCH/jrh

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

Luminant Power
Comanche Peak Nuclear Power Plant
Relief Request B-2 for Unit 2
Relief Requested in Accordance With 10CFR50.55a(g)(5)(iii)
Inservice Inspection Impracticability

1. ASME Code Component Affected

Class 1 Risk-Informed Inservice Inspection (RI-ISI) piping weld as shown:

RI-ISI Piping Weld (formerly Code Category B-J)

Code Cat / Item No. (Note)	Description	Weld No.
R-A, R1.11	3" pipe to valve 2-8379A	TCX-1-4105-6

Note: As the methodology in EPRI TR-112657 Rev. B-A does not provide item numbers, the format in ASME Code Case N-578-1 is used for the assignment of this number.

2. Applicable Code Edition and Addenda:

The applicable ASME Boiler and Pressure Vessel Code (hereafter referred to as the "Code") edition and addenda is ASME Section XI, "Rule for Inservice Inspection of Nuclear Power Plant Components," 1998 Edition, through 2000 Addenda. In addition, as required by 10CFR50.55a, ASME Section XI, 1995 Edition, 1996 Addenda is used for Appendix VIII, Performance Demonstration for Ultrasonic Examination System.

3. Applicable Code Requirement

ASME Section XI, Figure IWB - 2500-8(c) 1998 Edition through 2000 Addenda requires volumetric examination of a minimum volume of the inner 1/3 t (one third of the thickness) extending into the piping base metal for a distance of ¼" past the edge of the weld crown for NPS 4" and larger. The subject pipe size is actually 3" and Figure IWB-2500-8(b) applies and calls for a surface examination of the weld.

In a letter (NRR 10580) dated October 5, 2006, from the NRC to Comanche Peak Steam Electric Station, Unit No. 2, the NRC approved in relief request A-1 the extension of risk-informed inspection (RI-ISI) program for ASME Code Class 1 and 2 piping for the second interval. The methodology in EPRI TR-112657 Rev. B-A is used as the examination method as well as the selection of welds to be examined. The RI-ISI program requires volumetric examination of the subject weld and extends the Code required volume of the inner 1/3 t to ½" past the edge of the weld crown if no counterbore is present or a distance of ¼" on either side of the weld counterbore.

The Comanche Peak Nuclear Power Plant (CPNPP) second ten-year interval Inservice Inspection Program Plan also implements Code Case N-460, which is endorsed by the NRC in revision 14 of Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability ASME Section XI, Division 1." Code Case N-460 states in part, when the entire examination volume or area cannot be examined due to interference by another component or part geometry, a reduction in examination coverage on any Class 1 or Class 2 weld may be accepted provided the reduction coverage for that weld is less than 10 percent.

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NRC Information Notice (IN) 98-42, "Implementation of 10CFR50.55a(g) Inservice Inspection Requirements," termed a reduction in coverage of less than 10 percent to be "essentially 100 percent. " IN 98-42 states in part, 'The NRC has adopted and further refined the definition of "essentially 100 percent" to mean "greater than 90 percent"... has been applied to all examinations of welds or other areas required by ASME Section XI.'

4. **Impracticality of Compliance**

The geometry of the subject component limits the examination to one side, as is indicated in Figures 1 and 2. Volumetric examinations were performed with shear wave search units with nominal angles of 45 and 70°. Coverage obtained was 100% in one axial direction, 0% in the other axial direction, and 100% in the two circumferential directions. Thus, the coverage that may be claimed is limited to 75%.

When the examination area is limited to one side of the austenitic weld, the examination coverage does not comply with 10CFR50.55a(b)(2)(xv)(A) or the ASME Section XI requirements and proficiency demonstration do not comply with 10CFR50.55a(b)(2)(xvi) and full coverage may not be claimed. For austenitic piping, a procedure must be qualified with flaws on the inaccessible side of the weld. Performance Demonstration Initiative (PDI) has not been able to qualify a single side examination procedure technique that is capable of demonstrating equivalency for a two-sided examination procedure technique on austenitic piping welds.

5. **Burden Caused by Compliance**

The geometry of the subject component makes the Code required examination coverage requirements impractical. PDI has not been able to qualify a single side examination procedure technique that is capable of demonstrating equivalency for a two-sided examination procedure technique on austenitic piping welds.

6. **Proposed Alternative and Basis for Use**

Proposed Alternative

The following alternatives are proposed in lieu of the required examination coverage of 100 percent.

1. Ultrasonic Testing (UT) of the subject weld was performed during the second ten-year interval (2RF08) to the maximum extent practical based on design configuration restrictions. This included a best effort examination using a 70° shear wave search unit for the subject weld, with a thickness equal to or less than 0.5 inch.
2. Pressure test VT-2 visual examinations were performed, as required for Code Category B-P during the second ten-year interval. No evidence of leakage was identified for the subject component.

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Basis for Use

The basis for use of these alternatives is they provided the best examination coverage possible within the limitations of the current design configuration. The volumetric examination was performed using a system (procedure, personnel and equipment) qualified in accordance the Appendix VIII, Supplement 2.

In addition, the thinner side of the subject component was fully examined. When degradation (i.e. cracking) occurs in a component with a configuration similar to this one, it typically starts in the thinnest area. The thinnest area where degradation typically begins was fully examined in the subject weld.

7. **Duration of Proposed Alternative**

   The second ten-year ISI interval for Unit 2 of CPNPP began, August 3, 2004 and ends on August 2, 2014. No undue risk to the public health and safety is presented by this request.

8. **Precedents**

   Request 12R-38 in letter ET 06-0011 from Wolf Creek Nuclear Operating Corporation (WCNOC) to the U.S. NRC dated March 2, 2006.

PDI

Calibration Data Sheet

Plant/Unit	COMANCHE UNIT 2
Company	WESDYNE
Comp/System	CS / RC ALT. CHARGING
Procedure No.	TX-ISI-302
Rev/Chng. No.	2 / N/A
Cal. Block No.	PDI-03
Cal. Block Temp.	63°F Comp.Temp. 77°F
Therm S/N	TU 2361
Size	3.0" Sch. 160 / .438" "T"

☐ Ferritic ☒ Austenitic

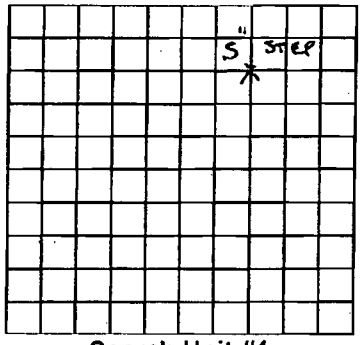
Each Major CRT Div. = .1" / .25"

Cal.Direction Axial Circ. X Both

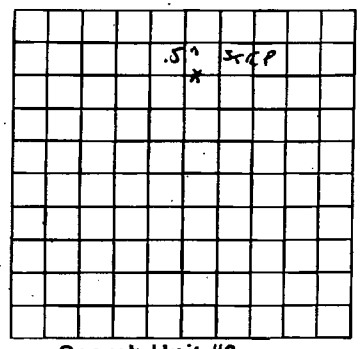
Scan Area: ⊥ to Weld
∥ to Weld

Data Sheet # 8UT11
Page 1 of 2

Cal. Checks	Time
Initial Calib.	1005
Initial Calib. Date	04/01/05
Intermediate	N/A
Intermediate	N/A
Final Calib.	1322
Final Calib. Date	04/01/05



Search Unit #1



Search Unit #2

Couplant
Type: ULTRAGEL II
Batch: 03125

Search Unit #1
Manufacturer: KBA
Serial No.: 014BMJ Freq.: 2.25 MHz
Size: .25" Shape: ROUND
Exam Angle: 45° Model: MSWQC
Measured Angle: 45°
Wedge Style: MSWQC

Search Unit Cable
Type: RG-174
Length: 6' No. of Connecters 0

Instrument Settings
Make/Model: KBA / USN-52R
Serial No: 009404
Delay: 4.105 µs Range: 1.0"
M'tl Cal/Vel: .1234 µs Pulser: SINGLE
Damping: 1000 Ω Reject: 0%
Rep. Rate: HIGH Freq.: 2-8 MHz
Filter: FIXED Mode: FULLWAVE
Reference Sensitivity (Sens.)
Axial: 20.4 dB Circ. N/A
SDH Sensitivity: N/A

Search Unit #2
Manufacturer: KBA
Serial No.: 014B63 Freq.: 2.25 MHz
Size: .25" Shape: ROUND
Exam Angle: 70° Model: MSWQC
Measured Angle: 70°
Wedge Style: MSWQC

Search Unit Cable
Type: RG-174
Length: 6' No. of Connecters 0

Instrument Settings
Make/Model: KBA / USN-52R
Serial No: 009404
Delay: 6.621 µs Range: 2.5"
M'tl Cal/Vel: .1226 µs Pulser: SINGLE
Damping: 1000 Ω Reject: 0%
Rep. Rate: HIGH Freq.: 2-8 MHz
Filter: FIXED Mode: FULLWAVE
Reference Sensitivity (Sens.)
Axial: 48.3 dB Circ. N/A
SDH Sensitivity: N/A

Examination Area/Weld	Access	Recordable Indications Yes	No	Geom	Exam Sens.
TCX-1-4105-6	1-SIDED		X	X	*

Remarks/Reasons for incomplete Scan(s)

* EXAM SENSITIVITY 45° 32.6 dB / 70° 54.3 dB.
NO UPSTREAM SCAN DUE TO VALVE TO PIPE CONFIGURATION.
LIMITATION - SINGLE SIDED EXAM, SEE WELD PROFILE FOR LIMITATION, 25% NOT EXAMINED.

Examiners: PAUL BLECHA Paul S Blecha Level II Date 03/31/05

N/A Level N/A Date N/A

Reviewer: [signature] Date 4/2/05

Further Evaluation Required? Yes (No)

TU Electric Review / Date

Paul N Pansbyer 4/9/05

Level III Review / Date

J. Ragan 4/9/05

ANII: Joe C. Hair 4/25/05

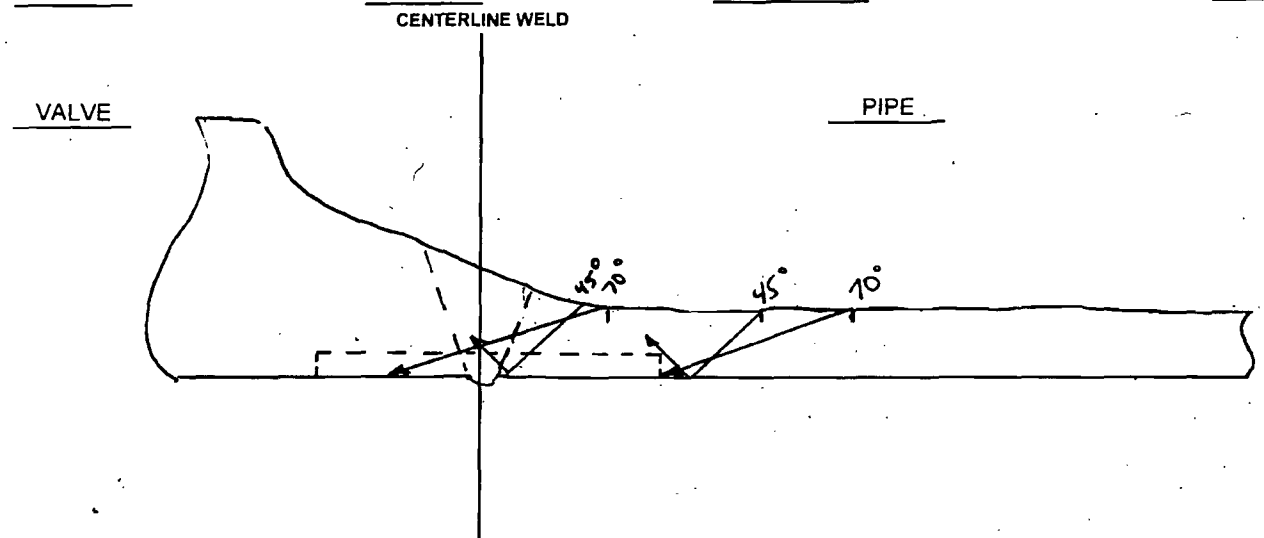
PROFILE OF THE EXAMINATION

REPORT NO. 8UT11 STATION COMANCHE PEAK UNIT 2 PAGE 2 OF 2

SYSTEM CS / RC ALT. CHARGING COMPONENT VALVE TO PIPE DRAWING NO. TCX-1-4105 IDENT NO. 6

PROFILE SECTION

DIAMETER 3.0" WELD LENGTH 9.5" CROWN WIDTH N/A CROWN HEIGHT N/A LONG SEAM LOCATION(S) N/A



N/A	1.38"	N/A	N/A	N/A	.385"	.407"	.413"	.415"
+ 1 1/2"	+ 1"	+ 1/2"	TOE	C\L	TOE	+ 1/2"	+ 1 "	+ 1 1/2"

UPSTREAM FLOW → DOWNSTREAM

MEASUREMENTS START AT C/L OF THE WELD, THEN TOE OF WELD AND THEN 1/2" FROM TOE, + 1" AND + 1 1/2" ON BOTH SIDE OF WELD AS APPLICABLE.

PROFILE EXAM COMMENTS

PROFILE TAKEN AT 0° TDC

COVERAGE ACHIEVED

SECTION XI ___ RISK INFORMED X AUGMENTED ___ PREVIOUS DATA REVIEWED N/A TYPE N/A

EXAMINER Paul S. Blecha Paul S Blecha DATE 04/01/05 EXAMINER N/A DATE N/A

REVIEWER 87 Sabo DATE 04/02/05 REVIEWER J Reagan DATE 4/9/05

ANI: Jack Hair 4/25/05