

WEP Closure Statement ----- Evaluation Report	<u>QUALITY INDICATOR GROUP CLOSURE</u> VESSEL PENETRATION SLEEVES WITH CONFLICTING WELD PREPARATION THICKNESS	Page <u>1</u> of <u>3</u> Date <u>11/25/86</u> Revision <u>0</u>
	WEP GROUP IDENTIFIER <u>QI-SP-18</u>	WEP Group No <u>031</u>

Approved _____ Date _____

Reviewed A.E. Bradford 11/25/86 Prepared Arthur H. Jones

Address the following items in the space remaining on this page and on additional pages as needed (see Standard Practice WEP 3.1.10 for specific instructions).

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| 1. Employee Concern(s)/Quality Indicator(s) | 5. Findings |
| 2. Characterization of Issue | 6. Conclusions |
| 3. Summary | 7. References |
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1. Employee Concern(s)/Quality Indicator(s) (Reference 7.1)

Nonconforming Condition Report 1047R.

2. Characterization of Issue

Nonconforming Condition Report (NCR) 1047R addresses five containment vessel penetration sleeves with inside pipe diameters and weld preparation thicknesses which differ from the required machined diameters and weld preparation thicknesses specified by design drawings. The disposition states to repair per design, but the package does not contain sufficient repair documentation.

3. Summary

Not applicable.

4. Evaluation Methodology

The Department of Energy Weld Evaluation Project (DOE/WEP) Assessment Plan 031 (Reference 7.2) outlines the procedure followed in order to assess this Quality Indicator.

- a. Perform a detailed review of the package for NCR 1047R and supporting documentation to determine if the repair is in accordance with design recommendations, recommended alternatives or specialized instructions.

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b. Assure that all repair or specialized installation had concurrence of Tennessee Valley Authority (TVA) Design Engineering.

c. If records are not adequate to satisfy all concerns, perform an ultrasonic examination of the base metal adjacent to each weld to assure that the counterbored area meets thickness requirements specified by TVA drawing or Design Engineering..

d. Acceptable results of the records review and/or ultrasonic thickness examination will allow closure of the concern.

5. Findings

TVA consulted with the bellows manufacturer to determine the feasibility of diametrical expansion of the bellows nozzle. The bellows manufacturer advised TVA that, with adequate care being used to protect the guard pipe and the nozzle nipple, a maximum diametrical expansion of five percent would be permissible for the nozzle nipple. Calculations indicate that the maximum expansion would be approximately 0.6 percent. TVA used Process Specification 4.M.2.1(a), titled "Specification for Bending or Alignment of Pipe", (Reference 7.3) to perform this work. This process specification is a part of TVA's General Construction Specification G29M.

Expansion of the bellows nozzle allows the containment vessel penetration sleeves to remain as fabricated. Prior to welding, the penetration sleeves and bellows met the alignment tolerances of paragraph NB-4233 of the 1971 ASME Code, Section III (Reference 7.4). These tolerances are identical to those specified for the original weld.

The DOE/WEP also performed a detailed review of the five Field Weld Operation Sheets and attachments (References 7.5, 7.6, 7.7, 7.8 and 7.9). It was determined that the documentation was adequate and DOE/WEP ultrasonic testing was not required (Reference 7.10).

6. Conclusions

The TVA rework of sleeve-to-bellows nozzle weld fitup was performed according to requirements and documented properly.

DOE/WEP considers this group closed.

7. References

7.1 Nonconforming, Condition Report 1047R Final Report.

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<p>7.2 Department of Energy Weld Evaluation Project Assessment Plan 031, Revision 0, dated March 28, 1986.</p> <p>7.3 Tennessee Valley Authority, General Construction Specification G-29M, Process Specification 4.M.2.1(a), titled "Specification for Bending or Alignment of Pipe".</p> <p>7.4 ASME Boiler and Pressure Vessel Code, Section III, NB-4233, 1971.</p> <p>7.5 Field Weld Operation Sheet 7082.</p> <p>7.6 Field Weld Operation Sheet 7083.</p> <p>7.7 Field Weld Operation Sheet 7084.</p> <p>7.8 Field Weld Operation Sheet 7085.</p> <p>7.9 Field Weld Operation Sheet 7223.</p> <p>7.10 DOE/WEP notegram from D. Cochran to A. E. Bradford, April 14, 1986.</p>		