

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401  
100 Chestnut Street Tower II

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May 24, 1983

BLRD-50-438/83-30  
BLRD-50-439/83-26

U.S. Nuclear Regulatory Commission  
Region II  
Attn: Mr. James P. O'Reilly, Regional Administrator  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - DEFECTS IN PIPE CLAMPS BY ITT  
GRINNELL - BLRD-50-438/83-30, BLRD-50-439/83-26 - SECOND INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector Linda Watson on April 6, 1983 in accordance with 10 CFR 50.55(e) as NCR 2318. This was followed by our interim report dated May 6, 1983. Related NCR 2917 was later initiated and will now be reported on with NCR 2318. Enclosed is our second interim report. We expect to submit our next report by August 30, 1984. We consider 10 CFR Part 21 to be applicable to this deficiency. A four-week delay of this submittal was discussed with Inspector R. Carroll on April 5, 1984.

If you have any questions, please get in touch with R. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*L. M. Mills*

L. M. Mills, Manager  
Nuclear Licensing

Enclosure

cc: Mr. Richard C. DeYoung, Director (Enclosure)  
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U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2  
DEFECTS IN PIPE CLAMPS BY ITT GRINNELL  
BLRD-50-438/83-30, BLRD-50-439/83-26  
10 CFR 50.55(e)  
NCR 2318  
SECOND INTERIM REPORT

Description of Deficiency

TVA has encountered the following problems with pipe clamps furnished by ITT Grinnell, Providence, Rhode Island.

1. Four-inch pipe clamps for use with figure 211 size A sway struts, supplied per Bill Of Material Mark Number 3BW0336-500 (Grinnell Shop Order Number EBH-517) will not tighten sufficiently on the pipe to provide firm two-point contact in order to maintain proper alignment between the load stud and the clamping bolt. This problem was verified by the ITT Grinnell field representative. The 75 clamps involved are to be returned to the vendor by Over, Short, Substitution, Damaged, or Defective (OSS/D) report (reference Quality Control Investigation Reports (QCIRs) 8095 and 13625 and OSS/D A173571).

As part of the indicated resolution of NCR 2318, 64 of the referenced 75 clamps were returned to ITT Grinnell for rework. When the reworked clamps were returned to TVA, the clamps still could not achieve firm two-point contact. A new NCR, 2917, was initiated documenting the problem and is referenced above.

2. All sizes of pipe clamps for use with figure 306/307 Mechanical Shock Suppressors (all sizes) were manufactured with an incorrect dimension from the load pin/bolt to end of clamp (ear) causing an interference with the "snubber." This condition was reported on QCIR 15634 and NCR 1710 as generic and numerous other QCIRs for individual items. Clamps have been or are being reworked by TVA's Division of Construction (CONST).
3. Many sizes of figure 40 Riser Clamps, used in conjunction with pipe lugs on horizontal runs of piping, would not tighten sufficiently on the pipe to provide firm two-point contact in order to maintain proper orientation on the pipe. This failure to maintain orientation causes: (1) the associated sway struts or snubber to exceed the 4° tolerance resulting in binding, and (2) the clamp to pipe lug gaps to be inconsistent due to irregularities in the clamp width (reference QCIR 13844 and NCR 1633).

Clamp spacers were shortened in accordance with ITT Grinnell procedure PE-425; however, the problem still exists on many clamps. These are being handled on a case-by-case basis.

4. Two 1/2" pipe clamps for use with figure 211 size A sway struts, supplied per Bill of Material 3BW0336-504 (Grinnell Shop Order numbers EBH-149, EBH-521, and EBH-531) were fabricated such that the clamp bolt head falls in the area where the pipe is to be physically located, thereby interfering with placement. Also, other dimensions do not meet fabrication drawings (reference QCIR 29835 and NCR 2252).
5. The pipe clamp, item 6 of drawing 1KE-MPHG-0765, sheet 2, revision 1 (Detail A) varies in thickness from 1.509" to 1.350" as measured across the ears of the clamp. As the drawing calls for a stock thickness of 1.500 inches the item is out of allowable tolerance (reference QCIR 28005 and NCR 2265).
6. A 32" pipe clamp, item 1.c of drawing 1SM-MPHG-0295, R3, will not tighten down on the pipe. The resultant installed position leaves approximately a 1/2" gap between the clamp and the pipe at a point 90° to the clamp split line (reference QCIR 30588 and Support Modification Request 13845).
7. A 30" pipe clamp, item 1 of drawing 1SV-MPHG-0261, sheet 2, revision 1, will not tighten down sufficiently to obtain firm two-point contact with the pipe (reference QCIR 30589).
8. A 22" pipe clamp, item 1 of drawing 2CF-MPHG-0044, sheet 2, revision 4, will not tighten down sufficiently to obtain firm two-point contact with the pipe (reference QCIR 30905).
9. A 24" pipe clamp, item 1 on drawing 1KC-MPHG-0003, sheet 1, would not fit the pipe properly. The clamp was returned to vendor per OSS/D A176635 (reference QCIR 4676).
10. A 24" pipe clamp, item 1 of drawing 1KC-MPHG-0010, R4, would not fit the pipe properly due to a twist in the clamp. The clamp was returned to vendor per OSS/D A176635 (reference QCIR 4639).

These problems are suspected to be a result of design and/or manufacturing errors by ITT Grinnell.

#### Interim Progress

TVA has returned to ITT Grinnell the 64 four-inch pipe clamps referenced in item 1 which were reworked by ITT Grinnell. ITT Grinnell will replace the 64 clamps and any of the remaining 11 clamps which have been installed but do not achieve firm two-point contact. TVA will submit a final report on this deficiency when ITT Grinnell informs us of the root cause of the deficiency identified on 2917 and their actions taken to prevent recurrence.