

MAR 11 1976

Docket No. 50-438/439

Tennessee Valley Authority
ATTN: Mr. J. E. Watson
Manager of Power
818 Power Building
Chattanooga, Tennessee 37401

REF: Wall Section in Reactor Coolant Pump Casing Below Minimum
Design Requirements

Gentlemen:

Thank you for your letter dated February 20, 1976 which forwarded a
final report pursuant to 10 CFR 50.55(e) regarding the above item.
Your report will be reviewed and evaluated and, should we require
additional information concerning this matter, we will contact you.

Your cooperation is appreciated.

Sincerely,

Original signed by
D. Thompson

Dudley Thompson
Acting Director
Division of Field Operations
Office of Inspection and
Enforcement

bcc: w/cpy ltr dtd 2/20/76
PDR
LPDR
NSIC
TIC
Region II
Central Files
IE Files

OFFICE >	FCEB	C. FCEB	AD, DFO			
SURNAME >	GCGower:mk	GW	DThompson			
DATE >	3/5/76	3/5/76	3/5/76			



831 Power Building
TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

February 20, 1976

Dr. Donald F. Knuth, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Dr. Knuth:

BELLEFONTE NUCLEAR PLANT UNIT 1 - REPORTABLE DEFICIENCY - WALL
SECTION IN REACTOR COOLANT PUMP CASING BELOW MINIMUM DRAWING
REQUIREMENT - CONTROL NO. HO 1074 F2 - FINAL REPORT

The initial report of the subject deficiency was made to
E. J. Vallish, NRC-IE, Region II, on November 10, 1975, and
was followed by our December 9, 1975, and January 12, 1976,
interim reports. Enclosed is the final report concerning
this deficiency.

Very truly yours,

A handwritten signature in cursive script that reads "J. E. Gilleland".

J. E. Gilleland
Assistant Manager of Power

Enclosure

CC: Mr. Norman C. Moseley, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 818
230 Peachtree Street, NW.
Atlanta, Georgia 30303

FINAL REPORT

BELLEFONTE NUCLEAR PLANT WALL THICKNESS IN REACTOR COOLANT PUMP (RCP) CASING BELOW MINIMUM DRAWING REQUIREMENT

Description of Deficiency

Reactor Coolant Pump casing, S/N-501, is nonconforming in that an area approximately 3-1/2 inches wide by 16 inches long had been ground out leaving a minimum wall thickness of approximately 4-1/2 inches. The minimum drawing requirement is 5-1/2 inches. Attachment 1, Babcock and Wilcox drawing 02-2543NF-15, is marked to show the area of nonconformance.

The casing was being manufactured by Bingham-Williamette Company (BWC), Portland, Oregon, for the Bellefonte nuclear steam system supplier, Babcock and Wilcox. The deficiency occurred when ESCO, a subcontractor to Bingham-Williamette, removed the material to enable proper positioning of electroslag welding equipment for welding the restraint lug to the restraint boss.

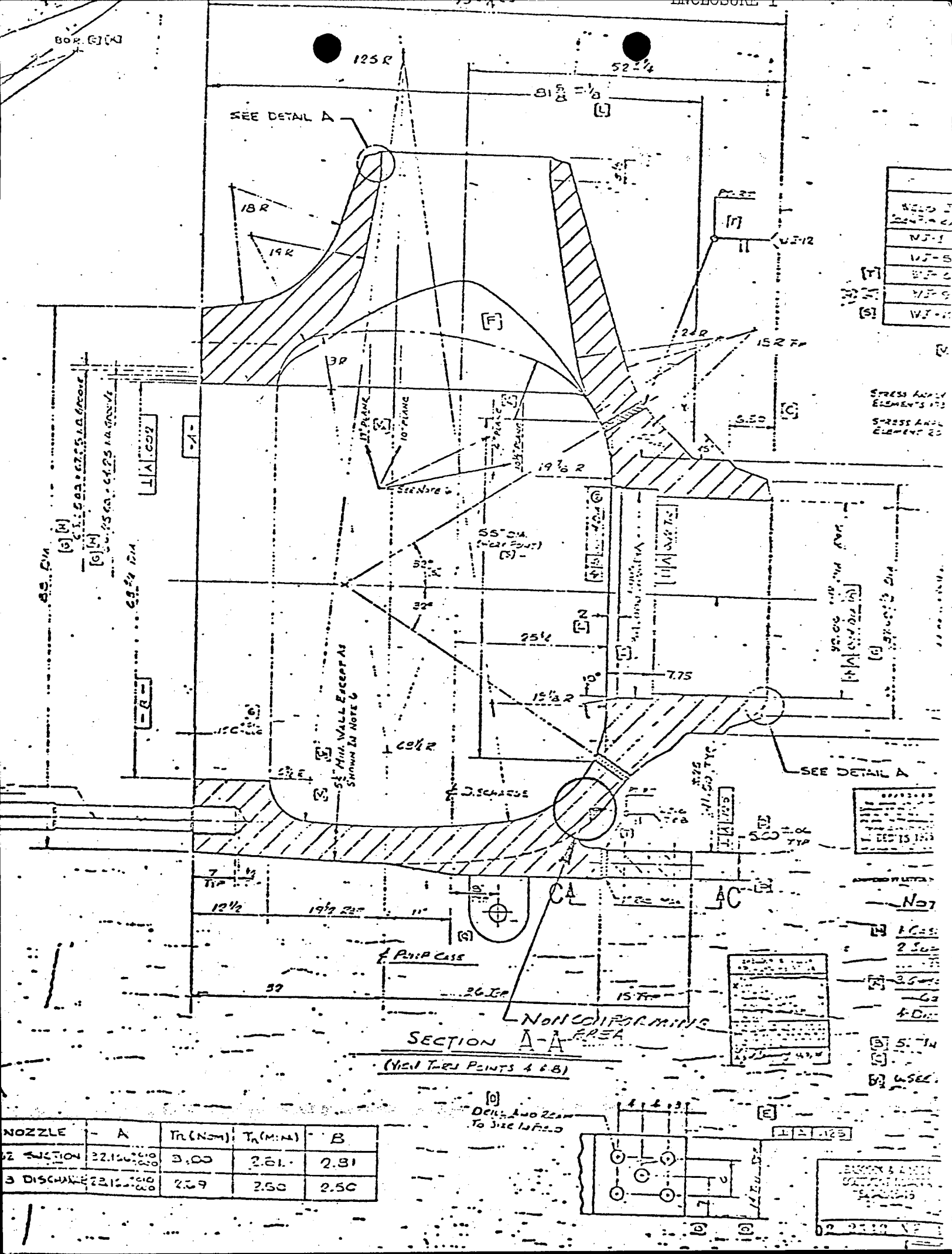
Analysis of Safety Implications

If the casing had remained uncorrected and failed during the forty year lifetime of the plant, a loss of coolant condition could have resulted. However, the plant is designed and equipped with redundant systems described in Chapter 6 of the PSAR to mitigate such an event and achieve safe shutdown if loss of coolant occurred; therefore, the health and safety of the public would not have been endangered.

Corrective Action Taken and Information to Permit Analysis and Evaluation of the Deficiency and the Corrective Action

The ground-out area of pump casing No. 1 (S/N-501) has been repaired by weld buildup and blended with the original contour of the casing.

Attachment 2, Babcock and Wilcox document 03-6428-01 entitled, "Supplemental Repair Sequence to Buildup Low Area on TVA Pump Case Assembly," is the Bingham-Williamette repair sequence for the pump casing. The sequence and procedures referenced in this document were reviewed and approved (see attachment 3) by the Babcock and Wilcox Company and the document was subsequently approved by TVA.

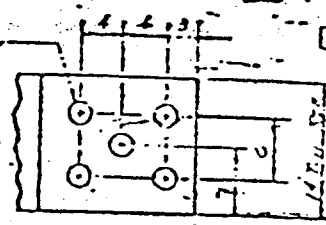


WJ-1
WJ-2
WJ-3
WJ-4
WJ-5
WJ-6
WJ-7
WJ-8
WJ-9
WJ-10

STRESS ANALYSIS ELEMENTS 173
STRESS ANALYSIS ELEMENT 25

SECTION A-A
(NEAR TIE POINTS 4 & 8)

NOZZLE	A	T _R (NOM)	T _R (MIN)	B
2 SECTION	22.125 ± .010 22.00	3.00	2.61	2.81
3 DISCHARGE	22.125 ± .010 22.00	2.79	2.50	2.50



NO. 100000
REV. 10/15/10
DESIGNER: [Signature]
CHECKER: [Signature]

TCC

03 6428 01

34-7RP

Nov. 19, 1975

SUPPLEMENTAL REPAIR SEQUENCE TO BUILD UP
LOW AREA ON TVA PUMP CASE ASSEMBLY

HEAT NOS. 94549-1 and 94677-1

1. Layout build up areas by BWC
2. Chart build up
3. LPE of area to be built up (PT-108/A with Attachment #2)
4. Weld (WP-117/F with Addenda A and Attachment 2
WP-114/E with Addenda B and Attachment 2
WP-111/G with Addenda B and Attachment 2)
5. Prepare welded surface for LPE
6. LPE welded surface (PT-108/A with Attachment 2)
- *7. RT weld build up

REVIEWED BY BWC-CA

- Approved without comment
- Approved with comment
- Disapproved

G. C. Orrell 11-19-75

* If hanger lug must be removed in order to radiograph repaired area use the following sequence (#7 thru #13)

7. Layout hanger lug for removal
8. Remove lug by arcing (AP-101/A with Attachment 2)
9. Grind arced surfaces and prepare for LPE
10. LPE case and hanger lug weld preps (PT-108/B with Attachment 2)
11. RT of weld build up area
12. Layout hanger lug position for rewelding (Drawing Z7710, Rev. F)
13. Set up for hanger lug attachment weld
14. Weld on hanger lug (WP-115/F with Attachment 2)
15. Prepare hanger lug weld for LPE
16. Measure delta ferrite on the completed electroslag weld of hanger lug
17. LPE hanger lug weld (PT-108/B with Attachment 2)
18. RT hanger lug weld (75R5, Rev. A)

APPROVED

This approval does not relieve the Contractor from any part of his responsibility for the correctness of design, details and dimensions.

TENNESSEE VALLEY AUTHORITY

Date **DEC 4 1975**

G. R. PATTERSON

ANSWERED BY LETTER NO. K-3002

19. Document review

20. Ship

11411-2-113

TVA DEC 3 1975

BARCOCK & WILCOX
NPG - LYNCHBURG, VA.

PROCUREMENT DOCUMENT REVIEW

- APPROVED
- NOT APPROVED - REVISE AND RECONTRACT
- APPROVED AS NOTED
- RELEASED AS PRELIMINARY INFORMATION

Babcock & Wilcox

Power Generation Group

P.O. Box 1260, Lynchburg, Va. 24505

Telephone: (804) 391 5111

November 26, 1975

Letter No. D-1888

File Ref: H4M-2/12E42

Ref Ltr: D-1887/11-25-75

Tennessee Valley Authority
204 Union Building
Knoxville, TN 37902

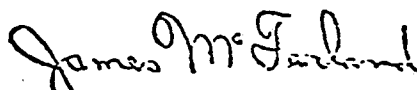
Attention: Mr. D. R. Patterson
Chief Mechanical Engineer

Bellefonte Nuclear Plant Units 1 and 2
Contract No. 71C62-54114-2
B&W Reference NSS-15 & -16
Subject: Pump Casing Repair

Gentlemen:

As requested by phone today, we hereby certify that we have reviewed and have approved the Bingham procedures listed in their repair sequence. This repair sequence was forwarded to you with our letter D-1887 dated November 25, 1975.

Very truly yours,



James McFarland
Senior Project Manager

JMCF:dc

cc: J. L. Atchison
W. Brent Wade
Fl.2

DEC 3 1975