

TVA EMPLOYEE CONCERNS
SPECIAL PROGRAM

REPORT NUMBER: WP-17-SQN

REPORT TYPE: Welding Project

REVISION NUMBER: 1

TITLE: Vendor Weld Quality

REASON FOR REVISION: Added additional information based on NRC comments.

PREPARATION

PREPARED BY:

Original signed by E. R. Schofield
SIGNATURE

7/20/87
DATE

REVIEWS

PEER:

Original signed by J. E. Rose
SIGNATURE

7/20/87
DATE

TAS:

James E. Worley
SIGNATURE

7/28/87
DATE

CONCURRENCES

SIGNATURE

DATE

CEG-H: *James E. Worley*
SRP: *James E. Worley*
SIGNATURE*

7-28-87
7-28-87
DATE

APPROVED BY:

James R. Russell
ECSP MANAGER

7-28-87
DATE

N/A
MANAGER OF NUCLEAR POWER
CONCURRENCE (FINAL REPORT ONLY)

DATE

*SRP Secretary's signature denotes SRP concurrences are in files.

5957T

WELDING PROJECT
GENERIC EMPLOYEE CONCERN
EVALUATION REPORT

REPORT NUMBER: WP-17-SQN, R1

DATE 07-10-87

SUBJECT: VENDOP WELD QUALITY

CONCERNS CONSIDERED: IN-85-127-001
*IN-85-007-003
IN-85-657-001

*SPECIFICALLY INVESTIGATED BY NSRS IN REPORT I-85-753-WBN

PREPARED BY Ed. Sturley for E.R. SCHOFIELD 7-20-87, OC, WP

REVIEWED BY V.E. Dore 7/20/87, OC, WP

REVIEWED BY _____, QA, WP

REVIEWED BY _____, CEG-H, WELDING

APPROVED BY _____, PROGRAM MANAGER

Revision 1 added additional information based on US NRC commitments.

GENERIC EMPLOYEE CONCERN

SUMMARY SHEET

Report Number: WP-17-SQN, F1

Report Title: VENDOR WELD QUALITY

I. CONCERNS CONSIDERED: IN-85-127-001
*IN-85-007-003
IN-85-657-001

*Specifically investigated By NSRS in Report I-85-753-WBN
Attachment 2)

II. ISSUES INVOLVED

1. Vendor welds are not of the same quality as TVA field welds.
2. Vendor welds are not inspected in the field.

III. STATEMENT OF CONCERN/ISSUE VALIDITY

Validity: Y X, N _____, Substantiated: Y X, N _____.

IV. EFFECT ON HARDWARE AND/OR PROGRAM

None

V. JUSTIFICATION

Vendor welds and equipment are inspected against contract requirements.

VI. RECOMMENDATION AND/OR CORRECTIVE ACTION NEEDED

None

VII. REINSPECTION NEEDED: Y _____, N X.

VIII. ISSUE CLOSURE

By this report.

IX. ATTACHMENT

1. Text of Employee Concerns
2. NSRS Investigation Report - I-85-753-WBN

GENERIC EMPLOYEE CONCERN

Report Number: WP-17-SQN, R1

Report Title VENDOR WELD QUALITY

I. SCOPE OF EVALUATION

This engineering analysis covers the following WBN concerns determined to have possible generic implications at SQN:

IN-85-127-001
*IN-85-007-003
IN-85-657-001

*Specifically investigated By NSRS in Report I-85-753-WBN (Attachment 2)

II. ISSUES ADDRESSED BY CONCERNS

Each concern was analyzed to determine the issues voiced by the concerned individuals. These issues are as follows:

1. Vendor welds are not of the same quality as TVA field welds.
2. Vendor welds are not inspected in the field.

III. CONCERN VALIDITY OR SUBSTANTIATION

NSRS has investigated and substantiated the general condition of vendor welds as they relate to WBN in Report I-85-753-WBN for Employee Concern IN-85-007. The conclusions of this report which are WBN-specific are also applicable to SQN. These conclusions are as follows:

1. The employee concerns are substantiated as they relate to the observed general condition of vendor welds.
2. A similar problem had been identified, reported, documented, and dispositioned in accordance with applicable QA program requirements at WBN.

Due to the general nature of the concerns and issues voiced by these concerns, the conclusions are applicable to vendor welds in general.

TVA invokes technical and quality assurance requirements in contracts for vendor-supplied materials and equipment by reference to industry codes. These contracts are reviewed to assure that required technical standards and quality assurance requirements are included. Many times the governing codes and standards that control vendor weld quality have requirements which are less stringent than the TVA construction standards in Process Specifications G-29M or G-29C which contain welding quality requirements of ASME, ANSI, and AWS. Vendor-supplied materials and equipment may be source inspected by TVA prior to shipment or shipped without TVA inspection from vendor facilities. This program is outlined in the OC and NO QA Programs, as applicable. When source inspection is required, it is performed by TVA Vendor Surveillance personnel to determine compliance with code, standard, and contract requirements. Items not required to be source inspected are inspected when they are received at the site to determine compliance with code, standard, and contract requirements.

Additionally, for concerns IN-85-127-001 (Bergen-Patterson) and IN-85-657-001 (YUBA) based on reviews of Procurement Quality Assurance Branch (PQAB) contract listings and discussions with the Procurement Branch neither Bergen-Patterson or YUBA were awarded contracts for SQN construction components.

In summary, both the field and vendor welds are required to meet applicable code requirements. TVA field welds are visually inspected to a more conservative interpretation of code requirements relating to visual weld attributes. The final appearance of TVA field welds is generally superior to vendor-supplied equipment.

The issue concerning vendor welds not being inspected is not substantiated due to the vendor surveillance program and receipt inspection programs.

The effect on the hardware is of no consequence because the materials and equipment are inspected in accordance with contract requirements.

Based on the foregoing analysis, the issues considered in these concerns are closed.

03/24/86

(EMPLOYEE CONCERNS)

11:40:58

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
---	---	---	---	---	---	---	---	---	ID
	366	EG2G	GO					NR IN-85-127-001	WCMUW

KEYWORDS: VENDOR CRITERIA DIFFERENCES

X: W Y: C Z: N

INCONSISTENCY IN CRITERIA USED FOR WELD INSPECTION OF BERGEN-PATERSON AND TUA HANGER WELDS. B.P. WELDS LOOK BAD, WHILE BETTER LOOKING TUA WELDS ARE REJECTED FOR COSMETIC REASONS. HANGER FAB SHOP, LOCATED AT SOUTH EAST CORNER OF TURBINE BLDG., HAS BINS FULL OF B.P. HANGER PARTS WHICH EXEMPLIFIES THIS CONCERN. CI DOES NOT KNOW SPECIFIC HANGER #'S OR AREAS IN THE PLANT WHERE THIS CONDITION EXISTS.

TECHNICAL COMMENTARY:

ISSUE CONSIDERED: VENDOR WELDS ARE NOT OF THE SAME QUALITY AS TUA FIELD WELDS.

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
---	---	---	---	---	---	---	---	---	ID
	753	NSRS	JO					SR IN-85-007-003	WCMUW

KEYWORDS: VENDOR WELD QUALITY NONSPECIFIC

X: W Y: C Z: N

GENERAL LOOK OVER VENDOR WELDS SHOULD BE PERFORMED. VENDOR WELDS ARE NOT INSPECTED AT WBNP 1 OR 2. THEY ARE EASILY DISTINGUISHABLE FROM FIELD WELDS BECAUSE OF THE BAD QUALITY OF THE VENDOR WELDS. VENDOR WELDS WOULD NOT PASS THE SAME ACCEPTANCE

(INSP RPT# 1-85-753-WBN)

INITIAL COMMENTARY:

ISSUE CONSIDERED: 1. VENDOR WELDS ARE NOT INSPECTED IN THE FIELD.

2. VENDOR WELDS ARE NOT OF THE SAME QUALITY AS TUA FIELD WELD

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
---	---	---	---	---	---	---	---	---	ID
			JO					NR IN-85-657-001	WCMUW

KEYWORDS: VENDOR CRITERIA DIFFERENCES

X: W Y: C Z: N

SEVERAL VENDOR WELDS HAVE BEEN INSTALLED IN THE VARIOUS LOCATIONS OF POWER HOUSE UNIT 1 & 2 WHICH DID NOT MEET THE ACCEPTANCE CRITERIA (G-28 M) OF TUA WELDING SPECIFICATIONS. AS AN EXAMPLE: HEATER C1 LOCATED AT T15 & G LINE ELEV 708'-0" TURBINE BUILDING. NAME OF VENDOR: YUBA HEAT TRANSFER CORP. CONSTRUCTION DEPT CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

ISSUE CONSIDERED: VENDOR WELDS ARE NOT OF THE SAME QUALITY AS TUA WELDS.

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

TO : Craven Crowell, Director of Information, E12A4 C-K

FROM : K. W. Whitt, Director of Nuclear Safety Review Staff, E3A8 C-K

DATE : JAN 14 1986

SUBJECT: REPORTS SUBMITTAL FOR "NUCLEAR SAFETY UPDATE"

Attachment 2

Page 1 of 8

Attached is one copy each of the following final reports of investigation or evaluation of employee concerns for your use, summarization, and publication in Nuclear Safety Update. All have been reviewed and accepted by NSRS.

Concern No.	Investigation Performed by	Concern No.	Investigation Performed by
IN-85-001-005	NSRS		
IN-85-007-003	NSRS		
IN-85-278-002	NSRS		
IN-85-955-001	NSRS		
IN-86-064-001	NSRS		
IN-86-200-003	NSRS		
IN-86-221-001	NSRS		
IN-86-305-002	NSRS		
PH-85-038-001	NSRS		

[Signature]
K. W. Whitt

Attachments

Please acknowledge receipt by signing, copying, and returning this transmittal form to J. T. Huffstetler at E3B37 C-K.

cc: R. P. Denise, LP6N35A-C
D. R. Nichols, E10A14 C-K
QTC /ERT, CONST-WBN
E. K. Sliger, LP6N48A-C

Name

Date

TENNESSEE VALLEY AUTHORITY
NUCLEAR SAFETY REVIEW STAFF
NSRS INVESTIGATION REPORT NO. I-85-753-WBN
EMPLOYEE CONCERNS IN-85-001-005 AND IN-85-007-003
MILESTONE 6

SUBJECT: VENDOR WELDING
DATES OF INVESTIGATION: November 12, 1985

INVESTIGATOR:

John C. Catlin Sr.
J. C. Catlin

12-9-85
Date

VIEWED BY:

J. D. Smith
J. D. Smith

12-9-85
Date

APPROVED BY:

for W.D. Stevens
M. A. Harrison

12-10-85
Date

BACKGROUND

NRS conducted an investigation regarding two employee concerns received by Quality Technology Company (QTC). Concern IN-85-001-005 received on October 15, 1985 stated: "Vendor welds were bought off even though the exhibited 'shoddy workmanship'." The allegation was nonspecific. Concern IN-85-007-003 received June 10, 1985 stated: "General look over vendor welds should be performed. Vendor welds are not inspected at WBNF 1 or 2. They are easily distinguishable from field welds because of the bad quality of the vendor welds. Vendor welds would not pass the same acceptance. . . ." This allegation was also nonspecific. During the course of the investigation a similar concern was noted: i.e., IN-85-372-001. This concern had been investigated by the Office of Construction and closed out by QTC.

II. SCOPE

The scope of the investigation included attempts to find a more specific example of the allegation and to track the example to its conclusion. QTC could provide no additional information other than to verify that the concerns were similar to IN-85-372-001.

III. SUMMARY OF FINDINGS

A. Requirements and Commitments

The nonspecific nature of the allegations rendered all requirements and commitments indeterminate.

B. Findings

1. Employee Concern IN-85-372-001 cited manway hatch covers as a specific example of substandard vendor welds.
2. NCR 6341 was written on September 25, 1985 which defined the nonconforming condition as: "Contractor welds for stiffener plates on hatch covers appear to not meet requirements of AWS D1.1. Welds appear to be undersized in places and have undercut and overlap. Reference employee concern IN-85-372-001."
3. NCRs 6345 and 6345A were written on September 25 and 26, 1985 covering Units 1 and 2, respectively. The nonconforming condition noted on the NCRs was similar to that of NCR 6341.
4. A statement was issued on Employee Concern IN-85-372-001 which stated in part that QC agreed that these welds were not of the quality expected of TVA personnel and that the contractor welds for stiffener plates on these hatch covers did not appear to meet the requirements of AWS D1.1 and also that the welds appeared to be undersized in places and have undercut and overlap. These were structural attachment welds which were part of the reactor primary containment; and, therefore, they did not require a leak tightness test.
5. Disposition of all three NCRs by Engineering was to "use as is" in accordance with memorandum B26 B51012-007.

CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

1. The objective evidence of a similar employee concern substantiated the observed allegation of both concerned individuals (CI).
2. A typical case of a similar problem had been identified, reported, and documented in accordance with applicable procedures. Disposition was to "use as is."
3. Specific conclusions regarding these nonspecific allegations could not be reached.

B. Recommendations

None.

EMPLOYEE CONCERN DISPOSITION REPORT

CONCERN NO. IN-85-001-005

DATE OF PREPARATION: 1-9-86

CONCERN: Vendor welds were bought off even though they exhibited "shoddy workmanship".

INVESTIGATION PERFORMED BY: TVA NSRS

FINDING(S): See investigation report.

CORRECTIVE ACTION(S): Similar problem was identified, reported and documented in accordance with applicable procedures. Disposition was to "use as is".

CLOSURE STATEMENT: This concern was substantiated.

PSR

EMPLOYEE CONCERN ASSIGNMENT REQUEST

To: Director - NSRS

TRANSMITTAL NUMBER T50011

ERT has received the Employee concern identified below, and has assigned the indicated category and priority:

Priority: 1

Concern # IN-85-007-003

Category: 05

Confidentiality: YES NO (I & H)

Supervisor Notified: YES X NO NUCLEAR SAFETY RELATED YES

Concern: GENERAL LOOK OVER VENDOR WELDS SHOULD BE PERFORMED. VENDOR WELDS ARE NOT INSPECTED AT WBNP 1 OR 2. THEY ARE EASILY DISTINGUISHABLE FROM FIELD WELDS BECAUSE OF THE BAD QUALITY OF THE VENDOR WELDS. VENDOR WELDS WOULD NOT PASS THE SAME ACCEPTANCE

[Signature] 6/10/85
MANAGER, ERT DATE

NSRS has assigned responsibility for investigation of the above concern to:

ERT X

NSRS/ERT /

NSRS 1

OTHERS (SPECIFY)

Transferred to NSRS
per memo to MATT
on 11/15/85 per
John Catlin - JH 11/21/85

[Signature] 6/12/85

FINAL

REQUEST FOR REPORTABILITY EVALUATION

1. Request No. IN-85-001-005
(ERT Concern No.) (ID No., if reported)
2. Identification of Item Involved: VENDOR WELDS
(Nomenclature, system, manuf., SN, Model, etc.)
3. Description of Problem (Attach related documents, photos, sketches, etc.)
VENDOR WELDS WERE BOUGHT OFF EVEN THOUGH THEY EXHIBITED SHODDY WORKMANSHIP.
4. Reason for Reportability: (Use supplemental sheets if necessary)
 - A. This design or construction deficiency, were it to have remained uncorrected, could have affected adversely the safety of operations of the nuclear power plant at any time throughout the expected lifetime of the plant.
No X Yes _____ If Yes, Explain: _____
 - AND
 - B. This deficiency represents a significant breakdown in any portion of the quality assurance program conducted in accordance with the requirements of Appendix B.
No X Yes _____ If Yes, Explain: _____
 - OR
 - C. This deficiency represents a significant deficiency in final design as approved and released for construction such that the design does not conform to the criteria bases stated in the safety analysis report or construction permit.
No X Yes _____ If Yes, Explain: _____
 - OR

FINAL

REQUEST FOR REPORTABILITY EVALUATION

- D. This deficiency represents a significant deficiency in construction of or significant damage to a structure, system or component which will require extensive evaluation, extensive redesign, or extensive repair to meet the criteria and bases stated in the safety analysis report or construction permit or to otherwise establish the adequacy of the structure, system, or component to perform its intended safety function.

No ☒ Yes ☐ If Yes, Explain: _____

OR

- E. This deficiency represents a significant deviation from the performance specifications which will require extensive evaluation, extensive redesign, or extensive repair to establish the adequacy of the structure, system, or component to perform its intended safety function.

No ☒ Yes ☐ If Yes, Explain: _____

IF ITEM 4A, AND 4B OR 4C OR 4D OR 4E ARE MARKED "YES", IMMEDIATELY HAND-CARRY THIS REQUEST AND SUPPORTING DOCUMENTATION TO NSRS.

This Condition was Identified by: W. J. Schubert
ERT Group Manager

W. J. Schubert
ERT Project Manager

Acknowledgment of receipt by NSRS

Bruce L. Lichten
Signed

Date 1-13-86 Time _____