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400 Chestnut Street Tower II

October 10, 1985

U.S. Nuclear Regulatory Commission
Region II
Attn: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

WATTS BAR NUCLEAR PLANT UNIT 1 - REACTOR COOLANT FLOW TRANSMITTER SENSE LINES
HAVE INADEQUATE SLOPE - NONCONFORMING CONDITION REPORT (NCR) 6172

As discussed in our October 1, 1985 telephone conversation with Inspector Al Ignatonis, we are providing the reportability evaluation package for the subject nonconformance. This evaluation concluded with the determination that the deficiency was nonreportable under 10 CFR 50.55(e). After this evaluation was performed, however, it was discovered that more lines were affected than the original NCR had indicated. A revision to the NCR has been prepared indicating that the problem is potentially generic for Watts Bar instrument lines. This upgraded the deficiency to potentially reportable as it was not immediately known if other affected lines might have significant problems due to the inadequate slope.

This information was originally requested from our Office of Engineering, Nuclear Licensing Section in Knoxville. In order to provide consistent response and effective coordination with proper organizations, it is our policy that all contacts with NRC be coordinated through the Power and Engineering (Nuclear) Nuclear Licensing Branch in Chattanooga. Future requests will be handled more efficiently if you contact that organization.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

8511120032 851021
PDR ADOCK 05000390
S PDR

J. W. Hufham, Manager
Licensing and Risk Protection

cc: Mr. James Taylor, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Records Center
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

B26 '85 0726 082

TO : J. C. Standifer, Project Manager, Watts Bar Engineering Project,
P-104 SB-K (3)

FROM : Guenter Wadewitz, Project Manager, Watts Bar Nuclear Plant OC

DATE : July 22, 1985

SUBJECT: WATTS BAR NUCLEAR PLANT - NON-ASME SIGNIFICANT NONCONFORMANCE 6172 RO REPORT

Attached for your review and approval of disposition is NCR 6172 RO which we consider to be significant. Please approve and return with attached form(s) for our documentation purposes. Also, please complete blocks 10, 11, and 14 on reverse side of NCR.

Guenter Wadewitz
Guenter Wadewitz

7/29
LAR
JFC
JEW
MNB
RFC
HGO
DLW
NAL
OSG
DSG
SSG
GPI

B45
85 07 29-000

JES:LLE
DE05;QNASME.LE
Attachment
cc (Attachment):

- R. W. Dibeler, 11-142 SB-K
- H. J. Fischer, CEO-WBN OC
- T. W. Hayes, PTU-WBN OC
- T. W. Hayes, NLU-WBN OC
- C. H. Jetton, CSO-WBN OC
- QA Site, WBN OC
- NRC Resident Inspector

Principally prepared by R. A. Aikens, extension 515.

7/26/85 - JCS:DB
cc (Attachment):

- J. W. Anderson, 255 SPB-K
- D. B. Bowen, W12A6 C-K
- J. R. Lyons, W12D126 C-K
- J. A. Raulston, W10C126 C-K
- S. R. Stout, W10B81 C-K
- K. W. Whitt, E7B31 C-K
- RIMS, SL26 C-K

WBEP	
JUL 25 '85	
JCS	JPM
PH	...
ODW	JM
LCB	...
RKD	...
EHC	...
	AJ
RRL	...
JLD	...
JMF	...
EEM	...
DWB	TOW
TCC	...
JAM	PCM
WFS	...
JBT	...
DMW	...
WLS	...



**DIVISION OF CONSTRUCTION
NONCONFORMING CONDITION REPORT**

LOP

1A. Item or Program Nonconformance Description and Apparent Cause
During a walkdown of the following instrument subassemblies:

- | | |
|-----------------|-----------------|
| 1-068-L226-0001 | 1-068-L227-0008 |
| -0002 | -0009 |
| -0006 | |
| -0007 | 1-068-L228-0001 |
| | -0002 |
| 1-068-L227-0001 | -0003 |
| -0002 | -0004 |
| -0003 | -0006 |
| -0004 | -0007 |
| -0006 | -0008 |
| -0007 | -0009 |

1B. NCR No.: 6172 ~~Rev.~~ 0
 1C. REF. NCR or
 AUDIT No.: NA
 1D. PLANT WRNP
 1E. UNIT: 1
 1F. SYSTEM: 69
 1G. ASME CODE: Yes No
 1H. CONTRACT No.: NA
 I. INITIATING
 UNIT IEU-A
 1J. VENDOR
 NAME NA
 ADDRESS NA

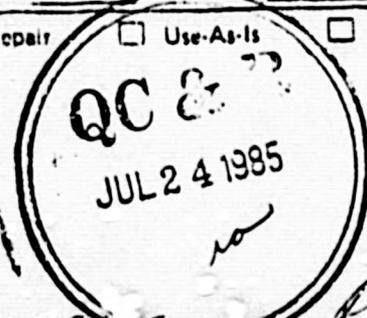
it was discovered that certain subassemblies that have been installed and documented have areas of unacceptable slope. It was also discovered that certain unistrut type clamps on instrument sense line supports that have been installed and documented now have loose or missing bolts or incomplete thread engagement.

Apparent Cause: see attached sheet.

2. Initiator Shaun W. Hughes Date 7-9-85 Approved VP Thomas Date 7-9-85

3. Correction Method: Rework Repair Use-As-Is Reject Other
(Check Block and Detail Below)

See attached sheet



Recommended By [Signature] Date 7-15-85 Approved RK Burt Date 7-15-85

4. As Detailed in Section 3 Other (See Continuation Page)
 Referred to Design Project Organization (DPO) DPO Coordination Contact RON REEVES
 Responsible Manager [Signature] Date 7-15-85

5. As Detailed in Section 3 Other (See Memorandum)
 DPO _____ Date _____

6. Approved Correction Reviewed and Accepted By: _____
 Authorized Nuclear Inspector _____ Date _____

7. Approved Correction Completed, and Item Released From Nonconforming Status
 Responsible Individual _____ Date _____ Approved By _____ Date _____

8. Distribution:
- | | |
|-------------------------------------|---|
| Records Storage Facility | CONST OES |
| Quality Manager | MEDS-CIS |
| DPO | ANI (only Code Items) |
| EN DES NEB - Codes, Standards, and | NUC PR Plant Superintendent (only Licensed Units) |
| Materials Section (only Code Items) | OQA-COAB (Project or Knoxville) |

DIVISION OF CONSTRUCTION
NONCONFORMING CONDITION REPORT

LOP

9. Significant CAQ: Yes No
 Designated Quality Reviewer D. L. Ganser Date 7-15-85
 NCR No. 6172 -B
 Rev. 0
 If Significant, NEB-NLS Contact Jerome Ball Date 7/15/85 By George Ball

10. For Significant CAQ:
 1. Describe Root Cause _____
 2. This is a Generic CAQ: Yes No (If yes, describe) _____
 Prepared By: _____ Date _____ Supervisor _____ Date _____

11. ARPR: (Only Significant CAQs)
 Date for Completion of ARPR to close NCR (Only Significant CAQs) _____
 Recommended By _____ Date _____ Approved _____ Date _____

12. As Detailed in Section 11 Other (See Continuation Page)
 Referred to DPO for completion of ARPR
 Responsible Manager _____ Date _____

13. Concurrence of Designated Quality Reviewer for Correction Method _____ Date _____
 Concurrence of Designated Quality Reviewer for ARPR _____ Date _____

14. As Detailed in Section 11 Other (See Memorandum)
 DPO _____ Date _____

15. Completion of ARPR for Significant CAQ's
 Responsible Manager _____ Date _____

16. Distribution:

Records Storage Facility	CONST QES
DPO	NSRS (only Significant NCRs)
EN DES NEB-NLS (only Significant NCRs)	OOA-CQAB (Project or Knoxville)
Asst. to the Mgr. of OEDC (Quality & Safety)	MEDS-CIS
(only Significant NCRs)	EN DES NEB-Codes, Standards, and Materials Section
NRC Resident Inspector (only Significant NCRs)	(only Code Items)
ANI (only Code Items)	NUC PR Plant Superintendent (only Licensed Units)

Nuclear Project:

Watts Bar Nuclear Plant

NONCONFORMING CONDITION REPORT
CONTINUATION PAGE

NCR No. 6172

Rev. 0

Item
No.

REMARKS

1A

Apparent Cause

Installation of instrumentation subassemblies listed and associated clamps was documented as acceptable between March 1983 and July 1984. Since that time, considerable construction activity has taken place in the vicinity of these subassemblies. Due to long piping runs in the open raceway area, these subassemblies are quite susceptible to damage due to construction activity and heavy traffic in this area. Some of the subassemblies have consequently been disturbed and no longer meet slope requirements. In addition, some support clamps have been disturbed and no longer meet the acceptance criteria.

3

Correction Method

1. OE to evaluate the instrument lines in their present condition to determine if this represents a condition adverse to the safe operation and shutdown of the plant.
2. OC shall rework the affected subassemblies for seismic support and slope requirements. IQC shall reinspect and document the reworked subassemblies in accordance with WBNP-QCP-3.11.

DETERMINATION OF REPORTABILITY
INFORMATION WORKSHEET FOR 10CFR50.55(e)

Plant WBN Item Number 6172

Title Reactor Coolant Flow Transmitter Sense Lines Have Inadequate Slope

NLS Engr JEWorthy Date 8/14/85 NLS Supv Donald J. Teleco 8/15/85

Determination under 50.55(e) - Reportable (), Non-Reportable () (Only true if A, B, and C1 below are affirmative and C2 is negative.)

A. The subject condition, had it remained uncorrected, (could) (could not) have affected adversely the safety of operations of the plant.

Explanation: The cited condition while undesirable does not constitute a transmitter failure. Flushing of the sense lines is more difficult to achieve but not impossible, and the successful completion of Test 20 the prior to operation with no deficiencies related to sense line fill will assure the operation of the affected reactor coolant flow transmitters. Further, the hangers deficiencies found have been determined to be usable "as-is" and in compliance with lower

DLW
8/15/85

B. The item (is) (is not) considered significant as defined by 10CFR50.55(e).

No

1. The condition represents a significant breakdown of a portion of the Quality Assurance Program for the plant. TVA (), Vendor ()

No

2. The condition represents a significant deficiency in final design as approved and released for construction such that the design does not conform to (issued design criteria) (criteria and bases stated in the SAR) (conditions of the construction permit).

No

3. The condition represents (a significant deficiency in construction) (significant damage) to a (structure) (system) (component) which will require extensive (evaluation) (redesign) (repair) to meet (issued design criteria) (criteria and bases stated in the SAR) (conditions of the construction permit) or to establish the adequacy of the (structure) (system) (component) to perform its intended safety function.

No

4. The condition represents a significant deviation from performance specifications which will require extensive (evaluation) (redesign) (repair) to establish the adequacy of a (structure) (system) (component) to meet (issued design criteria) (criteria and bases in the SAR) (conditions of the construction permit) or to establish the adequacy of the (structure) (system) (component) to perform its intended safety function.

Explanation (items B.1-B.4) No QA or design deficiency was identified. The construction deficiency identified does not conform to design specifications and requires rework; however, there is no adverse impact on safety. No performance spec are applicable.

- C1. Does the affected unit(s) have a CP? (✓)Yes ()No
 2. Does the affected unit(s) have an OL? ()Yes (✓)No

D. Generic implications - Are there potential implications to other matters not included on the NCR:

For this plant - Yes (✓) No () - including previous work

For other plants - Yes (✓) No ()

Explanation: Similar deficiencies ^{w/ instr sense line slope} have been documented previously on WGN (eight construction nonconformances and one power NCR). In addition, SAN has allegedly experienced noise in the signals from the reactor coolant flow transmitters on that plant although the source of the noise has not been identified; the noise is not extensive enough to prevent safe plant operation. ~~etc~~

E. Basis of reportability statement:

Since item A (is) (is not) affirmative and item B (is) (is not) affirmative, the condition (is) (is not) reportable under 10CFR50.55(e).

10CFR.50 Sect A (cont) ASME code requirements. Consequently, no condition exists which is adverse to the safety of operations of the plant.

DETERMINATION OF REPORTABILITY
10CFR21 WORKSHEET

Plant WBN Item Number 6172
Title Reactor Coolant Flow Transmitter Sense Lines Have Inadequate Slope

NSL Engr JE Wortley Date 8/12/85 NLS Supv Donald L. Wilber 8/15/85
10CFR21 Applicability - Yes (), - No (X) (See Section XI.1)

I. Identification

Complete each of the following four statements and give a basis for each.

1. The item (is) (is not) a failure to comply with the amended Atomic Energy Act of 1954, 10CFR, SNML, OL, ASLB ruling or other _____
(Sec. 21.1(a)) Basis: No failure to comply has occurred.

2. This item (is) (is not) a component manufactured or produced offsite by others and delivered/offered for use at the facility: motor, relay, cable, instrument, rack, pump, valve, support, vessel, design, analysis, test results, evaluation, or _____ . Description: See #3

_____ . Secs. 21.3(a) and (d)(1)
3. This item (is) (is) a portion of the facility constructed or produced onsite by TVA or others: building, housing, enclosure, vessel, system, earthwork, support, foundation, or other inst. sense lines .
Description: Instrument sense lines are installed by TVA personnel

_____ . (Sec. 21.3.(d)(3))
4. This item (is) (is not) a circumstance or condition that could contribute to a violation of the plant technical specifications.
Basis: Technical specifications exist - Yes (), - No (X)

_____ . (Sec. 21.3.(d)(4))

If the response to one or more of numbers I.1-4 is affirmative, go to sections II-V respectively until each section is completed then go to sections VI through X.

N/A II. Failure to Comply

1. Identify the specific noncompliance indicated in I.1. _____

_____. (Sec. 21.1(a))

Background and/or explanation _____

_____.

N/A III. Component (manufactured or produced offsite)

1. The component is (hardware) (software). Deficiency Description: _____
_____. (Sec. 21.3(a))
2. There (is) (is not) a departure from the technical requirements in a procurement document. Explanation: _____
_____. (Sec 21.3(e) and (i))
3. The component (has) (has not) been (delivered into TVA possession, hardware) (officially transmitted to TVA, software). (Sec. 21.3(3)(1))
4. The component (has) (has not) been (installed) (used) (operated). (Sec. 21.3(d)(2))

IV. Portion of a Facility (constructed or produced on site)

1. Deficiency Description: The sense lines for the reactor coolant flow transmitters were installed without adequate slope in the lines and with multiple high-point vents inside the curve wall. _____ (Sec. 21.3(d)(3))
2. The portion of the facility constructed by TVA (has) (has not) been transferred to POWER. (Sec. 21.3(d)(3))

N/A 3. The portion of the facility constructed by others (has) (has not) been (installed) (used) (operated). (Sec. 21.3(d)(2))

V. Tech Spec Violation

1. The operating License (has) (has not) been issued. (Sec. 21.3(d)(4))

VI. Summary

1. The condition (does) (does not) involve a failure to comply, potential technical specification violation or deficiency within the meaning of 10CFR21. Affirmative if and only if one or more of the following sequences are all affirmative.
 - (a) I.1
 - (b) I.2, III.2, and III.3
 - (c) I.2, III.2, and III.4 *No sequence is affirmative*
 - (d) I.3, IV.3
 - (e) I.4, V.1

VII. Substantial Safety Hazard

The condition (does) (does not) involve a substantial safety hazard (affirmative if and only if the response to one or more of sections VII.1 through 3 is affirmative). (Sec. 21.3(k))

1. The condition (does) (does not) involve (an actual moderate exposure to (release of) licensed material. Basis: No licensed material is involved
2. The condition (does) (does not) involve a major deficiency involving (design) (construction) (inspection) (test) (use) of licensed facilities of material. Basis: No licensed material or facility is involved.
3. The condition (does) (does not) involve a major degradation of or deficiencies in essential safety-related systems, structures, or components. Basis: The cited condition merely makes it difficult to purge the affected sense lines. Per tests require for satisfactory performance of the affected transmitters, these tests are conducted on a regular basis of the lines prior to operation. A major degradation or deficiency in essential safety-related systems, structures, or components is deemed not to exist.

VIII. 10CFR50.55(e) Reportability

1. This item has been determined (to be) (not to be) reportable and reported under 10CFR50.55(e). If the item has been reported under 10CFR50.55(e), give the date of reporting _____ (See Sec. 21.1 for alternate reporting)

IX. Adequate Reporting

1. The condition (has) (has not) been adequately reported. (Sec. 21.1)
Basis: Initial call made to NRC-OIE (_____) on / / .
Confirmation call (if required) made to (_____) on / / .

X. 10CFR21 Reportability

1. This condition (is) (is not) separately reportable by TVA under 10CFR21. (Affirmative if and only if items VI and VII are both affirmative and item IX is negative).

XI. 10CFR21 Applicability

1. This condition (is) (is not) applicable under 10CFR21. (Affirmative if and only if item VI and VII are both affirmative.)
- NA 2. The vendor, supplying the component or portion of the facility, (is) (is not) to be notified of this condition for consideration of reporting generic implications to NRC under 10CFR21 (specifically 10CFR21.21(b)(3)(VI)). (Required only if item XI.1 is affirmative.)
- NA 3. The written report to NRC filed under 10CFR50.55(e) (is) (is not) required to contain the information listed under 10CFR21.21(b)(3). (Required only if item XI.1 is affirmative. Note - see listing of 10CFR21.21(b)(3) requirements below.)
4. Notification of this condition (is) (is not) required to be sent to the manager of OPE. (Required only if item XI.1 is affirmative.)

DEFINITIONS

1. Moderate Exposure - radiation doses due to exposure to licensed material or its fission products exceeding (0.5 mrem in unrestricted areas) (25 mrem to plant personnel).
2. Release - radioactive material has been released to an unrestricted area in excess of 500 times the limits of Appendix B, Table II, 10CFR20.
3. Major Deficiency - conditions or circumstances exist which, under normal operating conditions or anticipated transient, could contribute to exceeding a safety limit or cause an accident and could result in a moderate exposure.
4. Major Degradation - conditions or circumstances exist which, under normal operating conditions or accident conditions due to other causes, and in conjunction with an independent single, active failure, could have resulted in both a failure to perform a safety function and a moderate exposure.
5. 10CFR21.21(b)(3) Requirements:
 - (3) The written report required by this paragraph shall include, but need not be limited to, the following information, to the extent known:
 - (i) Name and address of the individual or individuals informing the Commission.
 - (ii) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.
 - (iii) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.
 - (iv) Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.
 - (v) The date on which the information of such defect or failure to comply was obtained.
 - (vi) In the case of a basic component which contains a defect or fails to comply, the number and location of all such components in use at, supplied for, or being supplied for one or more facilities or activities subject to the regulations in this part.
 - (vii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.
 - (viii) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.