

BRIEFING PAPER FOR THREE WEEK
MULTI-OFFICE MEETING

TITLE HERE

PREPARED BY: BILL BEARDEN

DATE: JULY 5, 2000

Region II

Licensee: Tennessee Valley Authority

Facility: Watts Bar Nuclear Plant

Unit(s): 1 and 2

Docket Nos: 50-390 and 391

License Nos.: NPF-90 and Construction Permit CPPR-92

OI Report No: 2-98-023

OI Report Issuance Date: November 19, 1999 and June 15, 2000

1. Summary of Issue:

OI Report 2-1998-023 was issued on November 23, 1999, and was conducted to determine whether TVA employees withheld or assisted in concealing information about ice condenser basket screws from 1995 to 1998. The investigation identified that the lead civil engineer became aware of a condition adverse to quality (CAQ) but willfully provided inaccurate information on a corrective action report (CAR) to conceal the condition. In addition the report concluded that the [REDACTED] willfully withheld information in 1995, 1997, and 1998 that would have identified the same CAQ. In addition the report concluded that TVA's [REDACTED] willfully provided inaccurate information which concealed the actions of the [REDACTED] 7c

Based on the willful actions identified in the OI report, NRC informed TVA on March 7, 2000, that a PEC was scheduled to be conducted on April 14, 2000, to discuss the apparent willful failures to correct a CAQ and to follow procedures for closing out a problem evaluation report (PER). Prior to the PEC, the NRC was informed on March 27, 2000, that TVA had discussed this issue with the CLS lab technician and other TVA personnel and was informed that there were never any cracks found in new ice condenser ice basket screws. After reviewing this information from TVA the PEC was postponed and an additional OI investigation was conducted. OI Report 2-1998-023S was issued on June 15, 2000, and stated that there was sufficient new evidence to conclude that the [REDACTED] did not willfully withhold information that would have identified a CAQ and that there was sufficient information to conclude that TVA's [REDACTED] did not willfully conceal wrongful actions by the [REDACTED] 7c

The supplemental OI report (2-1998-023S) did not make any conclusions regarding the lead civil engineer, and thus the conclusions of OI Report 2-1998-023 regarding this individual remain unchanged.

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Information in this record was deleted
in accordance with the Freedom of Information
Act, exemptions 5, 7c
FOIA- 20010012

Q/R

Additional Background:

A TVA employee filed a I&H complaint with the DOL in January 1997. The complaint was for identifying a 1995 issue involving ice condenser screws. An ALJ decision regarding the complaint was given in April 1998. Based on the review of the ALJ transcripts the NRC identified a potential technical issue regarding the omission of information from a revised June 2, 1995 metallurgical report issued by the TVA central laboratory that may have involved wrongdoing. The information, which was related to defects in new replacement ice condenser screws in the warehouse, had been present in the original version of the metallurgical report. An OI investigation of the circumstances associated with this issue resulted. Additionally, an allegation concerning the adequacy of an evaluation of potentially defective ice condenser screws (NRR-1998-A-0011) was received by the NRC on January 12, 1998. The allegation also expressed multiple other concerns.

PER WBP950246 was initiated on April 19, 1995, to identify that ice basket sheet metal screws were found in the ice melt tank after ice loading was completed. Westinghouse issued an evaluation report to the licensee on this issue, dated June 22, 1995. This report and the Westinghouse handling of licensee ice basket screw metallurgical lab reports were inspected by the NRC in 1998 and documented in NRC IR 99900404/98-02. This PER had previously been reviewed and addressed in IR 50-390, 391/97-04. The NRC review stated that the inspector reviewed the metallurgical reports dated June 2 and June 19, 1995. The NRC conclusion was that the ice condenser screws were fabricated to meet W specifications and that the licensee's actions were adequate.

Based on the results of the Westinghouse inspection, the inspectors re-reviewed WBP950246 during a special inspection conducted on February 22 - May 3, 1999, at the Watts Bar facility. This inspection reviewed the maintenance, surveillance and engineering programs involving the Unit 1 ice condenser. Based on this review, two issues were identified that required further NRC review. With respect to the first issue, the inspectors determined that the licensee had not documented potential nonconforming materials associated with new IC screws even though lab results from the TVA Central Lab showed that those screws had defect indications. On June 2, 1995, the TVA Central Lab issued a report identifying that two new Watts Bar IC screws, not in-use, contained similar indications to in-use screws which were found to be broken. The potentially defective new screws were not evaluated as a potential condition adverse to quality. This item was identified as Unresolved Item (URI) 50-390/99-06-05, Documentation of Nonconforming Materials Associated With New IC Screws.

With respect to the second issue, the inspectors determined that the licensee had not monitored corrective action implementation for PER WBP950246. The corrective action plan as documented in WBP950246, Part C11, Corrective Action, Step 3, required Nuclear Engineering (NE) to submit the TVA Central Lab results to Westinghouse for review and to request Westinghouse to evaluate the data obtained during metallurgical testing of failed screws, screws removed from service, and new screws from stock. TVA had not requested Westinghouse to review the official June 19, 1995, test results until June 30, 1998. This item was identified as URI 50-390/99-06-06, Submission of IC Central Lab Report To Westinghouse.

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Actions by licensee and TVA central laboratory (CLS) metallurgical laboratory personnel resulted in not identifying a CAQ and personnel failed to follow Watts Bar site procedures.

Willfulness of violations

The licensee failed to promptly identify and correct a condition adverse to quality in that licensee failed to document nonconforming materials associated with new IC screws in warehouse even though original TVA metallurgical laboratory results showed that those screws had defects. The licensee's willfulness as delineated in OI report 2-1998-023 was the basis for the PEC which was scheduled for April 14, 2000. The following factors had provided the basis for a conclusion that licensee employee actions were willful.

1. The Watts Bar lead civil engineer had performed a significant review of the original CLS report (6/2/95). That is evident from the fact that he initiated the revision effort, statements made during his interview with OI, and from statements made by the TVAN Chief Metallurgical Engineer concerning conversations about the original report.

This fact remains unchanged by results of recent supplemental OI interviews.

2. The Watts Bar lead civil engineer was evasive about having read the revised report at the time of issue but had read it at some later time. He stated that he had not seen any difference in the analysis of new screws between the two versions of the report. That is not believable considering his level of experience, the relative importance of closing PER 950246, and his level of responsibility for closure of this issue. Although not a metallurgical engineer it is clear from statements made during his OI interview that he understood the significance of cracks in new screws and 10CFR21 requirements.

This fact remains unchanged by results of recent supplemental OI interviews.

3. The Watts Bar lead civil engineer statements to OI and NRC OIG contained conflicting information. He told OIG that he had not been aware of the existence of the original CLS report until 1997 and did not remember talking to the TVAN Chief Metallurgical Engineer-Nuclear about the original report. He then told OI that he had reviewed the same report and discussed the conclusions with the TVAN Chief Metallurgical Engineer-Nuclear.

This fact remains unchanged by results of recent supplemental OI interviews.

4. The [REDACTED] should have understood the significance of the potentially defective screws since he later stated that it was significant that the information regarding quench cracks had been left out of the revised report. 7c

This was changed by results of recent supplemental OI interviews. Recent statements by CLS metallurgical engineer and CLS metallurgical laboratory supervisor in addition to information contained in reconciliation report dated October 20, 1998 indicated that the [REDACTED] 7c
[REDACTED] did not have a complete understanding of facts associated with Set "A" and Set "B" screws (i.e. he was confused as to which screw, Set "A" or Set "B" was new).

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5. The [REDACTED] was knowledgeable of information contained in the original report since he stated that the WBN lead civil engineer had expressed concerns about conclusions contained in the original report and asked him to evaluate the report. He further stated that he had concerns of his own once he read the report. However, he also stated that he had not learned of a possible defect in the new screws until September 1998. That is not believable considering his previous level of involvement in this issue. 7c

This was also changed by results of recent supplemental OI interviews. Same as 4. above

6. The [REDACTED] was the only individual to sign either version of the lab report or the endorsement to original report. There was no requirement for the engineer that actually performed the analysis to sign (since that time CLS has implemented a new requirement for lab reports to be signed by two individuals). 7c

This fact remains unchanged by results of recent supplemental OI interviews. These actions represent a poor practice or lack of attention to details. However, this would not support a conclusion that [REDACTED] willfully withheld information about defective ice condenser screws 7c

7. The [REDACTED] stated that the original report, which she had signed on June 2, 1995, had been recalled, destroyed and not sent to RIMS. However, the endorsement to that original report, which she also signed, referenced the original report with its RIMS number. The endorsement to the original report was issued and given a RIMS number on June 12, 1995. Neither the revised report or the endorsement to the original report could be retrieved from RIMS when the licensee attempted to review these documents. This is explained in CAR 98003 issued by CLS. However, as previously mentioned CLS and site management understood that two different versions of the report had occurred and that the original version was not intended to become the official version. 7c

This fact remains unchanged by results of recent supplemental OI interviews. Same as 6. above

8. It is not believable that the [REDACTED] would fail to closely review the revised report considering the level of TVA corporate management interest with the content of the original report, her level of experience, and the relative inexperience of the engineer that performed the analysis. 7c

This was changed by results of recent supplemental OI interviews. Although it is possible that the [REDACTED] may have known of the error in labeling of screws and failed to adequately address it at the time it is also possible that she was confused about which Set "A" or Set "B" screw was new screw. Based on the results of resent interviews it does not appear that there is sufficient evidence to support a conclusion that she withheld information about defective ice condenser screws.

9. After comparing the two reports during the 1997 efforts to reconcile the differences the [REDACTED] failed to make specific mention of potentially defective screws to TVAN Chief Metallurgical Engineer-Nuclear 7c

This was changed by results of recent supplemental OI interviews. Same as 8. above

Region II Conclusion

Several deficiencies associated with incorrect identification of items to be evaluated at CLS, poor record keeping at CLS, and inattention to detail by various TVA personnel contributed to expending considerable resources by TVA and NRC. It can be concluded that on July 28, 1995, when the Watts Bar lead civil engineer signed documents indicating corrective actions were complete for WBPER 950246, he had information that if closely reviewed indicated that the corrective actions for the PER were not complete as indicated. His actions did not represent a willful attempt to conceal a CAQ.

3. Identification Credit? YES NO

Credit is not warranted for identification because TVA had failed to document the potentially defective screws.

Mark applicable items and discuss below.

- Licensee-identified NRC-identified
 Mixed identification Revealed through event

Explain how this issue was identified: NRC allegations and an NRC OI investigation

4. Corrective Action Credit? YES NO Indeterminate

Explain licensee's corrective action, i.e. (was corrective action prompt and comprehensive):

Once the licensee became aware of the omission of the information associated with the defective new screws and due to industry-wide ice condenser concerns, the licensee performed an ice condenser assessment in 1998. As part of this assessment, additional testing of screws from the warehouse was conducted and documented in CLS Technical Report 98-1612.

Additionally, the licensee conducted detailed inspection and further testing of IC basket screws during the spring 1999 refueling outage. The purpose of the test was to evaluate the IC for missing screws and to determine the shear strength capacity of the IC screws. Approximately 46,000 screw locations were inspected to determine the material condition of the in-use screws. These locations were primarily in the upper and

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lower ring joints. Screws were found missing from 17 locations and screw heads were missing from 9 additional locations.

The NRC observed portions of the ongoing testing and concluded that the IC basket screw in-use sampling program was thorough and the testing program was a conservative method of assessing the load capability of the installed ice basket screws.

ENFORCEMENT ACTION WORKSHEET - PART 2

5. Risk Significance: Low

6. Identify Previous Escalated Action Within 2 Years or 2 Inspections:

None

7. Candidate For Discretion? [See attached list] NO

Explain basis for discretion consideration and criteria:

8. Region II Recommendation

The Region concluded that the Watts Bar lead civil engineer's actions resulted in non-compliance with Appendix B, Criterion XVI and Criterion V. Because licensee employees had not acted with careless disregard or deliberateness, the technical significance of these two violations are characterized as Severity Level IV. In addition, the licensee appears to meet NCV criteria.

No other enforcement action is recommended.

Open PEC Closed PEC Choice Letter Direct Enforcement Action Issuance

9. Regulatory Message:

The violations involved the licensee's inadequate implementation of their Corrective Action Program. Inadequate controls and inattention to detail by TVA corporate and Watts Bar site personnel resulted in failure to follow Corrective Action Program requirements to document potential nonconforming materials.

10. Are there lessons learned from this inspection or review of proposed enforcement action which would warrant generic communication (IN, GL, etc.), inspection or enforcement guidance, or a need for NRR or NMSS programmatic guidance or interpretation of requirements?

YES NO X

Potential inadequate ice condenser screws have been addressed by the nuclear industry.

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Enforcement Coordinator:
DATE:

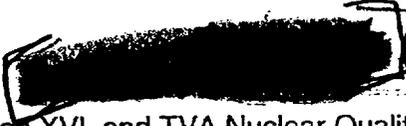
Attachments: 1. Draft NOV

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NOTICE OF VIOLATION

Tennessee Valley Authority
Watts Bar Nuclear Plant, Unit 1

Docket Nos. 50-390
License Nos. NPF-90

 EXS

- A. 10 CFR 50 Appendix B, Criterion XVI, and TVA Nuclear Quality Assurance Plan TVA-NQA-PLN89-A, Rev. 8, Section 10.0, collectively require that measures be established to ensure that conditions adverse to quality are promptly identified and corrected. Defective ice condenser screws in the warehouse or in use is a condition adverse to quality

Contrary to the above, as of July 28, 1995, the licensee failed to promptly identify and correct condition adverse to quality in that the licensee failed to document nonconforming materials associated with new IC screws in the warehouse even though original TVA metallurgical laboratory test results showed that a portion of those screws tested had defects.

- B: 10 CFR Part 50 Appendix B, Criterion V, and TVA Nuclear Quality Assurance Plan TVA-NQA-PLN89-A, Rev. 8, Section 6.0, collectively require that activities affecting quality shall be accomplished by approved procedures.

10 CFR 50.9 requires that information provided to the Commission shall be complete and accurate in all material respects.

SSP 3.06 "Problem Evaluation Reports" (Rev 16 effective 1/95) Section 2.4a and SSP 3.04 "Corrective Action Program" (Rev 14 effective 1/95) Section 2.5a required licensee to implement and/or monitor implementation of the approved corrective action plan.

Corrective action plan as documented in WBP950246, Part C11, Corrective Action Step 3 required NE to request Westinghouse to evaluate the data obtained during metallurgical testing of failed screws, screws removed from service, and new screws from stock.

Contrary to above, as of July 21, 1995, the licensee failed to follow corrective action procedures and ensure accurate documentation of issue disposition. Specifically, WBP950246 Part C11 was signed off as being completed when in fact NE had not requested Westinghouse to review the June 19, 1995 metallurgical test results.

 EXS

no more than 2 of 12 Screws per joint missing) and did not address either version of CLS report or potentially defective screws.

- 7/11/95 CLS issued memo to Watts Bar engineering in effort to clarify reason for 2 different versions for CLS report. Both versions were mentioned by RIMS number but stated intent was that only later version would be considered official QA record and be sent to RIMS.
- 7/12/95 PER 950246 transferred from system engineering organization (alleged) to site engineering (lead civil engineer).
- 7/28/95 Watts Bar lead civil engineer signed documents in closure package for PER 950246 indicating corrective actions were complete and the PER was ready for closure. PER closure based on Westinghouse evaluation.
- 8/10/95 Closure verification for PER 950246 performed by site QA organization.
- 8/25/95 Original version of CLS report dated 6/2/95 was entered in RIMS.
- 11/95 Watts Bar OL was issued by NRC.
- 7/31/97 Memo from CLS Metallurgical Engineer was issued which was intended to clarify information concerning 2 versions of CLS report.
- 7/31/97 Memo from CLS Lead Metallurgical Engineer was issued which was intended to clarify information concerning 2 versions of CLS report. Memo stated that all copies of original CLS report had not gone to RIMS.
- 12/2/97 Watts Bar NE issued supplement to PER 950246 closure package to document that a copy of CLS report had been sent to Westinghouse.
- 9/3/98 CLS Lead Metallurgical Engineer issued report to TVA management regarding why Set B information was omitted from 6/19/95 CLS report [TVAN Chief Metallurgical Engineer-Nuclear stated that he had not learned of a possible defect in the new screws until this date].
- 10/20/98 TVAN Chief Metallurgical Engineer-Nuclear provided reconciliation report to TVA management.
- 10/26/98 Watts Bar NE issued additional supplement to WBP 950246 closure package to include information from reconciliation report on differences between two versions of CLS reports. TVA management concluded omission was inadvertent.
- 01/31/00 Confirmation of Predecisional Enforcement Conference Arrangements forwarded to TVA which included a summary of the OI Report 2-98-023.

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- 03/07/00 Meeting announcement for a PEC forwarded to TVA. The PEC is scheduled for 04/14/00.
- 03/27/00 Received information from TVA that the original lab analyst stated that in 1995 there were never any cracks found in Set B new screws. Based on this "new" information, the PEC was postponed.
- 04/26/00 OI conducts additional interviews of TVA personnel.
- 06/15/00 OI Report 2-1998-023S issued. The supplemental investigation states that some conclusions made in 2-1998-023 are rescinded relative to the [REDACTED] [REDACTED] 7c

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ADDITIONAL BACKGROUND INFORMATION

Opportunities to Identify the Discrepant Conditions

On June 12, 1995, the laboratory issued an endorsement to the June 2, 1995, laboratory report which contained information about which screw samples were discovered to contain cracks.

On June 19, 1995, the TVA metallurgical laboratory issued a report that did not identify that ice condenser screws in the warehouse contained similar indications to in-use screws found to be broken.

On July 31, 1997, the laboratory lead metallurgical engineer issued a memorandum intended to clarify the two versions of the laboratory report.

On September 3, 1998, the laboratory lead metallurgical engineer issued a report to TVA management regarding why Set B information was omitted from the June 19, 1995, version of the laboratory report.

On October 20, 1998, the TVAN chief metallurgical engineer provided a reconciliation report which addressed the differences between the two versions of the laboratory report to TVA management.

TIMELINE

- | | |
|---------|---|
| 4/19/95 | Approximately 170 broken screw pieces and 32 whole screws were found in IC melt tank by system engineer. |
| 4/21/95 | WBPER 950246 issued by Alleger to identify that ice basket sheet metal screws were found in the ice melt tank after ice loading was completed. |
| 6/2/95 | Original version of TVA Central Lab Services (CLS) report 95-1021 was issued. |
| 6/8/95 | Alleger faxed copy of original version of CLS report to Westinghouse & Duke. |
| 6/12/95 | CLS issued endorsement to original version of CLS report, referenced by RIMS number. |
| 6/19/95 | Revised version of CLS report 95-1021 issued. No revision number used. Original and revised versions of report were labeled with same number. |
| 6/22/95 | Westinghouse evaluation (WAT-D-10048) issued (also referred to as MSE-REE-1371). This provided a basis for accept-as-is of condition described in PER 950246. This evaluation was a statical analysis (to show IC was operable with |

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