



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381

JUL 25 1994

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Gentlemen:

In the Matter of the Application of )  
Tennessee Valley Authority )

Docket Nos. 50-390  
50-391

WATTS BAR NUCLEAR PLANT (WBN) - REVISED RESPONSE TO NOTICE OF VIOLATION,  
INSPECTION REPORT 50-390, 391/94-13

Upon further review of the subject inspection report, TVA's May 13, 1994, response and the NRC letter of June 10, 1994, TVA withdraws its denial of Examples 2 and 3 of Notice of Violation 94-13-02.

TVA agrees with NRC that differences between design requirements and field installations should be promptly documented in corrective action documents and effectively corrected. Accordingly, I have directed that platform and other walkdown deficiencies identified during the subject inspection be documented in appropriate corrective action documents. WBN employees have been reminded through a site bulletin of these requirements and I have personally made it clear to site management that noncompliance will not be tolerated. In the enclosures to this letter, TVA has set forth detailed corrective actions that will achieve a high degree of program compliance by August 15, 1994. The Nuclear Assurance department will confirm compliance to program requirements shortly thereafter.

TVA's detailed response to specific comments in NRC's June 10, 1994, letter is provided in Enclosure 1. A revised response to Example 4 of NOV 94-13-01 and to Examples 2 and 3 of NOV 94-13-02 is provided in Enclosure 2. Enclosure 3 discusses TVA's previous assessment of the Corrective Action Program and Significant Corrective Action Report (SCAR) WBSCA940033.

Commitments made in this submittal are summarized in Enclosure 4.

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Should there be any questions on this response, please contact P. L. Pace  
at (615)-365-1824.

Sincerely,



Dwight E. Nunn  
Vice President  
New Plant Completion  
Watts Bar Nuclear Plant

Enclosures

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ENCLOSURE 1

WATTS BAR NUCLEAR PLANT (WBN)  
RESPONSE TO NRC LETTER DATED JUNE 10, 1994

The NRC letter dated June 10, 1994, provided NRC's review of TVA's response to Inspection Report 94-13. Excerpts from that letter and TVA's responses are provided as follows:

NRC Excerpt #1:

"The justification for your denial of Examples 2 and 3 of Violation B appears to be based, in part, on the conclusion that no violation related to corrective action occurred because adverse conditions, requiring corrective action, did not exist. Your premise that the identified discrepancies were not adverse conditions was that, based on engineering judgement, these installation errors and the violations of procedures had no adverse effect on hardware configuration.

We do not agree. When there is a difference between the design and the installation, this is a discrepant condition. The fact that engineering later dispositioned the discrepant condition with a finding of "accept-as-is" does not mean that the discrepant condition did not exist. The "accept-as-is" disposition is merely one form of corrective action."

TVA Response to Excerpt #1:

TVA agrees that differences between design requirements and field installations should be documented in a corrective action document. The fact that the deficiencies will not result in modifications to the installation does not remove the requirement to document the issue. TVA's procedures and programs are established to implement this concept. Unfortunately, as pointed out in TVA's internal review of the program and in NRC's inspection report, consistent implementation of the program has not been achieved. TVA is confident, however, that the revised corrective actions developed for WBSCAR940033 will achieve a level of implementation that will be acceptable.

As discussed in the cover letter, TVA withdraws its denial of Examples 2 and 3 of the violation. A revised response is provided in Enclosure 2.

NRC Excerpt #2:

"Your response also referred to the progress TVA had made in the last four years in assuring that WBN platforms were structurally adequate and characterized the identified discrepancies as being "within reasonable accuracy" and as "minor discrepancies." The TVA Nuclear Quality Assurance Plan (NQAP) and Site Standard Practice (SSP)-3.04, Corrective Action Program, include deviations and hardware problems involving noncompliance with drawings in the definition of an adverse condition. Your response did not deny that adverse conditions (e.g.,

installations not meeting drawing requirements) were identified by TVA during walk down verification activities and subsequently by the NRC."

TVA Response to Excerpt #2:

TVA's discussion of "minor discrepancies" and "within reasonable accuracy" should be considered in the overall context of effectiveness of corrective action. The relative declining significance of the identified deficiencies over the several reviews of the platforms gives an indication that the corrective action program was working.

However, as stated in the response to Excerpt 1, identified nonconforming conditions are to be recorded in corrective action documents. There are only two exceptions to these requirements. The first is, if the discrepancy meets the definition of "minor in nature" in Site Standard Practice (SSP)-3.04, "Corrective Action Program." This definition provides for direct correction of minor administrative/editorial deficiencies if they do not impact the quality of the product and if they are not programmatic in nature.

The second exception is when the deficiencies are identified within the specific disposition actions of a corrective action document. For example, it is acceptable to limit corrective actions for deficiencies determined to be "acceptable-as-is" if left uncorrected in the population of items reviewed. Normally, some form of a drawing or procedure would be used to prevent subsequent questions of compliance. This latter method was the logic mistakenly applied to the platforms and other discrepancies identified by the Walkdown Verification Program (WVP). Although initiated specifically because of WBP920022, they were not directly tied to a corrective action or extent of condition review for that PER. TVA has concluded that incorporating these associated WVP reviews and corrective actions as supplemental records to WBP920022 is not a sufficient response to the issue. Accordingly, WBP940374 has been issued to document the discrepant conditions identified.

NRC Excerpt #3:

"Failure to follow procedures and instructions are also conditions adverse to quality as specifically defined in the TVA NQAP and in SSP-3.04. Your response did not deny that instances of failure to follow civil/structural walk down procedures were identified by TVA and the NRC. We note that TVA's procedures provide for dispositioning conditions as "accept-as-is" when TVA determines that issued nonconformances are minor or nonsignificant. By failing to document these adverse conditions and implement the TVA corrective action program for disposition of the conditions, we believe that TVA has failed to take effective corrective action."

TVA Response to Excerpt #3:

TVA again agrees with NRC's conclusions regarding documenting instances of procedure noncompliance. Corrective action documents cannot limit corrective actions to correcting or otherwise dispositioning field discrepancies if a procedure noncompliance is involved. Corrective action is required to correct performance problems as well.

NRC Excerpt #4:

"As outlined in Enclosure 3 of your response, a TVA QA assessment of the WBN corrective action program, conducted after the NRC identified these problems, identified significant deficiencies related to root cause analysis, extent of condition, recurrence controls, and trending. In the description of these adverse conditions in Significant Corrective Action Report (SCAR) WBSCA940033, TVA appeared to rationalize repeated failures to follow procedures with the judgement that none of the deficiencies "would have any impact on installed plant equipment, its function, or design." The actions documented for this SCAR treat only the symptoms of these conditions and fail to address the underlying root cause of the problem."

TVA Response to Excerpt #4:

TVA does not agree that WBSCA940033 rationalized repeated failures to follow procedure. Rather, this corrective action document was issued specifically because the deficiencies (including failure to follow the corrective action procedure) were considered a significant problem warranting senior management attention. The statements in the SCAR addressing hardware impact were not made to rationalize procedure noncompliance, but to characterize the impact of the identified deficiencies with regard to plant safety, and hot functional testing readiness, and to focus corrective actions on improved performance in the future.

TVA agrees that the initial corrective actions developed for SCAR WBSCA940033 needed to be more comprehensive in order to promptly improve implementation of the corrective action program. Accordingly, TVA management established a task team to identify actions to achieve significant improvement in the program. The SCAR corrective actions have been revised to implement the task teams' recommendations, and are provided in Enclosure 3.

NRC Excerpt #5:

"For the reasons detailed above, we also do not consider your corrective actions and actions to prevent recurrence for Example 4 of Violation A to be adequate."

TVA Response to Excerpt #5:

TVA has revised its response to Example 4 based on rereview of the issue. Please refer to the revised response in Enclosure 2.

NRC Excerpt #6:

"Please provide a supplemental response that describes the TVA position regarding the documentation and disposition of non-hardware adverse conditions and TVA's conclusion that adverse conditions do not exist if discrepancies are "minor" and no hardware modifications are required. Please include in your response references to the elements of your approved Nuclear Quality Assurance Plan that support your position."

TVA Response to Excerpt #6:

The TVA Nuclear Quality Assurance Plan (TVA-NQA-PLN89-A) requires adverse conditions, "including nonconforming items or nonhardware problems such as failure to comply with operating license, technical specifications, or procedures," to be identified, evaluated, corrected, tracked, trended and where required, reported to appropriate levels of management. As discussed above, and in response to Excerpts 1 and 2, issues not requiring a hardware modification still require recording discrepant "nonhardware" conditions in a corrective action document (including administrative control programs).

A discussion of "minor" discrepancies is provided in response to Excerpt 2 above.

NRC Excerpt #7:

"TVA procedures define the Criteria for issuance and disposition of nonconformance reports. Your response should address procedure compliance and whether nonconformance reports were or were not procedurally required to be issued. Your response should deal with the significance of the failure to follow procedures, regardless of the ultimate hardware or design significance of the individual violation; this is of continuing concern to the NRC. Include in this response the actions taken by TVA management to assure that all adverse conditions are properly documented, evaluated, and corrected at Watts Bar."

TVA Response to Excerpt #7:

The responses to Excerpts 3 and 6 discuss TVA's requirements for documenting procedure noncompliance issues. As discussed in the revised response to the violation examples (Enclosure 2), TVA has determined that issuing specific corrective action documents was the proper action that should have been taken. At this time, TVA has not confirmed that the specific errors by walkdown crews are instances of failure to follow procedures. The causes for the specific discrepancies missed by the walkdown teams will have to be identified and corrected through the disposition of WBP940374.

TVA management has taken several actions to ensure adverse conditions are properly documented, evaluated, and corrected as follows:

1. A review of corrective action requirements is part of general employee training for site access.
2. Supervisors and CAQ preparers have recently been trained as part of the initial corrective actions to WBCA940033. This training emphasized the need to clearly document decisions and approaches to valid cause and extent of condition reviews. The revised corrective actions for WBSCA940033 expands this training even further for key personnel involved in the program.
3. A site bulletin is being issued emphasizing the need to document discrepant conditions and referencing recent program compliance issues.

4. As discussed in the cover letter, management expectations for strict compliance to corrective action program procedure have been provided to department managers.

NRC Excerpt #8:

"In addition, your response did not address the specific concerns regarding deficiencies identified during the NRC review of the Construction Deficiency Report (CDR) 50-390, 391/92-12 and SCAR WBSCA920106 as requested in our March 30, 1994 transmittal letter. Other specific discrepancies contained in your response have been discussed directly with your staff. Please provide a response to each of these issues."

Excerpt from March 30, 1994 NRC letter:

"Additionally, the ...inspection report includes deficiencies and concerns identified during the review of Construction Deficiency Report 50-390, 391/92-12, including questions about the adequacy of your root cause analysis for ... (SCAR) WBSCA920106. Please include in your response, why you believe these deficiencies occurred and what steps you are taking to assure that your root cause analysis process is adequate."

TVA Response to Excerpt #8:

The cause analysis discrepancies for WBSCA920106 occurred because of a combination of limited guidance, use of outdated information, and inattention to detail. In order to improve guidance on cause analysis, Business Practice (BP)-236, "Event Critique and Root Cause Analysis," has been implemented. Further, as discussed in Enclosure 4, a site guidebook has been developed to assist site personnel in the completion of corrective action documents.

WBSCA920106 has been revised to correct the cause analysis.

ENCLOSURE 2

WATTS BAR NUCLEAR PLANT (WBN)  
REVISED RESPONSE TO NRC INSPECTION REPORT 94-13

DESCRIPTION OF VIOLATION (94-13-01)

Criterion V of Appendix B to 10 CFR 50 and TVA Nuclear Quality Assurance Plan, TVA-NQA-PlN89A, Revision 3, Section 6.1 require that activities affecting quality be prescribed by documented instructions or procedures and be accomplished in accordance with these instructions or procedures.

Contrary to the above, activities affecting quality were not accomplished in accordance with documented instructions or procedures in the following examples:

VIOLATION EXAMPLE 4

Technical Instruction TI-2007, Engineering Walkdown of Main Structural Steel Platforms/Miscellaneous Steel to Support the Civil Calculations Program, Revision 0, Instruction Changes IC-89-400 and IC-89-413, requires the documentation of discrepancies between the installed configuration of platforms and the inspection criteria specified in procedure TI-2007 and design drawings.

As of January 31, 1992 and February 14, 1994, the licensee had not adequately identified or documented deviations from design drawings and Procedure TI-2007 walkdown inspection criteria for the Boric Acid Batching Tank Access Platform and the Fuel Handling Area Exhaust Fan Platform, respectively. Deficiencies were identified by NRC inspectors for both platforms which were not identified or documented in walkdown packages WCG-1-833 and WCG-1-832, respectively.

TVA RESPONSE TO EXAMPLE 4

TVA agrees with the violation example.

REASON FOR VIOLATION - EXAMPLE 4

As documented in Inspection Report 92-02, the discrepancies identified regarding the Boric Acid Batching Tank Platform were incorrectly recorded dimensions. TVA attributed these discrepancies to the relative inexperience of two specific walkdown members. These dimensions were recorded prior to June 3, 1991. As of that date the monitoring of the walkdown packages for the two individuals involved was increased to include all dimensions, due to the frequency of discrepancies found in their collected data.

The specific discrepancies regarding the Fuel Handling Area Exhaust Fan Platform were apparently missed by a different walkdown team. A surveillance report by the engineering contractor (S-188) also found that errors were made by other teams. Although the Boric Acid Batching Tank Platform discrepancies were documented in WBPER920022, the PER was ineffective in resolving similar deficiencies on other platforms due to incomplete conclusions regarding the cause of the event and decisions to limit the extent of condition review.

#### CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

As discussed in the inspection report, corrective actions were taken for the specific deficiencies found on the Boric Acid Batching Tank Platform. Walkdown Package WCG-1-833 was corrected and platform calculation WCG-1-961 was revised. These actions were documented in WBP920022.

The Fuel Handling Area Exhaust Fan Platform discrepancies have been documented on WBP940374 for disposition. This disposition will include a thorough review of associated contractor surveillance reports to ensure deficiencies are documented in corrective action documents as required. A previous Engineering review of the discrepancies and the calculation has determined that the conditions would not impact the results of the calculation. For the loose bolts and nuts, a Work Request, C242489 has been implemented to ensure the head of the bolt is in full contact with the clip angle and nuts are tight (outside the scope of this corrective action, a PER was generated to address incorrect bolting).

WBP920022 was previously addressed in WBS940033 as an additional example.

#### CORRECTIVE STEPS TO BE TAKEN TO PREVENT FURTHER VIOLATIONS

As discussed in the inspection report, TVA performed a 100 percent verification of walkdown data collected by the individuals responsible for the Boric Acid Batching Tank Platform. Disposition of WBP940374 will ensure the other platform deficiencies are correctly dispositioned.

Outside the specified corrective actions of WBP920022, the WBN Walkdown Verification Program was conducted to establish an adequate level of confidence in walkdown data. The program was completed in October 1993. Five identified deficiencies were included in WBP920022. The other discrepancies in that report, have been reviewed by Engineering and determined to be acceptable and have been included in WBP940374.

Improvements in the implementation of the corrective action program are discussed in TVA's response to NOV 94-13-02.

#### DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance will be achieved with the disposition of WBP940374. Closure is scheduled for November 1, 1994.

#### DESCRIPTION OF VIOLATION (94-13-02)

Criterion XVI of Appendix B of 10 CFR 50 and TVA Nuclear Quality Assurance Plan, TVA-NQA-PLN89A, Revision 3, paragraph 10.2.2, require that measures be established to assure that conditions adverse to quality are promptly identified and corrected.

SSP-3.04, "Corrective Action Program," specifies the acceptable methods for implementing the corrective action program at WBN. SSP-3.04 also specifies that SSP-3.06, "Problem Evaluation Reports," fulfills the requirements to identify and track to closure the actions necessary to correct adverse conditions and provide recurrence control, if required, for adverse conditions documented on PERs.

conditions and provide recurrence control, if required, for adverse conditions documented on PERs.

Contrary to the above, the licensee failed to identify or resolve adverse conditions in the following examples:

VIOLETION EXAMPLE 2

The cause determination, extent of condition, corrective actions, and recurrence controls were inadequate for PER WBP920022 which was initiated for adverse conditions identified by the NRC on the Boric Acid Batching Tank Access Platform. A subsequent NRC walkdown of the Fuel Handling Area Exhaust Fan Platform identified similar discrepancies that had not been identified during a walkdown documented on calculation WCG-1-832. This PER was closed on May 26, 1993.

VIOLETION EXAMPLE 3

As of February 28, 1994, the disposition of adverse conditions identified during the conduct of civil/structural walkdowns were not documented. In addition, adverse conditions identified during these walkdowns were not properly resolved in accordance with the approved corrective action program. Examples included adverse conditions identified during walkdown WCG-1-832 for the Fuel Handling Area Exhaust Fan Platform, during the Walkdown Verification Program documented in the final report dated November 1, 1993, and during the walkdown of heating, ventilation, and air conditioning supports conducted in response to Ebasco Surveillance S-118.

TVA Response to Examples 2 and 3

TVA agrees with the violation examples.

Reason for the Violation

Example 2- The violation example occurred because the individuals who worked on WBP920022 focused on the more significant deficiencies attributed to a specific walkdown team without addressing other less significant deficiencies made by other teams. Extent of condition reviews should have investigated other walkdown teams within the scope of the PER to confirm the problems had been resolved.

Example 3- The violation example occurred because of a lack of clear understanding of program requirements by the involved personnel. The individuals focused on problem solving and on ensuring that safety significant issues were being resolved. However, corrective action program requirements were not met. The Walkdown Verification Program (which was not documented as corrective action documents) was initiated at management direction to ensure walkdown programs had not missed significant problems. However, these reviews identified discrepancies which required documentation in the corrective action program.

#### Corrective Actions Taken and Results Achieved

As part of TVA's previous response, a PER supplement was prepared to document Walkdown Verification Program activities performed in parallel with WBPER920022. TVA has now concluded that this was not the appropriate method to disposition the discrepancies identified outside the PER. Accordingly, these issues have recently been redocumented in WBPER940374 so the discrepancies which were determined to be nonsignificant can be appropriately dispositioned.

The nine issues identified in the inspection report as Example 3 have been included in WBPER940374.

A task team was established to develop actions to achieve prompt improvements in implementation of the program. Those recommendations have been approved and are to be implemented as part of a revision to the corrective actions of WBSCA940033. These corrective actions are summarized in Enclosure 3.

#### Corrective Actions to be Taken to Avoid Further Violations

Enclosure 3 discusses TVA actions being taken in response to WBSCA940033. This significant corrective action document was initiated as a result of an assessment of the implementation of the corrective action program and is being revised based on further reviews of the program by NRC and TVA. TVA considers that these revised actions will promptly achieve program compliance and prevent further violations.

#### Date When Full Compliance Will Be Achieved

TVA has established August 15, 1994, as the date when full and complete compliance with the program must be achieved. At that time, Nuclear Assurance will verify program compliance.

ENCLOSURE 3

CORRECTIVE ACTION PROGRAM IMPROVEMENTS

During QA Assessment Number NA-WB-94-W46, the Nuclear Assurance department issued a Significant Corrective Action Report (SCAR) (WBSCA940033) to document problems with four attributes of corrective action documents at WBN. The four attributes were Root Cause Analysis, Extent of Condition Analysis, Corrective Actions, and Recurrence Control. The SCAR identified the examples of Problem Evaluation Reports (PERs) and SCARs with apparent deficiencies in these areas. Besides addressing causes and specific corrective action for each of the identified corrective action documents, actions have been developed to improve ongoing implementation of the program.

A task team of experienced managers was established to develop recommendations for immediate improvement in program implementation. The team concluded no change to the program was required, but that the program must be made easier to implement and that better training for a select group of preparers and reviewers was needed. A site guidebook is being developed to provide additional guidance on SCAR and PER implementation. Included will be improved cause determination guidance, extent of condition guidance, and recurrence control.

Key Features of corrective actions for this CAQ include:

Corrective Action Training:

A general training session has been conducted for selected personnel directly involved with PER and SCAR resolution. This training program addresses:

- a) Overview techniques for extent of condition reviews, root cause analysis and recurrence control development.
- b) Proper documentation of corrective actions, and
- c) Documentation and justification of judgements.

More detailed training on the use of the site guidebook will be provided for selected Engineering and Modifications department corrective action document preparers, and reviewers for other site departments. This training will make use of the lessons learned for TVA and NRC evaluations of the program.

Completion Date: August 15, 1994

Procedure Enhancements:

Further, a TVA business practice has been developed to provide additional guidance on methods to be used for cause analysis.

Based on the original QA assessment, TVA has concluded that similar deficiencies to those found in WBSCA940033 could be expected within the remaining population of closed CAQs. TVA has concluded that based on the examples found in that SCAR, the weaknesses would not be expected to affect the design, function, and installation of the physical plant. To provide additional assurance however, TVA will conduct a sample review of twenty corrective action documents that have closed since restart of construction in November 1991. This review is now expected to be completed by August 15, 1994.

In addition to WBSCA940033 actions and in order to improve consistency and make review of corrective action documents easier, a corrective action document closure format has been implemented for lengthy documents.

ENCLOSURE 4

WATTS BAR NUCLEAR PLANT (WBN)  
RESPONSE TO NRC LETTER DATED JUNE 10, 1994  
AND REVISED RESPONSE TO INSPECTION REPORT 94-13

LIST OF COMMITMENTS

1. WBP940374 was initiated to document the Walkdown Verification Program and Fuel Handling Area Exhaust Fan Platform discrepancies. The disposition of this PER will include a thorough review of associated contractor surveillance reports and will ensure other platform deficiencies are correctly dispositioned.

Completion Date: November 1, 1994

2. Revise WBSCA940033 based on further reviews of the corrective action program by NRC and TVA, include recommendations from the task team as part of the corrective actions, and add WBP920022 as an additional example.

Completion Date: August 15, 1994

3. The Nuclear Assurance department will confirm compliance to program requirements after August 15, 1994.

Completion Date: September 30, 1994

4. A site guidebook is being developed to provide additional guidance on SCAR and PER implementation. Included will be improved cause determination guidance, extent of condition guidance, and recurrence control.

Completion Date: August 15, 1994

5. More detailed training on the use of the site guidebook will be provided for selected Engineering and Modifications department corrective action document preparers, and reviewers for other site departments.

Completion Date: August 15, 1994

6. Conduct a sample review of twenty corrective action documents closed since November 1991.

Completion Date: August 15, 1994