



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

January 31, 2013

CDR-50-391/2013-01

10 CFR 50.55(e)

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555-0001

Watts Bar Nuclear Plant, Unit 2  
NRC Docket No. 50-391

**Subject: WATTS BAR NUCLEAR PLANT (WBN) UNIT 2 - CONSTRUCTION  
DEFICIENCY REPORT 50-391/2013-01 - COMMERCIAL GRADE  
DEDICATION PROGRAM - INTERIM REPORT**

The purpose of this letter is to provide interim Construction Deficiency Report (CDR) 391/2013-01, regarding a condition identified within TVA's commercial grade dedication program. TVA has determined that a condition exists where certain commercially dedicated equipment and/or components have been stored or installed that may not be capable of performing their intended safety functions with reasonable assurance.

Evaluations to date have not identified any specific examples in which such commercially dedicated equipment and/or components would have been unable to perform their intended safety functions; however, further evaluations and, if needed, additional testing will be carried out in order to demonstrate their ability to do so. Until this process is completed, the potential exists for a substantial safety hazard determination being identified as a result of this condition. Therefore, this condition is conservatively being reported in accordance with 10 CFR 50.55(e). Initial notification was made on January 3, 2013, via Event Notification No. 48646.

Although the root cause determination has not been finalized, the preliminary cause of this condition is that TVA's commercial grade dedication program did not fully implement current regulatory requirements. Further details of this condition can be found in the interim CDR 391/2013-01 provided in Enclosure 1. TVA expects to complete further evaluations and any subsequent testing for the components affected by this condition by September 1, 2013. TVA's system turnover process will prevent equipment and components affected by this condition from being turned over to plant operations prior to the condition identified being corrected.

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TVA plans to provide regular report updates (approximately 60-day intervals) as the tasks are completed. Once the final safety significance of this condition is determined, TVA will either provide a final CDR for this condition or withdraw this report. TVA expects to complete this activity by September 1, 2013.

TVA is also evaluating the timeliness associated with its evaluation of this condition. This has been entered into TVA's corrective action program as Problem Evaluation Report 653083.

Enclosure 2 provides the commitments made in this letter.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 31<sup>st</sup> day of January, 2013.

If you have any questions, please contact me at (423) 365-1260 or Gordon Arent at (423) 365-2004.

Respectfully,



Raymond A. Hruby, Jr.  
General Manager, Technical Services  
Watts Bar Unit 2

Enclosures:

1. Construction Deficiency Report (CDR) 391/2013-01, Commercial Grade Dedication Program
2. List of Commitments

cc (Enclosures):

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## **ENCLOSURE 1**

### **WATTS BAR NUCLEAR PLANT (WBN) UNIT 2 REGARDING COMMERCIAL GRADE DEDICATION PROGRAM 10 CFR 50.55(e) CONSTRUCTION DEFICIENCY REPORT (CDR) 50-391/2013-01 FIRST INTERIM REPORT**

#### **DESCRIPTION OF DEFICIENCY**

TVA has determined that a condition exists where certain commercially dedicated equipment and/or components have been stored or installed that may not meet the regulatory commercial grade dedication (CGD) process.

Evaluations to date have not identified any specific examples in which such commercially dedicated equipment and/or components would have been unable to perform their intended safety functions; however, further evaluations and, if needed, additional testing will be carried out in order to demonstrate their ability to do so. Until this process is completed, the potential exists for a substantial safety hazard determination being identified as a result of this condition.

#### **CAUSE OF THE DEFICIENCY**

Although the root cause determination has not been finalized for Problem Evaluation Report (PER) 403095, the preliminary cause of this condition is that TVA's CGD program did not fully implement current regulatory requirements.

PER 403095 was initiated by WBN Unit 2 Engineering following a routine construction NRC inspection to document NRC identified errors in implementing NEDP-8, "Technical Evaluation for Procurement of Materials and Services," with respect to the CGD process. The PER identified twelve (12) packages with potential deficiencies that raised NRC concerns about the CGD process.

After further inspection, eight (8) packages were found to be acceptable, and no additional actions are needed for these packages. The remaining four (4) packages identified by the NRC were determined to require additional testing and inspection prior to use at WBN Unit 2. During a subsequent NRC inspection when additional issues were identified, TVA decided to conduct a comprehensive review of the packages potentially applicable to WBN Unit 2. A team of independent and experienced technical personnel was assembled to perform a review of the packages.

The reviews performed to date have not identified any components that would have been unable to perform their intended safety function if the condition was not corrected. However, in some cases, the review concluded that additional testing was warranted to confirm the components will perform their intended function.

Regarding the programmatic aspect of this condition, TVA determined that NEDP-8, "Technical Evaluation for Procurement of Materials and Services," did not adequately reflect the definition of critical characteristics included in 10 CFR Part 21. The NEDP-8 definition described critical characteristics for acceptance as those selected to verify that

the item received was the item specified (EPRI NP-5652) instead of verifying that the item would perform its intended safety function (10 CFR Part 21). However, in many cases other procedural requirements in NEDP-8 ensured that the required critical characteristics for design were selected based on safety functions and failure modes.

### **SAFETY IMPLICATIONS**

No substantial safety hazard examples have been identified to date. However, until further evaluations and any subsequent additional testing described above has been completed, the potential exists for a substantial safety hazard determination being identified due to this condition. Once the final safety significance of this condition is determined, TVA will either provide a final CDR for this condition or process a withdrawal of this report.

### **CORRECTIVE ACTIONS**

To address the potential hardware deficiencies, the following actions have been completed or are planned.

1. TVA assembled an independent experienced team of technical personnel and performed a comprehensive review of CGD packages potentially used by the WBN Unit 2 project. The team reviewed each package against industry practices and regulatory requirements and proposed a disposition for each package. The results of this review were documented in "Commercial Grade Dedication Program, Corrective Action Program, Closure Report".
2. To prevent inadvertent procurement of any CDG item prior to required update of procurement packages, all CGD items reviewed under this PER were placed on Hold. The Procurement Engineering Group (PEG) is revising CGD packages that need technical revision. Revision of the procurement package for technical reasons may result in additional testing/inspection of the item, or in the worst case, replacement of the item with a basic component.
3. Concurrent with the revision of each CGD package, personnel will determine if the related commercial grade item which was purchased, received and stored, or installed is impacted, and appropriate action will be taken by the WBN Unit 2 project.
4. Upon completion of this process, a determination as to safety significance will be completed. A final report will then be provided detailing the safety significance of this condition or this report will be withdrawn at that time.

To address the programmatic aspects of this condition, the following actions have been completed or are planned.

1. TVA has created and staffed a Corporate Program Manager, PEG position which reports directly to the General Manager of Engineering Design. TVA has revised NEDP-20, "Conduct of the Engineering Organization," to include roles and responsibilities for this position.

2. TVA has revised NEDP-8 to correct the deficient definition of critical characteristics and provide additional guidance on performing commercial grade dedications.
3. WBN Unit 2 Project PEG personnel have completed EPRI training on CGD programs or have been task qualified to perform CGD by TVA's Engineering Support Personnel Training Program.

## **ENCLOSURE 2**

### **LIST OF COMMITMENTS**

1. The Procurement Engineering Group (PEG) is revising CGD packages that need technical revision. Revision of the procurement package for technical reasons may result in additional testing/inspection of the item, or in the worst case, replacement of the item with a basic component.
2. Concurrent with the revision of each CGD package, personnel will determine if the related commercial grade item which was purchased, received and stored, or installed is impacted, and appropriate action will be taken by the WBN Unit 2 project.
3. Upon completion of this process, a determination as to safety significance will be completed. A final report will then be provided detailing the safety significance of this condition or this report will be withdrawn at that time.

TVA expects to complete these activities by September 1, 2013.