



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

April 29, 2013

CDR-50-391/2013-02
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

10 CFR 50.55(e)

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

**Subject: WATTS BAR NUCLEAR PLANT (WBN) UNIT 2 - CONSTRUCTION
DEFICIENCY REPORT 50-391/2013-02 - INSTRUMENT SENSE LINE SLOPE
ISSUE - INTERIM REPORT**

The purpose of this letter is to provide the interim Construction Deficiency Report (CDR) 391/2013-02 regarding a condition TVA has identified which has the potential to be a significant (programmatic) breakdown in the instrument sense line installation program and, thus, a potential breakdown in TVA's quality assurance program. Walkdowns completed to date have not identified any specific examples where instrument line slopes as installed would have prevented the associated instruments from performing their intended safety functions. Until these walkdowns and/or evaluations are completed on affected systems, the potential exists to identify a substantial safety hazard. Initial notification was made on April 1, 2013, via Event Notification No. 48871.

The apparent cause of this condition involves a misinterpretation of construction procedure 25402-000-GPP-0000-N3401, "Instrument and Instrument Line Installation," which lacked proper detail to define the boundary of the sense line from the panel isolation valve to process connection including the root valve. Further details of this condition can be found in the interim CDR 391/2013-02 provided in Enclosure 1. Prior to system turnover to Plant Operations, TVA will complete the required walkdowns and/or evaluations of this condition and correct any identified deficiencies. 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 will provide regular report updates for CDR 391/2013-02 on approximately a 60-day interval. Once the final safety significance of this condition is determined, TVA will provide a final CDR for this condition.

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 29th day of April, 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) 391/2013-02, Instrument Sense Line Slope Issue
2. List of Commitments

cc (Enclosures):

U. S. Nuclear Regulatory Commission
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NRC Resident Inspector Unit 2
Watts Bar Nuclear Plant
1260 Nuclear Plant Road
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ENCLOSURE 1

WATTS BAR NUCLEAR PLANT (WBN) UNIT 2 REGARDING INSTRUMENT SENSE LINE SLOPE CONDITION 10 CFR 50.55(e) CONSTRUCTION DEFICIENCY REPORT (CDR) 50-391/2013-02 FIRST INTERIM REPORT

DESCRIPTION OF DEFICIENCY

TVA has identified a condition which has the potential to be a significant (programmatic) breakdown in the instrument sense line installation program and, thus, a potential breakdown in TVA's quality assurance program. Specifically, it has been determined that a condition exists where certain portions of the instrument line installations in multiple systems have not been completely inspected to ensure proper slope requirements (1/4 inch per foot) have been met. Inadequate sense line slope could result in the degradation of the associated safety-related instrument due to the effects of air entrapment which could adversely affect the accuracy or time response of the instrument or cause noise.

Walkdowns completed to date have not identified any specific examples where instrument line slopes as installed would have prevented instruments from performing their intended safety functions. Until these walkdowns and/or evaluation are completed, the potential exists for a substantial safety hazard determination being identified. Therefore, this condition is conservatively being reported in accordance with 10 CFR 50.55(e). Initial notification was made on April 1, 2013, via Event Notification No. 48871.

The issues documented in CDR 50-391/2013-02 are captured in TVA's corrective action program as Problem Evaluation Report (PER) 680826.

CAUSE OF THE DEFICIENCY

The apparent cause for PER 680826 involves a misinterpretation of construction procedure 25402-000-GPP-0000-N3401, "Instrument and Instrument Line Installation." The construction procedure lacked proper detail to define the boundary of the sense line from the panel isolation valve to the process connection including the root valve.

The standard Engineering Document Construction Release (EDCR) work scope statement for defining the sense line boundary is "Sense line connection from the process connection (e.g. root valve) to the panel isolation valve." However, the manner in which construction procedure 25402-000-GPP-0000-N3401 was written could be interpreted to mean that the required slope inspection did not include the root valve.

TVA believes the misinterpretation is a more recent condition rather than a historical one. Early in the project, work was performed by Knowledge, Skill and Rule-based personnel. The Knowledge was developed through design review meetings that were conducted for the EDCRs prior to issuance. These meetings provided the expectations

and level of detail needed to resolve the issues related to the Instrument Line corrective action plan through extensive walkdowns involving construction and design personnel. As the project progressed, the Skill and Rule base traits have remained. However, the Knowledge base has been diminished given the length of time that elapses between the issuance of design packages and the work that takes place to complete their implementation.

SAFETY IMPLICATIONS

No substantial safety hazard examples have been identified to date. However, until further walkdowns and/or evaluations have 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 provide a final CDR for this condition.

CORRECTIVE ACTIONS

1. Procedure 25402-000-GPP-0000-N3401, "Instrument and Instrument Line Installation," has been revised to identify the sense line boundary from the process connection through the root valve to the panel isolation valve.
2. Training to the above revised procedure has been provided to applicable Field Engineers, Planners, and Design personnel to eliminate any Knowledge gap.
3. The standard statement in the EDCRs discussed above will be removed from each EDCR through approved procedures for revising EDCRs.
4. Prior to system turnover to Plant Operations, TVA will complete the required walkdowns and/or evaluations of this condition and correct any identified deficiencies. 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.

ENCLOSURE 2

LIST OF COMMITMENTS

1. The standard EDCR work scope statement for defining the sense line boundary will be removed.

This action will be completed by May 30, 2013.

2. Prior to system turnover to Plant Operations, TVA will complete the required walkdowns and/or evaluations of this condition and correct any identified deficiencies. 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.
3. TVA will provide regular report updates for CDR 391/2013-02 on approximately a 60-day interval.