



Post Office Box 2000, Spring City, Tennessee 37381

WBL-24-007

March 5, 2024

10 CFR 50.4

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

Watts Bar Nuclear Plant, Units 1 and 2  
Facility Operating License Nos. NPF-90 and NPF-96  
NRC Docket Nos. 50-390 and 50-391

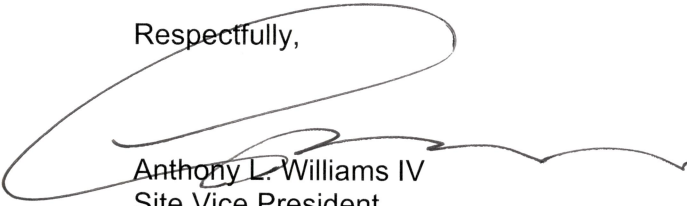
Subject: **Technical Specification (TS) 5.7.2.15 - Explosive Gas and Storage Tank  
Radioactivity Monitoring Program**

The program requirements for the Waste Gas Holdup System are specified in TS 5.7.2.15 and are implemented in Technical Instruction TI-266, "Explosive Gas And Storage Tank Radioactivity Monitoring Program." On January 9, 2024, the oxygen analyzer for the Waste Gas Holdup System failed and was declared not functional. Section 2.5 of TI-266 specifies that a special report be prepared if the not functional condition exists for a period of 30 days continuously. This special report is provided in the Enclosure.

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There are no new regulatory commitments in this letter. Please direct all questions concerning this matter to Jonathan Johnson, Licensing Manager, at [jtjohnson0@tva.gov](mailto:jtjohnson0@tva.gov).

Respectfully,



Anthony L. Williams IV  
Site Vice President  
Watts Bar Nuclear Plant

Enclosure

Technical Specification 5.7.2.15, Waste Gas Monitoring System Special Report

cc: (w/ enclosure)

NRC Regional Administrator - Region II  
NRC Senior Resident Inspector - Watts Bar Nuclear Plant  
NRC Project Manager - Watts Bar Nuclear Plant

**Enclosure**  
**Technical Specification 5.7.2.15**  
**Waste Gas Monitoring System Special Report**

**Background**

The Waste Gas Compressor Oxygen Analyzer (0-O2AN-043-0227) is used to monitor the oxygen content in the Waste Disposal System (WDS) to preclude a potentially explosive gas mixture from accumulating in the WDS.

On January 9, 2024, a Condition Report (CR) 1902314 was written to document that 0-O2AN-043-0227 could not be calibrated. 0-O2AN-043-0227 was considered not functional because automatic oxygen measuring capabilities and associated alarm capabilities no longer existed. Section 2.5 of TI-266, "Explosive Gas And Storage Tank Radioactivity Monitoring Program", states that a special report shall be prepared if 0-O2AN-043-0227 is not functional for a period of 30 days continuously.

This report should identify the cause of the loss of functionality, actions taken to restore the monitor and the associated alarm capabilities, and a summary of the actions taken to prevent recurrence.

**Cause of the non-functionality**

0-O2AN-043-0227 is an Orbisphere Model 3602. This model is no longer produced and requires complex repairs. Because of the age of the analyzer, these repairs are becoming more common.

**Actions Taken to Restore Monitor(s)/Alarm Functions to functional Condition**

Upon loss of 0-O2AN-43-227, Operations secured the Waste Gas Compressors and Chemistry performed surveillance instruction 0-SI-77-3, "WDS Waste Gas Oxygen Determination", to collect the required manual samples. Alternate sampling means were utilized and all compensatory samples were obtained as required per TI-266. 0-O2AN-43-227 was successfully restored on February 14, 2024 in accordance with 0-SI-43-212, "Quarterly Calibration and Functional Check Of The Waste Gas Compressor Oxygen Analyzer (0-O2AN-43-227)". No loss of safety function occurred because the surveillance requirement provided adequate assurance that there was no potential for explosive gas mixture to accumulate in the WDS.

**Summary of Actions Taken to Prevent Recurrence**

To prevent recurrence the Chemistry Department is pursuing a design change to replace this equipment. This design change is tracked in CR 1909660 and Work Order 124302509.