

May 8, 2008

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

Gentlemen:

In the Matter of the) Docket No. 50-390
Tennessee Valley Authority)

WATTS BAR NUCLEAR PLANT (WBN) - UNIT 1 - 2007 ANNUAL NONRADIOLOGICAL
ENVIRONMENTAL OPERATING REPORT (ANEOR)

In accordance with Section 5.4.1 of Appendix B, "Environmental Protection Plan," of the
WBN Operating License, provided in the enclosure is the 2007 ANEOR for WBN. This
report addresses the period from February 7, 2007, through February 6, 2008.

This report contains no new commitments and if you should have any questions, please
contact me at (423) 365-1824.

Sincerely,

Original signed by

M. K. Brandon
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cc: See page 2

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Enclosure

2007 Annual Nonradiological Environmental Operating Report (ANEOR)



TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT

**ANNUAL NON-RADIOLOGICAL
ENVIRONMENTAL OPERATING
REPORT**

FEBRUARY 7, 2007 THROUGH FEBRUARY 6, 2008

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I. INTRODUCTION

The Watts Bar Nuclear Plant (WBN) Annual Non-Radiological Environmental Operating Report is provided for the period of February 7, 2007 through February 6, 2008. This report was prepared in accordance with Appendix B to facility operating license NPF-90, "Environmental Protection Plan (EPP)", Section 5.4.1, "Routine Reports." This report includes a summary of:

- A. Reports previously submitted as specified in the Watts Bar Nuclear Plant National Pollutant Discharge Elimination System (NPDES) Permit Number TN0020168.
- B. All special reports submitted per EPP Section 4.1, "Environmental Monitoring."
- C. All EPP noncompliances and the corrective actions taken to remedy them.
- D. Changes made to applicable state and federal permits and certifications.
- E. Changes in station design that could involve a significant environmental impact or change the findings of the Final Environmental Statement (FES).
- F. Non-routine reports submitted per EPP Section 4.2, "Unusual or Important Environmental Events."
- G. Changes in approved EPP.

II. REPORTS PREVIOUSLY SUBMITTED AS SPECIFIED IN THE WATTS BAR NUCLEAR PLANT (WBN) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT

The following reports were submitted as specified in the WBN NPDES Permit Number TN0020168 and the Tennessee Storm Water Multi-Sector General Permit (TMSP) Number TNR051343:

- A. The annual sampling and analysis required by the Tennessee Multi-sector Storm Water Permit (TMSP) TR050000 for storm water was performed and the annual report was submitted prior to the March 31, 2007 deadline.
- B. As required by the NPDES permit, Discharge Monitoring Reports (DMRs) were completed and submitted monthly prior to the 15th of the month deadline to the Tennessee Department of Environment and Conservation (TDEC).

II. REPORTS PREVIOUSLY SUBMITTED AS SPECIFIED IN THE WATTS BAR NUCLEAR PLANT (WBN) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT (continued)

- C. DMR Quality Assurance (QA) Laboratory Performance Evaluation Study 25 was completed by and submitted to Environmental Resource Associates, TDEC, and the Environmental Protection Agency (EPA) prior to the October 29, 2007, deadline.
- D. The annual Biocide/Corrosion Treatment Report (B/CTP) was completed and submitted to TDEC prior to the February 15, 2007, deadline.
- E. The “Winter 2006 Compliance Survey for Watts Bar Nuclear Plant Outfall 113 Passive Mixing Zone and Summer 2006 Compliance Survey for Watts Bar Nuclear Plant Outfall 113 Passive Mixing Zone” were completed and submitted to TDEC prior to the semi-annual requirement deadline.
- F. Field work for the “Winter 2007 Compliance Survey for Watts Bar Nuclear Plant Outfall 113 Passive Mixing Zone and Summer 2007 Compliance Survey for Watts Bar Nuclear Plant Outfall 113 Passive Mixing Zone” were completed March 29, 2007 and September 6, 2007, respectively. The data is currently under analysis with plans to submit the reports to TDEC no later than June 30, 2008. Since the reports were not submitted prior to the semi-annual requirement deadline, corrective action program document 143247 was initiated to address this issue.

III. SPECIAL BIOLOGICAL MONITORING REPORTS

- A. EPP Section 4.1.1, “Aquatic Monitoring”
 - 1. Routine semi-annual chronic toxicity tests were conducted on plant effluents and the appropriate reports were submitted as part of the DMR in April [Outfall Serial Numbers (OSNs) 101, 112, 113] and October (OSNs 101, 112, 113), as required by the NPDES permit.
 - 2. An annual report on the “Biological Monitoring of the Tennessee River near the Watts Bar Nuclear Plant 2006” was submitted to TDEC in May 2007 indicating no adverse impact to aquatic life due to WBN operation. This report is not required in accordance with Part III, Section I of the WBN NPDES Permit, but was a recommendation in the “Watts Bar Nuclear Plant Supplemental Condenser Cooling Water System Fish Monitoring Program, 2001” report to be consistent with other required annual reporting programs at Tennessee and Alabama nuclear plants.

III. SPECIAL BIOLOGICAL MONITORING REPORTS (continued)

- 3. On December 18, 2007, WBN submitted the biological monitoring data, "Fish Impingement at Watts Bar Nuclear Plant Supplemental Condenser Cooling Water Intake Structure During 2005 Through 2007", per the Proposal for Information Collection (PIC) plan as developed under the 316(b) requirements prior to their suspension by EPA on March 20, 2007. The content and submittal date of this biological data no later than January 7, 2008 was agreed upon during the November 1, 2007 meeting with TDEC. In accordance with Part III, H of the WBN NPDES permit, 316(b) limitations were determined to be in compliance based upon best professional judgment in accordance with CFR 401.43 and 122.43.

- 4. In accordance with the provisions of Tennessee Code Annotated Section 69-8-301 et seq., the Water Resources Information Act, WBN submitted the Water Withdrawal Registration Form for Calendar Year 2007 and a revised Withdrawal Registration Form for Calendar Year 2006 to TDEC prior to the February 15, 2007, deadline. Although federal agencies are not subject to laws and regulations promulgated by state governments unless Congress has clearly waived the federal government's sovereign immunity, in 2003 TVA voluntarily agreed as a matter of policy to provide the registration information in order to assist both TVA and TDEC in carrying out their water management responsibilities.

B. EPP Section 4.1.2, "Maintenance of Transmission Line Corridors"

Listed below are the 500 kV transmission lines associated with Watts Bar Nuclear Plant and information regarding the maintenance that was performed on each line:

500 kV Line Identifier	Maintenance Performed
Bull Run - Sequoyah	No major clearing was performed on the line corridors using herbicides. Applications of Spike 20P or Arsenal 5G were made along some fence rows.
Sequoyah - Watts Bar	
Watts Bar - Roane	
Watts Bar - Volunteer	

IV. ENVIRONMENTAL PROTECTION PLAN NONCOMPLIANCES

WBN received zero noncompliances from February 2007 to February 2008.

V. CHANGES MADE TO APPLICABLE STATE AND FEDERAL PERMITS AND CERTIFICATIONS

A. NPDES Permit TN 0020168

1. The NPDES permit renewal application packet consisting of EPA Form 1, site map, Form 2C, Form 2C addendum, flow schematic, Form 2E, and a permit address form submitted to the State of Tennessee on May 3, 2006 is still pending. Sampling for permit renewal occurred in December 2005 and historical data were compiled from the period of October 1, 2004, through September 30, 2005. WBN requested consideration of the following in the renewed permit application:
 - a. The updating of the NPDES permit so that it will be consistent with the frequency of whole effluent toxicity (WET) testing for OSNs 101, 102, 112, and 113 by modifying the permit limits table to twice per year or to refer to a footnote indicating that WET testing would be required once per year for oxidizing biocides and once per year for non-oxidizing biocides.
 - b. Internal Monitoring Point (IMP) 103:
 1. The reduction of Oil and Grease (O&G) monitoring from twice per month to once per month,
 2. The reduction of Total Suspended Solids (TSS) monitoring from twice per month to once per month,
 3. The reduction of pH monitoring from once per week to once per month.
 - c. IMP 107:
 1. The current monitoring frequency for pH changed to once per batch, consistent with the monitoring frequency for TSS, O&G, etc. It is currently described as once per week which is not appropriate since the discharge typically does not occur at that frequency.
 2. Authorization for the intermittent discharge of waste water (water filtered to five microns to address the presence of asbestos) from condenser tube cleaning. WBN was authorized to perform this discharge by the Chattanooga Field Office in an e-mail dated March 14, 2006.

V. CHANGES MADE TO APPLICABLE STATE AND FEDERAL PERMITS AND CERTIFICATIONS (continued)

d. OSN 113

1. The removal of the requirement to monitor bottom temperatures from the renewed permit. Removing this monitoring requirement appears to be very low risk as the data indicates no excursions and a reasonable margin of safety for protecting bottom temperatures.

- e. The modification of the definition of overflow from the current definition; “Overflow means the discharge to land or water of wastes from any portion of the collection, transmission, or treatment system other than permitted outfalls.” TVA believes the wording should be consistent with the wording of Tennessee Code Annotated (TCA) 69-3-108(b)(5) which prohibits discharges of such wastes into waters or from “a location from which it is likely that the discharged substance will move into waters.”

- f. On April 17, 2006, TVA received written authorization to treat *Pimephales promelas* toxicity samples (both effluent and intake samples) with UV to address problems with pathogenic interference in WET testing at Kingston and Cumberland Fossil Plants and WBN. WBN has requested that language be added to address this in the renewed permit. The suggested wording is:

“The permittee is authorized to treat Pimephales promelas samples collected for toxicity testing at Outfall 112 with UV radiation for up to five minutes.”

- g. Removal of language regarding whole effluent toxicity being required during the first treatment after the effective date of the permit, since the effective date is an unknown future date and the facility may already be in a treatment when the permit becomes effective. WBN suggested that language requiring tests to be conducted within 180 days of the effective date of the permit if oxidizing or nonoxidizing treatments have been utilized should be sufficient.

V. CHANGES MADE TO APPLICABLE STATE AND FEDERAL PERMITS AND CERTIFICATIONS (continued)

- h. Inclusion of new language consistent with language found in Part III of all TVA fossil power permits in Tennessee which minimizes administrative burdens. The language is:

“The permittee shall be allowed to re-route flows past normal monitoring points as a temporary measure for maintenance purposes. However, such re-routing must be done in such a way that permit limitations are still being met in the receiving waters and compliance with permit limitations is monitored and reported on the DMRs for the rerouted flows. The receiving waters must be the same for the rerouted flows as for the normal discharges.”

2. In accordance with the NPDES permit, Part III.G., on December 21, 2006, WBN requested an amendment to the current B/CTP to include the following processes and chemicals: The Division approved all requested changes to process (applications) and chemicals on April 30, 2007.
- a. The continuous use of oxidizing biocides.
 - b. The use of sodium hypochlorite as an alternative to Nalco H901G or Bromo-Chloro, Dimethyl Hydantoin (BCDMH).
 - c. The replacement of the dispersant PCL-401 with 73200.
 - d. The addition of the non-oxidizing biocide H-150M to the B/CTP approval. While the existing B/CTP references H-130M, WBN submitted a courtesy notification on April 22, 2005, stating that H-130M would be replaced with H-150M, a “similar” product containing “essentially the same chemical”.
3. The WBN NPDES permit, Part III H, contains a 316(b) requirement for a Comprehensive Demonstration Study (CDS) to be submitted to TDEC no later than January 7, 2008. The United States Second Circuit Court of Appeals remanded several provisions of the EPA’s Cooling Water Intake Structure Phase II rule back to EPA for further review. On May 22, 2007 TVA requested that TDEC modify all TVA NPDES permits such that the requirement to submit the CDS is deleted.

V. CHANGES MADE TO APPLICABLE STATE AND FEDERAL PERMITS AND CERTIFICATIONS (continued)

4. On July 18, 2007 WBN requested TDEC approval for an alternate method, D 888-05, to measure dissolved oxygen. While this method was developed under ASTM protocols and was approved by Region IV of EPA for NPDES analysis, the Division of Water Pollution Control denied this request on July 26, 2007.

B. Air Permits

WBN is currently operating under Air Permit Number 448529. No changes to this permit were made during the reporting period.

VI. CHANGES IN FACILITY DESIGN OR OPERATION

In accordance with EPP Section 3.1, "Plant Design and Operation," facility design and operational changes were reviewed for potential effect on the environment as described below. A review of facility design and operational changes proposed from February 7, 2007 through February 6, 2008, was performed. Projects considered as having potential impact on the environment included those that:

- Could have caused waste stream generation/alteration.
- Required the acquisition/modification of permits.
- Involved the use of hazardous material.
- Required physical construction.

The review, performed in accordance with the guidelines of the Tennessee Valley Authority's National Environmental Policy Act (NEPA) Program, documented that design and operational changes did not involve an unreviewed environmental question. The following criteria were used to identify those projects with a potential for environmental effects:

- A. Waste stream generation/alteration
(Air, Hazardous Waste, Solid Waste, PCB's, Asbestos, Wastewater)
- B. Permit Acquisition/Modification
[NPDES, Air, Inert Landfill, Other (316b, 404, etc.)]

VI. CHANGES IN FACILITY DESIGN OR OPERATION (continued)

- C. Hazardous Materials
[Hazardous Materials that are environmentally unfriendly and are likely to generate a Resource Conservation and Recovery Act (RCRA) hazardous or Toxic Substances Control Act (TSCA) waste]
- D. Physical Construction Involved
(Erosion/Sedimentation Effects, Transportation Effects, Noise Effects, Groundwater Effects, Surface Water Effects, Floodplain Effects, Wetland Effects, Prime Farmland Effects, Unique Natural Features Effects, Aquatic Ecology Effects, Terrestrial Ecology Effects, Protected Species Effects, Sensitive Habitat Effects, Visual Effects, Historical, Cultural and Archeological Effects, Changes in Site Land Use, and Controversy)
- E. Special Tests
There were no special tests conducted during this period that met the environmental impact criteria.
- F. Temporary Alterations
There were no temporary alterations conducted during this period that met the environmental impact criteria.
- G. Design and Operational Changes

Most of the design and operational changes conducted during this period did not meet the environmental impact criteria. There were 8 facility design and operational changes made during this report period with a potential impact on the environment. The appropriate environmental reviews were completed and all changes were found to be within the scope of existing environmental permits and in compliance with NEPA regulations. The Supplemental Environmental Impact Statement-Completion and Operation of Watts Bar Nuclear Plant Unit 2, was issued June 2007. Those Categorical Exclusion Checklists (CECs) written to document the site changes reviewed are as follows:

- (1) 2147-Generic WBN for Routine Activities and Maintenance.
- (2) 15085-Delta Gate Road VBS Modification in Compliance With Nuclear Security
- (3) 15339-Switchyard & Main Control Room (MCR) Security Measures
- (4) 15523-North Portal Parking Lot
- (5) 15525-Gravel Areas near Cooling Water Vent & Laydown Area
- (6) 16853-Sodium Hypochlorite Secondary Containment Basin
- (7) 17423-Replacement of Watts Bar Unit 1 Stator Wedges

VI. CHANGES IN FACILITY DESIGN OR OPERATION (continued)

All other facility design and operational changes made during this report period with a potential impact on the environment were found to be within the scope of existing environmental permits and in compliance with regulations.

In summary, there were no facility design or operational changes from February 7, 2007 to February 6, 2008, which resulted in an unreviewed environmental question.

VII. NON-ROUTINE REPORTS

No non-routine reports for EPP Section 4.2 were issued during this reporting period.

VIII. CHANGES IN APPROVED ENVIRONMENTAL PROTECTION PLAN SPECIFICATIONS

No changes were made to Appendix B, EPP, of the WBN operating license during the reporting period.