

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

Gentlemen:

In the Matter of the
Tennessee Valley Authority

)
)

Docket No. 50-390

**WATTS BAR NUCLEAR PLANT (WBN) - UNIT 1 - 2008 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 2008 ANEOR for WBN. This report addresses the period from February 7, 2008 through February 6, 2009.

There are no regulatory commitments in this letter and should there be any questions regarding this letter, please contact me at (423) 365-1824.

Sincerely,

M. K. Brandon
Manager, Site Licensing
and Industry Affairs

Enclosure
cc: See page 2

U.S. Nuclear Regulatory Commission
Page 2

Enclosure

cc (Enclosure):

NRC Resident Inspector
Watts Bar Nuclear Plant
1260 Nuclear Plant Road
Spring City, Tennessee 37381

U.S. Nuclear Regulatory Commission
Mr. John G. Lamb, Senior Project Manager
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation
MS O-8 H1A
Washington, DC 20555-0001

U.S. Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, Georgia 30303

U.S. Fish and Wildlife Service
446 Neal Street
Cookeville, TN 38501

Enclosure

2008 Annual Nonradiological Environmental Operating Report (ANEOR)



TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT

**ANNUAL NON-RADIOLOGICAL
ENVIRONMENTAL OPERATING
REPORT**

FEBRUARY 7, 2008 THROUGH FEBRUARY 6, 2009

TABLE OF CONTENTS

I.	INTRODUCTION	E-4
II.	REPORTS PREVIOUSLY SUBMITTED AS SPECIFIED IN THE WATTS BAR NUCLEAR PLANT (WBN) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT	E-4
III.	SPECIAL BIOLOGICAL MONITORING REPORTS.....	E-5
IV.	ENVIRONMENTAL PROTECTION PLAN NONCOMPLIANCES.....	E-6
V.	CHANGES MADE TO APPLICABLE STATE AND FEDERAL PERMITS AND CERTIFICATIONS.....	E-8
VI.	CHANGES IN FACILITY DESIGN OR OPERATION.....	E-9
VII.	NON-ROUTINE REPORTS	E-12
VIII.	CHANGES IN APPROVED ENVIRONMENTAL PROTECTION PLAN SPECIFICATIONS	E-12

I. INTRODUCTION

The Watts Bar Nuclear Plant (WBN) Annual Non-Radiological Environmental Operating Report is provided for the period of February 7, 2008 through February 6, 2009. 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 Impact Statement (FEIS).
- 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. 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).
- B. DMR Quality Assurance (QA) Laboratory Performance Evaluation Study 28 was completed by and submitted to Environmental Resource Associates, the TDEC, and the Environmental Protection Agency (EPA) prior to the October 29, 2008 deadline.

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

- C. The annual Biocide/Corrosion Treatment Report was completed and submitted to the TDEC prior to the February 15, 2008 deadline.
- D. The “Winter 2008 Compliance Survey for Watts Bar Nuclear Plant Outfall 113 Passive Mixing Zone” was completed and submitted to the TDEC prior to the semi-annual requirement deadline. The field work for the “Summer 2008 Compliance Survey for Watts Bar Nuclear Plant Outfall 113 Passive Mixing Zone” was completed August 28, 2008. The data is currently under analysis with plans to submit the reports to the TDEC, Division of Water Pollution Control no later than May 29, 2009. This issue is being addressed in TVA’s Corrective Action Program as Problem Evaluation Report (PER) Number 169819.
- E. The annual sampling and analysis required by the TMSP TR050000 for storm water was performed and the annual report was submitted prior to the March 31, 2008 deadline.

III. SPECIAL BIOLOGICAL MONITORING REPORTS

- A. EPP Section 4.1.1, “Aquatic Monitoring”
 - 1. Routine semi-annual Whole Effluent Toxicity (a.k.a. chronic biotoxicity tests) were conducted on plant effluents and the appropriate reports were submitted as part of the DMR in May [Outfall Serial Numbers (OSNs) 101, 112, 113] and November (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 2007” was submitted to the TDEC in May 2008 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. 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 2008 to the TDEC prior to the February 15, 2009 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 the 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 these line corridors using herbicides.
Watts Bar - Roane	
Watts Bar - Volunteer	
Sequoyah - Watts Bar	374 acres were treated with the following mixture of herbicides: <ul style="list-style-type: none">• 4% Dow AgroScience Accord XRT• 25 ounces of DuPont Lineage Clearstand• 0.5% surfactant• 0.1% dye

IV. ENVIRONMENTAL PROTECTION PLAN NONCOMPLIANCES

WBN received zero Notice of Violations (NOV) from February 2008 to February 2009. In accordance with the NPDES permit, the following noncompliances were reported to the TDEC.

1. WBN reported to the Chattanooga Field Office on February 20, 2008 that an iron cut-off concentration was exceeded at sample point SW-9 in Drainage Area 11. WBN did not receive a NOV from the TDEC. A separate notification was provided to the Field Office for each occurrence (refer to table below). While the October result indicates continued improvement, the November result indicated that continued monitoring and remediation efforts are needed. These results are summarized in the table below:

IV. ENVIRONMENTAL PROTECTION PLAN NONCOMPLIANCES (continued)

Date Collected	Analytical Results
January 29, 2008	13 mg/L
April 11, 2008	9.6 mg/L
October 24, 2008	6.4 mg/L
November 13, 2008	11 mg/L

As described in correspondence to the TDEC, the SWPPP characterizes this drainage area as one associated with industrial activity. Since the last required 2007 Storm Water sample for iron, collected on March 16, 2007 (0.78 mg/L), there was considerable activity relating to movement of industrial materials in this drainage area which created soil disturbance directly upstream of the sample point, SW-9. WBN increased the Best Management Practices (BMPs) in this area (soil stabilization and silt fences) to reduce iron analytical results to below the cut-off concentration limit. In addition, soil stabilization via increased vegetation density remains in progress. The downward trend from the January through the October sample analytical results indicate that the BMP's are reducing the mobilization of iron and WBN will continue to monitor this storm water outfall. The SWPPP was also reviewed but determined that changes to the plan are unnecessary at this time.

2. OSN 112 NPDES samples collected on June 16, 2008 at 10:30 yielded a dissolved oxygen (DO) of 3.9 mg/L. The back-up sample analyzed June 17th yielded a DO of 3.9 mg/L. This is a NPDES violation as the minimum daily permit limit is 5.0 mg/L. Chemistry/Environmental verbally informed the Chattanooga Field Office of the noncompliance on June 18, 2008. In addition, per Part II.C.2. b. of the WBN NPDES permit, the noncompliance was reported on the June Discharge Monitoring Report which was sent to the TDEC Nashville office and the Chattanooga Field Office on July 9, 2008 via certified mail. WBN did not receive an NOV from the TDEC. The corrective action was to reinforce the need for timely communication of all limit threats to permit noncompliance.
3. A Biological Oxygen Demand sample collected July 14, 2008 at OSN 111, the sewage treatment plant, was not analyzed by Environmental Science Corporation within the 40 CFR 136 48-hour hold time requirement. As the analytical lab did not notify WBN of the hold time exceedance, WBN was unaware of the hold time exceedance until the following week when the results were received. Since WBN did not have the opportunity to collect an additional sample for the week of

IV. ENVIRONMENTAL PROTECTION PLAN NONCOMPLIANCES (continued)

July 14th, this resulted in a missed NPDES sample. In accordance with Part II.C.2. b. of the WBN NPDES permit, the noncompliance was reported on the July Discharge Monitoring Report which was sent the TDEC Nashville office and the Chattanooga Field Office on August 7, 2008 via certified mail. WBN did not receive an NOV from the TDEC. The corrective actions were; (1) Provide WBN expectations for NPDES sample analysis and immediate notification of issues to Environmental Science Corporation, (2) Revise the governing procedure, 0-PI-ENV-3.1, NPDES Plant Effluents, to include an action step to contact the analytical lab in the event the analytical results were not received by the requested date, and (3) WBN requested a two-day turn around time for all weekly NPDES samples from the analytical laboratory.

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.
2. In accordance with the TDEC Environmental Permits Handbook, WBN submitted an Application for Information Regarding a Subsurface Sewage Disposal System Permit and Certification of Completion for the security training building septic tank in drainage area Number 13 in April 2008. TDEC Division of Groundwater Protection inspected the septic tank on April 28, 2008 and approved the construction. PER Number 143393 was written to document that a permit was not applied for prior to construction due to an error in understanding between county, state, and federal policies which govern the installation. The TDEC reported that the issue had been corrected and WBN did not receive an NOV.
3. During June 2008, WBN re-evaluated its industrial activity in drainage areas and in accordance with the TMSP notified the TDEC of the removal of Storm Water Outfall 5 (SW-5) and Storm Water Outfall 7 (SW-7). WBN believes coverage under the Tennessee Multi-Sector General Permit for Industrial Activities Sector L and O is appropriate, consistent with the previous Notice of Coverage

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

issued for this facility. An up to date SWPPP and supporting documents are available at the site. In a previous SWPPP, SW-5 was incorrectly described as representative of the discharge from Storm Water Outfall SW-2. As SW-2's drainage area is associated with industrial activity and SW-5 no longer has industrial activity associated with it, SW-5 could not be representative of SW-2. Inspections and monitoring continue at SW-2. A change occurred in the land use for the drainage area associated with SW-7. While previously used for laydown activities (industrial), this area has now been converted for use as office space (non industrial). SW-5 and SW-7 were removed from the Notice of Intent.

4. On September 10, 2008, WBN submitted a minor modification to the TDEC Nashville office for termination of discharges from NPDES Internal Monitoring Point (IMP) 111. The WBN sewage treatment plant had been connected to the Spring City Publicly Owned Treatment Plant effective August 9, 2008 with October 3, 2008 (date the effluent box was completely filled with gravel) as the actual termination date of the discharge from IMP 111.

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, 2008 through February 6, 2009 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.

VI. CHANGES IN FACILITY DESIGN OR OPERATION (continued)

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, Polychlorinated Biphenyl, Asbestos, Wastewater)
- B. Permit Acquisition/Modification
[NPDES, Air, Inert Landfill, Other (316b, 404, etc.)]
- C. Hazardous Materials
(Hazardous Materials that are environmentally unfriendly and are likely to generate a Resource Conservation and Recovery Act hazardous or Toxic Substances Control Act 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 eight 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. Those Categorical Exclusion Checklists written to document the site changes reviewed are as follows:

VI. CHANGES IN FACILITY DESIGN OR OPERATION (continued)

- (1) 19929-Installation of Power & Communications Fiber Optic Line & Fence repositioning at the Unit 1 Staging Area
- (2) 19869-Generic Nuisance Tree Removal
- (3) 19554-Yard Holding Pond (YHP) Boat Ramp
- (4) 19540-Installation of Power & Communications Fiber Optic Line Between the Unit 2 Work Control Center and the Railroad Trailer
- (5) 19506-Installation of Communications Fiber Optic Line Between the Switchyard fence and Trailer Number 12
- (6) 19474-Installation of Communications Fiber Optic Line Between Unit 1 Warehouse A and Warehouse B
- (7) 19395-Chain Link Fence Between Unit 1 Warehouses A and B
- (8) 19392-Paint Shop Addition
- (9) 19273-WBN Training Center Cooling Tower Blowdown to Catch Basin Number 97
- (10) 19194-Unit 2 West Parking Lot Light Poles
- (11) 19063-Transport Generator Rotor from and to WBN via Sequoyah Nuclear Plant
- (12) 18902-WBN Unit 2 Tree Removal
- (13) 18868-WBN Unit 2 Warehouse Telecommunication & Fiber Optic Service Construction
- (14) 18591-Quality Control Office Trailer at the Unit 2 Receiving Warehouse
- (15) 18532-Sewage Treatment Plant Building Hook-Up to Spring City Line
- (16) 18415-WBN Unit 2 Condenser Bundle Storage Area & Haul Route
- (17) 18414-Generic - Chain Link Fences Outside of the Probable Maximum Flood (PMF), Probable Maximum Precipitation (PMP), and Protected Area (PA)
- (18) 18413-Generic - Cooling Tower Perimeter Fill Replacement
- (19) 18378-Generic - Surface Preparation via Sandblasting
- (20) 18344-Generic - Temporary Warehouse Complex and Loading Dock
- (21) 18271-Watts Bar Nuclear Plant 500-kV Switchyard Startup Unit 2 - Project No. Z0172 - Work Orders 62189, 62190 & 62191
- (22) 18270-Firing Range Trailer, Septic Tank & Field
- (23) 18268-Dean Building Sidewalk Extension
- (24) 18217-WBN Unit 2 Powerline Upgrade
- (25) 18149-Security Shelter
- (26) 18134-Asphalt Existing Safe Walkway From North Portal Parking Lot to North Portal Entrance
- (27) 18092-Engineering Quality Building (EQB) Safe Walkway
- (28) 18088-Drainage Area Number 14 Chain Link Fencing
- (29) 18087-Drainage Area Number 11 Chain Link Fencing
- (30) 18079-Drainage Area 2 Chain Link Fencing

VI. CHANGES IN FACILITY DESIGN OR OPERATION (continued)

All other facility design and operational changes made during this reporting 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, 2008 to February 6, 2009 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.