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

MAY 0 8 2006

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 - 2005 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 2005 ANEOR for WBN. This report addresses the period from February 7, 2005, through February 6, 2006.

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

Sincerely,

P. L. Pace
Manager, Site Licensing
and Industry Affairs

Enclosure
cc: See page 2

IE25

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Enclosure
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Enclosure

2005 Annual Nonradiological Environmental Operating Report (ANEOR)

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT

ANNUAL NON-RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

FEBRUARY 7, 2005 THROUGH FEBRUARY 6, 2006

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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, 2005 through February 6, 2006. 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 No. 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 No. 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 TR050000 for storm water was performed and the annual report was submitted prior to the March 31, 2005, deadline.

B. Discharge Monitoring Reports (DMRs) were completed and submitted monthly to the Tennessee Department of Environment and Conservation (TDEC), as required by the NPDES permit.

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, 2005, deadline.

D. The annual Biocide/Corrosion Treatment Report was completed and submitted to TDEC prior to the February 15, 2005, deadline.

E. The "Winter 2004 Compliance Survey for Watts Bar Nuclear Plant Outfall 113 Passive Mixing Zone and Summer 2005 Compliance Survey for Watts Bar Nuclear Plant Outfall 113 Passive Mixing Zone" were completed and submitted to TDEC prior to the semi-annual requirement.

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, October [Outfall Serial Numbers (OSNs) 101, 113] and November 2005 (OSN 112), as required by the NPDES permit.

2. An annual report on the "Biological Monitoring of the Tennessee River near the Watts Bar Nuclear Plant 2004" was submitted to TDEC in June 2005 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.

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	695 total acres were treated by aerial application @ 20 gallons per acre. The application included 1.5 gals of Krenite Ut, 20 ounces Arsenal, 2 ounces of Escort SP, and .5% surfactant on 365 acres. Property owned by the Department of Energy (DOE) (approximately 330 acres) was also treated with Garlon 3A @ 5 quarts, Vista @ 40 ounces, Escort @ 2 ounces, and the surfactant Activate Plus @ .5%.
Sequoyah - Watts Bar Watts Bar - Volunteer (Structures 3 through 6)	Lines 1 and 2 were treated using the low volume broadcast method (approximately 50 gallons total solution per acre). The treatment included 395 acres on the number 1 line and 438 acres on the number 2 line. The treatment applied to both lines included 5 quarts of Razor Pro, 16 ounces of Arsenal, 2 ounces of Escort SP, and .25% of surfactant.
Watts Bar - Roane Watts Bar - Volunteer (Structures 6 through 14)	422 acres were treated by the low volume back pack method. The herbicide mix was 5% Krenite Ut, .5% Arsenal, 1.5 ounce Escort SP & 1% surfactant. The hack & squirt method was also used to apply Accord @ 5%, and .5% mixed with 1% surfactant on vegetation that was too large to reach the crown.

IV. ENVIRONMENTAL PROTECTION PLAN NONCOMPLIANCES

A. The storm water sample collected on January 13, 2005, at sample point SW-1 in Drainage Area 16 revealed 11.0 mg/L iron. This result exceeded the iron cut-off concentration of 5 mg/L. Drainage Area 16 is associated with industrial activity and includes the intake pumping station, the microbiologically induced corrosion chemical injection area and a parking lot. In addition, significant construction activities included the replacement of underground piping, and erecting a steel security tower directly upstream of the sample point. WBN reviewed and increased the best management practices (BMPs) in the area as well as communicated the importance of rigorous implementation and maintenance of BMPs to prevent mobilization of iron and other pollutants into storm water runoff.

B. The Construction Runoff Holding Pond (OSN 112) demonstrated a statistical, chronic reproductive effect for fathead minnows (*Pimephales promelas*) during the April 12-19, 2005 Biotoxicity Test. Fathead minnows were analyzed using a side by side ultraviolet (UV) pretreatment as naturally occurring fish pathogens present in the waste stream waters entering the pond have been the suspected cause of interference in previous toxicity testing at WBN. The required repeat fathead minnow toxicity was collected on May 1-6, 2005. In addition to the pond effluent samples, four upstream surface water streams that were not impacted by WBN industrial activities were tested. The fathead minnow calculated IC25 met the permit limit.

C. A sample taken on March 7, 2005 from the diffuser (OSN 101) effluent yielded a zinc concentration of 0.51 mg/L. This concentration was within the NPDES permit limit of 1.0 mg/L but above the 0.2 mg/L specified in the Biocide/Corrosion Treatment Plan for controlling the feed of zinc containing chemicals. An internal investigation revealed MSW-109, the only zinc containing chemical used at WBN, had not been injected since November 28, 2004. Action items included additional zinc monitoring for effluent at the diffuser; the analysis of samples of the sediment removed from the Cooling Tower (CT) basin during the Unit 1 Cycle 6 (U1C6) refueling outage; reviewed the chemicals used in the repair of the CT Blowdown Line during U1C6; calculated the instream zinc concentration to ensure the effluent was below the allowable instream concentrations calculated by the state for protection from acute and chronic toxicity as referenced on page R-56 of the WBN NPDES Permit for the Water Quality Based Effluent Concentrations for these outfalls. WBN concluded that the one result was an anomaly, contaminated or influenced by repairs to the CT Blowdown Line, or the disturbing of the sediment in the desilting basin during outage activities.

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

A. NPDES Permit TN 0020168

1. A courtesy notification was issued to the State of Tennessee on April 25, 2005, for replacing the non-oxidizing biocide treatment Nalco H-130M with Nalco H-150M. Per the WBN chemical plan approval letter, under General Requirements page 8, minor changes (e.g. chemical names or vendor changes of essentially the same chemical) do not require pre-approval, but shall be indicated in the annual report or when the plan is revised.

2. On December 6 and 7, 2005, the WBN NPDES permit renewal sampling was conducted by Environmental Engineering Services, East (EESE). Sampling was conducted in accordance with EPA Region IV "Environmental Investigations Standard Operating Procedures and Quality Assurance Manual" at locations OSN 101, OSN 112, OSN 113, Internal Monitoring Point (IMP) 111, and Plant Intake. There were no exceeded permit limits for field parameters at any of the outfalls. Samples were analyzed by the parameters listed in the WBN Permit Renewal Sampling Plan using Tennessee Required Detection Limits. The laboratories that performed the analysis were the TVA Central Laboratory Service and the non-TVA ECHEM Laboratories.

B. Air Permits

WBN is currently operating under the Air Permit No. 448529. No changes have been made.

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, 2005 through February 6, 2006, 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.)]

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.

VI. CHANGES IN FACILITY DESIGN OR OPERATION (continued)

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 twelve facility design and operational changes made during this report period with a potential impact on the environment. Categorical Exclusion Checklists (CECs) were completed and all changes were found to be within the scope of existing environmental permits and in compliance with NEPA regulations. Those CECs written to document the changes reviewed are as follows:

(1) 2147-GENERIC WBN for Routine Activities and Maintenance.
(2) 7343-Spill Prevention Control and Countermeasure (SPCC) Upgrades, Installations, and Other Considerations
(3) 9088-Cooling Towers Perimeter Fill Replacement
(4) 9209-Gravel Area for Cooling Tower Blowdown Line Repair
(5) 9797-WBN Repair and Resurface Patrol Roads
(6) 10425-East Area Fiber Ring - Power System Optimization Project
(7) 10661-Administration Parking Lot and Road
(8) 10876-Gravel Road and Pad at Dynamic Learning Center (DLC)
(9) 11746-Replace Radio Paging Transmitters at Nuclear Plants
(10) 11821-Power System Optimization Project-WBN
(11) 12534-Gas Transfer Membrane Installation at Unit 1 Primary Water Storage Tank (PWST)
(12) 12718 Gravel Pad at the Unit 1 Cooling Tower

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 has been no facility design or operational changes from February 7, 2005 to February 6, 2006, which have 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.