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

MAY 2 2000

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

Gentlemen:

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

WATTS BAR NUCLEAR PLANT (WBN) - UNIT 1 - 1999 ANNUAL NONRADIOLOGICAL ENVIRONMENTAL OPERATING REPORT (ANEOR)

In accordance with Section 5.4.1 of Appendix B, "Environmental Protection Plan," of the WBN Technical Specifications, provided in the enclosure is the 1999 ANEOR for WBN. This report addresses the period from February 7, 1999, through February 6, 2000.

TVA considers the enclosed report to contain no new commitments. If you should have any questions, please contact me at (423) 365-1824.

Sincerely,

P. L. Pace
Manager, Licensing and Industry Affairs

Enclosure
cc: See page 2

IE25

cc (Enclosure):
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Enclosure

1999 Annual Nonradiological Environmental Operating Report (ANEOR)

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT

FOURTH ANNUAL NONRADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

FEBRUARY 7, 1999 THROUGH FEBRUARY 6, 2000

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I. INTRODUCTION

The Watts Bar Nuclear Plant Fourth Annual Environmental Operating Report for the period of February 7, 1999 through February 6, 2000, is prepared in accordance with Subsection 5.4.1, Routine Reports, of Appendix B, Environmental Protection Plan (EPP), of the WBN operating license. This report includes a summary of:

- Reports previously submitted as specified in the Watts Bar Nuclear Plant National Pollutant Discharge Elimination System (NPDES) Permit No. TN0020168.
- All EPP noncompliances and the corrective actions taken to remedy them.
- Changes made to applicable state and federal permits and certifications.
- Changes in station design that could involve a significant environmental impact or change the findings of the Final Environmental Statement (FES).
- All special reports submitted per EPP Section 4.1.
- Reports submitted per EPP Section 5.4.2.
- 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 National Pollutant Discharge Elimination System (NPDES) Permit No. TN0020168:

- Multi-sector general permit for industrial activities (Permit No. TNR051343) second year storm water monitoring report, submitted March 1999.
- 1998 discharge monitoring report quality assurance (DMR-QA) Study 18 corrective action report, submitted March 1999.
- Supplemental Condenser Cooling Water (SCCW) project - Section 10 application and river monitoring information, submitted April 1999.

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

- SCCW additional information and application for general hydrostatic test water discharge permit, submitted April 1999.
- Application for renewal of NPDES permit, including SCCW project No. 98-1092, submitted May and June 1999.
- Temperatures were exceeded at Outfall 113, submitted August 1999.
- SCCW - Outfall 113 monitoring instrumentation design changes, submitted September 1999.
- Mussel relocation report for SCCW project, submitted December 1999.
- Temperature profile report for startup of SCCW project, submitted December 1999.

III. ENVIRONMENTAL PROTECTION PLAN NONCOMPLIANCES

- September 1999 - Semi-annual toxicity testing of the effluent from the Runoff Holding Pond, NPDES Outfall 112, demonstrated a statistical chronic reproductive effect for Daphnids (*Ceriodaphina dubia*). The exact cause could not be definitely determined. The statistical reduction in the reproductive rate from controls was likely due, at least in part, to delayed brood release in 100% effluent. Re-testing of Daphnids in December 1999 showed no statistical chronic effect, remaining within the permit limitation of No Observable Effect Concentration in not less than 100% effluent.
- April 1999—A sewage lift station pump overflowed causing a bypass of untreated waste water to a nearby storm drain and the yard holding pond which drains to the diffuser discharge (Outfall 101). Corrective actions taken included installing/adding redundant notification to the control room upon receipt of a lift station call-out alarm with instructions to have the affected restrooms locked out.

IV. CHANGES IN FACILITY DESIGN OR OPERATION

In accordance with EPP Section 3.1, facility design and operational changes were reviewed for potential affect on the environment. A study of facility design and operational changes proposed from February 7, 1999 through February 6, 2000, was performed. Projects considered as having potential impact on the environment included: those that could have caused waste stream generation/alteration; or that required the acquisition/modification of permits; or involved the use of hazardous material; or required physical construction. The study identified and documented a basis that the design and operational changes did not involve an unreviewed environmental question. A copy of this study is attached (Attachment 1).

V. SPECIAL BIOLOGICAL MONITORING REPORTS FOR EPP SECTION 4.1

A. EPP Section 4.1.1, Aquatic Monitoring

Additional aquatic monitoring requirements were identified in the new NPDES permit. Specifically an impingement study for the SCCWs horizontal traveling screens, entrainment monitoring for larval fish, sauger monitoring, striped bass investigation, and assessment of the overall fish community using the Reservoir Fish Assemblage Index sampling. A report of the results is required to be submitted to the Tennessee Department of Environment and Conservation, Division of Water Pollution Control six months after the first full year of operation. WBN is also required to perform a mussel habitat enhancement project to be coordinated and approved by the Tennessee Wildlife and Resources Administration and the Division of Water Pollution Control. The NPDES permit requires a report on the results of the project to be submitted to both regulatory offices within six months of completion.

B. EPP Section 4.1.2, Maintenance of Transmission Line Corridors

Supplement 1 of NUREG 0498, "Final Environmental Statement (FES), documents in Section 2.4.1, Terrestrial Ecology, that approximately 185 miles of transmission lines are associated with Watts Bar Nuclear Plant. The specific 500 kV lines are shown on Figure 2.4 of Supplement 1 to the FES and includes the following lines:

1. Bull Run - Sequoyah
2. Watts Bar - Volunteer
3. Watts Bar - Roane
4. Sequoyah - Watts Bar

B. EPP Section 4.1.2, Maintenance of Transmission Line Corridors (continued)

TVA discussed the reporting requirement associated with the above lines with the NRC staff on July 30, 1999. Based on this discussion, it was clarified that only chemical clearing maintenance activities were required to be addressed. For this reporting period, no chemical clearing was performed on the 500 kV transmission line corridors associated with Watts Bar Nuclear Plant.

VI. NONROUTINE REPORTS

No nonroutine reports for EPP Subsection 5.4.2 were issued during this reporting period.

ATTACHMENT 1

a. Study of Watts Bar Nuclear Plant (WBN) Design and Operational Changes Between February 7, 1999 and February 6, 2000 for Effects on the Environment

Facility design and operational changes made or proposed during this report period were reviewed for the potential to affect the environment as described below. None were found to result in an unreviewed environmental question. The following criteria were used to identify those projects with a potential for environmental affects:

(1) Waste stream generation/alteration -
(Air, hazardous waste, solid waste, Polychlorinated Biphenyls (PCBs), asbestos, waste water)

(2) Permit Acquisition/Modification
[NPDES, air, inert landfill, other (Forms 316a, 404, etc.)]

(3) Hazardous Materials

(4) 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)

b. Special Tests

There were no special tests conducted during this period that met the environmental impact criteria.

c. Temporary Alterations

There were no temporary alterations conducted during this period that met the environmental impact criteria.

ATTACHMENT 1

d. Design and Operational Changes

TVA prepared an environmental assessment (EA) of a proposal to begin use of the Sequoyah Nuclear Plant (SQN) on-site facility (OSF) for the long-term storage of low level radioactive wastes (LLRW) from both SQN and WBN. The EA also assessed the impacts of transporting LLRW from WBN to SQN and the temporarily storing of the LLRW at WBN prior to being shipped to the OSF at SQN. The National Environmental Policy Act (NEPA) administration staff of TVA's Environmental Management organization reviewed the EA and determined that the potential environmental consequences of TVA's proposed action have been addressed and the proposal is not a major federal action significantly affecting the quality of the environment. Accordingly, an environmental impact statement was not required.

A design change was initiated which revised the release path for the Steam Generator Blowdown (SGB) system. The basis for the design change is that the condensate polishing system is a major contributor of sodium and sulfate contamination to the Steam Generators. Therefore, the release path was changed from the condensate polishing system to the Cooling Tower Blowdown via the Cooling Tower basin. Also as part of this design change, an interlock was provided to the Watts Bar dam which will divert the SGB to the Yard Holding Pond during periods when the hydro plant is not generating.

A proposal was made to renovate the WBN Main Office Building. This upgrade included the extension of the building to provide additional office space, installation of additional roofing and replacement of the heating, ventilating and air-conditioning (HVAC) system. The final decisions regarding the environmental assessments associated with this project are still pending.

A proposal was made to the complete Phase 1 and 2 of the Sewage Treatment Plant upgrade. Phase 1 involved the replacement of the existing communitor (a device intended to screen and grind raw sewage) with sewage piping. This phase also corrected drainage problems by cleaning debris from the piping, establishing a drainage swale, and changing the drain pipe to a larger size. One additional change provided water to a chlorine eye-wash. Phase 2 provided service air to the Sewage Treatment Plant, added timers to the lift station pumps, and updated the site drawings. The final decisions regarding the environmental assessments associated with this project are still pending.

d. Design and Operational Changes (continued)

As part of TVA's continuing efforts to improve the efficiency of its facilities, WBN was issued an Agricultural Land Use License on the Plant Reservation for five licensed areas. The licenses were issued on August 1999 and they expire on December 2003.

All 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. The changes which were reviewed included:

1. The installation of a raw cooling water flume cooling water jumper - Raw Cooling Water system

2. A Design Change Notice (DCN) for the Supplemental Condenser Cooling Water (SCCW) project – High Pressure (HP) Fire Protection system, Condenser Circulating Water (CCW) system, local instrument control panel, miscellaneous Category I structures

3. The addition of pipe, fittings, and valves - Condensate system, Essential Raw Cooling Water system

4. The addition of Condensate Polishing Demineralizer System (CPDS) connections to process waste streams - Condensate Demineralizer

5. The installation of an access platform over the Unit 2 cooling tower flume to operate the stop log for isolation of flume water flow - SCCW System

6. The issuance of a modification to ensure diesel fire pump casing will be flooded when the pump starts - HP Fire Protection system

7. The revision of the backwash strainer setpoint from 10 to 12 Inches H_20 - CCW System

8. The design and implementation of Phase 2 of the WBN SCCW Hydrothermal Monitoring System - Plant Computer

In summary, there have been no facility design or operational changes from February 7, 1999 to February 6, 2000, which have resulted in an unreviewed environmental question.