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MAY 06 1997

U.S. Nuclear Regulatory Commission
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Gentlemen:

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

WATTS BAR NUCLEAR PLANT (WBN) - UNIT 1 - 1996 ANNUAL NONRADIOLOGICAL
ENVIRONMENTAL OPERATING REPORT (ANEOR)

Enclosed is the 1996 ANEOR for WBN which fulfills the reporting requirements of Section 5.4.1 of Appendix B, "Environmental Protection Plan," of the WBN Technical Specifications. This report addresses the period from February 7, 1996, the date of issuance of WBN's full power license, through February 6, 1997.

If you should have any questions, please contact P. L. Pace at
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Sincerely,

J. A. Scalice

Enclosure
cc: See page 2

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U.S. Nuclear Regulatory Commission

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TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT

**ANNUAL NONRADIOLOGICAL
ENVIRONMENTAL OPERATING REPORT**

FEBRUARY 7, 1996 THROUGH FEBRUARY 6, 1997

WATTS BAR NUCLEAR PLANT
ANNUAL NONRADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

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I. INTRODUCTION

The Watts Bar Nuclear Plant Annual Environmental Operating Report for the period of February 7, 1996 through February 6, 1997, is prepared in accordance with Environmental Technical Specifications (Non-Radiological) (ETS), Appendix B, 5.4.1. ETS Section 4.2 requires no non-routine reports at this time. This report includes a summary of:

- ◆ Reports previously submitted as specified in the WBN National Pollutant Discharge Elimination System (NPDES) Permit No. TN0020168.
- ◆ All ETS 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 ETS Section 4.1.
- ◆ Reports submitted per ETS Section 4.2.
- ◆ Changes in approved ETS.

II. REPORTS PREVIOUSLY SUBMITTED AS SPECIFIED IN THE 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:

- ◆ Aquatic Chronic Toxicity Monitoring Studies, submitted April 1996.
- ◆ Aquatic Chronic Toxicity Monitoring Studies, submitted October 1996.

III. ENVIRONMENTAL TECHNICAL SPECIFICATIONS NONCOMPLIANCES

- ◆ February 1996 - The Yard Holding Pond level increased above overflow level. The overflow went unnoticed by WBN personnel and the required discharge samples were not collected. This unmonitored release was in noncompliance with the NPDES permit requirements for Discharge Serial Number (DSN) 102. A procedure change was implemented that requires the pond levels to be recorded each shift.
- ◆ April 1996 - NPDES DSN 107, Metal Cleaning Waste Pond had a composite total iron concentration of 1.1 mg/L which exceeded the permit limit of 1.0 mg/L. The noncompliance was the result of inadequate pretreatment of the batch release. Procedures for controlling the release of the pond were revised to include a more restrictive prerelease iron criteria.

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ENVIRONMENTAL TECHNICAL SPECIFICATIONS NONCOMPLIANCES
(continued)

- ◆ May 1996 - NPDES DSN 111, Treated Sanitary Wastewater discharge exceeded the maximum permit limit of 1,000 colonies per 100 mL. The noncompliance occurred as a result of a temporary failure of the flow-paced chlorination system. A severe lightning storm caused an electrical surge disabling the system, causing inadequate disinfection of the discharge. The flow-paced chlorination system was immediately returned to service and a new backup battery was purchased.
- ◆ August 1996 - NPDES DSN 112, Runoff Holding Pond discharge demonstrated an observable chronic reproductive effect to Ceriodaphnia at a 100% effluent during the seven day semi-annual chronic toxicity testing. The exact cause could not be definitely determined due to the isolated nature of the event. It is believed to be associated with beaver damming activity in the vicinity of the discharge structure or very low levels of chlorine (less than detectable) in the discharge. Semi-annual testing following these tests did not demonstrate chronic toxicity to Ceriodaphnia.
- ◆ September 1996 - Watts Bar received a Notice of Violation from the Tennessee Department of Environment and Conservation Division of Water Pollution Control (TDWPC), because of two noncompliances of established permit limits for periods ending February 29, 1996 and May 31, 1996. These noncompliances are discussed above. Watts Bar had earlier self-reported these noncompliances to TDWPC, as required by the NPDES permit.

IV. CHANGES MADE TO APPLICABLE STATE AND FEDERAL PERMIT CERTIFICATIONS

Air permits were reissued for the two #2 fuel oil storage tanks in October 1996. The new permit named the personnel responsible for representing Watts Bar and requires thirty day notification of any changes in assignments.

Watts Bar received concurrence from the TDWPC for the use of carbon dioxide in the Low Volume Waste Treatment Pond for control of pH in DSN 103. TDWPC also approved minor changes in the biocide and corrosion control chemicals used in the raw water system, necessitated by vendor reassignment.

V. CHANGES IN FACILITY DESIGN OR OPERATION

In accordance with ETS 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, 1996 through February 6, 1997, 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).

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VI. SPECIAL BIOLOGICAL MONITORING REPORTS FOR ETS SECTION 4.1

In response to the Tennessee Department of Environment and Conservation Division of Water Pollution Control's request for additional information on the characteristics of the Metal Cleaning Waste Pond, an Aquatic Acute Toxicity Monitoring Study was performed on grab samples collected in the pond before release as a monitored discharge. This report was submitted June 1996.

Collection of data for the biological aquatic operational monitoring program is ongoing as required by the NPDES permit. The first report comparing preoperational studies with data obtained during plant operation is anticipated to be completed in June 1997. A summary of this information will be provided as a supplement to this report by July 31, 1997.

VII. NONROUTINE REPORTS

No nonroutine reports for ETS Section 4.2 were issued during this period.

VIII. CHANGES IN APPROVED ENVIRONMENTAL TECHNICAL SPECIFICATIONS

There were no changes in approved environmental technical specifications during this period.

● WATTS BAR NUCLEAR PLANT ●
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ATTACHMENT 1

a. Study of Watts Bar Nuclear Plant (WBN)
Design and Operational Changes Between February 7, 1996 and February 6, 1997
for Effects on the Environment

Facility design and operational changes made or proposed during this report period were reviewed for 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, PCB's, Asbestos, Wastewater)
- (2) Permit Acquisition/Modification
[NPDES, Air, Inert Landfill, Other (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 environmental impact criteria.

c. Temporary Alterations

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

d. Design and Operational Changes

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 permits and in compliance with environmental regulations. Those changes reviewed are as follows:

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d. Design and Operational Changes (continued)

1. Westinghouse Outage Equipment Trailer Parking Area
2. Old Construction Water Tower Demolition And Lead Abatement
3. Construct Metal Building For Paint Storage
4. Construct Building For Fire Operations Garage And Shop Area
5. WBN Switch Yard Tie 500KV Buses Together
6. Reinforcement Of Acid Storage Tank Heads
7. Replace Air Operated Sewage Ejector Pumps In Service Building Elev. 706 With Electrical Grinder Pumps
8. Chemistry On-Line Monitors Phase II
9. Add Security Lighting And Paving
10. Abandon HP Fire Pump Start Pushbuttons
11. Add Thread Sealant To Item (142) Threads - Chemical & Volume Control System
12. Stage Protective Device Setting - Safety Injection System
13. Reset CC And CS Pumps OC Relay - Chemical & Volume Control System
14. Revised Main Turbine Trip Logic - Turbogenerator Control System
15. Vehicle Barrier System (VBS) At WBN
16. Regional Operations Radio Improvement
17. Add Sealant To Penetrations
18. Replace Existing Pumps - Station Drainage Turbine Bldg. Conduit & Cable Trays
19. Nuisance Door Open /Closed Messages - Annunciators
20. Replace Flow Switches - Ventilation System
21. Install Globe Valve To Provide Additional Pressure - Essential Raw Cooling Water
22. Provide Range For SP For Freeze Protection Heat Trace
23. Condensate System Ground Jumper Missing
24. Ventilation System Motor Shear And Motor Base Plate
25. Check VLV Internals Replacement - Main & Auxillary Feedwater
26. Locking Device On Door Closure Cam
27. Add Pneumatic Jumper To Bop LICS - Heater Drains & Vents
28. MSR Reheat Control Circuit Change - Turbogenerator Control System
29. Replace ADCC and EMS RTU's - 48V DC Power
30. Disconnect CO₂ Door Alarm Limit Switches - Fire Detection System
31. Makeup Water Treatment Plant Temp. Power for Echolochem
32. Finals RVLS Tuning - Reactor Coolant
33. Spent Fuel Storage Rerack
34. Delete Turbine Trip For EHC Low Pressure and Level - Turbogenerator Control System
35. Improve Stator Water Trip Logic - Generator Cooling System
36. Provide Heat Trace and Insulation For Sense Lines - Main & Auxillary Feedwater
37. Energize Heater To Prevent Condensation Build Up - HP Fire Protection System
38. Modification To Prevent Pressure Locking - Main Steam System
39. Replace SG No. 3 Pressure Transmitter - Main Steam System
40. Remove Nuisance Door Alarms - Annunciators
41. Radwaste Storage Slab
42. Extend Generator Cover - Security

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d. Design and Operational Changes (continued)

43. Installation Of Condenser Level Control - Condensate System
44. Add Taps to AFW Pump Discharge Lines - Condensate System
45. Replace Damaged Controller - Main & Auxillary Feedwater
46. Spent Resin Storage Tank Backflush - Station Drainage System
47. Pipe Hanger Interference - Turbine Bldg. Conduit & Cable Trays
48. Add Reflash For Inputs to Window 268A - Annunciators
49. Add New Header To Drawing - HP Fire Protection System
50. Change Standby FWP Suction Pressure Range - Condensate System
51. Add Piping and Two Valves - Condensate System
52. Correct EHC Circuitry - Turbogenerator Control System
53. Additional Shield Around PRV Pipe Penetration - Interior Concrete Structure System
54. Add Auto-Stop Oil Press Gauge and Tach - Turbogenerator Control System
55. Add Supports To TDAFW Pump Bearing Cooler Lines - Main and Auxiliary Feedwater
56. Add Recirc. Line To AFP1A-A & 1B-B - Main and Auxiliary Feedwater
57. Relocate Thermostat Or Room Heater - Heat Trace
58. Replace FAC Susceptible Pipe/ Fittings - Auxiliary Boiler System
59. Revise Control Logic For 1-LCV-6-106A - Heater Drains and Vents
60. Freezing Problems In Cabinet At Cask Decon ETC - Main and Auxiliary Feedwater
61. As Built Turbo-Toc Lube Oil Purifier - Central Lubricating Oil System
62. Add Telephones, Prime Connection, Outlets - Auxiliary Bldg. Lighting
63. Abnormal Valve Wear - Main Steam System
64. Existing Floor Drain Is Capped - Waste Disposal
65. RPI SEC AC Voltages - Control Rod Drive System
66. Freeze Protection System for 500K DI Storage Tank Level XMTR LT-30 - Heat Trace
67. Add Turbine Vent On MSR Housing - Turbine Bldg. Misc. Steel System
68. Freeze Protection/Shades For NVV/SVV Doors & Openings - Main Steam System
69. Add 4th Bearing To Fan Shaft - Heating & Air Conditioning System
70. Provide Bypass From #2 Feedwater Heaters - Condensate System
71. Add 480V Receptacle - Ventilation System
72. MCR P-2500 Alarm Buzzer Is Blaring - Plant Computer
73. Respan MS Flow Transmitters - Main Steam System
74. Modify Valve To Prevent Leakage - Main and Auxiliary Feedwater
75. Remove Triac Relays From AEH Cabinet - Turbogenerator Control System
76. Delete Additional Wiring Of CIV Circuit - Main and Auxiliary Feedwater
77. Replace SFPCS Flow Loops - Spent Fuel Cooling
78. Provide 208V Power Supply - Service Bldg. Lighting
79. Reactor Thermal Power and Other Software - Plant Computer
80. Provide Corrected Relief For #1 FWHT ETC - Condensate System
81. Provide Summary Alarm For Security UPS - Closed Circuit TV & Security
82. Provide Bypass To Hotwell For Condenser Zone A - Condensate System
83. Pressure Gauges For MFTP Cond. - Condensate System
84. Remove Instruments /ANN Window From Panels - Sampling & Water Quality System
85. Modify Valve Stem On PCV 3-40 - Sampling & Water Quality System
86. Revise Hotwell Flow Span - Condensate System

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d. Design and Operational Changes (continued)

87. Radiochemical Laboratory Electrical Circuits - Auxiliary Bldg. Lighting
88. Complete Electrical Installation to Spare Ice Machine - Ice Condenser
89. Replace Gage Scale - Waste Disposal
90. Reactor Thermal Power & Other Software Changes - Plant Computer
91. Eliminate Nuisance Alarms - Condensate System
92. Replace Honeywell Recorder With Modern Upgrade - Generator Cooling
93. 1-LPT-024-0069 Not Controlling Temperature - Raw Cooling Water
94. Revise Orifice Size - Turbogenerator Control System
95. Software and Database Change - Technical Support Center
96. Replace MSR Sightglass With Metal Tube - Heater Drains and Vents
97. Respan Flow Loop 1-F-6-107 - Heater Drains and Vents
98. Replace No. 3 FW Heater PIS - Heater Drains and Vents
99. Relocate I/P Transducers for MFW Valves - Main and Auxiliary Feedwater
100. Install Level Control for FW Heater - Heater Drains and Vents
101. Replace Turbine IMP Pressure Switch - Turbogenerator Control System
102. Install No. 3 Heater Full Range Level Indicator - Heater Drains and Vents
103. Connect Additional Control & Auxiliary Building PC's to LAN
104. Relocate Handswitch Lights - Sampling & Water Quality System
105. Repair Furmanite - Main Steam System
106. Incorrect Wiring - Sampling & Water Quality System
107. Roof Replacements - Office and Service Bldg
108. Low Volume Waste Treatment Pond Flow Monitors - Station Drainage
109. Delete Heat Trace CKT 246 and 247 - Heat Trace
110. Add Manual Open FCV-14-451 - Condensate Demineralizer System
111. Provide Scaffold Supports - Turbine Bldg. Misc. Steel System
112. Remove CKV-551 Internals - HP Fire Protection
113. Replace 1-MTR-31-475-B - Heating & Air Conditioning System
114. Change Computer Software for Incore TC - Plant Computer
115. Removal of Additional Makeup Water Treatment Plant Equipment
116. Coolers For Sample Instrumentation and Lines - Condensate Demineralizer System
117. Eliminate Nuisance Alarm Window 247A - Annunciators
118. Equipment Overrange Feature Goes Low - Condensate Demineralizer System
119. Remove Window 164 B from Main Control Room - Condenser Circulating Water System
120. Part is Obsolete and Cannot Be Repaired - Ventilation System
121. Upgrade RHC Valve Servo Card - Turbogenerator Control System
122. Reroute Gland Seal Leakoff - Turbogenerator Control System
123. Add Caution To MCR Switch Labels - HP Fire Protection System
124. Replace Reducer and Both Weld Neck Flanges - Raw Cooling Water
125. Relocate TE at AFW Discharge Check Valve - Main and Auxiliary Feedwater
126. Add Orifice to Inspectors Test Connection - HP Fire Protection System
127. Provide Cro-Moly Pipe Downstream of OP Vent Valves - Condensate System
128. Replace Fac Susceptible Pipe/Fittings - Extraction Steam System
129. Replace Fac Susceptible Pipe/Fittings - Main and Auxiliary Feedwater
130. Replace Fac Susceptible Pipe/Fittings - Main Steam System

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d. Design and Operational Changes (continued)

- 131. Cooling Tower Distribution System Rework - Condenser Circulating Water System
- 132. Modify Turning Gear Pedestal Cover - Main Steam System
- 133. Install Plugs In Low Pressure Sense Lines - Safety Injection System
- 134. Replace PI-6-188 and 189 - Heater Drains and Vents
- 135. Replace Leaking Pipe with Acid Resistant Material - Condensate Demineralizer System
- 136. Defer Local BHS Nuisance Alarm - Building Heating System
- 137. Prepare SSDS/Temp Indicator - Ventilation System
- 138. Place 6" Spacer on Switch Column - Waste Disposal
- 139. Revise P2500 Alarm Limits - Plant Computer
- 140. Correct Failure Modes on Name tags - Ventilation System
- 141. Delete Seal Flow Alarms - Injection Water System
- 142. Correct Nameplate Descriptions/Heat Trace - Sampling & Water Quality System
- 143. CRDM Cooler 1C-A & 1D-B Duct to be Repaired - Ventilation System
- 144. Remove HI Temp Automatic Operation From ETC - Ventilation System
- 145. Increase Size Of Condensate Reservoir - Component Cooling
- 146. Hard Pipe Pump Drip Pans to Nearest Floor - Safety Injection System
- 147. Increase Control Rod Drive Equip Rms Fan Speed - Ventilation System
- 148. Replace Control Cables to FCVS - Main Steam System
- 149. Revise Switch Name tag - Main and Auxiliary Feedwater
- 150. Replace Cable 1A996 - Heater Drains and Vents
- 151. Roll Wires on Rack 56 - Turbogenerator Control
- 152. RCSWIB Revision Update - Technical Support Center
- 153. Add Unit 1/Unit 2 Interface Boundary - Condensate System
- 154. Provide Design to Splice Cable 1RM426B - Radiation Monitoring System
- 155. Fans Stop Due to Undersized Overload Heaters - Ventilation System
- 156. Delete Valves - Raw Service Water System
- 157. Replacement of Heat Trace FP 2.5 & 5 "Obsolete" - Heat Trace
- 158. Change Modem Cards to Long Distance Opt. - Fire Detection System
- 159. Prevent Frequent Door Alarms - Building Doors & Hatches
- 160. Output Switches to Provide Both High & High-High - Sampling & Water Quality System
- 161. Fan Motor Obsolete - 480v Unit Power
- 162. Install Protective Covers Over MCR Handswitches - Ventilation System
- 163. Modify Flow Switches to Eliminate Nuisance Alarm - Sampling & Water Quality System

In summary, there have been no facility design or operational changes from February 7, 1996 to February 6, 1997, which have resulted in an unreviewed environmental question.