

830 Power Building
TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

August 2, 1977



Mr. Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Case:

Regulatory

File Cy.

In the Matter of the Application of) Docket Nos. ~~50-390~~
Tennessee Valley Authority) 50-391

Submitted herewith are 6 copies of a document entitled "Environmental Information Supplement No. 3 Responses to NRC Questions for Operating License Environmental Review." This material responds to NRC's questions for additional information on the Watts Bar Nuclear Plant forwarded by letter from William H. Regan, Jr., to Godwin Williams, Jr., dated July 11, 1977.

An additional submittal is also included which consists of technical reports referenced in Supplement No. 3, as appropriate.

Very truly yours,

J. E. Gilleland
J. E. Gilleland

Assistant Manager of Power

Subscribed and sworn to before
me this 2nd day of Aug 1977

Anna Reuser
Notary Public

My Commission Expires 10/10/78

Enclosures

7

SUPPLEMENT 3 TO
WATTS BAR NUCLEAR PLANT ENVIRONMENTAL INFORMATION

TENNESSEE VALLEY AUTHORITY RESPONSES
TO
NUCLEAR REGULATORY COMMISSION QUESTIONS
ON
WATTS BAR NUCLEAR PLANT
ENVIRONMENTAL INFORMATION
UNITS 1 AND 2

Docket # 50-390
Control # 772160224
Date 8-2-77 of Document:
REGULATORY DOCKET FILE

QUESTIONS FORWARDED BY
USNRC LETTER FROM WM. H. REGAN, JR.
TO GODWIN WILLIAMS, JR., DATED JULY 11, 1977

3. Aquatic Ecology

Question number 3.1:

Provide information on the discharge mixing zone during full operation of the Fossil Plant.

Response:

Information on the mixing of the discharge from the Watts Bar Steam Plant is provided in the attached Report No. 9-1105, "Watts Bar Steam Plant, Water Temperature Surveys."

Question number 3.2

Describe chemical effluents (amounts and concentrations) described from the Fossil Plant.

Response:

The primary chemical discharges from the Watts Bar Steam Plant are the discharges from the bottom ash and fly ash ponds. The attached tables contain the results of analyses of the effluents from these ponds (bottom ash-001, fly ash-002) for the period January 1976 through June 1977. At the present time, several miscellaneous low volume waste discharges are made to the condenser cooling system discharge or directly to the Tennessee River. The volume and chemical characteristics of these wastes are insignificant in comparison to the discharges from the ash ponds. As part of the attached NPDES permit for this plant, a compliance schedule has been established to collect and reroute all of these low volume waste discharges to the ash ponds by January 1, 1978. When completed, these wastes would not have a significant impact on the characteristics of the current ash pond discharges.

At the present time, chlorination of the condenser cooling water system is not practiced at the Watts Bar Steam Plant.

Table 2

WATTS BAR STEAM PLANT

RIVER WATER INTAKE AND ASH POND DISCHARGE ANALYSES

*combined
(001 and 002)*

Date	1-13-76		4-12-76					
	<u>River Intake</u>	<u>Pond Discharge</u>						
Aluminum, mg/l		1.6		3.1				
Ammonia as N, mg/l		0.07		0.07				
Arsenic, mg/l		0.100		0.026				
Barium, mg/l		<0.1		0.3				
Beryllium, mg/l		<0.01		<0.01				
Cadmium, mg/l		0.003		0.001				
Calcium, mg/l		26		23				
Chloride, mg/l		8		5				
Chromium, mg/l		<0.005		<0.005				
Conductivity, 25°C, μ mhos/cm		260		300				
Copper, mg/l		0.04		0.08				
Cyanide, mg/l		-		-				
Hardness, mg/l		86		77				
Iron, mg/l		5.7		12				
Lead, mg/l		<0.010		<0.010				
Magnesium, mg/l		5.0		4.8				
Manganese, mg/l		0.38		0.46				
Mercury, mg/l		<0.0002		0.0018				
Nickel, mg/l		<0.05		<0.05				
Phosphorous, mg/l		0.07		0.07				
Selenium, mg/l		0.004		<0.002				
Silica, mg/l		6.4		5.5				
Silver, mg/l		<0.01		<0.01				
Solids, Dissolved, mg/l		160		160				
Solids, Suspended, mg/l		14		15				
Sulfate, mg/l		79		100				
Zinc, mg/l		0.17		0.32				

Table 1

WATTS BAR STEAM PLANTBOTTOM ASH POND DISCHARGE ANALYSES (OCI)

(Weekly Samples -)

<u>Date</u> 1976	<u>Flow</u> GPM	<u>pH</u>	<u>Suspended Solids</u> mg/l
7/06	-	7.2	11
7/12	-	7.5	-
7/21	-	6.7	-
7/26	20	7.0	-
8/01	20	7.4	23
8/11	20	7.0	-
8/19	20	7.0	-
8/25	20	7.0	-
9/02	20	7.2	-
9/07	20	7.2	11
9/15	20	7.2	-
9/22	20	8.0	-
9/29	20	7.6	-
10/04	20	7.4	38
10/13	20	8.3	-
10/22	20	8.3	-
10/28	20	7.8	-
11/04	20	7.6	-
11/08	20	7.7	26
11/18	20	7.7	-
11/24	20	7.9	-
12/02	20	7.6	-
12/08	20	7.4	-
12/16	-	-	-
12/20	20	6.7	27
12/26	20	7.2	-
Min.	20	6.7	11
Max.	20	8.3	38
Avg.	20	7.4	23

WATTS BAR STEAM PLANT

BOTTOM ASH POND (001)

Date	<u>6-29-76</u>	<u>7-6-76</u>	<u>8-2-76</u>	<u>9-7-76</u>	<u>10-4-76</u>	<u>11-8-76</u>	<u>12-20-76</u>
pH (units)	6.8	7.2	7.4	7.2	7.4	7.7	6.7
Suspended Solids (mg/l)	51	11	27.0	14.0	28.0	8.0	49.0
Arsenic (mg/l)	0.010	<0.020	0.015	<0.005	0.010	0.013	0.005
Cadmium (mg/l)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002
Chromium (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005
Copper (mg/l)	-	0.14	<0.01	-	0.05	0.02	0.03
Iron (mg/l)	15.0	5.9	5.7	2.6	2.4	2.0	28
Lead (mg/l)	<0.010	<0.010	<0.010	0.021	0.010	0.018	<0.010
Manganese (mg/l)	5.5	1.4	2.6	0.08	0.06	0.06	5.4
Mercury (mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/l)	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	0.10
Selenium (mg/l)	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc (mg/l)	0.11	0.04	0.06	0.03	0.11	0.05	0.15
Flow (MGD)	-	0.029	0.029	0.029	0.029	0.029	0.029

WATTS BAR STEAM PLANT

BOTTOM ASH POND (001)

Date	<u>1-18-77</u>	<u>2-1-77</u>	<u>3-1-77</u>	<u>4-4-77</u>	<u>5-1-77</u>	<u>6-6-77</u>
pH (units)	6.8	7.2	7.8	-	7.8	8.8
Suspended Solids (mg/l)	33	22	19	-	29	22
Arsenic (mg/l)	0.013	0.007	<0.004	-	0.012	0.004
Cadmium (mg/l)	<0.001	<0.001	<0.001	-	<0.001	0.002
Chromium (mg/l)	<0.005	<0.005	<0.005	-	<0.005	<0.005
Copper (mg/l)	0.07	0.01	0.03	-	0.03	0.06
Iron (mg/l)	2.1	3.2	1.6	-	1.6	1.6
Lead (mg/l)	<0.010	0.011	0.025	-	<0.01	<0.010
Manganese (mg/l)	0.17	0.13	0.15	-	0.07	0.06
Mercury (mg/l)	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002
Nickel (mg/l)	0.08	<0.05	<0.05	-	<0.05	<0.05
Selenium (mg/l)	0.001	0.003	<0.001	-	<0.001	<0.001
Zinc (mg/l)	0.04	0.02	0.02	-	0.02	0.05
Flow (MGD)	0.029	0.029	0.029	No Flow	0.029	0.029

Table 1

WATTS BAR STEAM PLANT

FLY ASH POND DISCHARGE ANALYSES (cc2)

(Weekly Samples - Continued)

Date	Flow GPM	pH	Alkalinity		Solids	
			Phen. CaCO ₃ mg/l	Total CaCO ₃ mg/l	Dis. mg/l	Sus. mg/l
1976						
1/02	5,133	6.5	0	10	186	12
1/07	5,815	6.5	0	6	182	12
1/15	7,287	6.0	0	11	111	18
1/22	4,519	7.0	0	20	176	16
1/29	4,513	6.3	0	12	178	8
2/04	4,513	6.0	0	7	860	44
2/12	3,290	6.2	0	25	460	11
2/19	4,513	6.2	0	18	380	13
2/27	3,290	6.9	0	3	330	11
3/04	1,948	7.1	0	35	115	21
3/11	5,815	6.8	0	46	126	56
3/17	5,133	7.0	0	19	218	24
3/25	5,815	6.0	0	16	115	12
3/31	7,287	6.5	0	18	240	10
4/08	3,290	5.2	0	11	228	8
4/15	4,153	5.2	0	8	195	7
4/22	4,513	5.3	0	12	265	11
4/29	2,624	7.0	0	23	136	6
5/06	3,874	6.9	0	16	161	11
5/13	5,815	6.7	0	16	186	7
5/20	3,290	5.2	0	6	274	13
5/26	3,290	7.8	0	52	361	10
6/02	4,513	4.6	0	11	362	76
6/09	3,290	5.7	0	18	396	28
6/17	4,513	8.2	0	58	310	16
6/24	4,513	7.2	0	30	326	10
6/30	5,815	5.8	0	14	310	46
7/06	1,806	4.5	-	-	-	2
7/12	-	8.1	-	-	-	-
7/21	-	7.2	-	-	-	-
7/26	2,153	7.5	-	-	-	-
8/01	2,292	7.6	-	-	-	7
8/11	1,875	8.2	-	-	-	-
8/19	2,153	8.2	-	-	-	-
8/25	2,500	8.6	-	-	-	-

Table 1

WATTS BAR STEAM PLANT

FLY ASH POND DISCHARGE ANALYSES (CO₂)

(Weekly Samples - Continued)

Date 1976	Flow	pH	Alkalinity		Solids	
			Phen. CaCO ₃ mg/l	Total CaCO ₃ mg/l	Dis. mg/l	Sus. mg/l
9/02	2,292	7.4	-	-	-	-
9/07	1,458	7.7	-	-	-	4
9/15	2,153	9.3	-	-	-	-
9/22	1,597	9.5	-	-	-	-
9/29	1,875	8.6	-	-	-	-
10/04	1,597	8.7	-	-	-	7
10/13	1,736	9.0	-	-	-	-
10/22	486	7.7	-	-	-	-
10/28	764	7.2	-	-	-	-
11/04	694	5.2	-	-	-	-
11/08	417	4.9	-	-	-	6
11/18	764	7.3	-	-	-	-
11/24	903	6.5	-	-	-	-
12/02	764	7.0	-	-	-	-
12/08	764	7.2	-	-	-	-
12/16	-	-	-	-	-	-
12/20	764	5.0	-	-	-	11
12/26	764	6.4	-	-	-	-
Min.	417	4.5	0	6	111	2
Max.	7,287	9.5	0	58	860	76
Avg.	3,099	6.9	0	19	266	17

WATTS BAR STEAM PLANT

FLY ASH POND (002)

Date	<u>6-29-76</u>	<u>7-6-76</u>	<u>8-2-76</u>	<u>9-7-76</u>	<u>10-4-76</u>	<u>11-8-76</u>	<u>12-20-76</u>
pH (units)	5.8	4.5	7.6	7.7	8.7	4.9	5.0
Suspended Solids (mg/l)	46	2	11.0	2.0	10.0	17.0	11.0
Arsenic (mg/l)	<0.010	<0.020	0.200	0.140	0.120	0.350	<0.002
Cadmium (mg/l)	<0.001	0.003	<0.001	0.002	0.001	0.005	0.010
Chromium (mg/l)	<0.005	<0.005	0.010	0.006	<0.005	<0.005	<0.005
Copper (mg/l)	-	0.22	<0.01	-	<0.01	0.10	0.15
Iron (mg/l)	0.48	6.0	0.38	1.3	0.40	15.0	26
Lead (mg/l)	<0.010	<0.010	<0.010	0.019	<0.010	0.018	<0.010
Manganese (mg/l)	0.22	0.61	0.06	0.11	0.03	0.55	1.0
Mercury (mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/l)	<0.05	0.17	<0.05	<0.05	<0.05	<0.0005	0.24
Selenium (mg/l)	0.002	<0.001	0.003	0.003	0.009	0.001	0.001
Zinc (mg/l)	0.07	0.42	0.08	0.07	0.02	0.50	0.77
Flow (MGD)	2.4	2.9	3.2	2.7	1.7	1.0	1.1

WATTS BAR STEAM PLANT

FLY ASH POND (002)

Date	<u>1-18-77</u>	<u>2-1-77</u>	<u>3-1-77</u>	<u>4-4-77</u>	<u>5-1-77</u>	<u>6-6-77</u>
pH (units)	5.8	6.4	7.3	7.4	8.0	9.5
Suspended Solids (mg/l)	8	5	11	10	16	11
Arsenic (mg/l)	0.074	0.1	0.018	0.007	0.45	0.19
Cadmium (mg/l)	0.005	0.006	<0.001	<0.001	0.01	0.001
Chromium (mg/l)	<0.005	<0.005	<0.005	<0.005	0.005	<0.005
Copper (mg/l)	0.08	0.01	0.1	0.08	0.14	0.05
Iron (mg/l)	9.6	5.8	4.0	13	0.15	0.16
Lead (mg/l)	<0.010	<0.01	<0.01	<0.01	<0.01	<0.01
Manganese (mg/l)	0.58	0.55	0.3	1.0	0.14	<0.01
Mercury (mg/l)	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/l)	0.09	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium (mg/l)	0.003	0.004	0.002	0.002	0.011	0.010
Zinc (mg/l)	0.32	0.35	0.23	0.22	0.08	<0.01
Flow (MGD)	1.1	1.6	2.2	3.3	2.0	1.2

Question number 3.3:

Describe the intake for the Fossil Plant: location and cooling water requirement for full plant operation.

Response:

A description of the intake and cooling water requirements for the steam plant is given on pages 1 and 2 and plates 3 and 4 of the attached Report No. 9-1105, "Watts Bar Steam Plant, Water Temperature Surveys."

Question number 3.4:

Provide thermal exposure-transit time history for organism passed through the fossil plant cooling system.

Response:

When the units are operating at rated capacity, the plant discharges heat corresponding to a 10°F condenser temperature rise.

The transit time for water passing through the cooling system for each unit is as follows:

<u>Unit</u>	<u>Time (Minutes)</u>
A	3.17
B	3.47
C	3.54
D	4.49

Question number 3.5:

Provide any available information on the attraction of fishes to the fossil plant discharge mixing zone during winter months. In reference to question 3.1, would these fish be more susceptible to the nuclear plant intake.

Response:

There is no available information on the attraction of fishes to the Watts Bar Steam Plant discharge.

As discussed in the response to question 3.1, the maximum downstream reach of the steam plant discharge mixing zone (50°F isotherm) is approximately 244 m; a point 1366 m upstream from the nuclear plant intake. Because of this distance fish attracted to the mixing zone would not be more susceptible to the nuclear plant intake.

Water reaching the nuclear plant intake during the substantial river flow (1062 m³/s) is homothermous and within one degree of ambient. This small change in temperature would not be expected to cause a concentration of fish near the intake because:

- (1) except under unusual circumstances, fish would not be expected to seek out and remain in water 1°F warmer than ambient.
- (2) other naturally occurring warmer water would be available, particularly in overbank areas and embayments.
- (3) thermophilic fish would be expected to move past the intake into the warmer water further upstream.

4. Hydrology

Question number 4.1:

Provide the following information on the Watts Bar Steam Plant discharge to enable us to evaluate the interaction of the plume with the one from the Watts Bar Nuclear Plant.

1. Maximum, minimum and average monthly discharge rates and temperatures.
2. Type of discharge (and design details) and exact location.
3. Bathymetry of the Tennessee River between the Steam Plant discharge and the Nuclear plant discharge.

Response:

1. As noted on page 1 of the attached report No. 9-1105, "Watts Bar Steam Plant Water Temperature Surveys," the Watts Bar Steam Plant uses once through cooling and requires 626 cfs of cooling water when operated at capacity. The plant discharges heat at 1.408×10^9 Btu/hour, corresponding to a 10°F condenser temperature rise. Using the summary of natural river temperatures given in Table 1 of the report, a summary of discharge temperatures can be obtained assuming the 10°F condenser rise.
2. A description of the discharge and its location is given on pages 1 and 2 and plates 3 and 4 of the referenced report.
3. A description of the bathymetry of the Tennessee River below Watts Bar Dam is given on page 2 of the referenced report. Bathymetry in the immediate vicinity of the steam plant discharge is given on plate 4 of the report. Bathymetry in the vicinity of the nuclear plant is given on figure 3 of Report No. 9-2013, "Results of Hydrothermal Model Test of the Multiport Diffuser System, Watts Bar Nuclear Plant," given in response to question 4.5, of Supplement No. 1 to the Watts Bar Nuclear Plant Environmental Information.

Question number 4.2:

Provide your evaluation of the effect of the steam plant discharge plume on the nuclear plant discharge plume.

Response:

A description of the mixing of the steam plant discharge is given in Report No. 9-1105, "Watts Bar Steam Plant, Water Temperature Surveys" (See response to 3.1). A brief discussion of the effect of the steam plant discharge on water temperatures at the nuclear plant site was given in the response to Question 4.12 of Supplement No. 1. A discussion of the effects of the nuclear plant discharge is given in the response to Questions 4.5, 4.6, and 4.7 of Supplement No. 1.

Field surveys of the effects of the thermal discharge from Watts Bar Steam Plant show that during periods of releases from Watts Bar Hydro Plant, water temperatures at the nuclear plant site will be increased 0-1°F by the thermal discharge from Watts Bar Steam Plant. Average temperature rises between the Nuclear Plant blowdown and the river before mixing range from 3°F in October to 20°F in February (see response to Question No. 4.12 of Supplement No. 1).

TVA's final environmental statement (FES) on the Watts Bar Nuclear Plant had stated that, based on conservative assumptions, the maximum temperature difference between the blowdown and the receiving water before mixing was 49°F. Because the nuclear plant's multiport diffuser system is capable of achieving a dilution of approximately 17 at minimum Tennessee River flow of 3500 cfs, the mixed temperature rise caused by the steam plant and the nuclear plant when the hydro plant is operating will always be less than the State of Tennessee's maximum temperature rise standard of 5.4°F ($1 + (49/17) = 3.9 < 5.4$).

During and immediately following normal periods of no releases from Watts Bar Hydro Plant, water temperature at the nuclear plant site will be increased 1-3°F by the thermal discharges from Watts Bar Steam Plant. These transient temperature increases would affect water temperatures at the plant for very short periods (probably an hour or less). With average temperature rises between the nuclear plant blowdown and the river before mixing, temperature rises caused by the steam plant and the nuclear plant would be less than 5.4°F ($3 + (20/17) = 4.2 < 5.4$). However, the State of Tennessee's rate of temperature change standard of 3.6°F per hour may be approached. After periods of no release at the hydro plant of the maximum expected duration of 12 hours, temperatures will be increased 3-5°F at the nuclear plant site by the steam plant discharge. TVA will take action to ensure the thermal standards of the State of Tennessee are not exceeded by the operation of the nuclear plant.

Question number 4.2: (continued)

A holding pond has been built to store the blowdown temporarily. Sufficient storage capacity in the holding pond (35 hours at 65 cfs maximum blowdown) is available to store the nuclear plant blowdown until the accumulated steam plant discharge plume passes the nuclear plant diffuser. Nuclear plant blowdown discharge could then be resumed.

9. Cost-Benefit

Question number 9.1:

Provide most recent estimate of annual payroll for each year of construction.

Response:

The estimated annual payrolls for construction employees at the Watts Bar Nuclear Plant are:

<u>Calendar Year</u>	<u>Amount</u>
1971	\$ 100,000
1972	500,000
1973	9,800,000
1974	23,000,000
1975	37,400,000
1976	55,600,000
1977	79,000,000
1978	55,200,000
1979	26,200,000
1980	13,900,000
1981	400,000

Question number 9.2:

Provide estimate of annual payroll for permanent operating personnel.

Response:

The first full year of operation is expected to be 1980. The annual payroll for that year is projected to be \$4,200,000 in 1980 dollars. This is based on 1975 wage rates escalated at 8 percent per year.

Question number 9.3:

Provide estimate of local purchases of materials and services during

- (a) Construction phase, and
- (b) Operation.

Response:

- (a) Based on conversations with NRC staff, the area considered local is within about 20 miles of the project. TVA does not maintain routine records on expenditures that would enable a reasonable estimate for that small an area. Our records indicate about \$22,500,000 has been or will be paid over the construction period for goods manufactured or services performed in the State of Tennessee. Of that total, an estimated \$16,500,000 has been or will be spent in the region from Chattanooga to Knoxville. We expect the largest portion of that to be spent in and around the metropolitan centers.
- (b) During operation, TVA projects that the plant will spend about \$100,000 per year on purchases in the local area.

Question number 9.4:

Table 8.1-1 in the TVA FES-CP for Watts Bar 1 & 2 states that the in-lieu of tax payments are \$5,700,000 annually.

- (a) Update this figure, if necessary.
- (b) How much of this will accrue to Rhea County?
- (c) What other counties will receive allocation of these funds and on what basis?

Response:

- (a) The TVA total average annual in-lieu-of-tax payments over the estimated life of the plant resulting from the sale of the amount of electricity generated by the Watts Bar Nuclear Plant subject to section 13 of the TVA Act is presently estimated to be \$7,000,000. Of that, approximately \$4,200,000 is expected to be allocated to the State of Tennessee. In addition to the TVA payments, the local distributors of TVA power also make tax and tax equivalent payments to state and local units of government. Such payments by the distributors because of the sale of this amount of energy to their ultimate consumers are estimated in the average annual total amount of \$4,900,000.
- (b) and
- (c) The redistribution of TVA's in-lieu-of-tax payments by the State of Tennessee is based on state legislation. After discussions with the NRC staff, it was agreed that they would acquire these estimates from the state agency responsible for making the redistribution.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

1421 PEACHTREE ST., N. E.
ATLANTA, GEORGIA 30309

CERTIFIED MAIL
RETURN RECEIPT REQUESTED APR 30 1976

Dr. Peter Krenkel
Director of Environmental
Planning
Tennessee Valley Authority
268 401 Building
Chattanooga, Tennessee 37401

Re: Allen Steam Plant
NPDES No. TN0005355

Cumberland Steam
Plant
NPDES No. TN0005780⁹

Gallatin Steam Plant
NPDES No. TN0005428

Watts Bar Steam Plant
NPDES No. TN0005461

Dear Dr. Krenkel:

Enclosed are the National Pollutant Discharge Elimination System Permits for the referenced facilities. These NPDES permits constitute my determination under Title 40, Code of Federal Regulations, Section 125.35, as amended (39 FR 27080, July 24, 1974).

In accordance with 40 CFR 125.35, these permits will become issued and effective on the effective date specified in the permits, provided that no request for an adjudicatory hearing and/or legal decision is subsequently filed with the Agency. In the event that such a request is filed, the contested provisions of the permit(s) will be stayed and will not become effective until the administrative review process is completed. All uncontested provisions of the permit(s) will be considered issued and effective on the effective date set out in the permit(s) and must be complied with by the facility(s).

Docket # ~~50-390~~
Control # 772160224
Date 8-2-77 of Document
REGULATORY DOCKET FILE

If you wish to request an adjudicatory hearing and/or legal decision, you must submit such request (an original and two copies) to the Regional Hearing Clerk within ten (10) days from the receipt of this letter. The request will be timely if mailed by Certified Mail within the ten (10) day period. For the request to be valid, it must conform to the requirements of 40 CFR 125.36(b). Such requirements are specified in the attachment hereto.

In your letter of January 29, 1976, to Mr. Howard Zeller and in subsequent correspondence relative to specific permits, you requested certain assurances as to our proposed enforcement of area runoff (construction and material storage) provisions of these permits.

As a threshold proposition, the effluent limits for construction runoff under the October 8, 1974, Regulations apply to point sources only. Furthermore, these limits apply only during the actual construction period which extends from the inception of construction to completion, and the disturbed earth returned to a relatively stable condition. EPA has limited application to construction activity in the immediate vicinity of the generating unit(s) and related equipment rather than to construction on the entire plant site. For instance, runoff from other parts of the site including land for future generating units, construction of access roads, cooling lakes or ponds and visitors centers which are presumably remote from the plant itself are excluded. Further, it is the policy of this Region that limitations for construction runoff are not applicable to construction of dikes, diversions or other facilities necessary for treatment and control of area runoff.

I trust that this response will provide an adequate insight into our application of the construction runoff guidelines in this Region. However, should you have further question and comment, do not hesitate to contact us.

If you have any questions about the permits, please contact the Thermal Analysis Unit at FTS 285-2328. Information on the request procedures and legal matters may be obtained by contacting Mr. John W. Wilcox at FTS 285-3506.

Sincerely yours,

John A. Ravan, Deputy
Jack E. Ravan
Regional Administrator

Enclosures

cc: Mr. Harold Martin
Tennessee Dept. of
Public Health
w/enclosures

ccp 5/4/76



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

1421 PEACHTREE ST., N. E.
ATLANTA, GEORGIA 30309

NOTICE OF NPDES PERMIT DETERMINATIONS

Company: Tennessee Valley Authority
Location: Watts Bar Steam Plant, Spring City, Tennessee
NPDES Permit No. TN0005461
Permit Effective Date: June 15, 1976

After due consideration of the facts applicable to the above-named facility and the requirements and policies expressed in the Federal Water Pollution Control Act and appropriate regulation, I have determined that the National Pollutant Discharge Elimination System permit should be issued with no substantial changes from the tentative determinations previously announced.

The permit will be effective on the date given above provided that no request for an adjudicatory hearing and/or legal decision is granted by the Agency. If such a request is granted, all contested provisions of the permit will be stayed pending final Agency action. All uncontested provisions of the permit will become effective on the effective date of the permit.

REQUEST FOR ADJUDICATORY HEARING AND/OR LEGAL DECISION

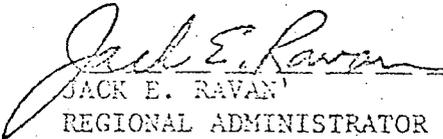
Any interested person may submit a request for an adjudicatory hearing and/or legal decision within ten (10) days of the receipt of this notice. The request and two copies thereof must be submitted to the Regional Hearing Clerk, Environmental Protection Agency, 1421 Peachtree Street, N. E., Atlanta, Georgia 30309. The submission of the request will be within the time period if mailed by Certified Mail before the tenth day. The request must:

- (i) State the name and address of the person making such request;
- (ii) Identify the interest of the requestor which is affected by the proposed issuance, denial or modification of the permit contained in the determination of the Regional Administrator;
- (iii) Identify any persons whom the request represents;
- (iv) Include an agreement by the requestor to be subject to examination and cross-examination and to make any employee or consultant of such requestor or other person represented by the requestor available for examination and cross-examination at the expense of such requestor or such other person upon the request of the Presiding Officer, on his own motion, or on the motion of any party.

- (v) State with particularity the reasons for the request;
- (vi) State with particularity the issues proposed to be considered at the hearing; and
- (vii) Include proposed terms and conditions which, in the judgment of the requestor, would be required to carry out the intendment of the Act.

Additional information on adjudicatory hearings and legal decisions is found at Title 40 Code of Federal Regulations, Section 125.36, 39, Federal Register 27081.

April 30, 1976
DATE


JACK E. RAVAN
REGIONAL ADMINISTRATOR



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

1421 PEACHTREE ST., N. E.
ATLANTA, GEORGIA 30309

MAY 14 1976

Dr. Peter Krenkel
Director of Environmental
Planning
Tennessee Valley Authority
268 401 Building
Chattanooga, Tennessee 37401.

Re: Watts Bar Steam Plant
NPDES No. TN0005461.

Dear Dr. Krenkel:

As per Mr. James Morris' telephone request this date, enclosed is a copy of page 7 of 17, Serial 006 for metal cleaning wastes. The words "if necessary" have been added to the 4th line of the page. This omission was an oversight in developing the final permit and is not considered a significant modification.

Please substitute the enclosed page for the one presently in the referenced permit.

If you have any additional comments or questions, please do not hesitate to contact us.

Sincerely yours,

Paul J. Traina
Director
Enforcement Division

Enclosure

cc: Mr. Harold Martin
Tn. Dept. of Public Health
w/enclosure

Mr. Jim McCormick
Tn. Dept. of Public Health
w/enclosure

Mr. James Burger
TVA

Mr. James Morris
TVA

W6m

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"),

Tennessee Valley Authority
268 401 Building
Chattanooga, Tennessee 37401

is authorized to discharge from a facility located at

Watts Bar Steam Plant
Spring City, Tennessee 37381

to receiving waters named the Tennessee River
from discharge points enumerated herein, as serial numbers 001, 002, 003, 004,
005, 006, 007, 008 and 009

during the effective period of this permit

in accordance with effluent limitations, monitoring requirements and other
conditions set forth in Parts I, II, and III hereof.

This permit shall become effective on June 15, 1976.

This permit and the authorization to discharge shall expire at midnight,
June 16, 1981. Permittee shall not discharge after the above date
of expiration without prior authorization. In order to receive authorization
to discharge beyond the above date of expiration, the permittee shall submit
such information, forms, and fees as are required by the Agency authorized
to issue NPDES permits no later than 180 days prior to the above date of
expiration.

Signed this 30th day of April 1976

John A. Cook, Deputy
lsr Jack E. Ravan, Regional Administrator

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on effective date and lasting through June 30, 1977 the permittee is authorized to discharge from outfall(s) serial number(s) 001 & 002- Ash pond discharges

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow--m ³ /Day (MGD)	N/A	N/A	1/month	Weir elevation *
Oil and Grease (mg/l)	N/A	N/A	1/month	Grab
Total Suspended Solids (mg/l)	N/A	N/A	1/month	Grab
Heavy Metals	See Below		1/month	Grab
Polychlorinated Biphenyls	No Discharge		See Part III.B.	

Heavy metal analyses shall include total arsenic, cadmium, chromium, copper, iron, lead, mercury, manganese, nickel, selenium and zinc. After a period of one year, the permittee may request that the Regional Administrator reevaluate the heavy metal monitoring program and reduce or eliminate the monitoring frequency.

By July 1, 1977, Serial 001 shall be combined with and discharged through Serial 002.

The pH shall not be less than N/A standard units nor greater than N/A standard units and shall be monitored 1/week on a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):
Ash pond discharges prior to mixing with other waste streams.

* Pump logs may be used until installation of level recorder.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on effective date and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 003

- Once-through cooling water.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Chlorination</u> <u>Period Average</u>	<u>Maximum</u>	<u>Measurement</u> <u>Frequency</u>	<u>Sample</u> <u>Type</u>
Flow-m ³ /Day (MGD)	N/A	N/A	1/day	Calibrated valve setting
Intake Temperature °C(°F)	N/A	N/A	Continuous	Recorder
Discharge Temperature °C(°F)	N/A	32.2 (90.0)	1/day	Calculation 1/
Free available chlorine (mg/l)	See Below		1/week	Multiple grabs
Total residual chlorine (mg/l)	See Below		1/week	Multiple grabs

After July 1, 1977, free available chlorine shall not exceed an average concentration of 0.2 mg/l and a maximum instantaneous concentration of 0.5 mg/l at the outlet corresponding to an individual unit. Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit may discharge free available or total residual chlorine at any one time unless the permittee can demonstrate to the Regional Administrator that the unit(s) cannot operate at or below this level of chlorination. However, a study shall be instituted to evaluate all practicable methods to reduce total residual chlorine levels, including, but not necessarily limited to (1) minimization of chlorine addition commensurate with control requirements and (2) reduction of flow during chlorination. Results of this study including facilities and/or methods proposed to reduce total chlorine residuals shall be submitted no later than 180 days prior to expiration of this permit. Requirements of this paragraph shall not be applicable unless permittee institutes use of chlorine.

1/ 24-hour average intake temperature, 24-hour average flow and instantaneous maximum plant load shall be used in these calculations. This monitoring requirement will be applicable 60 days after effective date.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Outlet corresponding to an individual unit prior to mixing with other waste streams except that intake temperature shall be monitored at plant intake.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on effective date and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 004 - Intake Screen Backwash

Continued screen backwash is permitted without limitation or monitoring requirements

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning July 1, 1977 and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 005 - Boiler Blowdown Discharged to the ash pond or condenser circulating water system

Such discharge shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m ³ /Day (MGD)	N/A	N/A	1/month	Instantaneous
Copper, Total (mg/l)	1.0	1.0	1/month	Grab
Iron, total (mg/l)	1.0	1.0	1/month	Grab
Total Suspended Solids (mg/l)	30 <u>1/</u>	100 <u>1/</u>	1/month <u>1/</u>	Grab <u>1/</u>
Oil and Grease (mg/l)	15 <u>1/</u>	20 <u>1/</u>	1/month <u>1/</u>	Grab <u>1/</u>

1/ Limitations and monitoring requirements are not applicable if discharge is to the ash pond.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): point of discharge from the boiler blowdown prior to mixing with any other waste stream.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning July 1, 1977 and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 006 - Metal Cleaning Wastes discharged to Ash Pond after pre-treatment, if necessary

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
<i>TSS</i> Flow—m ³ /Day (MGD)	<i>N/A</i>	<i>N/A</i>	1/batch	Pump log
Oil and Grease (mg/l)	15	20	<u>1/</u>	Grab
Copper, Total (mg/l)	1.0	1.0	<u>1/</u>	Grab
Iron, Total (mg/l)	1.0	1.0 (P.O)	<u>1/</u>	Grab

Metal cleaning wastes shall mean any cleaning compounds, rinse waters, or any other waterborne residues derived from cleaning any metal process equipment including, but not limited to, boiler fireside cleaning and air preheater cleaning. Boiler tube cleaning wastes shall not be discharged to any plant waste stream which discharges to surface waters.

1/ On start of discharge and once/week thereafter until termination of discharge, with one sample taken immediately prior to termination of discharge.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): point(s) of discharge from the metal cleaning wastes treatment facility(s) prior to mixing with any other waste stream.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning July 1, 1977 and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 007 - Point source(s) runoff from material storage

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Instantaneous Maximum		Measurement Frequency	Sample Type
Flow-m ³ /Day (MGD)	N/A		1/	1/
Total Suspended Solids (mg/l)	(2000)	50 2/	1/	1/

Material storage runoff shall include rainfall runoff to navigable waters through any discernible, confined and/or discrete conveyance from or through any coal, ash or other material storage pile.

Note: Limitations and monitoring requirements provided herein shall not be applicable if discharge is directed to the ash pond.

(2.5)
The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/, 2/.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): point(s) of discharge from treatment system prior to mixing with any other waste stream.

1/ Frequency and sample type to be commensurate with the waste treatment system instituted.

2/ Applicable to any flow up to the flow resulting from a 24-hour rainfall event with a probable recurrence interval of once in ten years. If an impoundment is utilized by permittee, it shall be capable of containing a 10 year 24 hour rainfall event.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning 3/ and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 008 - Point source(s) runoff from construction

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Instantaneous Maximum		Measurement Frequency	Sample Type
Flow-m ³ /Day (MGD)	N/A		<u>1/</u>	<u>1/</u>
Total Suspended Solids (mg/l)	50 <u>2/</u>		<u>1/</u>	<u>1/</u>

Construction runoff shall include rainfall runoff discharged to navigable waters through any discernible, confined and/or discrete conveyance from any construction activity and any earth surface disturbed by such activity from the inception of any construction until construction is complete and disturbed earth is returned to a vegetative or other cover commensurate with the intended land use.

NOTE: Limitations and monitoring requirements provided herein shall not be applicable if discharge is directed to the ash pond.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/, 2/.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): point(s) of discharge from treatment system prior to mixing with other waste streams.

- 1/ Frequency and sample type to be commensurate with the waste treatment system instituted.
- 2/ Applicable to any flow up to the flow resulting from a 24-hour rainfall event with a probable recurrence interval of once in ten years. If an impoundment is utilized by permittee, it shall be capable of containing a 10-year, 24-hour rainfall event.
- 3/ July 1, 1977, or on start of construction of waste treatment facilities required by this permit, whichever is earlier.

B. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

a. Chemical Waste Treatment (001, 002, 003, 005, 006 & 007)

(1) Implementation Schedule - 5/31/76

(2) Progress report - 12/31/76

(3) Achieve operational level - 6/30/77 (11/78)

b. 316(b), Biological Report - 9/30/76

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

C. MONITORING AND REPORTING

1. *Representative Sampling*

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. *Reporting*

Monitoring results obtained during the previous 3 months shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), postmarked no later than the 28th day of the month following the completed reporting period. The first report is due on September 28, 1976. Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator and the State at the following addresses:

Regional Administrator
Environmental Protection Agency
1421 Peachtree Street, N.E.
Atlanta, Georgia 30309

AND

Director
Division of Water Quality Control
Tennessee Department of Public Health
621 Cordell Hull Building
Nashville, Tennessee 37219

3. *Definitions*

- a. The "daily average" concentration means the arithmetic average (weighted by flow) of all the daily determinations of concentration made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow) of all the samples collected during that calendar day.
- b. The "daily maximum" concentration means the daily determination of concentration for any calendar day.
- c. "Weighted by flow" means the summation of each sample concentration times its respective flow in convenient units divided by the summation of the flow values.
- d. "Nekton" means free swimming aquatic animals whether of freshwater or marine origin.
- e. For the purpose of this permit, a calendar day is defined as any continuous 24-hour period.

4. *Test Procedures*

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304g, of the Act, under which such procedures may be required.

5. *Recording of Results*

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date, and time of sampling;
- b. The dates the analyses were performed;
- c. The person(s) who performed the analyses;
- d. The analytical techniques or methods used; and
- e. The results of all required analyses.

6. *Additional Monitoring by Permittee*

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monitoring and Reporting Report Form (EPA No. 3320-1). Such increased frequency shall be of no effect.

7. *Records Retention*

All records and information resulting from the monitoring activities required by this permit including all records of analysis performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of 3 (3) years, or longer if requested by the Regional Administrator or the State water pollution control agency.

A. MANAGEMENT REQUIREMENTS

1. *Change in Discharge*

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. *Noncompliance Notification*

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Regional Administrator and the State with the following information, in writing, within five (5) days of becoming aware of such condition:

- a. A description of the discharge and cause of noncompliance; and
- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

3. *Facilities Operation*

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

4. *Adverse Impact*

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. *Bypassing*

Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Regional Administrator and the State in writing of each such diversion or bypass.

6. *Removed Substances*

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

7. *Power Failures*

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

- a. In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;
or, if such alternative power source is not in existence, and no date for its implementation appears in Part I,
- b. Halt, reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

B. RESPONSIBILITIES

1. *Right of Entry*

The permittee shall allow the Regional Administrator, and/or his authorized representatives, upon the presentation of credentials:

- a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and
- b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. *Transfer of Ownership or Control*

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Regional Administrator and the State water pollution control agency.

3. *Availability of Reports*

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public

inspection at the offices of the State water pollution control agency and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

4. *Permit Modification*

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. *Toxic Pollutants*

Notwithstanding Part II, B-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. *Civil and Criminal Liability*

Except as provided in permit conditions on "Bypassing" (Part II, A-5) and "Power Failures" (Part II, A-7), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

7. *Oil and Hazardous Substance Liability*

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

8. *State Laws*

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. *Property Rights*

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. *Severability*

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PART III

OTHER REQUIREMENTS

- A. In the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property attributable to each controlled waste source shall not exceed the specified limitation for that waste source.
- B. If the permittee, after monitoring for at least six months, determines that he is consistently meeting the effluent limits contained herein, the permittee may request of the Regional Administrator that the monitoring requirements be reduced to a lesser frequency or be eliminated. Upon written notification by the Regional Administrator, the permittee will monitor as directed.
- C. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.
- D. The company shall notify the Regional Administrator in writing not later than sixty (60) days prior to instituting use of any additional cooling water biocide or chemical, other than chlorine, which may be toxic to aquatic life other than those previously reported to the Environmental Protection Agency. Such notification shall include:
 1. Name and general composition of biocide or chemical.
 2. Frequency of use.
 3. Quantities used.
 4. Proposed effluent limitations.
 5. EPA registration number.

E. In accordance with Section 316(b) of the Act, the permittee is presently conducting entrainment studies which have been approved by the Regional Administrator. By September 30, 1976, the permittee shall submit a summary report to the Regional Administrator and State Director as to the effects of the present cooling water intake with regard to Section 316(b) of the Act. If significant entrainment is occurring, this report shall include:

1. An evaluation of facility or procedure modifications necessary to minimize the environmental impact of the cooling water intake, and
2. Proposed facilities or modifications with attendant implementation schedule(s) for implementing 1 above.

At the conclusion of this study period, subject to opportunity for hearing and review, the permittee shall implement the procedures necessary to minimize any adverse environmental impact associated with entrainment at the intake structure.

(1/1/78)
F. By June 30, 1977, low volume wastes (waste water from all sources except those for which specific limitations are otherwise required in this permit, including, but not limited to waste waters from wet scrubber air pollution control systems, ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, floor drainage, cooling tower basin cleaning wastes and blowdown from recirculating house service water systems) shall be discharged to the ash pond. Permittee shall institute an evaluation of waste sources which contain high concentrations of oil and grease and by administrative procedure or facility construction shall remove oil and grease from such streams as close to the source as practicable.

(1/1/78)
G. By June 30, 1977, all domestic waste from the powerhouse shall be provided with tile drain fields or other percolation devices and shall not be discharged to surface waters. Domestic waste from the utility building shall receive secondary treatment prior to discharge to the ash pond and shall be monitored 1/day for chlorine residual (Discharge Serial 009 shall be used for reporting purposes). ✓

H. Monitoring for polychlorinated biphenyl compounds shall include the following: (1) a detailed inventory of present PCB use, (2) baseline determination of PCB levels in the water used and discharged by the facilities, (3) engineering design and construction of modifications to preclude the release of PCB's to the environment and (4) effective procedures to detect the loss of PCB's from equipment.