

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401  
400 Chestnut Street Tower II

March 18, 1983

Director of Nuclear Reactor Regulation  
Attention: Ms. E. Adensam, Chief  
Licensing Branch No. 4  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Ms. Adensam:

In the Matter of the Application of ) Docket No. 50-327  
Tennessee Valley Authority ) 50-328

In accordance with Environmental Technical Specification, Section 5.5.2, enclosed are changes to the National Pollutant Discharge Elimination System (NPDES) Permit No. TN0026450 and the State of Tennessee Section 401 of the Federal Water Pollution Control Act Certification for the Sequoyah Nuclear Plant.

Enclosure 1 contains a February 16, 1983 letter from Mr. Paul J. Traina of the Environmental Protection Agency (EPA) transmitting the NPDES permit for the Sequoyah Nuclear Plant. The permit is being reissued and becomes effective on April 1, 1983. It will be in effect for a five-year period and will expire March 31, 1988. The reissued permit will replace the existing permit.

In regard to Discharge Serial No. 105, compliance with suspended solid limits has not been immediately feasible. For this reason, the EPA has issued an Administrative Order (Enclosure 2) concerning this potential noncompliance. The order includes a compliance schedule for completing a treatment system to assure compliance with discharge limitations.

Enclosure 3 is a January 31, 1983 letter from Mr. Paul E. Davis of the Tennessee Division of Water Quality Control to Mr. Traina providing certification of the NPDES permit. The certification contains several conditions which are incorporated by reference into the NPDES permit.

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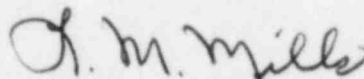
Director of Nuclear Reactor Regulation

March 18, 1983

If you have any questions concerning this matter, please get in touch with K. P. Parr at FTS 853-2685.

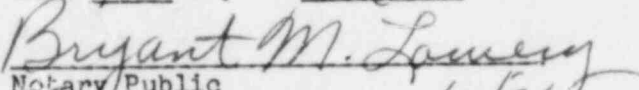
Very truly yours,

TENNESSEE VALLEY AUTHORITY



L. M. Mills, Manager  
Nuclear Licensing

Sworn to and subscribed before me  
this 18<sup>th</sup> day of Mar 1983

  
Notary Public  
My Commission Expires 4/8/86

Enclosures (3)

cc: U.S. Nuclear Regulatory Commission (Enclosure)  
Region II  
Attn: Mr. James P. O'Reilly Administrator  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30303



# Enclosure 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

FEB 16 1983

REF: 4WM-FP

Dr. Mohamed T. El-Ashry  
Director of Environmental Quality  
Tennessee Valley Authority  
126 Locust Street Building  
Knoxville, Tennessee 37092

RE: Issuance of NPDES Permit No. TN0026450

Dear Dr. El-Ashry:

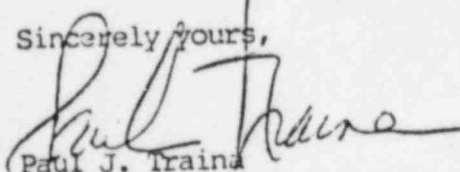
Enclosed is the National Pollutant Discharge Elimination System (NPDES) Permit for the facility referenced above. This action constitutes issuance of a final permit under Title 40, Code of Federal Regulations, Section 124.60 (45 FR 33495, May 19, 1980).

In accordance with 40 C.F.R. 124.60, this permit will become effective on the effective date specified in the permit, provided that no request for an evidentiary or panel hearing is granted by the Agency. In the event that such a request is granted, the contested provisions of the permit will be stayed and will not become effective until the administrative review process is completed. All uncontested provisions of the permit will be effective and enforceable in accordance with the provisions of 40 C.F.R. 124.60(c).

If you wish to request an evidentiary hearing or a panel hearing, you must submit such request (an original and two copies) to the Regional Hearing Clerk within thirty (30) days from the receipt of this letter. The request will be timely if mailed by certified mail within the thirty (30) day time period. For the request to be valid, it must conform to the requirements of 40 C.F.R. 124.74. A summary of these requirements is enclosed.

Information on procedures and legal matters pertaining to an evidentiary or panel hearing request may be obtained by contacting Mr. Craig A. Bramby, Attorney, Office of Regional Counsel at 404/881-3506.

Sincerely yours,

  
Paul J. Traina  
Director  
Water Management Division

Enclosures (2): Hearing Request Requirements  
Final NPDES Permit

cc: Kentucky Department for Environmental Protection  
Harold R. Denton, USNRC

RECEIVED  
FEB 22 1983  
REGULATORY STAFF

REQUIREMENTS FOR EVIDENTIARY/PANEL  
HEARING REQUEST

Evidentiary Hearing (40 CFR 124.74)

1. Requests must be made within 30 days following date of issuance of final permit.
2. Requests must contain:
  - (a) the name, mailing address, and telephone number of the person mailing the request,
  - (b) a clear and concise factual statement of the nature and scope of the interest of the requester,
  - (c) the names and addresses of all persons whom the requester represents,
  - (d) a statement by the requester that upon motion of any party, or upon request of the Presiding Officer and without cost or expense to any other party, the requester shall make available to appear and testify the following:
    - (i) the requester,
    - (ii) all persons represented by the requester, and
    - (iii) all officers, directors, employees, consultants and agents of the requester and the persons represented by the requester,
  - (e) a statement of each legal or factual question alleged to be at issue and their relevance to the permit decision together with a designation of the specific factual areas to be adjudicated,
  - (f) an estimate of the hearing time necessary for the adjudication,
  - (g) specific references to the contested permit terms and conditions as well as suggested revised or alternate permit terms and conditions, (not excluding permit denial) which, in the judgement of the requester, would be required to implement the purposes and policies of the Clean Water Act,
  - (h) in the case of challenges to the application of control or treatment technologies identified in the statement of basis or the fact sheet, identification of the basis for the objection, and the alternative technologies which the requester believes are necessary to meet the requirements of the Clean Water Act and
  - \* (i) specific identification of each of the discharger's obligations which should be stayed if the request is granted. If the request contests more than one permit term or condition then each obligation which is proposed to be stayed must be referenced to the particular contested term warranting the stay.

Panel Hearing (40 CFR 124.111)

The form and content of a request for a panel hearing is the same as for an evidentiary hearing, except that the permittee may specifically include a request that the hearing be conducted under the non-adversary procedures of subpart I of the regulations.

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\*Note: for new source & new dischargers, if the request is granted, the applicant will be considered without a permit pending final agency action.



PERMIT NO. TN0026450

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

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

Tennessee Valley Authority  
Environmental Quality Staff  
Knoxville, Tennessee 37902

is authorized to discharge from a facility located at

Sequoyah Nuclear Plant  
Units 1 and 2  
Hamilton County, Tennessee

to receiving waters named

Tennessee River, Plant Intake Basin and Diffuser Pond from discharge  
points enumerated herein, as serial numbers 101 through 115

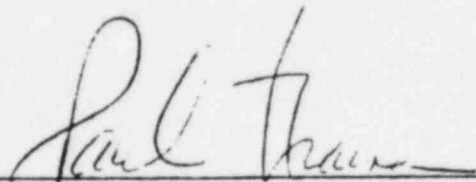
in accordance with effluent limitations, monitoring requirements and other  
conditions set forth in Parts I, II, and III hereof. The permit consists of  
this cover sheet, Part I 17 page(s), Part II 15 page(s) and Part III 3  
page(s) and Attachments 3.

This permit shall become effective on April 1, 1983.

This permit and the authorization to discharge shall expire at midnight,  
March 31, 1988.

FEB 16 1983

Date Signed

  
Paul J. Traina

Director  
Water Management Division

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 101 - Diffuser Gate flow to the Tennessee River.

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u> <u>Instantaneous Maximum</u>	<u>Monitoring Requirements</u>	
		<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow-m <sup>3</sup> /day (MGD)	NA	Continuous	Recorder
Ambient Temperature	NA	<u>1/</u>	<u>1/</u>
Discharge Temperature °C(°F)			
-Open Mode	44.7(112.5)	Continuous	Recorder
-Helper Mode	36.1( 97.0) <u>2/</u>	Continuous	Recorder
-Closed Mode	38.3(101.0)	<u>1/day</u>	Grab
River Temperature °C(°F)	30.5( 86.9) <u>3/</u> , <u>4/</u>	<u>5/</u>	Recorder(s)
Temperature Rise C°(F°)	3.0( 5.4) <u>4/</u>	<u>1/</u> , <u>5/</u>	Calculations
Rate of Temperature Change C°(F°)/hr.	2.0( 3.6) <u>4/</u>	<u>1/</u> , <u>5/</u>	Calculations
Total Residual Chlorine (mg/L)	0.10	5/week <u>6/</u>	Calculations <u>6/</u>

The pH shall not be less than 6.0 nor greater than 9.0 standard units and shall be monitored at a frequency of NA.

There shall be no distinct discharge of floating scum, solids, oil sheen, visible foam, and other floating matter in other than trace amounts in discharges to or from the Diffuser Pond.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Diffuser Gate prior to entry into the Tennessee River, except (1) ambient temperature shall be monitored at the river side of the plant intake skimmer wall, (2) river temperature, temperature rise, and rate of temperature change shall be determined at the downstream temperature recorder, (3) closed mode blowdown temperature prior to discharge to the Diffuser Pond, and (4) total residual chlorine shall be determined at the heat exchangers.

CONTINUED

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 101 - Diffuser Gate flow to the Tennessee River. Continued.

Note: Except as otherwise noted, discharge of once through cooling water and helper mode cooling water to the Diffuser Pond is permitted without limitation or monitoring requirements. Cooling Tower Blowdown to the diffuser pond is permitted with limitations and monitoring requirements as noted above.

- 1/ Measurements shall be every 15 minutes at the 1-meter, 1.5-meter, and 2-meter depths and the data transmitted to the plant. Temperatures at the three depths shall be averaged every 15 minutes to give a temperature at the 1.5-meter (approximately 5-foot) depth. The ambient temperature (and river temperature as required in Footnote 4) shall be computed once per hour by averaging the current depth-averaged temperature and the previous four 15-minute depth-averaged observations.
- 2/ Compliance with discharge temperature shall be attained within five hours after changing to helper mode.
- 3/ The maximum river temperature may be exceeded when the ambient temperature approaches or exceeds 30.5°C(86.9°F) and the plant is operated in closed cycle mode.
- 4/ Compliance with river temperature, temperature rise, and rate of temperature change limitations shall be applicable at the edge of a mixing zone which shall not exceed the following dimensions:

" (1) a maximum length of 1500 feet downstream of the diffusers, (2) a maximum width of 750 feet, and (3) a maximum length of 275 feet upstream of the diffusers. The depth of the mixing zone measured from the surface varies linearly from the surface 275 feet upstream of the diffusers to the top of the diffuser pipes and extends to the bottom downstream of the diffusers. The thermal mixing zone also includes the entire Intake Basin (during closed mode) and Diffuser Pond."

CONTINUED

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 101 - Diffuser Gate flow to the Tennessee River. Continued.

- 5/ River temperature measurements shall be made at monitoring stations located approximately 1200 feet downstream of the diffuser (one at each edge of the mixing zone). Temperature data shall be measured as in Footnote 1. With one leg of the diffuser operating, the temperature at the left bank monitor (#8) will be used to demonstrate compliance and with two legs of the diffuser in operation, the temperatures at each of the two downstream monitors (#8 and #11) will be individually used. Upon approval by the Director, Water Management Division, and the State Director, compliance with the river limitations (river temperature, temperature rise, and rate of temperature change) shall be monitored by means of a numerical model that solves the thermohydrodynamic equations governing the flow and thermal conditions in the reservoir. This numerical model will utilize measured values of the upstream temperature profile, flow through the diffuser pipes, temperature of the diffuser discharge, discharges at Watts Bar and Chickamauga Dams, and the diffuser performance characteristics. Field tests shall be conducted to establish the diffuser performance characteristics to be used in the numerical model.
- 6/ The total residual chlorine will be collected at the heat exchangers and the residual chlorine value shall be calculated for the diffuser discharge based upon this analysis and the proportional flows of the CCW and ERCW systems. If the CCW system is chlorinated or neither Unit is discharging flow from the CCW system, grab samples shall be collected at the Diffuser Gate and analyses performed not less than three days per week with four grab samples collected during one shift each day.

NOTE: See Attachment C for additional requirements of state certification.



A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 102 - Yard Drainage Pond effluent to the Diffuser Pond (includes low volume waste sources and rainfall runoff).

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Other Units(mg/L)		<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Daily Avg.</u>	<u>Daily Max.</u>		
Flow-m <sup>3</sup> /day (MGD)	NA	NA	Continuous	Recorder
Oil and Grease	15	20	1/week	Grab
Total Suspended Solids	30	100	5/week <u>1/</u>	Grab

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 3/week by a grab sample 1/.

There shall be no distinct discharge of floating scum, solids, oil sheen, visible foam, and other floating matter in other than trace amounts.

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

- 1/ The measurement frequency shall be not less than 1/week after one year unless otherwise determined necessary by the Director, Water Management Division or State Director.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 103 - Low Volume Waste Treatment Pond effluent to the Diffuser Pond (or alternatively to the Condenser Cooling Water Channel or Yard Drainage Pond).

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	kg/day(lbs/day)		Other Units(mg/L)		Measurement Frequency	Sample Type
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.		
Flow-m <sup>3</sup> /day (MGD)	NA	NA	NA	NA	1/day	Totalizer
Oil and Grease	85(190)	110(250)	15	20	2/week 1/,2/	Grab
Total Suspended Solids	170(380)	570(1250)	30	100	3/week 1/,2/	Grab

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 3/week by a grab sample 1/,2/

There shall be no distinct discharge of floating scum, solids, oil sheen, visible foam, and other floating matter in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Treatment Pond discharge prior to mixing with any other waste stream except that flow shall be monitored at the Turbine Building Sump.

- 1/ The measurement frequency shall be not less than 1/week after one year unless otherwise determined necessary by the Director, Water Management Division or State Director.
- 2/ In the event that the Turbine Building Sump is discharged directly to the Condenser Cooling Water Channel or the Yard Drainage Pond, total suspended solids, oil and grease, and pH shall be monitored 5/week.

NOTE: See Attachment C for additional requirements of state certification.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 104 - Liquid Radwaste System effluent to Cooling Tower Blowdown.

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	kg/Day(lbs/Day)		Other Units(mg/L)		Measurement Frequency	Sample Type
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.		
Flow-m <sup>3</sup> /day (MGD)	NA	NA	NA	NA	1/batch	Pump log
Oil and Grease	2.8(6.3)	3.8(8.3) 1/	15	20	2/week	Grab
Total Suspended Solids	5.7(13)	19(42) 1/	30	100	2/week	Composite 2/

Note: The radioactive component of this discharge is regulated by the U.S. Nuclear Regulatory Commission under the requirements of the Atomic Energy Act and not by the Environmental Protection Agency under the Clean Water Act.

In the event metal cleaning waste must be processed and discharged through the Liquid Radwaste System, the discharge shall comply with the limitations specified for metal cleaning waste (107).

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 2/week by a grab sample.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Radwaste Treatment Facilities prior to mixing with any other waste stream, except that pH shall be monitored after mixing with cooling tower blowdown (prior to discharge to the Diffuser Pond).

- 1/ During abnormal flow conditions exceeding 190 m<sup>3</sup>/day (0.05 MGD) as a seven-day average, daily maximum quantity limitations may be exceeded but shall not exceed four times the limitations listed. Conditions such as periods of primary to secondary leakage, excessive unit startups, and decontamination of plant areas are examples of abnormal flow conditions.
- 2/ One grab sample/batch composited for analysis over a 24-hour day.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 105 - Condensate Demineralizer Regeneration waste to the Cooling Tower Blowdown Line.

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	kg/Day(lbs/Day)		Other Units(mg/L)		Measurement Frequency	Sample Type
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.		
Flow-m <sup>3</sup> /day (MGD)	NA	NA	NA	NA	1/batch	Calculation
Oil and Grease	5.7(13)	7.6(17) 1/	15	20	1/day	Grab
Total Suspended Solids	11(25)	38(83) 1/	30	100	1/batch	Composite 2/

Note: Limitations and monitoring requirements on this page are not applicable when discharge is directed to the Radwaste System (104) or the Low Volume Waste Treatment Pond (103).

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/batch by a grab sample.

Samples taken in compliance with monitoring requirements specified above shall be taken at the following location(s): Condensate Demineralizer Regeneration waste treatment facilities prior to mixing with any other waste stream.

- 1/ Should abnormal conditions necessitate increased waste flow above 380 m<sup>3</sup>/day (0.10 MGD) as a seven-day average, daily maximum quantity limitations may be exceeded, but shall not exceed two times the limitations listed.
- 2/ One grab sample/batch, composited for analysis over a 24-hour day.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 106 - Steam Generator Blowdown to Cooling Tower Blowdown Line.

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	kg/Day(lbs/Day)		Other Units(mg/L)		Measurement Frequency	Sample Type
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.		
Flow-m <sup>3</sup> /day (MGD)	NA	NA	NA	NA	1/month	Instantaneous
Oil and Grease	11(25)	15(33) 1/	15	20	1/quarter	Grab
Total Suspended Solids	23(50)	76(170) 1/	30	100	1/month	Grab

Limitations and monitoring requirements on this page are not applicable if blowdown is discharged to the condensate demineralizer system (for recycle).

The pH shall not be less than NA standard units nor greater than NA standard units and shall be monitored at a frequency of NA.

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

1/ Should internal plant chemistry requirements necessitate increased blowdown flow above 760 m<sup>3</sup>/day (0.2 MGD) as a seven-day average, daily maximum quantity limitations may be exceeded, but shall not exceed four times the limitations listed.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 107 - Metal Cleaning Waste Pond effluent(s) to the Condenser Cooling Water Channel.

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>kg/batch(lbs/batch)</u> <u>Daily Max</u>	<u>Other Units (mg/L)</u> <u>Daily Max</u>	<u>Measurement</u> <u>Frequency</u>	<u>Sample</u> <u>Type</u>
Flow-m <sup>3</sup> /day (MGD)	NA	NA	1/Batch	Calculation
Oil and Grease	1/	15	2/	Grab
Total Suspended Solids	1/	30	2/	8-hour composite
Copper, Total	1/	1.0	2/	8-hour composite
Iron, Total	1/	1.0	2/	8-hour composite
Phosphorus as P 3/	1/	1.0	2/	8-hour composite
Chem. Oxygen Demand 4/	1/	100	2/	8-hour composite

Metal cleaning waste shall mean any cleaning compounds, rinse waters or any other waterborne residues derived from cleaning any metal process equipment.

Metal cleaning waste shall not be discharged into a pond(s) before all nonmetal cleaning liquids have been removed.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored by a grab sample 2/.

There shall be no distinct discharge of floating scum, solids, oil sheen, visible foam, and other floating matter in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): discharge from the individual pond(s) prior to mixing with any other waste stream except that waste flow generated per batch shall also be determined.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 107 - Metal Cleaning Waste Pond Effluent to the Condenser Cooling Water Channel. Continued.

- 1/ The total quantity of each pollutant discharged shall be reported. In no case shall the quantity discharged exceed the quantity determined by multiplying the volume of the batch of metal cleaning waste generated times the concentrations noted above (i.e., 3.8 kg (8.3 lbs) of iron, copper, and phosphorus per million gallons of metal cleaning waste generated). The permittee shall also report the number of samples used to quantify the pollutants discharged. Total volume of wastewater generated and discharged shall be reported.
- 2/ On start of discharge and once/week thereafter until termination of discharge with one grab sample taken immediately prior to termination of discharge. Sampling frequency shall be adequate to represent the total discharge; however, a minimum of three composite (grab for oil and grease and pH) samples in addition to the final grab sample is required.
- 3/ Limitation and monitoring requirements shall apply only if phosphorus bearing cleaning solutions are used.
- 4/ Limitation and monitoring requirements shall apply only if organic acid cleaning solutions are used.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 108 - Concrete Batch Plant Settling Pond effluent to Condenser Cooling Water Channel.

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Instantaneous		Measurement	Sample
	Max.		Frequency	Type
Flow-m <sup>3</sup> /day (MGD)	NA		1/week	Weir Reading(s)
Oil and Grease (mg/L)	20		1/month	Grab
Total Suspended Solids (mg/L)	40		1/week	Grab

The pH shall not be less than NA standard units nor greater than NA standard units and shall be monitored at a frequency of NA.

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



A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 109 - Emergency Diesel Generator No. 5 Cooling Water effluent to the Intake Basin.

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

This discharge shall be limited in duration to 90 minutes once per two weeks.

At least two condenser cooling water pumps shall be in operation when discharge occurs. If practicable, the two pumps closest to the discharge will be operated unless unit one is in operation.

In no case shall the ERCW system be chlorinated to greater than 0.8 mg/L of total residual chlorine when the system is tested.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored at a frequency of NA.

There shall be no distinct discharge of floating scum, solids, oil sheen, visible foam, and other floating matter in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: Not applicable; however, permittee shall indicate compliance with the above conditions when submitting discharge monitoring reports.

NOTE: LIMITATIONS AND MONITORING REQUIREMENTS ARE NOT APPLICABLE DURING AN ACTUAL EMERGENCY SITUATION.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 110 - Recycled Cooling Water flow to the Intake Basin.

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u> <u>Instantaneous Maximum</u>	<u>Monitoring Requirements</u>	
		<u>Measurement</u> <u>Frequency</u>	<u>Sample</u> <u>Type</u>
Total Residual Chlorine (mg/L)	0.10	1/week	Multiple Grabs
Temperature °C(°F)	38.3(101.0)	1/day	Multiple Grabs

Limitations and monitoring requirements are applicable only during periods of closed-cycle operation.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week by a grab sample.

There shall be no distinct discharge of floating scum, solids, oil sheen, visible foam, and other floating matter in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): recycled-cooling water flow prior to entering the Intake Basin.

NOTE: See Attachment C for additional requirements of state certification.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 111 and 112 - Sewage Treatment Plant effluents to the Yard Drainage Pond (102) and Intake Basin, respectively.

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Daily Avg.	<u>mg/L</u> Daily Max.	Measurement Frequency	Sample Type
Flow-m <sup>3</sup> /day (MGD)	1/	NA	5/week	Weir Reading(s)
BOD <sub>5</sub>	30	45	2/month	Grab
Total Suspended Solids	30	45	2/month	Grab
Total Residual Chlorine	NA	2.0	5/week	Grab

The pH shall not be less than NA standard units nor greater than NA standard units and shall be monitored at a frequency of NA.

There shall be no distinct discharge of floating scum, solids, oil sheen, visible foam, and other floating matter in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Sewage Treatment Plant effluents prior to mixing with any other waste stream.

1/ 57(0.015) and 95(0.025) for 111 and 112, respectively.

NOTE: See Attachment C for additional of state certification.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 113 and 114 (114 is two package plants in parallel)-Sewage Treatment Plant effluents to Condenser Cooling Water Channel and the Tennessee River, respectively.

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u> (mg/L except as noted)		<u>Monitoring Requirements</u>	
	<u>Daily Avg.</u>	<u>Daily Max.</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow-m <sup>3</sup> /day (MGD)	1/	NA	5/week	Weir Reading(s)
BOD <sub>5</sub>	30	45	2/month	Grab
Total Suspended Solids	30	45	2/month	Grab
Total Residual Chlorine	NA	2.0	5/week	Grab
Settleable Solids (ml/L)	NA	1.0	5/week	Grab

The pH shall not be less than NA standard units or greater than NA standard units and shall be monitored at a frequency of NA.

There shall be no distinct discharge of floating scum, solids, oil sheen, visible foam, and other floating matter in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Sewage Treatment Plant effluents (combined or separate samples from each individual unit at 114 are acceptable) prior to mixing with any other waste stream.

1/ 114 (0.030) and 57(0.015) for 113 and 114, respectively. Individuals units at 114 shall not exceed 38(0.01) and 19(0.005).

NOTE: See Attachment C for additional requirements of state certification.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 115-Vehicle Wash Pond effluent to the Tennessee River.

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u> (mg/L except as noted)		<u>Monitoring Requirements</u>	
	Daily Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow-m <sup>3</sup> /day (MGD)	NA	NA	1/week	Weir Reading(s)
Oil and Grease	15	20	1/week	Grab
Total Suspended Solids	30	40	1/week	Grab
Settleable Solids (ml/L)	NA	0.5	1/week	Grab

The pH shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored at a frequency of 1/month by a grab sample.

There shall be no distinct discharge of floating scum, solids, oil sheen, visible foam, and other floating matter in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Vehicle Wash Pond effluent prior to mixing with any other waste stream.

B. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:
  - a. Compliance with effluent limitations - effective date of permit.
  - b. Plume report (III.E)
    - (1) Unit 1 report - Submitted on November 8, 1982
    - (2) Units 1 and 2 report - June 30, 1983
  - c. Operational aquatic monitoring program (III.F)
    - (1) Implemented - January 5, 1981
    - (2) First report - Submitted July 2, 1982
    - (3) Subsequent annual reports - June 30 of each subsequent year until termination of program
  - d. Erosion and sediment control report (III.I)
    - (1) First Report - March 31, 1983
    - (2) Second Report - September 30, 1983
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, remedial action taken, and the probability of meeting the next scheduled requirement.

Note - Any construction of new waste treatment facilities or alterations to existing waste treatment facilities will require a permit or authorization for construction in accordance with applicable State law and regulation.

PART II

STANDARD CONDITIONS FOR NPDES PERMITS

SECTION A. GENERAL CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions

Any person who violates a permit condition is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, terminated or revoked for cause (as described in 40 CFR 122.15 et seq) 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;
- c. A change in any condition that requires either temporary interruption or elimination of the permitted discharge; or
- d. Information newly acquired by the Agency indicating the discharge poses a threat to human health or welfare.

If the permittee believes that any past or planned activity would be cause for modification or revocation and reissuance under 40 CFR 122.15, the permittee must report such information to the Permit Issuing Authority. The submittal of a new application may be required of the permittee. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

5. Toxic Pollutants

Notwithstanding Paragraph A-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 modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the permittee so notified.

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

6. Civil and Criminal Liability

Except as provided in permit conditions on "Bypassing" Section B, Paragraph B-3, 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 of any sort, 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. Onshore or Offshore Construction

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any waters of the United States.

11. 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.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

- (1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility, which is not a designed or established operating mode for the facility.

- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass not exceeding limitations.

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Paragraphs c. and d. of this section.

c. Notice

- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass; including an evaluation of the anticipated quality and effect of the bypass.
- (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section D, Paragraph D-8 (24-hour notice).

d. Prohibition of bypass.

- (1) Bypass is prohibited and the Permit Issuing Authority may take enforcement action against a permittee for bypass, unless:
  - (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
  - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
  - (c) The permittee submitted notices as required under Paragraph c. of this section.
- (2) The Permit Issuing Authority may approve an anticipated bypass, after considering its adverse effects, if the Permit Issuing Authority determines that it will meet the three conditions listed above in Paragraph d.(1) of this section.

4. Removed Substances

This permit does not authorize discharge of solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters to waters of the United States unless specifically limited in Part I.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other wastestream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Permit Issuing Authority.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than + 10% from the true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the following references:

1. "A Guide of Methods and Standards for the Measurement of Water Flow", U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 97 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD catalog No. C13.10:421.)
2. "Water Measurement Manual", U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by catalog No. I27.19/2:W29/2, Stock No. S/N 24003-0027.)

3. "Flow Measurement in Open Channels and Closed Conduits", U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Service (NTIS), Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)
4. "NPDES Compliance Flow Measurement Manual", U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-77, September 1981, 135 pp. (Available from the General Services Administration (GSRA), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, CO 80225.)

### 3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

### 4. Penalties for Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

### 5. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by the Permit Issuing Authority at any time.

### 6. Record Contents

Records of monitoring information shall include:

- a. The date, exact place, time and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

7. Inspection and Entry

The permittee shall allow the Permit Issuing Authority, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable time any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Change in Discharge

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. Anticipated Noncompliance

The permittee shall give advance notice to the Permit Issuing Authority of any planned change in the permitted facility or activity which may result in noncompliance with permit requirements. Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during noncritical water quality periods and carried out in a manner approved by the Permit Issuing Authority.

3. Transfer of Ownership or Control

A permit may be transferred to another party under the following conditions:

- a. The permittee notifies the Permit Issuing Authority of the proposed transfer;
- b. A written agreement is submitted to the Permit Issuing Authority containing the specific transfer date and acknowledgement that the existing permittee is responsible for violations up to that date and the new permittee liable thereafter.

Transfers are not effective if, within 30 days of receipt of proposal, the Permit Issuing Authority disagrees and notifies the current permittee and the new permittee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed consistent with 40 CFR Part 122.

4. Monitoring Reports

See Part III of this permit.

5. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report (DMR). Such increased frequency shall also be indicated.

6. Averaging of Measurements

Calculations for limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Permit Issuing Authority in the permit.

7. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and probability of meeting the next scheduled requirement.

#### 8. Twenty-Four Hour Reporting

The permittee shall orally report any noncompliance which may endanger health or the environment, within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; and if the noncompliance has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Permit Issuing Authority may verbally waive the written report, on a case-by-case basis, when the oral report is made.

The following violations shall be included in the 24 hour report when they might endanger health or the environment:

- a. An unanticipated bypass which exceeds any effluent limitation in the permit.
- b. Any upset which exceeds any effluent limitation in the permit.

#### 9. Other Noncompliance

The permittee shall report in narrative form, all instances of noncompliance not previously reported under Section D, Paragraphs D-2, D-4, D-7, and D-8 at the time monitoring reports are submitted. The reports shall contain the information listed in Paragraph D-8.

#### 10. Changes in Discharges of Toxic Substances

The permittee shall notify the Permit Issuing Authority as soon as it knows or has reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge of any toxic substance(s) (listed at 40 CFR 122, Appendix D, Table II and III) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
  - (1) One hundred micrograms per liter (100 ug/l);
  - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

- (3) Five (5) times the maximum concentration value reported for that pollutant(s) in the permit application;
- b. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

11. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application should be submitted at least 180 days before the expiration date of this permit. The Permit Issuing Authority may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

Where EPA is the Permit Issuing Authority, the terms and conditions of this permit are automatically continued in accordance with 40 CFR 122.5, only where the permittee has submitted a timely and sufficient application for a renewal permit and the Permit Issuing Authority is unable through no fault of the permittee to issue a new permit before the expiration date.

12. Signatory Requirements

All applications, reports or information submitted to the Permit Issuing Authority shall be signed and certified.

- a. All permit applications shall be signed as follows:
- (1) For a corporation: by a principal executive officer of at least the level of vice-president;
  - (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
  - (3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.
- b. All reports required by the permit and other information requested by the Permit Issuing Authority shall be signed by a person described above or by a duly authorized representative only if:
- (1) The authorization is made in writing by a person described above.
  - (2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position



of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The written authorization is submitted to the Permit Issuing Authority.

c. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

### 13. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Permit Issuing Authority. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

### 14. Penalties for Falsification of Reports

The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

## SECTION E. DEFINITIONS

### 1. Permit Issuing Authority

The Regional Administrator of EPA Region IV or his designee, unless at some time in the future the State receives authority to administer the NPDES program and assumes jurisdiction over the permit; at which time, the Director of the State program receiving authorization becomes the issuing authority.

2. Act

"Act" means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) Public Law 92-500, as amended by Public Law 95-217 and Public Law 95-576, 33 U.S.C. 1251 et seq.

3. Mass/Day Measurements

- a. The "average monthly discharge" is defined as the total mass of all daily discharges sampled and/or measured during a calendar month on which daily discharges are sampled and measured, divided by the number of daily discharges sampled and/or measured during such month. It is, therefore, an arithmetic mean found by adding the weights of the pollutant found each day of the month and then dividing this sum by the number of days the tests were reported. This limitation is identified as "Daily Average" or "Monthly Average" in Part I of the permit and the average monthly discharge value is reported in the "Average" column under "Quantity" on the Discharge Monitoring Report (DMR).
- b. The "average weekly discharge" is defined as the total mass of all daily discharges sampled and/or measured during the calendar week on which daily discharges are sampled and/or measured during such week. It is, therefore, an arithmetic mean found by adding the weights of pollutants found each day of the week and then dividing this sum by the number of days the tests were reported. This limitation is identified as "Weekly Average" in Part I of the permit and the average weekly discharge value is reported in the "Maximum" column under "Quantity" on the DMR.
- c. The "maximum daily discharge" is the total mass (weight) of a pollutant discharged during a calendar day. If only one sample is taken during any calendar day the weight of pollutant calculated from it is the "maximum daily discharge". This limitation is identified as "Daily Maximum", in Part I of the permit and the highest such value recorded during the reporting period is reported in the "Maximum" column under "Quantity" on the DMR.
- d. The "average annual discharge" is defined as the total mass of all daily discharges sampled and/or measured during the calendar year on which daily discharges are sampled and/or measured during each week. It is, therefore, an arithmetic mean found by adding the weights of pollutants found each day of the year and then dividing this sum by the number of days the tests were reported. This limitation is defined as "Annual Average" in Part I of the permit and the average annual discharge value is reported in the "Average" column under "Quantity" on the DMR. The DMR for this report shall be submitted in January for the previous reporting calendar year.

4. Concentration Measurements

- a. The "average monthly concentration", other than for fecal coliform bacteria, is the sum of the concentrations of all daily discharges sampled and/or measured divided by the number of daily discharges sampled and/or measured during such month (arithmetic mean of the daily concentration values). The daily concentration value is equal to the concentration of a composite sample or in the case of grab samples is the arithmetic mean (weighted by flow value) of all the samples collected during that calendar day. The average monthly count for fecal coliform bacteria is the geometric mean of the counts for samples collected during a calendar month. This limitation is identified as "Monthly Average" or "Daily Average" under "Other Limits" in Part I of the permit and the average monthly concentration value is reported under the "Average" column under "Quality" on the DMR.
- b. The "average weekly concentration", other than for fecal coliform bacteria, is the sum of the concentrations of all daily discharges sampled and/or measured during a calendar week on which daily discharges are sampled and measured divided by the number of daily discharges sampled and/or measured during such week (arithmetic mean of the daily concentration values). The daily concentration value is equal to the concentration of a composite sample or in the case of grab samples is the arithmetic mean (weighted by flow value) of all the samples collected during that calendar day. The average weekly count for fecal coliform bacteria is the geometric mean of the counts for samples collected during a calendar week. This limitation is identified as "Weekly Average" under "Other Limits" in Part I of the permit and the average weekly concentration value is reported under the "Maximum" column under "Quality" on the DMR.
- c. The "maximum daily concentration" is the concentration of a pollutant discharge during a calendar day. It is identified as "Daily Maximum" under "Other Limits" in Part I of the permit and the highest such value recorded during the reporting period is reported under the "Maximum" column under "Quality" on the DMR.
- d. The "average annual concentration", other than for fecal coliform bacteria, is the sum of the concentrations of all daily discharges sampled and/or measured during a calendar year on which daily discharges are sampled and measured divided by the number of daily discharges sampled and/or measured during such year (arithmetic mean of the daily concentration values). The daily concentration value is equal to the concentration of a composite sample or in the case of grab samples is the arithmetic mean (weighted by flow value) of all the samples collected during that calendar day. The average yearly count for fecal coliform bacteria is the geometric mean of the counts for samples

collected during a calendar year. This limitation is identified as "Annual Average" under "Other Limits" in Part I of the permit and the average annual concentration value is reported under the "Average" column under "Quality" on the DMR. The DMR for this report shall be submitted in January for the previous reporting year.

5. Other Measurements

- a. The effluent flow expressed as M<sup>3</sup>/day (MGD) is the 24 hour average flow averaged monthly. It is the arithmetic mean of the total daily flows recorded during the calendar month. Where monitoring requirements for flow are specified in Part I of the permit the flow rate values are reported in the "Average" column under "Quantity" on the DMR.
- b. An "instantaneous flow measurement" is a measure of flow taken at the time of sampling, when both the sample and flow will be representative of the total discharge.
- c. Where monitoring requirements for pH, dissolved oxygen or fecal coliform bacteria are specified in Part I of the permit, the values are generally reported in the "Quality or Concentration" column on the DMR.

6. Types of Samples

- a. Composite Sample: A "composite sample" is a combination of not less than 8 influent or effluent portions, of at least 100 ml, collected over the full time period specified in Part I.A. The composite sample must be flow proportioned by either time interval between each aliquot or by volume as it relates to effluent flow at the time of sampling or total flow since collection of the previous aliquot. Aliquots may be collected manually or automatically.
- b. Grab Sample: A "grab sample" is a single influent or effluent portion which is not a composite sample. The sample(s) shall be collected at the period(s) most representative of the total discharge.

7. Calculation of Means

- a. Arithmetic Mean: The arithmetic mean of any set of values is the summation of the individual values divided by the number of individual values.
- b. Geometric Mean: The geometric mean of any set of values is the  $N^{\text{th}}$  root of the product of the individual values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered to be one (1).

- c. **Weighted by Flow Value:** Weighted by flow value means the summation of each concentration times its respective flow divided by the summation of the respective flows.

8. Calendar Day

A calendar day is defined as the period from midnight of one day until midnight of the next day. However, for purposes of this permit, any consecutive 24-hour period that reasonably represents the calendar day may be used for sampling.

9. Hazardous Substance

A hazardous substance means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act.

10. Toxic Pollutant

A toxic pollutant is any pollutant listed as toxic under Section 307(a)(1) of the Clean Water Act.

PART III

OTHER REQUIREMENTS

A. Reporting of Monitoring Results

Monitoring results obtained during the previous 3 month(s) shall be summarized for each month (each quarter if monitoring frequency is quarterly) and must be 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 May 28, 1983. Duplicate signed copies of these, and all other reports required by Section D of Part II, Reporting Requirement, and Part III, Sections D, H, and I shall be submitted to the Permit Issuing Authority and the State at the following addresses:

Environmental Protection Agency  
Region IV  
Facilities Performance Branch  
Water Management Division  
345 Courtland Street, NE.  
Atlanta, GA 30365

Tennessee Division of Water Quality Control  
150 Ninth Avenue, N.  
TERRA Building  
Nashville, TN 37203

Tennessee Division of Water Quality Control  
Environmental Health Services  
2501 Milne Street  
Chattanooga, TN 37406

B. Reopener Clause

This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C), and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
2. Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

- C. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid. In the event that PCB containing equipment is used onsite, administrative procedures shall be instituted to (1) maintain a detailed inventory of PCB use, (2) assure engineering design and construction to preclude release of PCB's to the environment, and (3) effectively detect the loss of PCB's from equipment.

- D. The permittee shall notify the Director, Water Management Division, and State Director in writing not later than ninety (90) days prior to instituting use of any additional biocide or chemical, other than chlorine addition to ERCW system, used in cooling systems, which may be toxic to aquatic life. Such notification shall include:
1. Name and general composition of biocide or chemical,
  2. 96-hour median tolerance limit data for organisms representative of the biota of the waterway into which the discharge shall occur,
  3. Quantities to be used,
  4. Frequencies of use,
  5. Proposed discharge concentrations, and
  6. EPA registration number, if applicable.
- E. The permittee shall complete a field program to verify model predictions and document the three-dimensional extent and configuration of the thermal plumes in the Intake Basin, Diffuser Pond, and Tennessee River in accordance with the plan submitted on February 13, 1979. Reports of field studies and model calibration evaluation were submitted for Unit 1 on November 8, 1982, and for Units 1 and 2 shall be submitted not later than June 30, 1983. Subsequent reports shall be submitted annually if determined by Director, Water Management Division or State Director to be necessary.
- F. Permittee shall continue the operational stage nonradiological aquatic monitoring program implemented on January 5, 1981, in accordance with the plans as submitted on December 7, 1978, March 13, 1979, and June 29, 1979, and subsequently amended March 17, 1980, February 20, 1981, and January 16, 1982. The first report was submitted on July 2, 1982. Minor modification to the program may be made by the permittee as a result of previously collected data; however, permittee shall notify the Director, Water Management Division, State Director, and Regional Engineer of such changes, including a detailed rationale, not less than 30 days prior to making any such changes. The program shall continue until at least June 1, 1984 (two years after commercial operation of Unit 2), with annual reports for the previous calendar year submitted by June 30 of each year until program termination.

Additional monitoring of the ERCW intake and diffuser gate discharge shall be once/month and shall include chloride; oil and grease; sodium; sulfate; total, suspended, settleable, and dissolved solids; ammonia nitrogen; and total copper, iron, manganese and zinc. This data shall be included in the annual reports and an assessment made as to whether the discharge is in compliance with Tennessee Water Quality Standards.

- G. Copies of all plans and reports submitted in accordance with Parts III. E. and F. shall be forwarded by the permittee as follows:

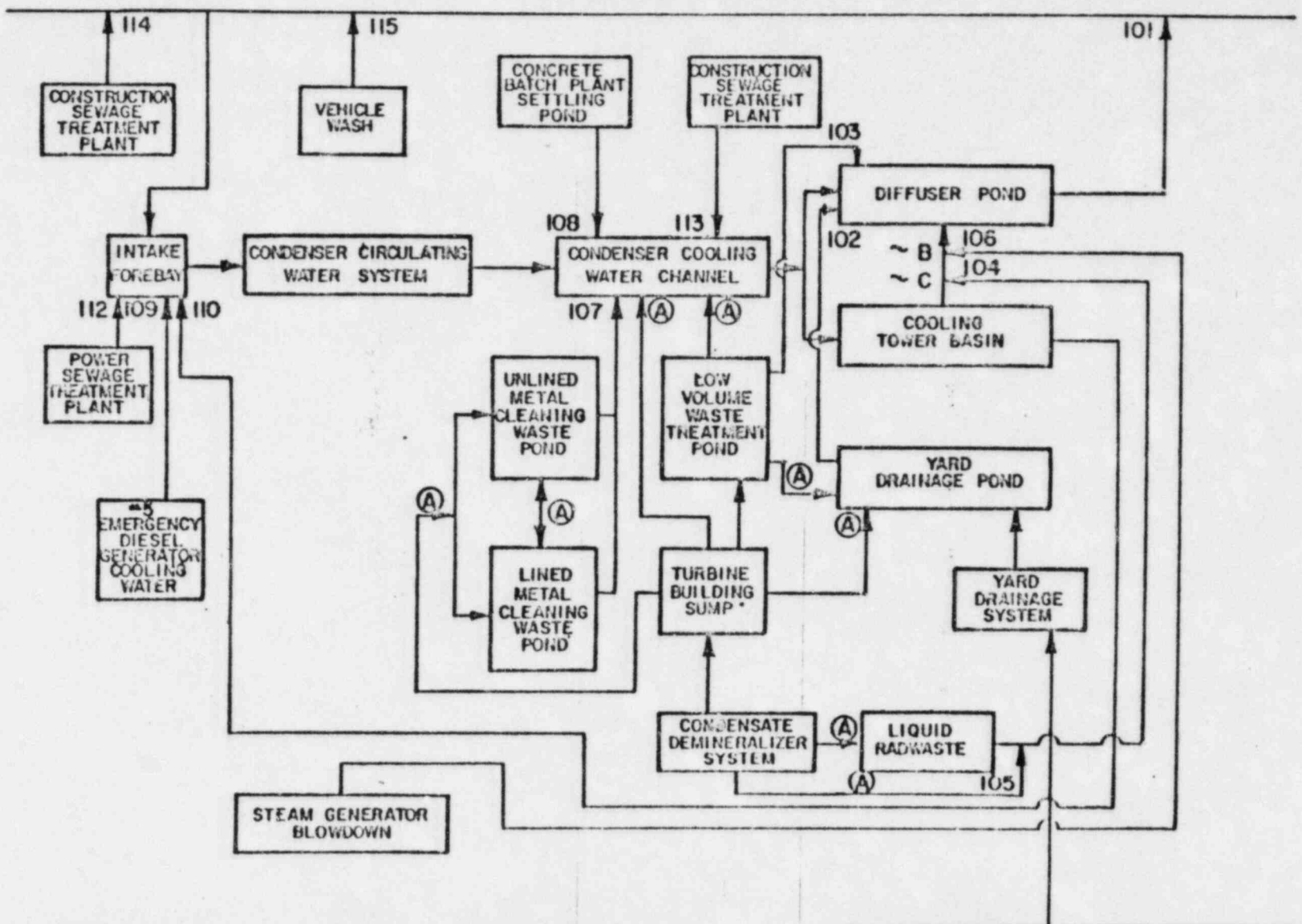
<u>Number of Copies</u>	<u>Addressee</u>
2	Director, Water Management Division, EPA (Atlanta)
1	Chief, Ecology Branch, EPA (Athens)
2	Director for Environmental Projects, USNRC (Bethesda)
2	Regional Director, Fish and Wildlife Service (Atlanta)
1	Director, Tennessee Division of Water Quality Control (Nashville)
1	Regional Engineer, Tennessee Division of Water Quality Control (Chattanooga)

- H. Copies of all routine radiological liquid effluent and water quality monitoring reports submitted to NRC shall be submitted to EPA, the State Director, and Regional Engineer.
- I. The permittee shall maintain and implement "best management practices" procedures to assure adequate control of rainfall runoff from the site as provided in the Erosion and Sediment Control Plan dated January, 1983. Reports shall be submitted on March 31, 1983, and September 30, 1983, demonstrating the adequacy of the controls. Subsequent reporting is not necessary unless determined necessary by the Director, Water Management Division, or the State Director.
- J. Intake screen backwash, strainer backwash, and/or sluice return from Plant Intake and Emergency Raw Cooling Water (ERCW) intake may be discharged at point(s) that preclude return to the respective intakes, without limitations or monitoring requirements, except that there shall be no distinct discharge of floating scum, solids, oil sheen, visible foam, and other floating matter in other than trace amounts. A minimum of 2/month observations of both the ERCW and CCW backwash discharges shall be made and any noncompliance shall be reported with the quarterly discharge monitoring report. Additionally, material removed from the bar racks shall not be returned to the Tennessee River.
- K. In the event that onsite hypochlorite generation is reinstated, the building sump discharge shall not contain more than 2.0 mg/L of total residual chlorine and shall be monitored not less than five/week by grab sample.
- L. The Tennessee Division of Water Quality Control has certified the discharges covered by this permit with conditions (see Attachment C). Section 401 of the Act requires that conditions of certification shall become a condition of the permit. The monitoring and sampling shall be as indicated for those parameters included in the certification. Any effluent limits, and any additional requirements, specified in the attached State certification that are more stringent supersede any less stringent effluent limits provided herein. During any time period in which the more stringent state certification effluent limits are stayed or inoperable, the effluent limits provided herein shall be in effect and fully enforceable.



TENNESSEE RIVER →

SEQUOYAH NUCLEAR PLANT  
NPDES FLOW DIAGRAM

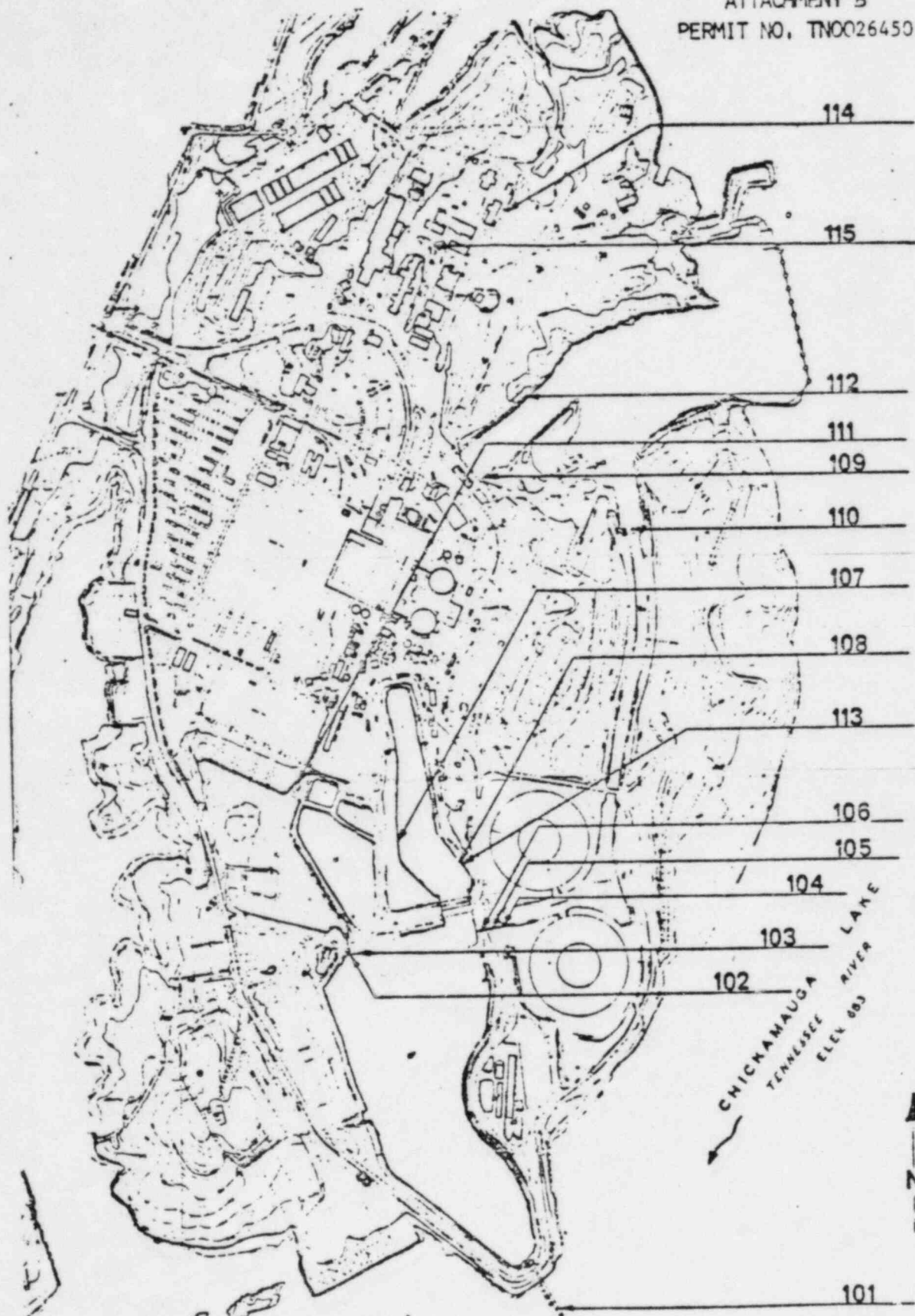


NOTE:  
 (A) DENOTES ALTERNATE FLOW PATH  
 TO BE USED BY AUTHORITY OF  
 THE PLANT SUPERINTENDENT

~ B COOLING TOWER  
 BLOWDOWN  
 ~ C HELPER MODE

DSN III POWER SEWAGE TREATMENT PLANT  
 SERVICE BUILDING SUMP  
 OFFICE BUILDING SUMPS  
 DIESEL GENERATOR BUILDING SUMP  
 SECURITY DIESEL GENERATOR BUILDING SUMP  
 YARD STORAGE BUILDING SUMP  
 SODIUM HYPOCHLORITE BUILDING SUMP

ATTACHMENT A  
 PERMIT NO. TN0026450



SEQUOYAH NUCLEAR PLANT  
NPDES SERIALIZED  
DISCHARGE LOCATIONS



EUGENE W. FOWINKLE, M.D., M.P.H.  
COMMISSIONER

STATE OF TENNESSEE  
DEPARTMENT OF PUBLIC HEALTH  
NASHVILLE 37219

January 31, 1983

Mr. Paul J. Traina  
Director  
Water Management Division, Region IV  
Environmental Protection Agency  
345 Courtland Street  
Atlanta, Georgia 30365

Re: Certification of NPDES No. TN0026450  
Sequoyah Nuclear Plant  
Hamilton County

Dear Mr. Traina:

Pursuant to Section 401 of the Federal Water Pollution Control Act (as amended by the Clean Water Act of 1977), 33 U.S.C. 1251, 1341, the State of Tennessee hereby issues certification to the subject applicant for a National Pollutant Discharge Elimination System (NPDES) Permit for a wastewater discharge.

The State of Tennessee is not aware of any condition or limitation under Section 301, Section 302, or Section 303 of the Federal Act that would be violated by issuance of the proposed NPDES Permit; additionally, the State of Tennessee is not aware of any standard of performance under Section 306 or Section 307 that would be violated by issuance of the proposed Permit.

This certification is contingent upon the attached conditions.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Paul E. Davis".

Paul E. Davis  
Manager, Permit Section  
Division of Water Quality Control

PED/dt/d5

cc: Dr. Mohamed T. El-Ashry, TVA  
WQC - Chattanooga

Certification Conditions  
 Tennessee Valley Authority Sequoyah Nuclear Plant, Units 1 and 2  
 Hamilton County, Tennessee  
 NPDES Permit No. Tn0026450

1. The Permittee is in no way relieved from any liability for damages which might result from the discharge of waste water.
2. The Permittee must officially comply with all requirements, conditions, or limitations which may be imposed by any provisions of the Tennessee Water Quality Control Act (T.C.A. Sections 70-324 through 70-342) or any Regulations promulgated pursuant there to.
3. The State of Tennessee reserves the right to modify or revoke this certification or seek revocation or modification of the NPDES Permit issued subject to this certification should the State determine that the wastewater discharge violates the Tennessee Water Quality Control Act, or any of the applicable water quality criteria promulgated for the receiving stream.
4. The State of Tennessee certifies that the following discharge limitations, criteria and requirements are necessary for compliance with the provisions of the Tennessee Water Quality Control Act.
  - a. With regard to Serial Number 101, the NPDES Permit has defined a specified mixing zone in the Tennessee River for assimilation of the thermal component of the discharge. The State of Tennessee hereby issues certification and approval of the mixing zone as defined contingent upon field verification that the isotherm configuration within the plume does not deviate significantly from the modelling results provided by the Permittee. Such verification shall be provided in accordance with the studies and reports required by Sections I.B.1.b. and III.E. of the NPDES Permit.
  - b. With regard to Serial Number 101, the following conditions shall apply:  
  
 "Helper or closed-cycle cooling shall be instituted as required to comply with the river temperature limitations at the edge of the mixing zone. Under no conditions shall the thermal plume be allowed to reach the ambient temperature recorder."
  - c. With regard to Serial Number 103, the following additional monitoring requirements shall be applicable:

<u>Effluent Characteristic (Units)</u>	<u>Monitoring Requirement</u>	
	<u>Measurement Frequency</u>	<u>Sample Type</u>
polychlorinated biphenyls (PCB) (ug/L)	1/6 months	Grab

- d. With regard to Serial Number 110, the frequency of monitoring for total chlorine residual shall be increased to one per day multiple grabs any time the discharge is occurring and fish distress or mortality is observed in the intake bay. Sufficient grab samples shall be collected, based on plant operation, to provide a record for determining the relationship between the total chlorine residual in the discharge and the fish distress or mortality.

- e. With regard to Serial Number 110, the Permittee shall attempt to operate the facility in such a manner as to preclude recurring thermal kills of fish or other aquatic life in the intake bay. If recurring kills occur, the State reserves the right to require the applicant to undertake special studies and procedures to prevent such recurring kills.
  - f. With regard to Serial Numbers 111, 112, 113, and 114, the effluent limitations and monitoring requirements set out in Attachment I, II, III, and IV, respectively shall apply to each respective outfall.
  - g. With regard to Serial Numbers 111, 112, 113, and 114, monthly operational reports for the sewage treatment plants shall be submitted on standard State forms to the Chattanooga Regional Office of the Division of Water Quality Control. For Serial Number 114, a separate report is to be submitted for each of the two sewage treatment plants contributing to the discharge. Reports shall be submitted by the fifteenth day of the month following the data collection.
  - h. With regard to all discharge serial numbers, the following general condition shall apply: Dilution water shall not be added to comply with effluent requirements.
  - i. With regard to all wastewater discharges from the facility, the effluent quality as relates to radioactive constituents shall meet the requirements specified in the operational technical specifications issued by the U.S. Nuclear Regulatory commission for this facility under applicable Federal laws and regulations.
5. With regard to the various studies and reports required of the Permittee pursuant to parts I.B. and III. of the NPDES Permit, and this certification, the State reserves the right to modify or revoke this certification or seek revocation or modification of the NPDES Permit issued subject to this certification as may be required to protect water quality based on the results of these studies and reports.

PED/dt/d5

ATTACHMENT I

Outfall Serial No. 111 Discharge to Yard Drainage Pond

Effluent Characteristic	Effluent Limitations						Monitoring Requirements	
	Monthly Avg. Conc. mg/l	Monthly Avg. Amount lb.	Weekly Avg. Conc. mg/l	Weekly Avg. Amount lb.	Daily Max. Conc. mg/l	Daily Max. Amount lb.	Measurement Frequency	Sample Type
Flow							5/week	instantaneous
BOD <sub>5</sub>	30	3.8	40	5.0	45	5.6	2/month	grab
Suspended Solids	30	3.8	40	5.0	45	5.6	2/month	grab
Fecal Coliform	see Attachment V						2/month	grab
Total Chlorine Residual					2.0		5/week	grab

see Attachment V for additional requirements

ATTACHMENT II

Outfall Serial No. 112 Discharge to Intake Basin

Effluent Characteristic	Effluent Limitations						Monitoring Requirements	
	Monthly Avg. Conc. mg/l	Monthly Avg. Amount lb.	Weekly Avg. Conc. mg/l	Weekly Avg. Amount lb.	Daily Max. Conc. mg/l	Daily Max. Amount lb.	Measurement Frequency	Sample Type
Flow							5/week	instantaneous
BOD <sub>5</sub>	30	6.3	40	8.3	45	9.3	2/month	grab
Suspended Solids	30	6.3	40	8.3	45	9.3	2/month	grab
Fecal Coliform	see Attachment V						2/month	grab
Total Chlorine Residual					2.0		5/week	grab
Settleable Solids					1.0 ml/l		2/week	grab

see Attachment V for additional requirements

ATTACHMENT III

Outfall Serial No. 113 Discharge to Condenser Cooling Water Channel

Effluent Characteristic	Effluent Limitations						Monitoring Requirements	
	Monthly Avg. Conc. mg/l	Monthly Avg. Amount lb.	Weekly Avg. Conc. mg/l	Weekly Avg. Amount lb.	Daily Max. Conc. mg/l	Daily Max. Amount lb.	Measurement Frequency	Sample Type
Flow							5/week	instantaneous
BOD <sub>5</sub>	30	7.5	40	10.0	45	11.3	2/month	grab
Suspended Solids	30	7.5	40	10.0	45	11.3	2/month	grab
Fecal Coliform	See Attachment V						2/month	grab
Total Chlorine Residual					2.0		5/week	grab
Settleable Solids					1.0 ml/l		2/week	grab

see Attachment V for additional requirements



ATTACHMENT IV

Outfall Serial No. 114 Discharge to Ditch to Tenn. R.

Effluent Characteristic	Effluent Limitations						Monitoring Requirements		
	Monthly Avg. Conc. mg/l	Monthly Avg. Amount lb.	Weekly Avg. Conc. mg/l	Weekly Avg. Amount lb.	Daily Max. Conc. mg/l	Daily Max. Amount lb.	Measurement Frequency	Sample Type	
Flow							5/week	instantaneous	
BOD <sub>5</sub>	30	3.8	40	5.0	45	5.6	2/month	grab	
Suspended Solids	30	3.8	40	5.0	45	5.6	2/month	grab	
Fecal Coliform	See Attachment V						2/month	grab	
D.O.	1.0 mg/l min.						5/week	grab	
Total Chlorine Residual							2.0	5/week	grab
Settleable Solids							1.0 ml/l	2/week	grab
pH	6.0-9.0 standard units							2/week	grab

see Attachment V for additional requirements

The wastewater discharge must be disinfected to the extent that viable coliform organisms are effectively eliminated. The concentration of the fecal coliform group after disinfection shall not exceed 200 per 100 ml. as the geometric mean based on a minimum of 10 samples, collected from a given sampling site over a period of not more than 30 consecutive days with individual samples being collected at intervals not less than 12 hours. For the purpose of determining the geometric mean, individual samples having a fecal coliform group concentration of less than one (1) per 100 ml. shall be considered as having a concentration of one (1) per 100 ml. In addition, the concentration of the fecal coliform group in any individual sample shall not exceed 1,000 per 100 ml.

The geometric mean of fecal coliform samples shall not be determined unless 10 or more samples are taken in any month. Since the fecal coliform monitoring requirement for this permit is less than 10 samples per month, permittee shall report minimum, arithmetic average, and maximum values. Non-compliance with established fecal coliform limits shall be reported by the permittee only when the concentration of the fecal coliform group in any individual sample exceeds 1000 per 100 ml. Notwithstanding the above, the Division may monitor or may require that the permittee monitor the discharge in order to determine compliance with the geometric mean limitation.

There shall be no distinctly visible floating scum, oil or other matter contained in the wastewater discharge.

The wastewater discharge must not cause an objectionable color contrast in the receiving stream.

The wastewater discharge must contain no other materials in concentrations sufficient to be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life.

Sludge or any other material removed by any treatment works must be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, TCA 53-4301 et seq. and the Tennessee Hazardous Waste Management Act, TCA 53-6301 et seq.



## Enclosure 2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

MAR 2 1983

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

REF: 4WM-FP

Mohammed T. El-Ashry, Ph.D.  
Assistant Manager of Natural Resources  
(Environment)  
Tennessee Valley Authority  
Office of Natural Resources  
Knoxville, Tennessee 37902

RE: Tennessee Valley Authority  
Sequoyah Nuclear Plant  
Units 1 and 2  
Hamilton County, Tennessee  
Administrative Order No. 83-33 (WSBS)

Dear Mr. El-Ashry:

Pursuant to Section 309(a) of the Clean Water Act, the Director, Water Management Division, Region IV, United States Environmental Protection Agency (EPA), has determined that the above named facility is in violation of its NPDES permit. As a result, the Director has issued a Section 309 Order which is enclosed.

Any person who violates a Section 309 Order shall be subject to a civil penalty not to exceed \$10,000 per day of such violation pursuant to Section 309(d) of the Clean Water Act.

If you have any questions concerning the enclosed Order, please contact Douglas K. Lankford, Chief, South Carolina/Tennessee Unit, Industrial Operations Section, Water Management Division at 404/881-3973.

Sincerely yours,

A handwritten signature in cursive script that reads "John T. Marlar".

John T. Marlar, Chief  
Facilities Performance Branch  
Water Management Division

Enclosure

cc: D. Elmo Lunn, TN Dept. of Public Health, Nashville, TN

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IV

IN THE MATTER OF )  
TENNESSEE VALLEY AUTHORITY ) ADMINISTRATIVE ORDER NO. 83-33 (WSBS)  
SEQUOYAH NUCLEAR PLANT )  
UNITS 1 AND 2 )  
HAMILTON COUNTY, TENNESSEE )  
NPDES PERMIT NO. TNO026450 )

ORDER PURSUANT TO SECTION 309 CLEAN WATER ACT

Pursuant to the authority of Section 309 of the Clean Water Act (the "Act"), 33 U.S.C. §1319, which has been delegated to me, I hereby make the following Findings of Fact and Violations, and Order:

FINDINGS OF FACT

1. The Tennessee Valley Authority (hereinafter, the Permittee) operates a facility in Hamilton County, Tennessee which discharges pollutants into the Tennessee River, a water of the United States.

2. The facility has been issued and is subject to the provisions of National Pollutant Discharge Elimination System (NPDES) Permit Number TNO026450. Said permit expired on September 30, 1980 and was extended under the Administrative Procedure Act until it was reissued on February 16, 1983.

3. Part I, Section A, page I-5 of the reissued permit provides effluent limits for the discharge from the low volume waste treatment pond (outfall serial number (OSN) 103). Condensate demineralizer regeneration waste is normally discharged to the low volume waste pond.

4. Under certain circumstances, and on infrequent occasion, the condensate demineralizer regeneration waste has been diverted to the cooling tower blowdown line through OSN 014 (renumbered OSN 105 in the reissued permit). Part I, Section A, page 13 of 28 of the expired permit provides effluent limits for OSN 014.

5. The filtration system originally installed to treat the condensate demineralizer waste prior to discharge through OSN 014 did not function as designed and has been taken out of service.

6. In a letter to EPA dated October 1, 1982, the Permittee informed EPA that an alternate filter treatment system for OSN 014 had not yet been installed. The letter included a schedule for installation of the treatment system.

#### VIOLATIONS

7. The Tennessee Valley Authority has violated the terms and conditions in its expired NPDES Permit No. TN0026450 in that the Permittee has exceeded the effluent limits for total suspended solids as a result of discharging condensate demineralizer waste through OSN 014 (renumbered OSN 105 in reissued permit) prior to installation of an operable waste treatment system. It is expected that any future discharges of condensate demineralizer waste through the outfall now identified as OSN 105, prior to installation of the alternative filter treatment system will result in violations of the effluent limits on total suspended solids found on page I-7 of the reissued permit.

ORDER

Based upon the foregoing Findings of Fact and Violations, and pursuant to the provisions of Section 309(a) of the Act, it is hereby ordered:

1. That should the need arise, the Permittee is authorized to discharge condensate demineralizer waste through OSN 105 prior to installation of the alternate filter treatment system. Such discharge must be in compliance with all of the terms and conditions on page I-7 of the reissued permit, with the exception of the discharge limitations on total suspended solids, said limitations being suspended until the filter system is operational.

2. That the Permittee shall comply with the following schedule:

a. Filter system equipment delivered to facility -  
September 1, 1983.

b. Filter system installation completed -  
March 1, 1984.

c. Filter system operational - September 1, 1984.

3. That after September 1, 1984, the Permittee shall be in compliance with all of the terms and conditions on page I-7 of its NPDES permit.

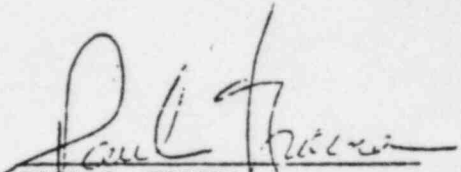
4. That within fifteen (15) days after each date in above schedule, the Permittee shall verify compliance in writing to this Agency.

5. That the Permittee shall immediately notify this Agency upon receipt of any information indicating a delay in the above schedule.
6. That the information required by this Order shall be sent by registered mail or its equivalent to the following addresses:

Paul J. Traina, Director  
Water Management Division  
United States Environmental  
Protection Agency, Region IV  
345 Courtland Street, N. E.  
Atlanta, Georgia 30365

D. Elmo Lunn, Director  
Division of Water Quality Control  
Tennessee Department of Public Health  
T.C.R.R.A. Building, 2nd Floor  
150 Ninth Avenue, North  
Nashville, Tennessee 37203

Date: MAR 2 1983

  
PAUL J. TRAINA  
Director  
Water Management Division

# Enclosure 3



EUGENE W. FOWINKLE, M.D., M.P.H.  
COMMISSIONER

STATE OF TENNESSEE  
DEPARTMENT OF PUBLIC HEALTH  
NASHVILLE 37219

January 31, 1983

Mr. Paul J. Traina  
Director  
Water Management Division, Region IV  
Environmental Protection Agency  
345 Courtland Street  
Atlanta, Georgia 30365

Re: Certification of NPDES No. TN0026450  
Sequoyah Nuclear Plant  
Hamilton County

Dear Mr. Traina:

Pursuant to Section 401 of the Federal Water Pollution Control Act (as amended by the Clean Water Act of 1977), 33 U.S.C. 1251, 1341, the State of Tennessee hereby issues certification to the subject applicant for a National Pollutant Discharge Elimination System (NPDES) Permit for a wastewater discharge.

The State of Tennessee is not aware of any condition or limitation under Section 301, Section 302, or Section 303 of the Federal Act that would be violated by issuance of the proposed NPDES Permit; additionally, the State of Tennessee is not aware of any standard of performance under Section 306 or Section 307 that would be violated by issuance of the proposed Permit.

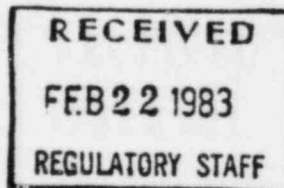
This certification is contingent upon the attached conditions.

Very truly yours,

Paul E. Davis  
Manager, Permit Section  
Division of Water Quality Control

PED/dt/d5

cc: Dr. Mohamed T. El-Ashry, TVA  
WQC - Chattanooga





Certification Conditions  
Tennessee Valley Authority Sequoyah Nuclear Plant, Units 1 and 2  
Hamilton County, Tennessee  
NPDES Permit No. Tn0026450

1. The Permittee is in no way relieved from any liability for damages which might result from the discharge of waste water.
2. The Permittee must officially comply with all requirements, conditions, or limitations which may be imposed by any provisions of the Tennessee Water Quality Control Act (T.C.A. Sections 70-324 through 70-342) or any Regulations promulgated pursuant there to.
3. The State of Tennessee reserves the right to modify or revoke this certification or seek revocation or modification of the NPDES Permit issued subject to this certification should the State determine that the wastewater discharge violates the Tennessee Water Quality Control Act, or any of the applicable water quality criteria promulgated for the receiving stream.
4. The State of Tennessee certifies that the following discharge limitations, criteria and requirements are necessary for compliance with the provisions of the Tennessee Water Quality Control Act.
  - a. With regard to Serial Number 101, the NPDES Permit has defined a specified mixing zone in the Tennessee River for assimilation of the thermal component of the discharge. The State of Tennessee hereby issues certification and approval of the mixing zone as defined contingent upon field verification that the isotherm configuration within the plume does not deviate significantly from the modelling results provided by the Permittee. Such verification shall be provided in accordance with the studies and reports required by Sections I.B.1.b. and III.E. of the NPDES Permit.
  - b. With regard to Serial Number 101, the following conditions shall apply:  
  
"Helper or closed-cycle cooling shall be instituted as required to comply with the river temperature limitations at the edge of the mixing zone. Under no conditions shall the thermal plume be allowed to reach the ambient temperature recorder."
  - c. With regard to Serial Number 103, the following additional monitoring requirements shall be applicable:

<u>Effluent Characteristic (Units)</u>	<u>Monitoring Requirement</u>	
	<u>Measurement Frequency</u>	<u>Sample Type</u>
polychlorinated biphenyls (PCB) (ug/L)	1/6 months	Grab

- d. With regard to Serial Number 110, the frequency of monitoring for total chlorine residual shall be increased to one per day multiple grabs any time the discharge is occurring and fish distress or mortality is observed in the intake bay. Sufficient grab samples shall be collected, based on plant operation, to provide a record for determining the relationship between the total chlorine residual in the discharge and the fish distress or mortality.

- e. With regard to Serial Number 110, the Permittee shall attempt to operate the facility in such a manner as to preclude recurring thermal kills of fish or other aquatic life in the intake bay. If recurring kills occur, the State reserves the right to require the applicant to undertake special studies and procedures to prevent such recurring kills.
  - f. With regard to Serial Numbers 111, 112, 113, and 114, the effluent limitations and monitoring requirements set out in Attachment I, II, III, and IV, respectively shall apply to each respective outfall.
  - g. With regard to Serial Numbers 111, 112, 113, and 114, monthly operational reports for the sewage treatment plants shall be submitted on standard State forms to the Chattanooga Regional Office of the Division of Water Quality Control. For Serial Number 114, a separate report is to be submitted for each of the two sewage treatment plants contributing to the discharge. Reports shall be submitted by the fifteenth day of the month following the data collection.
  - h. With regard to all discharge serial numbers, the following general condition shall apply: Dilution water shall not be added to comply with effluent requirements.
  - i. With regard to all wastewater discharges from the facility, the effluent quality as relates to radioactive constituents shall meet the requirements specified in the operational technical specifications issued by the U.S. Nuclear Regulatory Commission for this facility under applicable Federal laws and regulations.
5. With regard to the various studies and reports required of the Permittee pursuant to parts I.B. and III. of the NPDES Permit, and this certification, the State reserves the right to modify or revoke this certification or seek revocation or modification of the NPDES Permit issued subject to this certification as may be required to protect water quality based on the results of these studies and reports.

PED/dt/d5

ATTACHMENT I

Outfall Serial No. 111 Discharge to Yard Drainage Pond

Effluent Characteristic	Effluent Limitations						Monitoring Requirements	
	Monthly Avg. Conc. mg/l	Monthly Avg. Amount lb.	Weekly Avg. Conc. mg/l	Weekly Avg. Amount lb.	Daily Max. Conc. mg/l	Daily Max. Amount lb.	Measurement Frequency	Sample Type
Flow							5/week	instantaneous
BOD <sub>5</sub>	30	3.8	40	5.0	45	5.6	2/month	grab
Suspended Solids	30	3.8	40	5.0	45	5.6	2/month	grab
Fecal Coliform	see Attachment V						2/month	grab
Total Chlorine Residual					2.0		5/week	grab

see Attachment V for additional requirements



ATTACHMENT III

Outfall Serial No. 113 Discharge to Condenser Cooling Water Channel

Effluent Characteristic	Effluent Limitations				Monitoring Requirements			
	Monthly Avg. Conc. mg/l	Monthly Avg. Amount lb.	Weekly Avg. Conc. mg/l	Weekly Avg. Amount lb.	Daily Max. Conc. mg/l	Daily Max. Amount lb.	Measurement Frequency	Sample Type
Flow							5/week	instantaneous
BOD <sub>5</sub>	30	7.5	40	10.0	45	11.3	2/month	grab
Suspended Solids	30	7.5	40	10.0	45	11.3	2/month	grab
Fecal Coliform	See Attachment V						2/month	grab
Total Chlorine Residual					2.0		5/week	grab
Settleable Solids					1.0 ml/l		2/week	grab

see Attachment V for additional requirements



## ATTACHMENT V

The wastewater discharge must be disinfected to the extent that viable coliform organisms are effectively eliminated. The concentration of the fecal coliform group after disinfection shall not exceed 200 per 100 ml. as the geometric mean based on a minimum of 10 samples, collected from a given sampling site over a period of not more than 30 consecutive days with individual samples being collected at intervals not less than 12 hours. For the purpose of determining the geometric mean, individual samples having a fecal coliform group concentration of less than one (1) per 100 ml. shall be considered as having a concentration of one (1) per 100 ml. In addition, the concentration of the fecal coliform group in any individual sample shall not exceed 1,000 per 100 ml.

The geometric mean of fecal coliform samples shall not be determined unless 10 or more samples are taken in any month. Since the fecal coliform monitoring requirement for this permit is less than 10 samples per month, permittee shall report minimum, arithmetic average, and maximum values. Non-compliance with established fecal coliform limits shall be reported by the permittee only when the concentration of the fecal coliform group in any individual sample exceeds 1000 per 100 ml. Notwithstanding the above, the Division may monitor or may require that the permittee monitor the discharge in order to determine compliance with the geometric mean limitation.

There shall be no distinctly visible floating scum, oil or other matter contained in the wastewater discharge.

The wastewater discharge must not cause an objectionable color contrast in the receiving stream.

The wastewater discharge must contain no other materials in concentrations sufficient to be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life.

Sludge or any other material removed by any treatment works must be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, TCA 53-4301 et seq. and the Tennessee Hazardous Waste Management Act, TCA 53-6301 et seq.