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50-439 Bellefonte Nuclear Plant, Unit 2, Tennessee Valley Au 05000439
AUTH.NAME AUTHOR AFFILIATION
EL ASHRY,M.T. Tennessee Valley Authority
RECIP.NAME RECIPIENT AFFILIATION
WARR,J.W. Alabama, State of

SUBJECT: Forwards preliminary draft NPDES permit for facilities per NRC 801009 request.Final rept & max temp valve will be submitted by 820201.

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OCT 22 1981

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TENNESSEE VALLEY AUTHORITY
NORRIS, TENNESSEE 37828

OCT 6 1981

Mr. James W. Warr
Alabama Water Improvement Commission
State Office Building
Montgomery, Alabama 36130

Dear Mr. Warr:

BELLEFONTE NUCLEAR PLANT - NPDES PERMIT NO. AL0024635 - PRELIMINARY DRAFT PERMIT (M418)

This is in response to your staff's request, dated October 9, 1980, that the Tennessee Valley Authority (TVA) furnish the Alabama Water Improvement Commission (AWIC) with a preliminary draft permit for the Bellefonte Nuclear Plant (BLNP). Enclosed please find the subject preliminary draft permit (Enclosure 1). This preliminary draft is for your review and use in issuing TVA a formal draft permit for the BLNP. Attached to the preliminary draft is a table identifying the discharges we believe should be permitted, their assigned discharge serial number (DSN), and their receiving stream. Also attached to the preliminary draft permit is a water use diagram identifying the waste discharges by their DSN. This is the same water use diagram submitted with our permit application except instead of showing only the outfalls discharging directly to a surface water of the United States, we have shown waste discharges we believe should be permitted. This information should make your review of the preliminary draft permit easier.

In keeping with previous requests (October 1979, May 1980, and January 20, 1981) the preliminary draft permit was prepared assuming approval of a less stringent thermal limitation for the diffuser discharge (003) when upstream temperatures approach or exceed 30°C (86°F). As discussed between our respective staffs, a study to predict the effect of river temperatures in excess of the current 86°F standard upon the aquatic biota in the vicinity of the diffuser discharge (003) was undertaken this summer. A final report of our findings, together with a requested maximum temperature value, will be submitted to your office by February 1, 1982. We have included this evaluation as a requirement (Part III.J) in the enclosed preliminary draft permit.

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Mr. James W. Warr

OCT 6 1981

In a January 24, 1979, letter (copy enclosed) from Mr. George L. Harlow, EPA, Region IV, to Mr. William H. Regan, Jr., NRC, regarding the cooling water intake for Bellefonte Nuclear Plant, EPA agreed that the available data and evaluations indicated that impingement and entrainment should not result in unacceptable environmental damage. Nonetheless, EPA indicated that impingement and entrainment studies would be required in the NPDES permit and that modification to the intake would be required if determined necessary. TVA presently plans to conduct impingement and entrainment studies as a part of our operational nonradiological aquatic monitoring program, but have not specifically referenced these particular studies in the draft permit. We request that these studies not be included in the NPDES permit, as they can readily be required through your approval of TVA's study plan for the operational nonradiological aquatic monitoring program.

Should you have any questions or require further information, please contact W. G. Carpenter at (615) 632-6450 in Norris, of G. R. Steiner at (615) 755-3173 in Chattanooga.

Sincerely,

Original Signed By
M. T. El-Ashry

Mohamed T. El-Ashry, Ph.D.
Assistant Manager of Natural
Resources (Environment)

Enclosures
cc (Enclosures):
Mr. Darrell G. Eisenhut, Director
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. Charles Kaplan
Enforcement Division
U.S. Environmental Protection Agency
345 Courtland Street, NE.
Atlanta, Geortia 30365

Mr. J. P. Martin
Alabama Water Improvement Commission
Public Health Services Building
Montgomery, Alabama 36130

Mr. Howard D. Zeller, Acting Director
Enforcement Division
U.S. Environmental Protection Agency
Region IV
345 Courtland Street, NE.
Atlanta, Georgia 30365

ENCLOSURE 1

PRELIMINARY DRAFT NPDES PERMIT

FOR BELLEFONTE NUCLEAR PLANT

Prepared by

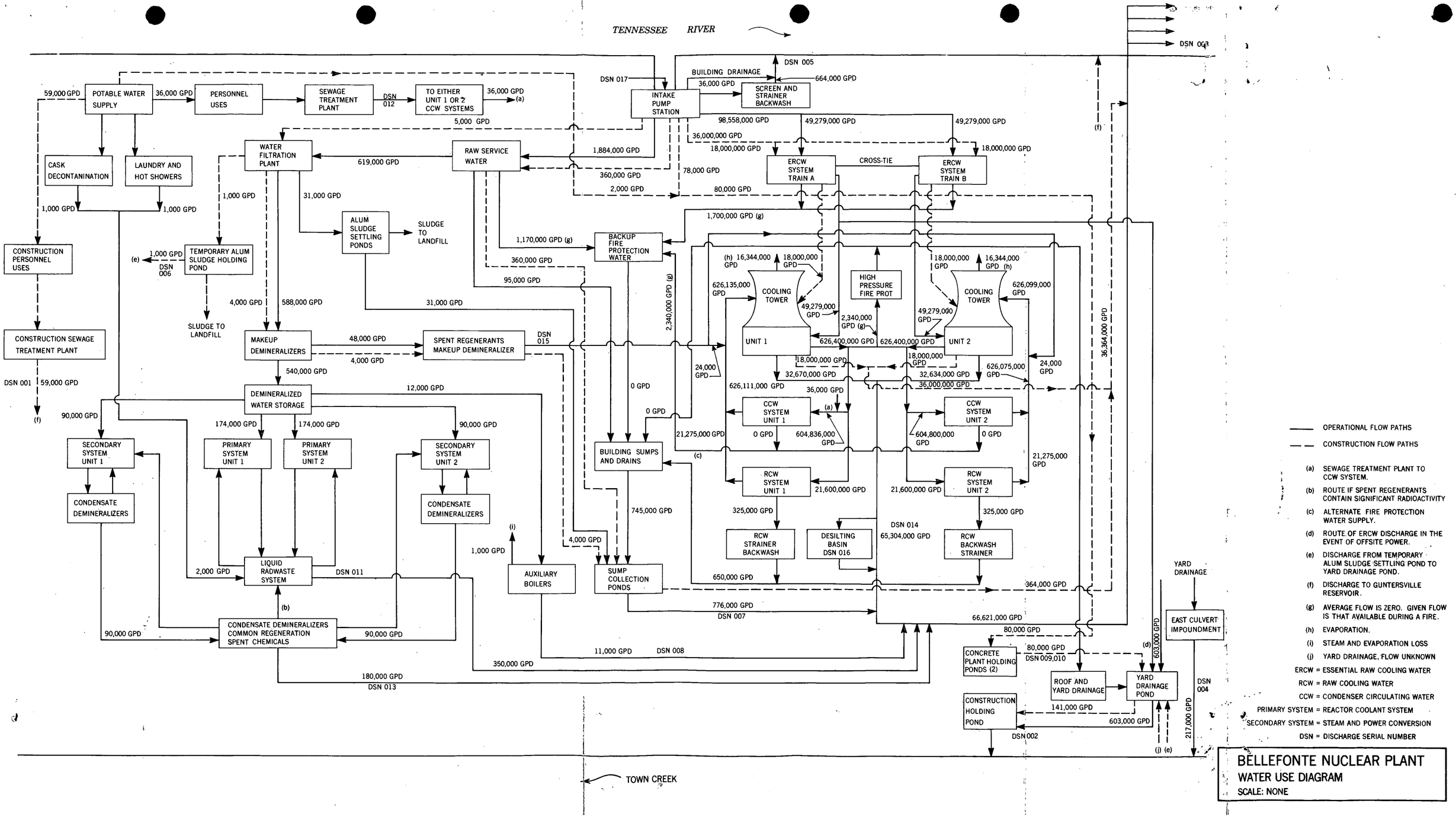
Tennessee Valley Authority

July 1981

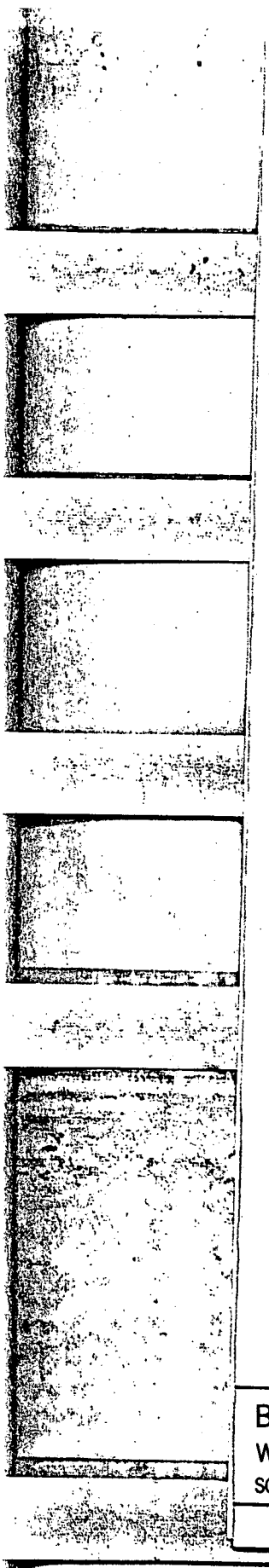
IDENTIFICATION OF DISCHARGE SERIAL NUMBERS AND RECEIVING STREAMS
FOR BELLEFONTE NUCLEAR PLANT

DSN	Description of discharge	Receiving stream
001	Construction Sewage Treatment Plant	Tennessee River
002	Point Source Runoff from Construction Holding Pond	Town Creek
003	Diffuser Discharge	Tennessee River
004	Point Source Runoff from East Culvert Impoundment	Town Creek
005	Plant Intake Trash Sluice	Tennessee River
006	Temporary Alum Sludge Settling Pond Effluent	Yard Drainage Pond 1/
007	Sump Collection Pond Effluent	Diffuser Discharge (003)
008	Auxiliary Boiler Blowdown	Cooling Tower Blowdown (014)
009	Construction Concrete Holding Pond	Yard Drainage Pond 1/
010	Construction Concrete Holding Pond	Yard Drainage Pond 1/
011	Liquid Radwaste System Wastes	Cooling Tower Blowdown (014)
012	Operational Sewage Treatment Plant Effluent	Either Unit 1 or 2 Condenser Circulating Water System
013	Condensate Demineralizer Regeneration Wastes	Cooling Tower Blowdown (014)
014	Cooling Tower Blowdown	Diffuser Discharge (003)
015	Makeup Demineralizer Regeneration Wastes	Condenser Circulating Water System
016	Cooling Tower Basin Desilting Pond	Cooling Tower Blowdown
017	Plant Intake	-

1/ Yard drainage pond discharges to Construction Holding Pond (002).



BELLEFONTE NUCLEAR PLANT
WATER USE DIAGRAM
SCALE: NONE



——— OPERATIONAL FLOW PATHS

— — CONSTRUCTION FLOW PATHS

(a) SEWAGE TREATMENT PLANT TO CCW SYSTEM.

(b) ROUTE IF SPENT REGENERANTS CONTAIN SIGNIFICANT RADIOACTIVITY.

(c) ALTERNATE FIRE PROTECTION WATER SUPPLY.

(d) ROUTE OF ERCW DISCHARGE IN THE EVENT OF OFFSITE POWER.

(e) DISCHARGE FROM TEMPORARY ALUM SLUDGE SETTLING POND TO YARD DRAINAGE POND.

(f) DISCHARGE TO GUNTERSVILLE RESERVOIR.

(g) AVERAGE FLOW IS ZERO. GIVEN FLOW IS THAT AVAILABLE DURING A FIRE.

(h) EVAPORATION.

(i) STEAM AND EVAPORATION LOSS

(j) YARD DRAINAGE, FLOW UNKNOWN

ERCW = ESSENTIAL RAW COOLING WATER

RCW = RAW COOLING WATER

CCW = CONDENSER CIRCULATING WATER

PRIMARY SYSTEM = REACTOR COOLANT SYSTEM

SECONDARY SYSTEM = STEAM AND POWER CONVERSION

DSN = DISCHARGE SERIAL NUMBER

BELLEFONTE NUCLEAR PLANT

WATER USE DIAGRAM

SCALE: NONE

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on start of discharge and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 001: Construction Sewage Treatment Plant Effluent.

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 (Specify) (mg/l except as noted)			
	Daily Average	Daily Maximum	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day (MGD)	-	-	-	-	1/Month	Grab
B.O.D. (5 Day)	-	-	30	60	1/Month	Grab
Total Suspended Solids	-	-	30	60	1/Month	Grab

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per week by grab samples.

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

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

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 002 and 004: Point Source Runoff from Construction Holding Pond and East Culvert Impoundment.

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 (Specify) (mg/l except as noted)			
	Daily Average	Daily Maximum	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day(MGD)	-	-	-	-	1/Week	Weir, Grab
Total Suspended Solids	-	-	1/	1/	1/Week	Grab
Turbidity (JTU)	N/A	N/A	N/A	N/A	1/Week	Grab
Settleable Solids (ml/l)	N/A	N/A	N/A	N/A	1/Week	Grab

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

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

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Point(s) of discharge from treatment facility prior to mixing with any other waste streams, during periods of flow.

1/ Pending repromulgation of effluent guidelines for this waste category, limitations on total suspended solids shall not be applicable. Within 90 days of repromulgation, permittee shall submit a proposed implementation schedule and shall expeditiously complete necessary facilities, if any, to assure compliance with such repromulgated regulations. In the interim, construction practices and control of site runoff shall be consistent with sound engineering practices such as those contained in "Guidelines for Erosion and Sediment Control Planning and Implementation," EPA-R2-72-015 (August 1972) or "Processes, Procedures and Methods to Control Pollution Resulting from all Construction Activity," EPA-430/9-73-007 (October 1973). Where an impoundment is the only sediment control process utilized by permittee, it shall be capable of containing or processing a 10-year, 24-hour rainfall event. (Note: For Discharge 002, the requirement for the holding pond to have the capacity to contain a 10-year, 24-hour rainfall event is deleted; however, should suspended solids concentrations in the discharge increase to a significant level, the volume will have to be increased or other mitigative actions taken.)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on start of discharge and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 003: Diffuser Discharge.

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

Effluent Characteristics	Discharge Limitations		Monitoring Requirements	
	Other Units (Specify) (mg/l except as noted)			
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day(MGD)	N/A	N/A	Continuous	Recorder
Temperature $^{o}C(^{o}F)$	N/A	1/	Continuous	Computed 2/
Total Residual Chlorine	See Below		Continuous 3/	Recorder

Total residual chlorine (TRC) shall not exceed a maximum instantaneous concentration of 0.14 mg/1. The TRC level of 0.14 mg/1 is based upon the proposed steam electric effluent guidelines (reference 45 Federal Register, page 68328, October 14, 1980) for TRC.

Details and schedules of the proposed chlorine minimization will be submitted to EPA following promulgation of the proposed regulations.

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

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

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Plant discharge prior to entry into the Tennessee River.

1/ The receiving water shall not exceed (1) a maximum water temperature change of $2.8^{o}C$ ($5^{o}F$) relative to an upstream control point,(see DSN 017) and (2) a maximum temperature of $30^{o}C$ ($86^{o}F$), except when upstream temperatures approach or exceed this value up to a maximum temperature to be determined in accordance with Part III.J. Downstream temperatures apply outside of a mixing zone which extends over the entire depth in the vertical direction and in the horizontal direction is defined as the intersection of the area enclosed by the locus of points lying everywhere two diffuser lengths (250 feet) from the diffuser and the half-plane lying to the left-bank side of a line parallel to the longitudinal axis of the river intersecting the near shore (right bank) end of the diffuser.

2/ Maximum temperature and maximum temperature change shall be evaluated 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 upstream temperature, flow through the diffuser pipe, temperature of diffuser discharge, flows at Nickajack and Guntersville Dams, and diffuser performance characteristics. The diffuser performance curves from the physical model tests will be used in the numerical model of Plant-Induced Effects pending field verification.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on effective date and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number 005: Plant Intake Trash Sluice to the Tennessee River.

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

Intake screen and strainer backwash and intake pumping station sump drainage[1/] may be discharged to the Tennessee River via the trash sluice without limitation or monitoring requirements. However, material removed from the bar racks shall not be returned to the Tennessee River.

1/ Sump drainage consists of rainfall runoff from the electrical control rooms (4 sumps) within the intake pumping station. It does not include rainfall runoff from the mechanical control room (1 sump), which goes to an oil interceptor. The oil interceptor effluent is recycled as plant intake through the pumping station intake pits.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning effective date and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 006, 007, and 008: Temporary Alum Sludge Settling Pond Effluent to Serial Number 002, Sump Collection Pond Effluent to Serial Number 003, and Auxiliary Boiler Blowdown 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 (Specify) (mg/l except as noted)			
	Daily Average	Daily Maximum	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day(MGD)	-	-	-	-	1/Week	1/
Oil and Grease	-	-	15	20	1/Week	Grab
Total Suspended Solids	-	-	30	100	1/Week	Grab

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

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): From the alum settling pond discharge (006), sump collection pond discharge (007), and auxiliary boiler blowdown (008) prior to mixing with any other waste streams.

1/ Weir reading, pump log or instantaneous (meter).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning effective date and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 009 and 010: Construction Concrete Uses Holding Pond Effluents to Serial Number 002.

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 (Specify) (mg/l except as noted)			
	Daily Average	Daily Maximum	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day(MGD)	-	-	-	-	1/Week	Weir, Grab
Oil and Grease	-	-	N/A	20	1/Month	Grab
Total Suspended Solids	-	-	N/A	50	1/Week	Grab

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

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Discharge from (construction concrete use holding) ponds prior to mixing with any other waste stream.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on start of discharge and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 011: Liquid Radwaste System Wastes to Cooling Tower Blowdown Line.

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

Effluent Characteristics	Discharge Limitations		Monitoring Requirements	
	Other Units (Specify) (mg/l except as noted)			
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day(MGD)	N/A	N/A	1/Batch	Calculation
Oil and Grease	15	20	1/Day	Grab
Total Suspended Solids	30	100	1/Batch	Composite 1/

Limitations and monitoring requirements are applicable only when system effluent is directed to any waste stream which discharges to waters of the United States.

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

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

1/ 1 grab sample/batch, composite for analysis over a 24-hour day.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on start of discharge and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 012: Operational Sewage Treatment Plant (Septic Tank/Sand Filter) Effluent.

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 (Specify) (mg/l except as noted)			
	Daily Average	Daily Maximum	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day(MGD)	-	-	-	-	1/Month	Grab
B.O.D. (5 Day)	-	-	30	60	1/Month	Grab
Total Suspended Solids	-	-	30	60	1/Month	Grab

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

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

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on start of discharge and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 013: Condensate Demineralizer Regeneration Wastes discharged to Cooling Tower Blowdown Line.[1/]

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

Effluent Characteristics	Discharge Limitations[2/] Other Units (Specify) (mg/l except as noted)		Monitoring Requirements	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day(MGD)	N/A	N/A	2/Week[3/]	Grab
Oil and Grease	15	20	2/Week	Grab
Total Suspended Solids	30	100	2/Week	Grab

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

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

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Discharge from condensate demineralizer regeneration waste treatment facilities prior to mixing with any other waste stream.

1/ High conductivity, low crud wastes will be recycled.

2/ Limitations and monitoring requirements are not applicable when discharge is directed to the radwaste system (011).

3/ Flow measured on individual batch 2/week, but quantity reported by multiplying gallons times number of batches.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on start of discharge and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 014: Cooling Tower Blowdown.

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

Effluent Characteristics	Discharge Limitations		Monitoring Requirements	
	Other Units (Specify) (mg/l except as noted)			
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day(MGD)	N/A	N/A	Continuous	Recorder

Discharge of blowdown from the cooling system shall be limited to the minimum discharge of recirculating water necessary for the purpose of discharging materials contained in the process, the further buildup of which would cause concentrations or amounts exceeding limits established by best engineering practice. Discharge temperature shall not exceed the lowest temperature of the recirculating cooling water prior to the addition of makeup.

Blowdown shall contain no detectable amount of chemicals added for cooling tower maintenance which contain the 129 priority pollutants.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Discharge from the cooling tower(s) prior to mixing with other waste streams (two monitoring points).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on start of discharge and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 015: Makeup Demineralizer Regeneration Wastes Discharged to the Condenser Circulating Water System.

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

Effluent Characteristics	Discharge Limitations (Other Units (Specify) (mg/l except as noted))		Monitoring Requirements	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day(MGD)	N/A	N/A	1/Month	1/
Oil and Grease	15	20	1/Month	Grab
Total Suspended Solids	30	100	1/Month	Grab

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

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Discharge from the makeup demineralizer regeneration waste treatment facility prior to mixing with any other waste stream.

1/ Weir reading, pump logs or calculation for batch discharge.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on start of discharge and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 016: Cooling Tower Basin Desilting Pond to Cooling Tower Blowdown.

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

Effluent Characteristics	Discharge Limitations 2/ Other Units (Specify) (mg/l except as noted)		Monitoring Requirements	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day(MGD)	N/A	N/A	1/Month	1/
Oil and Grease	15	20	1/Month	Grab
Total Suspended Solids	30	100	1/Month	Grab

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per month by grab samples.

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

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Discharge from the desilting pond prior to mixing with other waste streams, during periods of flow.

1/ Weir reading, pump log or instantaneous (meter).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on start of intake and lasting through expiration the permittee shall monitor serial number(s) 017: Plant Intake.

Such intakes shall be monitored by the permittee as specified below:

Characteristics	Monitoring Requirements	
	Measurement Frequency	Sample Type
Flow-m^3/Day(MGD)	Continuous	Pump logs
Upstream Temperature, ^oC (^oF)	1/	Recorders

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Flow at plant intake, temperature upstream from plant diffusers at intake skimmer wall.

1/ Measurements shall be made every 15 minutes at the 5-foot depth and transmitted to the plant. Upstream river temperature shall be calculated once per hour by temporally averaging the current temperature and the last four 15-minute observations.

JAN 24 1979

4E-WE

Mr. William H. Regan, Jr.
Chief
Environmental Projects Branch 2
Division of Site Safety and
Environment Analysis
Nuclear Regulatory Commission
Washington, D. C. 20555

RE: Bellefonte Nuclear Plant
NPDES No. AL0024635

Dear Mr. Regan:

We have reviewed the material enclosed with your letter of December 6, 1978, to Mr. Paul Frey as well as other information contained in our files relative to the referenced facility.

While we would not generally consider that a cooling water intake located at the end of a dead-end canal is best available technology for a new plant, available data and evaluations indicate that impingement and entrainment at this facility should not result in unacceptable environmental damage. Since construction of the intake is virtually completed, we will not require any modifications at this time. The NPDES permit, when issued, will require impingement and entrainment studies, however. The permit will also contain language which would require modifications if the results of the studies indicate unacceptable levels of impingement and/or entrainment are occuring.

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

Sincerely yours,

George L. Harlow

George L. Harlow
Chief
Water Enforcement Branch
Enforcement Division

cc: Dr. Harry G. Moore
Tennessee Valley Authority

Mr. James W. Warr
Alabama Water Improvement Comm.

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E/P

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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 or start of discharge (001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, and 017).

   b. Final report on evaluation of predicted effects of thermal discharges upon aquatic biota (III.J) - February 1, 1982.

   c. Preoperational nonradiological aquatic monitoring program (III.H).

      (1) Study Plan to reestablish existing baseline data - submitted June 3, 1980.

      (2) Continue fisheries biology - implemented March 1981.

      (3) Implement - Twelve months prior to fuel loading of Unit 1, water quality and nonfisheries biology.

      (4) Final Report - Six months after fuel loading of Unit 1, water quality, nonfisheries and fisheries biology.

   d. Operational nonradiological aquatic monitoring program (III.I).

      (1) Study plan - three months prior to fuel loading of Unit 1.

      (2) Implement - within 30 days after 100 percent power is achieved on Unit 1.

      (3) First report - 18 months after implementation date.

      (4) Subsequent reports - annually after the first report until completion of the program.

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include

the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

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.

C. MONITORING AND REPORTING

1. Representative Sampling

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

2. Reporting

Monitoring results obtained during the previous three months shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1) postmarked no later than the 28th day of the month following the completed reporting period. Reports are due on the 28th day of February, May, August, and November. A signed copy of these, and all other reports required herein, shall be submitted to the Director, Alabama Water Improvement Commission at the following address:

Alabama Water Improvement Commission
State Office Building
Montgomery, Alabama 36130

A duplicate copy of these, and all other reports required herein, shall be submitted to the following:

Director
Environmental Protection Agency, Region IV
345 Courtland Street, NE.
Atlanta, Georgia 30365

Director, Division of Licensing
Nuclear Regulatory Commission
Washington, DC 20555

Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission, Region II
101 Marietta Street, Suite 3300
Atlanta, Georgia 30303

3. Definitions

a. The "daily average" concentration means the arithmetic average (weighted by flow) of all the daily determinations of concentrations made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow) of all the samples collected during that calendar day.

b. The "daily maximum" concentration means the daily determination of concentration for any calendar day.

c. "Weighted by flow" means the summation of each sample concentration times its respective flow in convenient units divided by the summation of the flow values.

d. "Nekton" means free swimming aquatic animals whether of freshwater or marine origin.

e. For the purpose of this permit, a calendar day is defined as any 24-hour period.

4. Test Procedures

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

5. Recording of Results

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

a. The exact place, date, and time of sampling

b. The dates the analyses were performed

c. The person(s) who performed the analyses

d. The analytical techniques or methods used

e. The results of all required analyses

6. Additional Monitoring by Permittee

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

7. Records Retention

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

A. MANAGEMENT REQUIREMENTS

1. Change in Discharge

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

2. Noncompliance Notification

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

a. A description of the discharge and cause of noncompliance

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

A duplicate copy of this information shall be provided to the Director, Division of Licensing, NRC, and Director, Office of Inspection and Enforcement, NRC.

3. Facilities Operation

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

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

5. Bypassing

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

6. Removed Substances

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

7. Power Failures

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

a. In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or, if such alternative power source is not in existence, and no date for its implementation appears in Part I,

b. halt, reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

B. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the representatives of the Alabama Water Improvement Commission, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. at reasonable times to have access to and copy any records to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

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

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of the Water Improvement Commission. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act or as provided for in Title 22, §§22-22-1 et seq., Code of Alabama (1975), as amended.

4. Permit Modification

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

a. Violation of any terms or conditions of this permit;

b. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

c. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. Toxic Pollutants

Notwithstanding Part II, B-4, above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant

which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. Civil and Criminal Liability

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

7. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act or as provided for in Title 22, §§22-22-1 et seq., Code of Alabama (1975), as amended.

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 in any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. Property Rights

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

10. Severability

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

PART III

OTHER REQUIREMENTS

A. There shall be no discharge of metal cleaning wastes as defined in 40 CFR Part 432.11(j) to any plant waste stream which discharges to waters of the United States.

B. If the permittee, after monitoring for at least 12 months, determines that he is consistently meeting the effluent limits contained herein, the permittee may request of the Director, Alabama Water Improvement Commission (AWIC) that the monitoring requirements be reduced to a lesser frequency or be eliminated.

C. The company shall notify the Director, AWIC in writing not later than sixty (60) days prior to instituting use of any additional biocide or chemical used in cooling systems, other than chlorine, which may be toxic to aquatic life other than those previously reported to the Environmental Protection Agency. Such notification shall include:

1. Name and general composition of biocide or chemical

2. 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

6. EPA registration number, if applicable

D. Effluent diffuser shall be designed to assure a minimum dilution factor of 10 at all riverflow conditions. The mixing zone extends over the entire depth in the vertical direction and in the horizontal direction which is defined as the intersection of the area endorsed by the locus of points lying everywhere two diffuser lengths (250 feet) from the diffuser and the half-plane lying to the left-bank side of a line parallel to the longitudinal axis of the river intersecting the near shore (right bank) end of the diffuser.

E. Discharge of blowdown from the cooling tower system shall be limited to the minimum discharge practicable, consistent with requirements of the once through raw cooling water systems.

F. Permittee shall comply with applicable requirements of 40 CFR, Part 112, OIL POLLUTION PREVENTION.

G. In the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property attributable to each controlled waste source shall not exceed the specified limitation for that waste source.

H. Permittee shall:

1. Continue the approved preoperational nonradiological aquatic monitoring program to establish baseline data on biotic conditions (fisheries).

2. Implement the approved preoperational nonradiological aquatic monitoring program to reestablish baseline data on water quality and biotic (nonfisheries) conditions in the Tennessee River not less than one year prior to the scheduled date for Unit 1 fuel loading.

3. Submit a final report to the Director, AWIC, not more than six months following completion of the reporting period. The program shall continue for a period of not less than one year following implementation of the water quality and nonfisheries biology portions of the program and two years following implementation of the fisheries biology portion of the program.

I. Permittee shall:

1. Implement an approved operational nonradiological aquatic monitoring program within 30 days after 100 percent power is achieved on Unit 1. Not less than three months prior to the scheduled date for fuel loading of Unit 1, the permittee shall submit to the Director, AWIC, for review and approval, a detailed monitoring plan.

2. Submit a report annually to the Director, AWIC, not more than six months following completion of the reporting period, with the first report due 18 months after implementation of the program. The program shall continue for a period of not less than two years after commercial operation of Unit 2.

J. Permittee shall conduct a study to predict the effect of river temperatures in excess of the current 86°F standard upon the aquatic biota in the vicinity of Discharge No. 003. A final report shall be submitted to the Director, AWIC, by February 1, 1982.

K. This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitations 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 of 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 where applicable.

L. Copies of all plans and reports submitted in accordance with Parts III. B, C, H.2, H.3, I.1, I.2, and J herein shall be forwarded by the permitted as follows:

Number of Copies	Addresses
5	Director Division of Licensing U.S. Nuclear Regulatory Commission Washington, DC 20555
1	Director Environmental Protection Agency, Region IV 345 Courtland Street, NE. Atlanta, Georgia 30365

M. There shall be no discharge of polychlorinated biphenyls (PCB's).