

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

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

Tennessee Valley Authority
268 401 Building
Chattanooga, Tennessee 37401

9/4/79
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is authorized to discharge from a facility located at

Bellefonte Nuclear Power Plant
Construction Wastes
Jackson County, Alabama

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

during the effective period of this permit

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

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight, September 30, 1980. Permittee shall not discharge after the above date of expiration without prior authorization. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information, forms, and fees as are required by the Agency authorized to issue NPDES permits no later than 180 days prior to the above date of expiration.

Signed this day of

Sanford W. Harvey, Jr., Director
Enforcement Division

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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 - Sewage Treatment Plant Effluent

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

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow—m ³ /Day (MGD)	N/A	N/A	2 /month	Grab
BOD5	30	60	2 /month	Grab
Total Suspended Solids (mg/l)	30	60	2 /month	Grab

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored commensurate with treatment system instituted.

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.

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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning effective date of the permit and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 002, 004 and 005 - Point source runoff from from construction and concrete batch plant.

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

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow—m ³ /Day (MGD)		N/A	1/week	Grab
Total Suspended Solids (mg/l)		1/	1/week	Grab
Turbidity (JTU)		N/A	1/week	Grab
Settleable Solids (ml/l)		N/A	1/week	Grab

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. An impoundment capable of containing a 10-year, 24-hour rainfall event shall be provided. Not less than 1/quarter permittee shall ascertain that available settling volume meets this requirement and shall report this finding when submitting the Discharge Monitoring Reports.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored commensurate with treatment system instituted.

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.

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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:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow—m ³ /Day (MGD)	N/A	N/A	1/week	Recorder, Weir Reading or Pump Logs
Total Residual Chlorine	See Below		1/week	Multiple Grabs

Total residual chlorine shall not exceed a maximum instantaneous concentration of 0.1 mg/l. In the event that the units cannot be operated at or below this level of chlorination, the applicant may submit a demonstration, based on biological toxicity data, that discharge of higher levels of chlorine are consistent with toxicity requirements of the Tennessee Water Quality Standards. Effluent limitations will be modified consistent with an acceptable demonstration.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored commensurate with treatment system instituted.

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.

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PART I

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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 and 007 1/ - Construction Concrete Uses Holding Pond Effluents to Serial No. 002
Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow—m ³ /Day (MGD)	N/A	N/A	1/week	Weir reading
Oil and Grease (mg/l)	N/A	20	1/month	Grab
Total Suspended Solids (mg/l)	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.

1/ Serial numbers assigned for identification and monitoring purposes.

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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) 008 1/ -Backwash and Neutralize Waste to Serial No. 003.

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

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow—m ³ /Day (MGD)	N/A	N/A	1/week	Weir reading
Oil and Grease (mg/l)	15	20	1/week	Grab
Total Suspended Solids (mg/l)	30	100	1/week	8-hr composite

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): discharge from the wastewater treatment facility(s) prior to discharge to the sump collection ponds.

1/ Serial number assigned for identification and monitoring purposes.

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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 and 008).
 - b. Construction effects monitoring (III.D.)

Reports due annually on
 - c. Preoperational aquatic monitoring program (III.E.)
 - (1) Study plan - 30 months prior to Unit 1 fuel loading
 - (2) Implement - 24 months prior to Unit 1 fuel loading
 - (3) First report - 15 months after implementation
 - (4) Subsequent report(s) - annually after first report
 - d. Postoperational aquatic monitoring program (III.F.)
 - (1) Study plan - six months prior to commercial operation of date of Unit 1.
 - (2) Implement - commercial operation date of Unit 1
 - (3) First report - 15 months after implementation date
 - (4) Subsequent reports - annually after the first report
2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

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

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C. MONITORING AND REPORTING

1. Representative Sampling

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

2. Reporting

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

Chief, Water Enforcement Branch
Environmental Protection Agency
345 Courtland St., N.E.
Atlanta, Georgia 30308

AND

Alabama Water Improvement
Commission
749 State Office Building
Montgomery, Alabama 36104

3. Definitions

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

DRAFT**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; and
- e. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the 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 Regional Administrator or the State water pollution control agency.

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PART II

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A. MANAGEMENT REQUIREMENTS

1. *Change in Discharge*

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

2. *Noncompliance Notification*

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

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

3. *Facilities Operation*

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

4. *Adverse Impact*

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

5. *Bypassing*

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

DRAFT**6. Removed Substances**

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

7. Power Failures

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

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

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

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

B. RESPONSIBILITIES**1. Right of Entry**

The permittee shall allow the head of the State water pollution control agency, the Regional Administrator, and/or their authorized representatives, upon the presentation of credentials:

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

2. Transfer of Ownership or Control

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

3. Availability of Reports

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

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

4. Permit Modification

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

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

5. Toxic Pollutants

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

6. Civil and Criminal Liability

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

7. Oil and Hazardous Substance Liability

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

8. State Laws

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

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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 hereby.

PART III

OTHER REQUIREMENTS

- A. In the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property attributable to each controlled waste source shall not exceed the specified limitation for that waste source.
- B. If the permittee, after monitoring for at least six months, determines that he is consistently meeting the effluent limits contained herein, the permittee may request of the Regional Administrator that the monitoring requirements be reduced to a lesser frequency or be eliminated.
- C. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid. 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. Detail of such procedures shall be submitted no later than 180 days prior to receipt of PCB containing equipment.
- D. Permittee shall continue the ongoing aquatic construction effects monitoring program. Reports shall be submitted annually on to EPA and the State. Reports shall be submitted no more than two months after completion of the reporting period with the first report due eight months after the effective date of this permit. Reports shall include a summary evaluation of monitoring frequency, results, adequacy, and environmental effects of runoff control practices relative to Discharges serial 002, 004 and 005, and instream sampling. In the event that significant environmental effects occur due to site runoff resulting from construction, permittee shall take timely corrective actions, shall report such conditions and the corrective actions taken to the Regional Administrator and shall implement such additional measures as he directs.

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- E. Permittee shall implement an approved preoperational non-radiological aquatic monitoring program to reestablish baseline data on water quality and biotic conditions in the Cumberland River not less than two years prior to the scheduled date for Unit 1 fuel loading. Not less than six months prior to the scheduled date for implementation, the permittee shall submit to the Regional Administrator for review and approval, a detailed monitoring plan. Reports shall be submitted annually, not more than three months following completion of the reporting period with the first report due 15 months after implementation of the program.
- F. Permittee shall implement an approved operational non-radiological aquatic monitoring program by the date of commercial operation of Unit 1. Not less than six months prior to scheduled implementation date, the permittee shall submit to the Regional Administrator for review and approval, a detailed monitoring plan. Reports shall be submitted annually, not more than three months following completion of the reporting period with the first report due 15 months after implementation of the program. The program shall continue for a period of not less than two years after commercial operation of Unit 4.
- G. Not later than September 30, 1979, permittee shall submit a complete application for preoperational and operational wastes from the two-unit Bellefonte Nuclear Plant.
- H. 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.

- I. The Alabama Improvement Commission has certified the discharges covered by this permit with conditions (See Attachment B). 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 which 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.

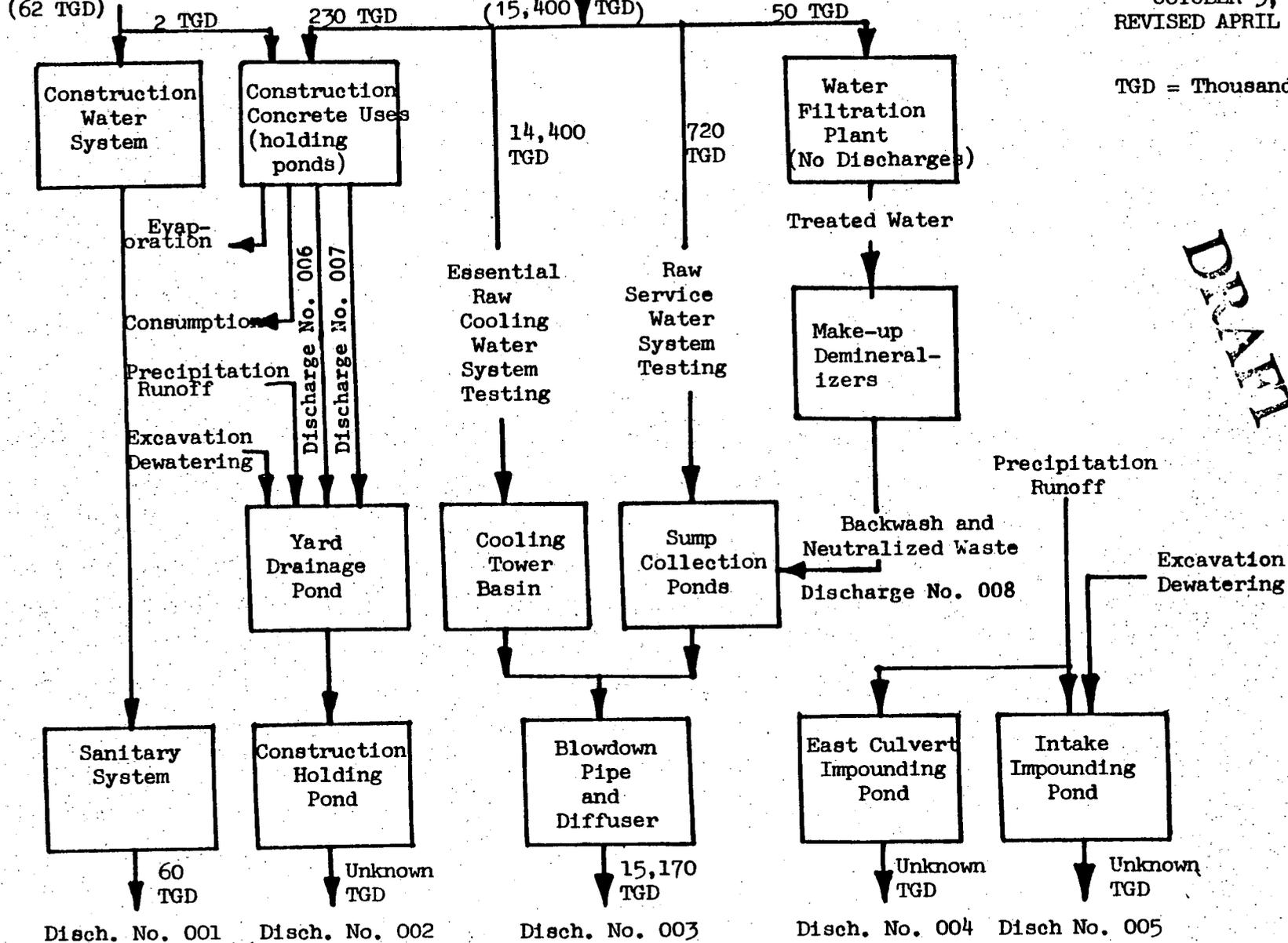
SCHMATIC OF WATER FLOW
 TVA BELLEFONTE NUCLEAR PLANT
 CONSTRUCTION PERIOD
 JACKSON COUNTY, ALABAMA
 OCTOBER 5, 1976
 REVISED APRIL 2, 1979

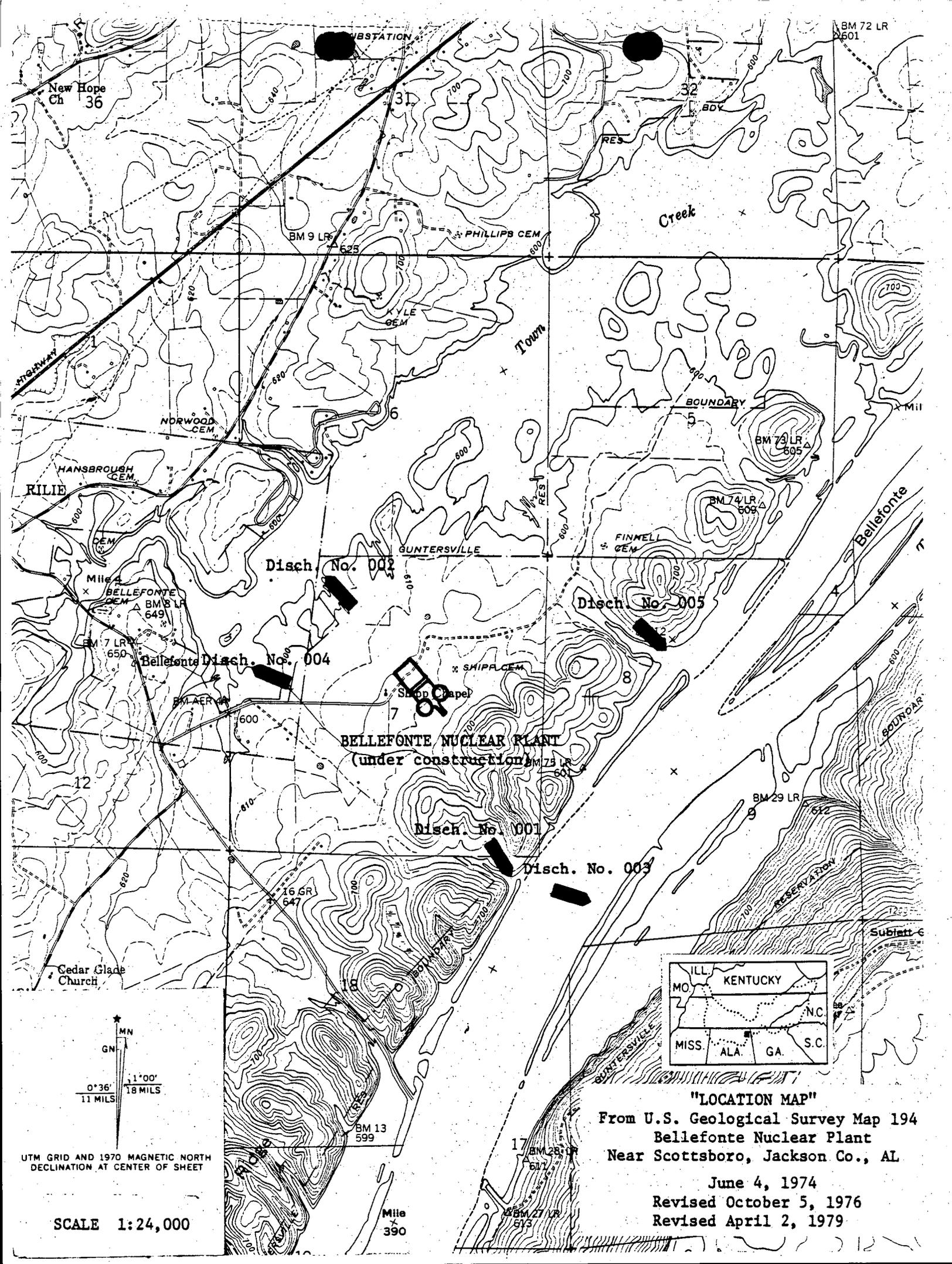
Hollywood, Alabama
 Water System
 (62 TGD)

Tennessee River
 (15,400 TGD)

TGD = Thousand Gallons per Day

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BM 72 LR 601

New Hope Ch 36

SUBSTATION

Creek

BM 9 LR 625

PHILLIPS CEM

KYLE CEM

NORWOOD CEM

BOUNDARY

BM 73 LR 605

RILIE

HANSBROUGH CEM

GUNTERSVILLE

Disch. No. 005

Disch. No. 002

Bellefonte Disch. No. 004

SHIPPL CEM

BELLEFONTE NUCLEAR PLANT
(under construction)

Disch. No. 001

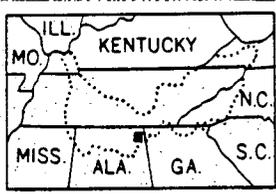
Disch. No. 003

16 GR 647

BM 29 LR 612

Cedar Glade Church

Sublett C



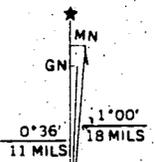
"LOCATION MAP"

From U.S. Geological Survey Map 194
Bellefonte Nuclear Plant
Near Scottsboro, Jackson Co., AL

June 4, 1974

Revised October 5, 1976

Revised April 2, 1979



UTM GRID AND 1970 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24,000

Mile 390