Public Service
Electric and Gas
Company

Steven E. Miltenberger
Vice President and Chief Nuclear Officer

Public Service Electric and Gas Company P.O. Box 236, Hancocks Bridge, NJ 08038 609-339-1100

JUN 0 1 1990
NLR-N90103

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

NJPDES PERMIT NJ0005622
SALEM GENERATING STATION
FACILITY OPERATING LICENSE NO. DPR-70, DPR-75
DOCKET NOS. 50-272, 50-311

The enclosed application in support of a request for renewal of New Jersey Pollutant Discharge Elimination System (NJPDES) permit NJ0005622 is submitted pursuant to the requirements of Subsection 3.2 of Salem Generating Station Environmental Protection Plan (EPP), Non-Radiological, (Appendix B to Facility Operating License (DPR-70 & DPR-75, Docket Nos. 50-272 & 50-311). The renewal request for the NJPDES permit is submitted in accordance with the New Jersey Administrative Code, Section 7:14A-2.1(g) 5.

Should you or your staff require any additional information, please contact Mr. Bruce Preston, Manager - Licensing and Regulation at (609) 339-1229.

Sincerely,

Enclosure

A001
1/1

(All w/o Enclosures)

C Mr. J. C. Stone
Licensing Project Manager

Mr. T. Johnson
Senior Resident Inspector

Mr. T. Martin, Administrator
Region I

Mr. Kent Tosch, Chief
New Jersey Department of Environmental Protection
Division of Environmental Quality
Bureau of Nuclear Engineering
CN 415
Trenton, NJ 08625

Salem Generating Station

Application for Renewal

NJPDES Permit No. NJ0005622

Discharge to Surface Water

May 1990

PSE&G

The Energy People

Public Service
Electric and Gas
Company

Steven E. Miltenberger
Vice President and Chief Nuclear Officer

Public Service Electric and Gas Company P.O. Box 236, Hancocks Bridge, NJ 08038 609-339-1100

VIA CERTIFIED MAIL

JUN 0 1 1990

NLR-E90110

Mr. George Caporale
Bureau of Information Systems and Data Processing
Division of Water Resources
New Jersey Department of Environmental Protection
CN-029
Trenton, New Jersey 08625-0029

Dear Mr. Caporale:

APPLICATION FOR RENEWAL
NJPDES PERMIT NO. NJ0005622

Pursuant to N.J.A.C. 7:14A-2.1(g)5, Public Service Electric and Gas Company (PSE&G) hereby submits two copies of an application in support of its request that the New Jersey Department of Environmental Protection (NJDEP) renew the above referenced New Jersey Pollutant Discharge Elimination System (NJPDES) permit which expires November 30, 1990 for its Salem Generating Station (Salem).

The following documents are enclosed:

1. notarized certifications by the General Manager - Salem Operations and the Vice President and Chief Nuclear Officer in compliance with N.J.A.C. 7:14A-2.4(a) and (c).

2. completed Standard Application Form CP#1, together with "Endorsement E" executed by S. E. Miltenberger Vice President and Chief Nuclear Officer, and L. K. Miller, General Manager - Salem Operations.

3. completed WQM-001 Form, Application to Discharge Wastewaters and Residuals to the State's Land and Water.

4. Form WQM-003, Endorsements, with a copy of the letter to Lower Alloways Creek Township, the local municipality. Based on discussions with the Bureau of Construction and Connection Permits, endorsement of the local sewage authority is not required.

5. completed Form 2C (EPA Form 3510-2C) including analytical results and a summary of data in support of this application.

6. U. S. Geological Survey Topographic Map.

7. schematic drawings showing the layout of the facility, discharge points, and monitoring locations.

Salem consist of two (2) pressurized water nuclear reactors. Unit 1 has an approximate net electrical capability of 1090 megawatts and Unit 2 has an approximate electrical capability of 1115 megawatts. Equipment which supports plant operation and discharges in accordance with the NJPDES permit include the once-through non-contact cooling water (DSN's 481-486), oil skimmers (DSN's 487B, 489A, and 489B), the non-radioactive liquid waste discharge system (DSN 48C), and stormwater runoff (DSN's 487, 488, 489, 490, 491).

The once-through non-contact cooling water (DSN's 481-486) is designed to dissipate waste heat rejected by the steam electric turbine condensers. The Delaware River Estuary provides the cooling water for steam condensing. Identical circulating water systems are provided for each condenser.

The gravity separation oil skimmers receive precipitation runoff flow from the Station Power Transformer sumps, Auxiliary Power Transformers sumps, and the Main Station Transformers. The Turbine Building Sump Pumps also discharge to #1 & #2 oil skimmers and the auxiliary boiler blowdown discharges to #3 oil skimmer.

The non-radioactive liquid waste disposal system treats liquid waste from the steam generator blowdown system, regenerant wastes from the demineralizer systems and floor drains in the the area of the chemical treatment facilities. The flow is treated by primary clarification and pH adjustment prior to discharge to the Delaware River.

JUN 0 1 1990

Stormwater runoff is collected and directed to the Delaware River Estuary through the yard drain systems. Most of these discharges are tidally flooded with river water making the discharge more representative of river water then precipitation runoff.

Based on internal review of this document additional analyses are being performed at specific outfalls. The results of these analyses will be transmitted as soon as they are completed to supplement this application.

If you have or any of the members of your staff have any questions concerning the information provided herein, please contact Mr. Edward J. Keating at (609) 339-1466. We would like to meet with you or your staff at your earliest convenience to discuss this matter.

Sincerely,

Enclosure

County of Salem
State of New Jersey

I, Steven E. Miltenberger, Vice President and Chief Nuclear Officer, certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information it true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including the possibility of fine and/or imprisonment.

Steven E. Miltenberger
Vice President and
Chief Nuclear Officer

Sworn and subscribed to
before me this
1st day of June 1990

Notary Public of New Jersey
My Commission Expires

LARAINE Y. BEARD
Notary Public of New Jersey
My Commission Expires May 1, 1991

County of Salem
State of New Jersey

I, Lynn K. Miller, General Manager - Salem Operations, certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including the possibility of fine and/or imprisonment.

Lynn K. Miller
General Manager -
Salem Operations

Sworn and subscribed to
before me this
1 day of June 1990

Ronald V. Peters
Notary Public of New Jersey
My Commission Expires

SALEM GENERATING STATION
APPLICATION FOR RENEWAL
NJPDES PERMIT NO. NJ0005622
DISCHARGE TO SURFACE WATER

CONTENTS

Let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

STANDARD APPLICATION FORM (CP #1)

CONSTRUCTION PERMIT NUMBER 1

CONSTRUCTION AND DISCHARGE PERMITS

READ REQUIREMENTS — FOLLOW INSTRUCTIONS CAREFULLY — PLEASE PRINT OR TYPE

1a. Applicant/Owner** Public Service Electric and Gas Co. Telephone (609) 339-4199

Permanent Legal Address 80 Park Plaza

City or Town Newark State NJ Zip Code 07101

Federal Tax I.D. or S.S. #

1b. Applicant/Operator Public Service Electric and Gas Co. Telephone (609) 339-2900

Permanent Legal Address P.O. Box 236

City or Town Hancocks Bridge State NJ Zip Code 08038

1c. Co-permittee* N/A Telephone ( )

Permanent Legal Address

City or Town State Zip Code

2. Location of Work Site Artificial Island

Name of Facility, if applicable Salem Generating Station

Address (Street/Road) End of Buttonwood Road (Artificial Island)

Lot No. 4.01 & 5.01 Block No. 26 E.P.A. I.D. # NJD077070811

City or Town Hancocks Bridge State NJ Zip Code 08038

Municipality Lower Alloways Creek Township County Salem

3. If applicable, give name of: **Engineer/Surveyor/Well Driller/Geologist/Soil Scientist** *(Specify)*

Name N/A N.J. License No.

Name of Firm, if employee

Address (Street/Road)

City or Town State Zip Code

Municipality County

Telephone ( )

4. This is an application for NJPDES-DSW Permit

(Name of permit, certification, approval, jurisdictional determination, or exemption. See Item 9, next page.)

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* *This section must be completed by any local governmental unit when it is a Co-permittee. (Not required for Treatment Works Approvals.)*

** *Sewer System Applications (Treatment Works Approvals) should be made on behalf of the eventual owner of the proposed system.*

DETACH FORM FROM PRECEDING DOCUMENT

5. Fee is attached (if applicable). $ N/A

6. Estimated construction cost of project:

   a. $ N/A total cost of the project
   b. $ N/A portion for which this permit is requested

7. I have included certifications of any public notifications. ___Yes X No

8. If applicable:
   (For Waterfront Development and Stream Encroachment applications, 8c. must be completed.)

   a. Source of Water Supply Delaware River and on-site wells
   b. For Treatment at (Water Treatment Plant)
   c. Stream, Waterway, Pond or Lake Delaware River
   d. Wastewater Treatment Facility

9. Have any other applications for this site/project been submitted, or have any state permits been issued for this project? *(If yes, indicate status and project number below.)*

   X Yes ___No ___Decision

   Identify any state Green Acres or federal Land and Water Conservation Fund projects separately.

* See Attached Listing **PERMIT TYPE** *(Use additional sheets if necessary)*	**APPLICATION STATUS** (Pending - Approved)	**PROJECT #**
9.1 CAFRA		
9.2 Waterfront Development		
9.3 Tidal or Coastal Wetlands		
9.4 Freshwater Wetlands Permit		
9.5 Freshwater Wetlands Transitional Area Waiver (after July 1, 1989)		
9.6 Stream Encroachment		
9.7 Water Quality Certificate (Section 401)		
9.8 Open Water Fill		
9.9 Tidelands (Riparian) Grant, Lease or License		
9.10 Dam Construction/Repair		
9.11 Purchase Water Diversion:		
9.12 Divert Water Supply for Public Use		
9.13 Divert Surface Waters for Private Use		
9.14 Divert Subsurface/Percolating Water for Private Use		
9.15 Well Drilling		
9.16 Permanent Water Lowering		

	PERMIT TYPE *(Use additional sheets if necessary)*	APPLICATION STATUS (Pending - Approved)	PROJECT #
9.17	Temporary Water Lowering		
9.18	Construct/Modify, Operate Public Potable Water Works		
9.19	Connection between an approved water supply and non-approved supply		
9.20	Sewer Systems: Collectors, Pump Station, etc		
9.21	Exemption from Sewer Ban		
9.22	New Jersey Pollution Discharge Elimination System (Specify)		
9.23	Solid Waste Permits (Specify)		
9:24	Hazardous Waste Permits (Specify)		
9.25	Air Quality Permits (Specify)		
9.26	Delaware and Raritan Canal Review Zone "Certificate of Approval"		
9.27	Pinelands Certificate		
9.28	Green Acres Program Review "Certificate of Approval" (Specify projects)		
9.29	Other State agencies' permits		
9.30	Local Permits		
9.31	Federal Permits		

10. Brief Description of the Proposed Project and Intended Use:

Facility discharges include:

A) Non-contact cooling water to dissipate waste heat, B) Storm water runoff, C) effluent from oil skimmers which treat auxiliary boiler blowdown and potentially oily wastes, and D) effluent from the non-radioactive liquid waste disposal system which treats steam generator blowdown, regenerant wastes from the demineralizer systems, and floor drains in the vicinity of the chemical treatment facilities.

11. I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment.

Steven E. Miltenberger
Type: Name and Date

Signature of Applicant/Owner

Vice President and Chief Nuclear Officer
Type: Position

6-1-90
Date

L. K. Miller
Type: Name and Date

Signature of Applicant/Operator

General Manager - Salem Operations
Type: Position

6/1/90
Date

Type: Name and Date

Signature of Co-permittee*

Type: Position

Date

ENDORSEMENTS

Some permit applications require specific endorsements of owners, agents, municipalities, etc. Endorsements may be required for your permit.

Verify the need for endorsements in the "Requirements" section of the Standard Application Form CP #1 booklet or with the appropriate DEP agency.

A. PROPERTY OWNER'S CERTIFICATION*

I hereby certify that _____
Property Owner's Name

is the owner of the property upon which the proposed work is to be done. This endorsement is certification that the owner grants permission for the conduct of the proposed activity.

In addition, the aforementioned property owner shall certify:

1. Whether any work is to be done within an easement — Yes_____ No_____
(Initial) *(Initial)*

2. Whether any part of the entire project (i.e., pipeline, roadway, cable, transmission line, etc.) will be located within property belonging to the State of New Jersey — Yes_____ No_____
(Initial) *(Initial)*

Type or Print Name and Address of Owner, if different from Item 1 on Page 1

Date

Signature of Owner

* *Not required for Sewer System Application (Treatment Works Approvals)*

B. APPLICANT'S AGENT

I, the Applicant/Owner_____or Applicant/Operator (when the owner of the facility and the operator of the facility are distinct parties)_____

or Co-permittee (when the Co-permittee is a local governmental unit)_____

authorize to act as my agent/representative in all matters pertaining to my application the following person:

Name_____ Phone_____

Address_____ County_____

City or Town_____ State_____ Zip Code_____

Occupation/Profession_____

_____
(Signature of Applicant/Owner)

_____
(Signature of Applicant/Operator)

_____
*(Signature of Co-permittee)**

AGENT'S CERTIFICATION

Sworn before me
this_____day of
_____19_____

I agree to serve as agent for the above-mentioned applicant

_____
Notary Public

_____
(Signature of Agent)

C. **PROPER CONSTRUCTION AND OPERATION CLAUSE**
(Sewer Extensions, Treatment Works Approval, Water Works)

I, the Applicant/Owner_____or Applicant/Operator (when the owner of the facility and the operator of the facility are distinct parties)_____

or Co-permittee (when the Co-permittee is a local governmental unit)_____.

agree that the works will be properly constructed and operated in accordance with the engineering plans and specifications, as approved, and the conditions under which approval is granted by the State Department of Environmental Protection.

_____
(Signature of Applicant/Owner)

_____
(Signature of Applicant/Operator)

_____
*(Signature of Co-permittee)**

* *Not required for Sewer System Application (Treatment Works Approvals)*

D. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS, SURVEYOR'S OR ENGINEER'S REPORT

I hereby certify that the engineering plans, specifications and engineer's report applicable to this project comply with the current rules and regulations of the State Department of Environmental Protection with the exceptions as noted.

____
(Signature of Engineer)

____
Type: Name and Date

____
Position, Name of Firm

PROFESSION ENGINEER'S EMBOSSED SEAL

E. OWNER'S COMPLIANCE WARRANT (NJPDES ONLY)

I, the Applicant/Owner Public Service Electric and Gas Co. or Applicant/Operator (when the owner of the facility and the operator of the facility are distinct parties)_______________ or Co-permittee (when the Co-permittee is a local governmental entity)_______________, hereby agree that any treatment works constructed to meet the NPDES/NJPDES permit discharge limits will be properly constructed and operated to meet those limits. I also warrant that the discharge(s) will meet the effluent limitations as described in the NPDES/NJPDES permit, as issued.

6-1-90 *(Date)*	[signature] *(Signature of Applicant/Owner)*
(Date)	*(Signature of Applicant/Operator)*
(Date)	*(Signature of Co-permittee)**

* *Not required for Treatment Works Approvals*

F. PARTY RESPONSIBLE FOR THE CONSTRUCTION OF THE PROPOSED FACILITY
(Sewer Extensions, Treatment Works Approvals)

Name of Developer_____

Phone_____

Address_____ County_____

City_____ State_____ Zip Code_____

Contact Person_____

9. SALEM GENERATING STATION PERMIT LISTING
TABLE NO. 1

SECTION	DESCRIPTION	APPLICATION PERMIT NO. STATUS
FEDERAL GOVERNMENT		
U.S. Army Corp of Engineers	Access Road	APPROVED NAPOP R-82-0616-11
U.S. Army Corp of Engineers	Debris Removal	APPROVED NAPOP R-85-0308-11
U.S. Army Corp of Engineers	Maintenance Dredging	APPROVED NAPOP R-86-0830-9
U.S. Army Corp of Engineers	Intake Maintenance Dredging	APPROVED NAPOP R-87-0405-16
INTERSTATE AGENCIES		
Delaware River Basin Commission	Salem Construction	APPROVED D-68-20CP
Delaware River Basin Commission	Approval of Wells	APPROVED D-75-94
Delaware River Basin Commission	Well #6	APPROVED D-79-66
Delaware River Basin Commission	Water Use	APPROVED 76-EP-482
STATE GOVERNMENT - N.J. DEPT. OF ENVIRONMENTAL PROTECTION		
Air Pollution Control	Circ. Water Intake Heat Boiler	APPROVED 0066153
Air Pollution Control	Tsc. Emergency Diesel Gererator	APPROVED 066249
Air Pollution Control	Fuel Oil Tank No. 11	APPROVED 012957
Air Pollution Control	Aux. Heating Boilers #1 & #2	APPROVED 009649
Air Pollution Control	Aviation Fuel Storage Tank	APPROVED 066248
Air Pollution Control	Lube Oil Reservoir No. 1	APPROVED 012935
Air Pollution Control	Main Fuel Oil Tank	APPROVED 005210
Air Pollution Control	Lube Oil Storage Tank No. 11	APPROVED 009673
Air Pollution Control	Emergency Diesel Generator 1A	APPROVED 018553
Air Pollution Control	NAOCL Storage Tank No. 1	APPROVED 013507
Air Pollution Control	NAOCL Storage Tank No. 2	APPROVED 013508
Air Pollution Control	Fuel Oil Tank No. 12	APPROVED 012958
Air Pollution Control	Fuel Oil Tank No. 21	APPROVED 012959
Air Pollution Control	Fuel Oil Tank No. 22	APPROVED 012960
Air Pollution Control	Lube Oil Storage Tank No. 12	APPROVED 009674
Air Pollution Control	Lube Oil Storage Tank No. 21	APPROVED 009675
Air Pollution Control	Lube Oil Storage Tank No. 22	APPROVED 009676
Air Pollution Control	Lube Oil Reservoir No. 2	APPROVED 012936
Air Pollution Control	Emergency Diesel Generator 1B	APPROVED 018554
Air Pollution Control	Emergency Diesel Generator 1C	APPROVED 018555
Air Pollution Control	Emergency Diesel Generator 2A	APPROVED 018556
Air Pollution Control	Emergency Diesel Generator 2B	APPROVED 018557
Air Pollution Control	Uninterrupted Power Supply Generator	APPROVED 083671
Air Pollution Control	Emergency Diesel Generator 2C	APPROVED 018558
Waste Management	Hazardous Waste Facility Registration	APPROVED NJD077070811
Div. Fiscal Serv. & Supp.	Laboratory Certification	APPROVED 17327

SECTION	DESCRIPTION	APPLICATION PERMIT NO. STATUS
Water Resources	Water Allocation Permit	APPROVED 2216P
Water Resources	Surface Water Discharge Permit	APPROVED NJ0005622
Water Resources	Public Water Supply	APPROVED PWS1704300
Coastal Resources	Type "B" Wetlands Permit (Stormdrain)	APPROVED 87-0549-2
Coastal Resources	Riparian License	APPROVED 69-80
Coastal Resources	Waterfront Develop. Permit (River Dredging)	APPROVED 84-0774-1
Coastal Resources	Waterfront Develop. Permit (Intake Dredging)	APPROVED 87-0700-1
Coastal Resources	Waterfront Development Permit (Stormdrain)	APPROVED 87-0878-1

WQM-001
12/87

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM
SUPPLEMENT TO THE STANDARD APPLICATION FORM CP #1

APPLICATION TO DISCHARGE WASTEWATERS AND RESIDUALS TO THE STATE'S LAND AND WATER

Answer all questions. Please print or type.

1. Circle the letter(s) for those discharge activities presently conducted or to be conducted as part of the facility's operation. (Seasonal facility operation shall be considered as a present operation.)
   In the space provided, indicate if there is an existing NJPDES or NJPDES permit for each circled activity (yes/no).
   In the space provided, indicate if this application is for a "new" source, and "existing" source, or a "renewal" of a current permit.

DISCHARGE ACTIVITY	YES/NO	NEW, EXISTING, RENEWAL
Wastewater Facility Management		
A. Sanitary Surface Water Discharge		
(B) Industrial/Commercial Surface Water Discharge	Yes	Renewal
B4. General Permit Fuel Cleanup		
(C) Thermal Surface Water Discharge	Yes	Renewal
C6. General Permit Non-Contact Cooling Water		
D. Land Application of Sludge and Septage		
L. Indirect Discharge to POTW (SIU)		
N. Community Septic System		
P. Spray Irrigation - Sanitary		
Q. Overland Flow - Sanitary		
R. Infiltration/Percolation Lagoon - Sanitary		
S. Surface Impoundment - Sanitary		
T. Underground Injection (UIC) - Sanitary		
V. Sludge Processing/Distribution Facility		
(W) Oil/Water Separators	Yes	Renewal
Z. Residuals Transfer Facilities (Sludge)		
1. Municipal Solid Waste Transfer Facility		
2. Sanitary Sludge Storage Facility		
3. Residuals Infiltration/Percolation Lagoon		
4. Residuals Surface Impoundment		
(S) Group I - Stormwater Runoff	Yes	Renewal
SG. General Permit Industrial Site Storm Water Runoff		
6. Group II - General Permit Stormwater Runoff		
Ground Water Quality		
E. Land Application of Industrial Waste Residuals		
E2. In Situ Treatment		
F. Landfill - Industrial/Commercial Waste		
G. Spray Irrigation - Industrial		
H. Overland Flow - Industrial		
I. Infiltration/Percolation Lagoon - Industrial		
J. Surface Impoundment - Industrial		
K. Underground Injection (UIC) - Industrial		
M. Subsurface Disposal - Industrial		
O. Landfill - Municipality/Sanitary		
7. Underground Storage Tanks		
Other		
B1. DPCC-DCR/BMP Plan		
BZ BMP Plan		
(B3) DPCC/DCR/Plan	Yes	Existing
D. Dredge Spoils		
X. Confidentiality Request		
Y. 316 Variance Work		
8. Other/Miscellaneous		
9. Master Performance Permits		

2. Location of Discharge: Latitude N39° 21' 53" Longitude W75° 32' 12"
   Receiving Stream Delaware River
   River Basin Delware River Basin

(Over)

3. Name and address of applicant's parent corporation, subsidiary, or partnership data.
(Attach additional sheets if necessary.)

Name Public Service Enterprise Group Telephone No. (201) 430-7000

Mailing Address 80 Park Plaza

City or Town Newark State NJ Zip Code 07101

4. Facility's Contact Person *(This person must be responsible for and familiar with the facility operation.)*

Name L. K. Miller - General Manager - Salem Operations Telephone No. (609) 339-2900

Address of Operator Public Service Electric and Gas Company P.O. Box 236

City or Town Hancocks Bridge State NJ Zip Code 08038

5. Is the facility a ☐ Federal Facility ☐ Public Facility (a local government subdivision)
☐ State Facility ☒ Private Facility

6. List in order of priority all Standard Industrial Codes (SIC) which best reflect the principal products or services provided by the facility.

SIC	PRODUCTS OR SERVICES PROVIDED
4911	Generation of Electricty for Sale

7. If applicable, identify all administrative orders, temporary or permanent injunctions, civil administrative penalties, civil penalties, or criminal actions concerning pollution issued against the facility during the last five (5) years.

ENFORCEMENT ACTION	DATE OF ACTION	RESULT
See Attached		

8. If applicable, list all locations involved in the storage of solid or liquid waste at the facility for which the NJPDES application is being made and the ultimate disposal sites of solid or liquid wastes generated by the facility being permitted.

STORAGE SITE(S)	ULTIMATE DISPOSAL SITE(S)
See Attached	

7. SALEM GENERATING STATION ENFORCEMENT ACTIONS

ENFORCEMENT ACTION	DATE	RESULT
Administrative Order and Notice of Civil Administrative Penalty	2/28/90	Payment submitted

8. Locations at Salem Generating Station Used for Storage of Solid or Liquid Wastes and Ultimate Disposal of Each

WASTE TYPE	WASTE SOURCE	ULTIMATE DISPOSAL*
Sludge	Oil Skimmer Tanks DSN'S 489A, 489B & 487B	Trucked off-site for disposal by approved method to Rollins Environmental Services
Waste Oil	Oil Skimmer Tanks DSN'S 489A, 489B & 487B	Trucked off-site for disposal by approved method to Rollins Environmental Services
Sludge	Non-Radioactive Waste Sludge Holding Tank DSN 48C	Trucked off-site for disposal by approved method to the DuPont Treatment Facility
Liquid	Liquid Radioactive Waste System - DSN's 481A, 482A, 484A & 485A	Recycled, concentrated and solidified for off-site disposal as a solid, or treated and discharged to the Delaware River in accordance with limits in 10 CFR 20
Solid	Spent Nuclear Fuel	Stored on-site in spent fuel pool
Solid	Low level solid Radioactive Waste	Shipped off-site to NRC licensed burial site at Barnwell, S.C.

* The ultimate disposal facilities are representative of licensed facilities employed by Public Service Electric and Gas Company for Waste Disposal. Other approved ultimate disposal facilities may be utilized for waste disposal although not listed here.

Public Service
Electric and Gas
Company

Steven E. Miltenberger

Vice President and Chief Nuclear Officer

Public Service Electric and Gas Company P.O. Box 236, Hancocks Bridge, NJ 08038 609-339-1100

VIA CERTIFIED MAIL

JUN 0 1 1990

NLR-E90128

Honorable Michael H. Facemyer
Mayor
Lower Alloways Creek Township
Locust Island Road
Hancocks Bridge, NJ 08038

Dear Mayor Facemyer:

APPLICATION IN SUPPORT OF A REQUEST FOR RENEWAL
NJPDES PERMIT NJ0005622
SALEM GENERATING STATION
MUNICIPALITY ENDORSEMENT

Public Service Electric and Gas Company (PSE&G) is filing an application in support of a request to renew the New Jersey Pollutant Discharge Elimination System (NJPDES) permit for the Salem Generating Station, located within your municipality. This permit allows for the discharge of recirculated cooling water, certain other effluents, and stormwater runoff from the facility.

PSE&G, pursuant to N.J.A.C. 7:14A-2.1(k), is required to forward a copy of its application to the municipality where the facility is located and to obtain the municipality's endorsement of same. This endorsement, which must be in the form of a resolution, adopted by the Mayor and Council, must specify:

1. That the project is in conformance with all municipal ordinances; and

2. that the Mayor and Council of Lower Alloways Creek Township accept the project as proposed.

For your convenience, I have attached a copy of the pertinent section of N.J.A.C. 7:14A-2.1(k).

Assuming the above statements are accurate, PSE&G respectfully requests that the Lower Alloways Creek Township Council adopt a resolution endorsing the attached application at the Township's earliest convenience. If you or any members of your staff have any questions, please contact Edward J. Keating at (609) 339-1466.

Sincerely,

Attachment

C G. Caporale, NJDEP

STATE OF NEW JERSEY

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM (NJPDES)
SUPPLEMENT TO THE STANDARD APPLICATION FORM CP #1

ENDORSEMENTS

NOTICE: The following citation relates to violations of the Water Pollution Control Act

N.J.S.A. 58:10A-10 Violations: remedies, fines & penalties: enforcement

Paragraph (f) "Any person who knowingly makes a false statement, representation, or certification in any application, record, or other document filed or required to be maintained under this act or who falsifies, tampers with or knowlingly renders inaccurate, any monitoring device or method required to be maintained pursuant to this act, shall upon conviction, be subject to a fine of not more than $10.000.00 or by imprisonment for not more than 6 months or by both"

A. Endorsements by the municipality in which the project is to be located.

CERTIFICATION BY GOVERNING BODY

This project as proposed is in conformance with the requirements of all municipal ordinances and the Governing Body of this municipality/authority approves of the project as proposed by the applicant.

Endorsed by: _____
(Name of Municipality of Authority)

Signed: _____

_____
Print or Type: Name & Title: Date:

Cite authorization to sign for the Governing Body
Submit the resolution granting such, authority to sign.
If no such resolution granting authority to sign exists, the full resolution approved by the Governing Body endorsing the project must be submitted with this application.

NOTE:

Where a municipality has created a sewerage authority, utilities authority, municipal utilities authority or a joint meeting responsible for sewers in the area, the endorsement of the affected sewerage authority(ies) is requested for a sewer extension approval.

B. Determination by the WOMP Agency

This project or activity as proposed has been reviewed by this agency in accordance with the Areawide Water Quality Management Plan (WOMP). The following determination has been made by either the appropriate designated WOMP agency for the Department (where appropriate).

- ☐ Project is consistent with Plan
- ☐ Project is not Inconsistent with Plan
- ☐ Project is inconsistent with Plan

Name of Project	Authorized Signature
Name of Plan	Name (Print or Type) Date
Name of Agency	Title

NOTE: For the name of the appropriate WOMP agency or any other questions contact the Division of Water Resources at (609) 984-4429.

A finding of not inconsistent has the same effect as a finding of consistent.
A finding of inconsistent must be accompanied by a letter describing the reason for the finding.

Sewer systems (interceptors, collectors, pump stations) for residential developments of 50 units or more and industrial/ commercial and mixed use (including residential) developments having flows of 25,000 gpd or more do require consistency determinations. Projects that are extensions or modifications to existing projects where the cumulative total for the project is greater than 50 units or 25,000 pgd, as appropriate, shall require a consistency determination (N.J.A.C. 7:15-1 et seq).

Sewer systems to serve less than 50 units or less than 25,000 gpd do not require a consistency determination but must still be consistentwith approved WQM/201 plans.

C. Endorsement by the Sewerage Agency in which the project is to be located.

CERTIFICATION BY THE 201 SEWERAGE AGENCY

This project as proposed is in conformance with the requirements of all Sewerage Agency rules and regulations and the applicable "201" Facilities Plan and the Governing Body of this Sewerage Agency approves of the project as proposed by the applicant.

Endorsed by:_____
Name of Treatment Plant

Signed:_____

_____
Print or Type: Name & Title Date

Cite authorization to sign for the Sewerage Agency
Submit the resolution granting such authority to sign. If no such resolution granting authority to sign exists, the full resolution approved by the Sewerage Agency endorsing the project must be submitted with this application.

D. Endorsement by owner of the treatment plant receiving the wastewater.

CERTIFICATION BY OWNER

SEWAGE TREATMENT FACILITY

I (we) hereby certify that the sum of the DEP currently approved projects plus the actual metered flow for the (name of the plant) does not exceed the present design capacity. I (we) further certify that with the addition of this project, the approved design capacity will not be exceeded. Further I (we) certify that the treatment plant is currently complying with its New Jersey Pollutant Discharge Elimination System permit (NJPDES) requirements and should continue to do so with the additional flow from this project.

Endorsed by:_____
Name of Treatment Plant

Signed:_____

_____
Print or Type Name & Title Date

If the owner is a public agency cite authorization to sign for the publicly owned treatments works
Submit the resolution granting such authority to sign. If no such resolution granting authority to sign exists the full resolution approved by the governing body endorsing the project must be submitted with the application.

E. 1) Pursuant to N.J.S.A. 58:10A-6 and N.J.A.C. 7:14a-12.1 et seq, no person may build, install, modify or operate any facility for the collection treatment or discharge of any pollutant including any "extension" as defined in the regulations without the prior approval of the Department.

2) Approvals, permits, service contracts or other reservations of capacity issued or agreed to by any participating municipality or sewerage agency does not constitute the required approval of the Department.

3) For computation of actual flow at the sewer plant, the average flow processed by the facility for the four (4) month period immediately proceeding the submission shall be submitted used. Under NJPDES Regulations no application shall be submitted if the waste treatment facility is not meeting its discharge permit limits. Under Sewer Ban Regulations, no project is to be submitted if the sewer plant is committed to 100% of its design capacity.

4) The owner of the sewage treatment plant shall submitted to NJDEP on a quarterly basis the status of sewage flow entering the plant including all outstanding approved sewer extension permits not yet on line. These reports will be used for tracking capacity at the receiving sewage treatment plant See Form WQM-007.

(k) Applicants for NJPDES permits shall provide endorsements and comments as follows:

1. Prior to the submission of an application for a permit to discharge to surface or groundwater, DAC, or to gain approval for a treatment works or sewer connection, the applicant shall submit (return receipt requested) a copy of the application and the applicable information required pursuant to this chapter to the affected sewage authority(ies) and to the municipality in which the discharge(s) will be located, with a request that they endorse the application.

i. Permit applications submitted to the Department for a new discharge to surface water or groundwater, DAC, or to gain approval for a treatment works on sewer connection shall include the endorsement from both the affected sewage authority(ies) and municipality in which the discharge(s) will be located.

ii. Applications submitted to the Department for renewal of NJPDES permits or discharges which exist as of March 6, 1981 shall include a copy of all endorsements and comments received or a copy of the request for an endorsement and receipt (return receipt requested) sent to the affected sewage authority(ies) and municipality in which the discharge(s) will be located.

2. An endorsement by a municipality shall be as follows:

i. An endorsement by a municipality concerning a proposed discharge or treatment works shall include the following statements:

(1) The project as proposed is in conformance with the requirements of all municipal ordinances; and

(2) The governing body of the municipality accepts and approves of the project as proposed by the applicant.

ii. An endorsement shall be in the form of a resolution by the governing body.

iii. Proof that the applicant has made a request for endorsement shall be submitted to the Department by the applicant with the application.

iv. If the endorsement is to be signed by anyone other than the mayor, the municipality shall file with the Department an official resolution by the governing body delegating such responsibility to a named individual.

3. An endorsement by an affected sewage authority shall be as follows:

i. For purposes of this section, "affected sewerage authority" means the sewerage authority whose service area includes the site where the discharge requiring a NJPDES permit is located.

ii. An endorsement by an affected sewage authority concerning a proposed discharge of pollutants or a treatment works shall include the following statements:

(1) The project as proposed is in conformance with the applicable 201 facilities plan and all ordinances, rules or regulations of the authority.

(2) The governing body of the authority accepts and approves of the project as proposed by the applicant.

iii. The endorsement must be in the form of a resolution by the governing body.

iv. Proof that the applicant has made a request for endorsement shall be submitted to the Department by the applicant with the application.

4. The lack of an endorsement for renewal of NJPDES permits of discharges which exist as of March 6, 1981 may have the following effect:

i. The affected sewage authority or municipality must endorse the application or submit comments within 60 days of the request for endorsement. Prior to the expiration of the 60-day period to request an endorsement, the municipality or sewage authority may request a 30-day extension for review of a request for endorsement.

ii. Any document issued by a sewage authority or a municipality which is a tentative, preliminary, or conditional approval shall not be considered an endorsement.

iii. Where the affected sewerage authority or municipality denies endorsement to a project, it shall state all reasons for rejection or disapproval in a resolution and send a certified copy of the resolution to the Department.

iv. Where the municipality or affected sewage authority denies an endorsement or does not issue an endorsement, the Department shall review the reasons for denial or for the lack of endorsement, if known. These reasons shall be considered by the Department in making a determination of whether to issue a draft permit in accordance with N.J.A.C. 7:14A-7.6.

5. The lack of an endorsement or denial of an endorsement for a new discharge to surface or groundwater, DAC, or approval of a treatment works or sewer connection shall have the following effect:

i. When the affected sewage authority or municipality denies endorsement to a project, the permit application may be determined by the Department to be incomplete for processing.

ii. Where the municipality or affected sewage authority denies an endorsement or does not issue an endorsement, the Department shall review the reason for denial or for the lack of endorsement, if known.

(l) After December 5, 1985, the Department shall not, except as provided in (n) below, issue a permit under N.J.A.C. 7:14A for the following new or expanded DTW unless a governmental entity or sewerage agency is either the sole permittee or co-permittee under N.J.A.C. 7:14A for that DTW:

1. DTW that, using subsurface sewage disposal systems or any other means, serve more than one property, dwelling unit, commercial unit, or other premises, whether or not such DTW require NJPDES discharge permits; and

2. Any other DTW that require NJPDES discharge permits.

(m) For purposes of this section, a "new or expanded DTW" means:

1. A DTW that was not in existence or under construction on or before December 5, 1985; or

2. A DTW whose actual or proposed capacity exceeds the capacity identified for that DTW in the areawide WQM Plan that was in effect on December 5, 1985.

(n) This section does not apply to the following new or expanded DTW:

1. Sewers or pumping stations;

2. New or expanded DTW whose only new or expanded components handle sludge only, except as required in Department rules on sludge management adopted pursuant to N.J.S.A. 13:1E-1 et seq.; or

3. New or expanded DTW owned by a BPU-regulated sewer utility, if that DTW replaces or expands a DTW that discharges at the same location, if:

i. A DTW that discharged at the same location was owned by that BPU-regulated sewer utility prior to the effective date of N.J.A.C. 7:15-4; and

ii. That sewer utility was a BPU-regulated sewer utility prior to the effective date of N.J.A.C. 7:15-4.

(o) A school district shall not be the sole permittee or co-permittee under N.J.A.C. 7:14A for any DTW that serves any property other than property of that school district.

As amended, R.1982 d.495, effective January 17, 1983.
See: 15 N.J.R. 85(a).
(c): "interim NJPDES permit" exception added.
Amended by R.1987 d.458, effective November 16, 1987.
See: 19 N.J.R. 2085(a), 19 N.J.R. 2152(a).
Substantially amended.
Amended by R.1989 d.339, effective July 3, 1989.
See: 21 N.J.R. 707(a), 21 N.J.R. 1883(a).
At (a), office name changed from "Water Quality Management".
Amended by R.1989 d.517, effective October 2, 1989.
See: 20 N.J.R. 2198(a), 21 N.J.R. 3099(a).
Added new (l) through (o), rules pertaining to new or expanded DTW.

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EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

Form Approved.
OMB No. 2000-0059
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FORM 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
481	39	28	15	75	32	30	Delaware River
482	39	28	15	75	32	30	Delaware River
483	39	28	15	75	32	30	Delaware River
484	39	28	15	75	32	30	Delaware River
485	39	28	15	75	32	30	Delaware River
486	39	28	15	75	32	30	Delaware River

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
				1T	
481	Non-Contact Cooling Water	406.63 MGD	See Attachment		4A
				1T	
482	Non-Contact Cooling Water	389.22 MGD	See Attachment		4A
				1T	
483	Non-Contact Cooling Water	367.86 MGD	See Attachment		4A
				1T	
484	Non-Contact Cooling Water	361.64 MGD	See Attachment		4A
				1T	
485	Non-Contact Cooling Water	361.19 MGD	See Attachment		4A
				1T	
486	Non-Contact Cooling Water	353.03 MGD	See Attachment		4A

OFFICIAL USE ONLY *(effluent guidelines sub-categories)*

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FORM 2C NPDES

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U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
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I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
487	39	27	45	75	32	00	Delaware River
487B	39	27	45	75	32	00	Delaware River
488	39	27	45	75	32	00	Delaware River
489	39	27	45	75	32	00	Delaware River
489A	39	27	45	75	32	00	Delaware River
489B	39	27	45	75	32	00	Delaware River

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
487	North Yard Drain	0.01 MGD	See Attachment	4A	
487B	Oil Skimmer #3	0.002 MGD	See Attachment	1H	4A
488	West Yard Drain	0.07 MGD est.	See Attachment	4A	
489	South Yard Drain	0.01 MGD	See Attachment	4A	
489A	Oil Skimmer #1	0.003 MGD	See Attachment	1H	4A
489B	Oil Skimmer #2	0.003 MGD	See Attachment	1H	4A

OFFICIAL USE ONLY *(effluent guidelines sub-categories)*

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FORM 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS

Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	DEG.	MIN.	SEC.	DEG.	MIN.	SEC.	
48C	39	27	45	75	32	00	Delaware River
490	39	28	45	75	32	00	Delaware River
491	39	28	45	75	32	30	Delaware River

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
48C	Demineralizer Waste and Drains	0.34 MGD	See Attachment	4A	1O
				1Q	1U
				2C	
490	Yard Drain	Precipitation	See Attachment	4A	
		Runoff			
491	East Yard Drain	0.01 MGD est.	See Attachment	4A	

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C. Except for storm runoff, leaks, or spills, are any o a discharges described in Items II-A or B intermittent easonal?

XX YES (complete the following table) — NO (go to Section III)

1. OUTFALL NUMBER (list)	2. OPERATION(s) CONTRIBUTING FLOW (list)	3. FREQUENCY a. DAYS PER WEEK (specify average)	3. FREQUENCY b. MONTHS PER YEAR (specify average)	4. FLOW a. FLOW RATE (in mgd) 1. LONG TERM AVERAGE	4. FLOW a. FLOW RATE (in mgd) 2. MAXIMUM DAILY	4. FLOW b. TOTAL VOLUME (specify with units) 1. LONG TERM AVERAGE	4. FLOW b. TOTAL VOLUME (specify with units) 2. MAXIMUM DAILY	4. FLOW b. TOTAL VOLUME (specify with units) 3. DURATION
481A	Liquid Radwaste	7	12	0.012	0.014	4.7 MGY	0.5 MGM	0.2
482A								
484A								
485A								

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

XX YES (complete Item III-B) — NO (go to Section IV)

B. Are the limitations in the applicable effluent guideline expressed in terms of production (or other measure of operation)?

YES (complete Item III-C) — XX NO (go to Section IV)

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION a. QUANTITY PER DAY	1. AVERAGE DAILY PRODUCTION b. UNITS OF MEASURE	1. AVERAGE DAILY PRODUCTION c. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	2. AFFECTED OUTFALLS (list outfall numbers)

IV. IMPROVEMENTS

A. Are you now required by any [redacted], State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or [redacted] or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit [redacted], administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ YES (complete the following table) — XX NO (go to Item IV-B)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS a. NO.	2. AFFECTED OUTFALLS b. SOURCE OF DISCHARGE	3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE a. REQUIRED	4. FINAL COMPLIANCE DATE b. PROJECTED

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. ☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

EPA NUMBER (copy from Item 1 of Form 1)
NJ0005622

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OMB No. 2000-0059
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V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided.
NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
Explanation included with Part 2C-v, sections A, B, and C.			

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ YES *(list all such pollutants below)* ☒ NO *(go to Item VI-B)*

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

XX YES (identify the test(s) and describe their purposes below) — NO (go to Section VIII)

Biological toxicity testing is conducted on DSN 48C as a requirement of the NJPDES permit. The acute toxicity -96 hr LC_{50}. test is conducted every 3 months using the Sheepshead Minnow as the test organism.

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

XX YES (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below) — ☐ NO (go to Section IX)

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
National Environmental Testing (formerly Century Environmental Testing Laboratories)	1501 Grandview Ave. Thorofare NJ 08086	609-848-3939	Routine Analyses required by Discharge Monitoring Reports (DMR's) except for TRC, pH and Temperature
South Jersey Testing Lab Inc	Box 360 Bridgeton NJ 08302	609-455-4204	
RMC Environmental Services	Fricks Lock RD#1 Pottstown PA 19464	215-499-7474	Analyses required by form 2C-V, Parts A, B, & C

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE (type or print)	B. PHONE NO. (area code & no.)
Steven E. Miltenberger - Vice President and Chief Nuclear Officer	609-339-1102
C. SIGNATURE Steven E Miltenberger	**D. DATE SIGNED** 6-1-90

II.B.3.a Flows, Sources of Pollution, and Treatment Technologies Attachment

OUTFALL NUMBER/TREATMENT DESCRIPTION

OUTFALL NOS. 481 - 486

OPERATION: Non-Contact Cooling Water
The once through circulating water system is designed to dissipate the waste heat from the steam electric turbine condensers. The Delaware River Estuary provides the cooling water for steam condensing and identical circulating water systems are provided for each condenser.

TREATMENT: The circulating water system normally receives no treatment but the system does have the capability to chlorinate if needed. In accordance with this NJPDES Permit, chlorination cannot commence until the NJDEP has been properly notified. Chlorination would be used to minimize biofouling of the condenser heat transfer surfaces and Sodium Hypochlorite solution would be injected at the suction of the circulating water pumps.

The following list identifies discharges which contribute flow to DSN's 481-486. The Schematic of Water Flow included shows the source and flowrates of each contributor:

DSNs 481A, 481B, 48C and 481C contribute flow to DSN 481.
DSNs 482A, 48C and 482B contribute flow to DSN 482.
DSN 483A contributes flow to DSN 483.
DSNs 484A, 484B, 48C, and 484C contribute flow to DSN 484.
DSNs 485A, 48C, and 485B contribute flow to DSN 485.
DSN 486A contributes flow to DSN 486.

Discharges 481A, 482A, 484A, and 485A are the effluent from the radioactive waste system. Per the current Salem NJPDES Permit (NJ0005622), PSE&G is responsible to the NRC for compliance with radiological effluent limitations, monitoring requirements, and other licensing conditions. (Part III, P.2, I.H.). These discharges are discussed further in this application under Tab 2C-V DSN 481-486.

Discharges 484B, 485B, 481B, and 482B are reactor auxiliary cooling water and discharges 481C, 483A, 484C, and 486A contribute turbine auxiliary cooling water. These discharges are currently not individually limited and are discussed further in this application under Tab 2C-V DSN 481-486.

OUTFALL NO. 487

OPERATION: North Yard Storm Drain
The North Yard Storm Drain accepts flow from roof drains, floor drains, sump pumps, #3 skimmer tank (487B), emergency flood pumps, precipitation runoff and river water influx. The majority of the flow is from the river water.

TREATMENT: No treatment is required since this is primarily river water with stormwater contribution. These waters discharge directly to the Delaware River.

OUTFALL NO. 487A[1]

OPERATION: This outfall was the Sewage Treatment Plant effluent and has been deleted from the NJPDES permit. The sewage Treatment Plant has been decommissioned and closure certification has been submitted to the NJDEP.

OUTFALL NO. 487B

OPERATION: Number 3 Oil Skimmer
The effluent is comprised of auxiliary boiler blowdown, auxiliary boiler systems leakage, and precipitation runoff.

TREATMENT: Solids and oil are removed from the water by gravity separation. Sludge is pumped out and trucked off-site to a licensed hazardous waste facility. Clarified water discharges to the Delaware River through DSN 487.

OUTFALL NO. 489

OPERATION: South Yard Drain
The South Yard Storm Drain receives flow from roof drains, #1 & 2 skimmer tanks (489A and 489B), floor drains, sump pumps, precipitation runoff and river water influx. The majority of the flow is from the river water.

TREATMENT: No treatment is required since this is primarily river water with stormwater contribution. These waters discharge directly to the Delaware River.

OUTFALL NO. 489A

OPERATION: Number 1 Skim Tank
Number 1 skim tank receives flow from the station power transformer sumps, auxiliary power transformers, turbine sump pumps, precipitation runoff and main transformers sumps.

TREATMENT: Solids and oil are removed from the water by gravity separation. Sludge is pumped out and trucked off-site to a licensed hazardous waste facility. Clarified water discharges to the Delaware River through DSN 489.

OUTFALL NO. 489B

OPERATION: Number 2 Skim Tank
Number 2 skim tank accepts flow from the auxiliary power transformers, turbine sump pumps, precipitation runoff and main transformers.

TREATMENT: Solids and oil are removed from the water by gravity separation. Sludge is pumped out and trucked off-site to a licensed hazardous waste facility. Clarified water discharge to the Delaware River through DSN 489.

OUTFALL NO. 48C

OPERATION: Non-Radioactive Liquid Waste Disposal System
Treats non-radioactive liquid wastes from the steam generator blowdown, regenerant wastes from the demineralizer systems, and drains in the areas of the chemical treatment, storage, and handling facilities.

TREATMENT: The various waste streams are mixed in a flow equalization basin. The combined flow can be treated by primary clarification and pH adjustment. Coagulant aid addition, secondary clarification, and filtration are installed options and may be utilized if necessary to meet effluent limitations. Flow is discharged to the Delaware River through any or all of DSNs 481, 482, 484, and 485.

Sludge from the process is stored in a waste sludge holding tank and trucked off-site to a licensed treatment facility.

OUTFALL NO. 488[2]

OPERATION: This outfall includes discharges from precipitation runoff, flood pumps, sump pumps, roof drains, floor drains, river water influx, and service water backwash.

Service Water Backwash - Strainers filter out remaining small particles present in the intake water. When required, the strainers are backwashed to remove the particles, which is returned to the river through outfall 488.

TREATMENT: No treatment is required since this is primarily river water. This discharges directly to the Delaware River.

OUTFALL NO. 490[2]

OPERATION: Yard Drain
This yard drain accepts precipitation runoff from the helicopter landing pad area. This outfall has been listed but only consists of a conduit penetrating the earthen embankment to allow precipitation to flow to the Delaware River.

TREATMENT: No treatment is required since this is stormwater. This water is discharged directly to the Delaware River.

OUTFALL NO. 491[2]

OPERATION: East Yard Drain
This yard drain system accepts flow from precipitation runoff.

TREATMENT: No treatment is required since this is stormwater. This water is discharged directly to the Delaware River.

1. Outfall 487A has been decommissioned. The Salem Station previously had its own sewage treatment facility which discharged via outfall 487A. The Salem sewage plant is no longer in operation and has been closed in accordance with the closure plan submitted to the NJDEP. Currently, the sewage treatment plant at Hope Creek Station treats domestic waste from Salem.

2. These outfalls were specified in the permit application and draft permit. After review, they were omitted from the final permit; thus, no permit effluent limitations or monitoring requirements apply to these outfalls at this time.

Salem Generating Station
NJPDES Permit NJ0005622

DSN 481
Non-Contact Cooling Water

This section contains only the EPA 2C-V Forms and the Permit Summary Table for this outfall. Explanations of notes, discussions of the waste stream, and further comments are combined and included as Tab 2C-V, DSN 481 - 486.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER (copy from Item 1 of Form 1)
NJ0005622

Form Approved. OMB No. 2040-0059. Approval expires 12-31-85

473-368 0 - 95 - 2

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 481

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE (optional) b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2.6	4151					1	mg/l	kg/D	2.4	3831	1
b. Chemical Oxygen Demand *(COD)*	21.0	33528					1	mg/l	kg/D	47.0	75039	1
c. Total Organic Carbon *(TOC)*	2.4	3831					1	mg/l	kg/D	2.6	4151	1
d. Total Suspended Solids *(TSS)*	40.0	63863					1	mg/l	kg/D	60.0	95795	1
e. Ammonia *(as N)*	0.16	255					1	mg/l	kg/D	0.21	335	1
f. Flow	VALUE 548		VALUE N/A		VALUE 421.82		Cont.	N/A	MGD	VALUE 406.63		Cont.
g. Temperature *(winter)*	VALUE 36.58		VALUE N/A		VALUE 18.79		Cont.	°C		VALUE 9.60		Cont.
h. Temperature *(summer)*	VALUE 39.10		VALUE N/A		VALUE 33.69		Cont.	°C		VALUE 25.56		Cont.
i. pH	MINIMUM 6.50	MAXIMUM 9.80	MINIMUM N/A	MAXIMUM N/A			260	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual	X		0.48	766			<0.01	15.97	4841	mg/l	kg/D	<0.05	N/A	1
c. Color	X									CLPT Units	N/A	20	N/A	1
d. Fecal Coliform	X									MPN 100	N/A	488	N/A	6
e. Fluoride (16984-48-8)	X									mg/l	kg/D	0.14	197.79	6
f. Nitrate-Nitrite *(as N)*	X									mg/l	kg/D	5.12	7233.48	105

CONTINUE ON REVERSE

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	3. d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X									mg/l	kg/D	0.845	1193	6
h. Oil and Grease	X									mg/l	kg/D	<0.85	N/A	1
i. Phosphorus (as P), Total (7723-14-0)	X									mg/l	kg/D	0.27	381.45	1
j. Radioactivity														
(1) Alpha, Total	X									pci/l	N/A	1.3	N/A	48
(2) Beta, Total	X									pci/l	N/A	43	N/A	48
(3) Radium, Total	X									pci/l	N/A	15.5	N/A	48
(4) Radium 226, Total	X									pci/l	N/A	15.5	N/A	48
k. Sulfate (as SO_4) (14808-79-8)	X									mg/l	kg/D	660	N/A	1
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		<0.01	N/A						mg/l	kd/D	0.02	N/A	2
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)	X		0.24	351.02						mg/l	kg/D	0.38	536.86	1
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X									mg/l	kg/D	2.68	3786.27	1
t. Magnesium, Total (7439-95-4)	X									mg/l	kg/D	2.66	3758.02	1
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

CONTINUED FROM PAGE 3 OF FORM 2 C

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NJ0005622	DSN 481

Form Approved
OMB No. 2040-0086
Approval Expires 12-31-85

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part, please review each carefully. Complete one table (*all 7 pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TEST-ING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM 30 DAY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
2M. Arsenic, Total (7440-38-2)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
3M. Beryllium, Total, 7440-41-7)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
4M. Cadmium, Total (7440 43 9)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
5M. Chromium, Total (7440-47-3)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	N/A	2
6M. Copper, Total (7440-50-8)	X	X		0.004	5.85					1	mg/l	kg/D	0.005	7.06	1
7M. Lead, Total (7439-92-1)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	2.83	1
8M. Mercury, Total (7439-97-6)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
9M. Nickel, Total (7440-02-0)	X		X	<0.01	N/A					1	mg/l	kg/D	<0.01	N/A	1
10M. Selenium, Total (7782 49 2)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
11M Silver, Total (7440-22 4)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
12M. Thallium, Total (7440 28 0)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
13M Zinc, Total (7440 66 6)	X	X		<0.02	N/A					1	mg/l	kg/D	0.025	N/A	2
14M Cyanide, Total (57 12 5)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
15M Phenols, Total	X	X		<0.005	N/A					1	mg/l	kg/D	0.014	N/A	2
DIOXIN															
2,3,7,8 Tetra chlorodibenzo P Dioxin (1764 01 6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
2V. Acrylonitrile (107-13-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
3V. Benzene (71-43-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
4V. Bis (Chloromethyl) Ether (542-88-1)	X		X	ND	N/A					1	ug/l	kg/D	ND	N/A	1
5V. Bromoform (75-25-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
6V. Carbon Tetrachloride (56-23-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
7V. Chlorobenzene (108-90-7)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
8V. Chlorodibromomethane (124-48-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
9V. Chloroethane (75-00-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10V. 2-Chloroethylvinyl Ether (110-75-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11V. Chloroform (67-66-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
12V. Dichlorobromomethane (75-27-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
13V. Dichlorodifluoromethane (75-71-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
14V. 1,1-Dichloroethane (75-34-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
15V. 1,2-Dichloroethane (107-06-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
16V. 1,1-Dichloroethylene (75-35-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
17V. 1,2-Dichloropropane (78-87-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
18V 1,3-Dichloropropylene (542-75-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
19V Ethylbenzene (100 41 4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
20V Methyl Bromide (74 83 9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21V Methyl Chloride (74 87 3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83 32 9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2B. Acenaphtylene (208-96-8)	X		X	<10	N/A					1	ug/l	kg/d	<10	N/A	1
3B. Anthracene (120-12-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4B. Benzidine (92-87-5)	X		X	<80	N/A					1	ug/l	kg/D	<80	N/A	1
5B. Benzo (a) Anthracene (56-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
6B. Benzo (a) Pyrene (50-32-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
8B. Benzo (ghi) Perylene (191-24-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9B. Benzo (k) Fluoranthene (207 08-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
12B. Bis (2-Chloro-propyl) Ether (102-80-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X		X	<10*	N/A					1	ug/l	kg/D	<10*	N/A	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
15B. Butyl Benzyl Phthalate (85-68-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
16B. 2-Chloro-naphthalene (91-58-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
18B. Chrysene (218-01 9)	X		X	<10	N/A					1	ug/L	kg/D	<10	N/A	1
19B. Dibenzo (a,h) Anthracene (53 70 3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
20B. 1,2 Dichloro benzene (95 50 1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21B. 1,3 Dichloro benzene (541 73 1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: DSN 481

Form Approved. OMB No. 2040-0086. Approval expires 3-31-89

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X		X	<5*	N/A					1	ug/l	kg/D	<5*	N/A	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
24V. Tetrachloroethylene (127-18-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
25V. Toluene (108-88-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
27V. 1,1,1-Trichloroethane (71-55-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
28V. 1,1,2-Trichloroethane (79-00-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
29V. Trichloroethylene (79-01-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
30V. Trichlorofluoromethane (75-69-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
31V. Vinyl Chloride (75-01-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95 57-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2A. 2,4 Dichlorophenol (120-83 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
3A. 2,4 Dimethylphenol (105-67 9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4A. 4,6-Dinitro O Cresol (534-52-1)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
5A. 2,4 Dinitrophenol (51-28 5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
6A. 2 Nitrophenol (88 75 5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7A. 4 Nitrophenol (100 02 7)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
8A. P Chloro M Cresol (59 50 7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9A. Pentachlorophenol (87 86 5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
10A. Phenol (108 95 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11A. 2,4,6 Trichlorophenol (88 06 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM PAGE V-6

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: DSN 481

Form Approved
OMB No. 2000-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
23B. 3,3'-Dichlorobenzidine (91-94-1)	X		X	<20	N/A					1	ug/l	kg/D	<20	N/A	1
24B. Diethyl Phthalate (84-66-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
25B. Dimethyl Phthalate (131-11-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
26B. Di-N-Butyl Phthalate (84-74-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
27B. 2,4-Dinitrotoluene (121-14-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
28B. 2,6-Dinitrotoluene (606-20-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
29B. Di-N-Octyl Phthalate (117-84-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
31B. Fluoranthene (206-44-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
32B. Fluorene (86-73-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
33B. Hexachlorobenzene (118-74-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
34B. Hexachlorobutadiene (87-68-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
35B. Hexachlorocyclopentadiene (77-47-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
36B. Hexachloroethane (67-72-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
38B. Isophorone (78-59-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
39B. Naphthalene (91 20 3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
40B. Nitrobenzene (98-95 3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
41B. N-Nitrosodimethylamine (62 75 9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
42B. N Nitrosodi N Propylamine (621 64 7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N Nitrosodiphenylamine (86-30-6)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
44B. Phenanthrene (85-01-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
45B. Pyrene (129-00-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
46B. 1,2,4 - Trichlorobenzene (120-82-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60 57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421 93 4)			X												
16P. Heptachlor (76 44 8)			X												

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: DSN 481

Form Approved
OMB No. 2040-0086
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	a. (2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

* Indicates compound found in blank.

Salem Generating Station
NJPDES Permit NJ0005622

APPLICATION FORM 2C-V EXPLANATIONS - DSN 481

This outfall is one of the six (6) non-contact cooling water outfalls and is primarily Delaware River Estuary water. Analytical results from each outfall are a composite of the six outfalls with the exception of temperature, flow, and total residual chlorine for which routine independent analyses are performed.

PART A

The intake analyses are based on Delaware River Estuary samples taken in accordance with the application protocol. Although the intake and effluent values are similar, the previously established sample acquisition variability is evident.

PART B and PART C

Total residual chlorine was analyzed due to the addition of sodium hypochlorite as a biofouling control agent in the service water system . Other parameters marked as "believed present" are so indicated due to their presence in the intake water and current or historical analytical data was provided to demonstrate the presence of these parameters in the intake.

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT SUMMARY TABLE

DSN 481
NON-CONTACT COOLING WATER
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Flow (MGD)	N/A	Calculated	N/A	406.63 Avg. 532.80 Max.	N/A	N/A	N/A	Calculated	N/A	5
Temperature Deg. F (Deg. C) Influent	N/A	Continuous	N/A	(15.28) Avg. (29.70) Max.	N/A	N/A	N/A	Continuous	N/A	2,6
Temperature Deg. F (Deg. C) Effluent	115 (46.1)	Continuous	N/A	(24.09) Avg. (40.70) Max.	Max 86 (30)	Max	115 (46.1) Daily Max.	Continuous	N/A	1,2,7
Temperature Difference Deg. F (Deg. C)	27.5 (15.3)	Calculated	N/A	(8.63) Avg. (20.20) Max.	N/A	N/A	27.5 (15.3) Daily Max.	Calculated	N/A	2,8
Heat, Facility (MBTU/HR)	30,600	Calculated	N/A	12331.72 Avg. 19476.72 Max.	N/A	N/A	30,600 Daily Max.	Calculated	N/A	2,9
Chlorine-Total Residual (SWS) (mg/l)	0.3 (AVG.) 0.5 (MAX.)	3X/Week	Grab	0.01 Avg. 0.48 Max.	N/A	N/A	0.3 Monthly (Avg.) 0.5 Daily (Max.)	3X/Week	Grab	3,10
Chlorine-Total Residual (CWS) (mg/l)	0.2 (MAX.)	3X/Week	Grab	0.01 Avg. 0.06 Max.	N/A	N/A	0.2 Daily (Max.)	3X/Week	Grab	3,10
pH (S.U.)	6 (Min.) 9 (Max.)	Weekly	Grab	6.5 Min. 9.8 Max.	N/A	N/A	6 Daily (Min.) 9 Daily (Max.)	Weekly	Grab	4,11

Salem Generating Station
NJPDES Permit NJ0005622

DSN 482
Non-Contact Cooling Water

This section contains only the EPA 2C-V Forms and the Permit Summary Table for this outfall. Explanations of notes, discussions of the waste stream, and further comments are combined and included as Tab 2C-V, DSN 481 - 486.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NJ0005622

Form Approved. OMB No. 2040-0059. Approval expires 3-31-88

OUTFALL NO. 482

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2.6	3865					1	mg/l	kg/D	2.4	3568	1
b. Chemical Oxygen Demand *(COD)*	21	31222					1	mg/l	kg/D	47	69878	1
c. Total Organic Carbon *(TOC)*	2.4	3568					1	mg/l	kg/D	2.6	3865	1
d. Total Suspended Solids *(TSS)*	40	59471					1	mg/l	kg/D	60	89207	1
e. Ammonia *(as N)*	0.16	237					1	mg/l	kg/D	0.21	312	1
f. Flow	VALUE 536.39		VALUE N/A		VALUE 392.81		Cont.	N/A	MGD	VALUE 389.22		Cont.
g. Temperature *(winter)*	VALUE 36.50		VALUE N/A		VALUE 18.79		Cont.	°C		VALUE 9.60		Cont.
h. Temperature *(summer)*	VALUE 39.10		VALUE N/A		VALUE 33.69		Cont.	°C		VALUE 25.56		Cont.
i. pH	MINIMUM 6.10	MAXIMUM 8.40	MINIMUM N/A	MAXIMUM N/A			260	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(If available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual	X		1.81	2691			<0.01	14.87	4841	mg/l	kg/D	<0.05	N/A	1
c. Color	X									CLPT Units	N/A	20	N/A	1
d. Fecal Coliform	X									MPN 100 ml	N/A	488	N/A	6
e. Fluoride (16984 48-8)	X									mg/l	kg/D	0.14	208.2	6
f. Nitrate-Nitrite *(as N)*	X									mg/l	kg/D	5.12	7612	105

NJ0005622 DSN 482

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X' a. Believed Present	2. MARK 'X' b. Believed Absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	a. MAXIMUM DAILY VALUE (2) Mass	b. MAXIMUM 30 DAY VALUE (If available) (1) Concentration	b. MAXIMUM 30 DAY VALUE (If available) (2) Mass	c. LONG TERM AVRG. VALUE (If available) (1) Concentration	c. LONG TERM AVRG. VALUE (If available) (2) Mass	d. NO OF ANALYSES	4. UNITS a. Concentration	4. UNITS b. Mass	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) Concentration	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) Mass	5. INTAKE (optional) b. NO OF ANALYSES
g. Nitrogen, Total Organic (as N)	X									mg/l	kg/D	0.845	1193	6
h. Oil and Grease	X									mg/l	kg/D	<0.85	N/A	1
i. Phosphorus (as P), Total (7723-14-0)	X									mg/l	kg/D	0.27	381.45	1
j. Radioactivity														
(1) Alpha, Total	X									pci/l	N/A	1.3	N/A	48
(2) Beta, Total	X									pci/l	N/A	43	N/A	48
(3) Radium, Total	X									pci/l	N/A	15.5	N/A	48
(4) Radium 226, Total	X									pci/l	N/A	15.5	N/A	48
k. Sulfate (as SO_4) (14808-79-8)	X									mg/l	kg/D	660	N/A	1
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		<0.01	N/A						mg/l	kd/D	0.02	N/A	2
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)	X		0.24	351.02						mg/l	kg/D	0.38	536.86	1
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X									mg/l	kg/D	2.68	3786.27	1
t. Magnesium, Total (7439-95-4)	X									mg/l	kg/D	2.66	3758.02	1
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c 2 in the instructions to determine which of the GC/MS fractions you must test for Mark "X" in column 2 a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols If you are not required to mark column 2 a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2 b for each pollutant you know or have reason to believe is present Mark "X" in column 2 c for each pollutant you believe is absent If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater If you mark column 2b for acrolein, acrylonitrile, 2 4 dinitrophenol, or 2-methyl 4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged Note that there are 7 pages to this part, please review each carefully Complete one table (*all 7 pages*) for each outfall See instructions for additional details and requirements

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM 30 DAY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440 36 0)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
2M. Arsenic, Total (7440 38 2)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
3M. Beryllium, Total, 7440-41-7)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
4M. Cadmium, Total (7440 43 9)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
5M. Chromium, Total (7440 47 3)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	N/A	2
6M. Copper, Total (7440-50-8)	X	X		0.004	5.85					1	mg/l	kg/D	0.005	7.06	1
7M. Lead, Total (7439-92-1)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	2.83	1
8M. Mercury, Total (7439 97 6)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
9M. Nickel, Total (7440 02 0)	X		X	<0.01	N/A					1	mg/l	kg/D	<0.01	N/A	1
10M. Selenium, Total (7782 49 2)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
11M. Silver, Total (7440 22 4)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
12M. Thallium, Total (7440-28 0)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
13M. Zinc, Total (7440 66 6)	X	X		<0.02	N/A					1	mg/l	kg/D	0.025	N/A	2
14M. Cyanide, Total (57 12 5)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
15M. Phenols, Total	X	X		<0.005	N/A					1	mg/l	kg/D	0.014	N/A	2
DIOXIN															
2 3 7 8 Tetra chlorodibenzo P Dioxin (1764 01 6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
2V. Acrylonitrile (107-13-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
3V. Benzene (71-43-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
4V. Bis (*Chloromethyl*) Ether (542-88-1)	X		X	ND	N/A					1	ug/l	kg/D	ND	N/A	1
5V. Bromoform (75-25-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
6V. Carbon Tetrachloride (56-23-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
7V. Chlorobenzene (108-90-7)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
8V. Chlorodibromomethane (124-48-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
9V. Chloroethane (75-00-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10V. 2-Chloroethylvinyl Ether (110-75-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11V. Chloroform (67-66-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
12V. Dichlorobromomethane (75-27-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
13V. Dichlorodifluoromethane (75-71-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
14V. 1,1-Dichloroethane (75-34-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
15V. 1,2-Dichloroethane (107-06-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
16V. 1,1-Dichloroethylene (75-35-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
17V. 1,2-Dichloropropane (78-87-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
18V. 1,3-Dichloropropylene (542-75-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
19V. Ethylbenzene (100-41-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
20V. Methyl Bromide (74-83-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21V. Methyl Chloride (74-87-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: DSN 482

Form Approved
OMB No. 2040-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X		X	<5*	N/A					1	ug/l	kg/D	<5*	N/A	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
24V. Tetrachloroethylene (127-18-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
25V. Toluene (108-88-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
27V. 1,1,1-Trichloroethane (71-55-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
28V. 1,1,2-Trichloroethane (79-00-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
29V. Trichloroethylene (79-01-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
30V. Trichlorofluoromethane (75-69-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
31V. Vinyl Chloride (75-01-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95 57-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2A. 2,4-Dichlorophenol (120-83-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
3A. 2,4-Dimethylphenol (105 67-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4A. 4,6-Dinitro O Cresol (534-52-1)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
5A. 2,4 Dinitrophenol (51-28-5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
6A. 2 Nitrophenol (88 75-5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7A. 4 Nitrophenol (100 02-7)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
8A. P Chloro M Cresol (59 50-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9A. Pentachlorophenol (87 86-5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
10A. Phenol (108 95-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11A. 2,4,6-Trichlorophenol (88 06-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83 32 9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2B. Acenaphtylene (208-96-8)	X		X	<10	N/A					1	ug/l	kg/d	<10	N/A	1
3B. Anthracene (120-12-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4B. Benzidine (92-87-5)	X		X	<80	N/A					1	ug/l	kg/D	<80	N/A	1
5B. Benzo (a) Anthracene (56-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
6B. Benzo (a) Pyrene (50-32-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
8B. Benzo (ghi) Perylene (191-24-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9B. Benzo (k) Fluoranthene (207-08-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
12B. Bis (2-Chloroiso-propyl) Ether (102-80-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X		X	<10*	N/A					1	ug/l	kg/D	<10*	N/A	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
15B. Butyl Benzyl Phthalate (85-68-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
16B. 2-Chloro-naphthalene (91-58-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
18B. Chrysene (218-01 9)	X		X	<10	N/A					1	ug/L	kg/D	<10	N/A	1
19B. Dibenzo (a,h) Anthracene (53 70 3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
20B. 1,2-Dichloro benzene (95 50 1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21B. 1,3 Dichloro benzene (541 73 1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM PAGE V-6

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: DSN 482

Form Approved
OMB No. 2040-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	2. MARK 'X' b. BELIEVED PRESENT	2. MARK 'X' c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
23B. 3,3'-Dichlorobenzidine (91-94-1)	X		X	<20	N/A					1	ug/l	kg/D	<20	N/A	1
24B. Diethyl Phthalate (84-66-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
25B. Dimethyl Phthalate (131-11-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
26B. Di-N-Butyl Phthalate (84-74-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
27B. 2,4-Dinitrotoluene (121-14-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
28B. 2,6-Dinitrotoluene (606-20-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
29B. Di-N-Octyl Phthalate (117-84-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
31B. Fluoranthene (206-44-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
32B. Fluorene (86-73-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
33B. Hexachlorobenzene (118-74-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
34B. Hexachlorobutadiene (87-68-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
35B. Hexachlorocyclopentadiene (77-47-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
36B. Hexachloroethane (67-72-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
38B. Isophorone (78-59-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
39B. Naphthalene (91-20-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
40B. Nitrobenzone (98-95-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
41B. N-Nitrosodimethylamine (62-75-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
42B. N-Nitrosodi N-Propylamine (621-64-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
44B. Phenanthrene (85-01-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
45B. Pyrene (129-00-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
46B. 1,2,4 - Trichlorobenzene (120-82-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4' DDD (72-54-8)			X												
10P. Dieldrin (60 57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72 20-8)			X												
15P. Endrin Aldehyde (7421 93 4)			X												
16P. Heptachlor (76 44 8)			X												

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTED	b. REQUIRED	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

* Indicates compound found in blank.

Salem Generating Station
NJPDES Permit NJ0005622

APPLICATION FORM 2C-V EXPLANATIONS - DSN 482

This outfall is one of the six (6) non-contact cooling water outfalls and is primarily Delaware River Estuary water. Analytical results from each outfall are a composite of the six outfalls with the exception of temperature, flow, and total residual chlorine for which routine independent analyses are performed.

PART A
The intake analyses are based on Delaware River Estuary samples taken in accordance with the application protocol. Although the intake and effluent values are similar, the previously established sample acquisition variability is evident.

PART B and PART C
Total residual chlorine was analyzed due to the addition of sodium hypochlorite as a biofouling control agent in the service water system . Other parameters marked as "believed present" are so indicated due to their presence in the intake water and current or historical analytical data was provided to demonstrate the presence of these parameters in the intake.

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT SUMMARY TABLE

DSN 482
NON-CONTACT COOLING WATER
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Flow (MGD)	N/A	Calculated	N/A	389.22 Avg. 532.80 Max.	N/A	N/A	N/A	Calculated	N/A	5
Temperature Deg. F (Deg. C) Influent	N/A	Continuous	N/A	(15.28) Avg. (29.70) Max.	N/A	N/A	N/A	Continuous	N/A	2,6
Temperature Deg. F (Deg. C) Effluent	115 (46.1)	Continuous	N/A	(24.09) Avg. (40.70) Max.	Max 86 (30)	Max 115 (46.1)	115 (46.1) Daily Max.	Continuous	N/A	1,2,7
Temperature Difference Deg. F (Deg. C)	27.5 (15.3)	Calculated	N/A	(8.63) Avg. (20.20) Max.	N/A	N/A	27.5 (15.3) Daily Max.	Calculated	N/A	2,8
Heat, Facility (MBTU/HR)	30,600	Calculated	N/A	12331.72 Avg. 19476.72 Max.	N/A	N/A	30,600 Daily Max.	Calculated	N/A	2,9
Chlorine-Total Residual (SWS) (mg/l)	0.3 (AVG.) 0.5 (MAX.)	3X/Week	Grab	0.01 Avg. 1.81 Max.	N/A	N/A	0.3 Monthly (Avg.) 0.5 Daily (Max.)	3X/Week	Grab	3,10
Chlorine-Total Residual (CWS) (mg/l)	0.2 (MAX.)	3X/Week	Grab	0.00 Avg. 0.05 Max.	N/A	N/A	0.2 Daily (Max.)	3X/Week	Grab	3,10
pH (S.U.)	6 (Min.) 9 (Max.)	Weekly	Grab	6.1 Min. 8.4 Max.	N/A	N/A	6 Daily (Min.) 9 Daily (Max.)	Weekly	Grab	4,11

Salem Generating Station
NJPDES Permit NJ0005622

DSN 483
Non-Contact Cooling Water

This section contains only the EPA 2C-V Forms and the Permit Summary Table for this outfall. Explanations of notes, discussions of the waste stream, and further comments are combined and included as Tab 2C-V, DSN 481 - 486.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NJ0005622

Form Approved OMB No. 2040-0059 Approval Expires 12-31-85

OUTFALL NO. 483

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	2. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	3. UNITS (specify if blank) b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE (optional) b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2.6	3823					1	mg/l	kg/D	2.4	3529	1
b. Chemical Oxygen Demand *(COD)*	21	30884					1	mg/l	kg/D	47	69122	1
c. Total Organic Carbon *(TOC)*	2.4	3529					1	mg/l	kg/D	2.6	3823	1
d. Total Suspended Solids *(TSS)*	40	58827					1	mg/l	kg/D	60	88241	1
e. Ammonia *(as N)*	0.16	235					1	mg/l	kg/D	0.21	308	1
f. Flow	VALUE 553.5		VALUE N/A		VALUE 388.56		Cont.	N/A	MGD	VALUE 367.86		Cont.
g. Temperature *(winter)*	VALUE 36.50		VALUE N/A		VALUE 18.79		Cont.	°C		VALUE 9.60		Cont.
h. Temperature *(summer)*	VALUE 39.10		VALUE N/A		VALUE 33.69		Cont.	°C		VALUE 25.56		Cont.
i. pH	MINIMUM 6.10	MAXIMUM 8.60	MINIMUM N/A	MAXIMUM N/A			260	STANDARD UNITS				

PART B - **Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.**

1. POLLUTANT AND CAS NO. *(If available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual	X		0.54	794			<0.01	14.71	4841	mg/l	kg/D	<0.05	N/A	1
c. Color	X									CLPT Units	N/A	20	N/A	1
d. Fecal Coliform	X									MPN 100 ml	N/A	488	N/A	6
e. Fluoride (16984-48-8)	X									mg/l	kg/D	0.14	206	6
f. Nitrate-Nitrite *(as N)*	X									mg/l	kg/D	5.12	7530	105

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ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X'		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X									mg/l	kg/D	0.845	1193	6
h. Oil and Grease	X									mg/l	kg/D	<0.85	N/A	1
i. Phosphorus (as P), Total (7723-14-0)	X									mg/l	kg/D	0.27	381.45	1
j. Radioactivity				[redacted]										
(1) Alpha, Total	X									pci/l	N/A	1.3	N/A	48
(2) Beta, Total	X									pci/l	N/A	43	N/A	48
(3) Radium, Total	X									pci/l	N/A	15.5	N/A	48
(4) Radium 226, Total	X									pci/l	N/A	15.5	N/A	48
k. Sulfate (as SO_4) (14808-79-8)	X									mg/l	kg/D	660	N/A	1
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		<0.01	N/A						mg/l	kd/D	0.02	N/A	2
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)	X		0.24	351.02						mg/l	kg/D	0.38	536.86	1
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X									mg/l	kg/D	2.68	3786.27	1
t. Magnesium, Total (7439-95-4)	X									mg/l	kg/D	2.66	3758.02	1
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

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PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TEST-ING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM 30 DAY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
2M. Arsenic, Total (7440-38-2)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
3M. Beryllium, Total, 7440-41-7)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
4M. Cadmium, Total (7440-43-9)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
5M. Chromium, Total (7440-47-3)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	N/A	2
6M. Copper, Total (7440-50-8)	X	X		0.004	5.85					1	mg/l	kg/D	0.005	7.06	1
7M. Lead, Total (7439-92-1)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	2.83	1
8M. Mercury, Total (7439-97-6)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
9M. Nickel, Total (7440-02-0)	X		X	<0.01	N/A					1	mg/l	kg/D	<0.01	N/A	1
10M. Selenium, Total (7782-49-2)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
11M. Silver, Total (7440-22-4)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
12M. Thallium, Total (7440-28-0)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
13M. Zinc, Total (7440-66-6)	X	X		<0.02	N/A					1	mg/l	kg/D	0.025	N/A	2
14M. Cyanide, Total (57-12-5)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
15M. Phenols, Total	X	X		<0.005	N/A					1	mg/l	kg/D	0.014	N/A	2
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
2V. Acrylonitrile (107-13-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
3V. Benzene (71-43-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
4V. Bis (Chloromethyl) Ether (542-88-1)	X		X	ND	N/A					1	ug/l	kg/D	ND	N/A	1
5V. Bromoform (75-25-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
6V. Carbon Tetrachloride (56-23-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
7V. Chlorobenzene (108-90-7)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
8V. Chlorodibromomethane (124-48-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
9V. Chloroethane (75-00-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10V. 2-Chloroethylvinyl Ether (110-75-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11V. Chloroform (67-66-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
12V. Dichlorobromomethane (75-27-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
13V. Dichlorodifluoromethane (75-71-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
14V. 1,1-Dichloroethane (75-34-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
15V. 1,2-Dichloroethane (107-06-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
16V. 1,1-Dichloroethylene (75-35-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
17V. 1,2-Dichloropropane (78-87-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
18V. 1,3-Dichloropropylene (542-75-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
19V. Ethylbenzene (100-41-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
20V. Methyl Bromide (74-83-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21V. Methyl Chloride (74-87-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X		X	<5*	N/A					1	ug/l	kg/D	<5*	N/A	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
24V. Tetrachloroethylene (127-18-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
25V. Toluene (108-88-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
27V. 1,1,1-Trichloroethane (71-55-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
28V. 1,1,2-Trichloroethane (79-00-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
29V. Trichloroethylene (79-01-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
30V. Trichlorofluoromethane (75-69-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
31V. Vinyl Chloride (75-01-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2A. 2,4-Dichlorophenol (120-83-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
3A. 2,4-Dimethylphenol (105-67-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
5A. 2,4-Dinitrophenol (51-28-5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
6A. 2-Nitrophenol (88-75-5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7A. 4-Nitrophenol (100-02-7)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
8A. P-Chloro-M-Cresol (59-50-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9A. Pentachlorophenol (87-86-5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
10A. Phenol (108-95-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11A. 2,4,6-Trichlorophenol (88-06-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK X a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2B. Acenaphtylene (208-96-8)	X		X	<10	N/A					1	ug/l	kg/d	<10	N/A	1
3B. Anthracene (120-12-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4B. Benzidine (92-87-5)	X		X	<80	N/A					1	ug/l	kg/D	<80	N/A	1
5B. Benzo (a) Anthracene (56-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
6B. Benzo (a) Pyrene (50-32-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
8B. Benzo (ghi) Perylene (191-24-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9B. Benzo (k) Fluoranthene (207-08-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
12B. Bis (2-Chloroisopropyl) Ether (102-80-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X		X	<10*	N/A					1	ug/l	kg/D	<10*	N/A	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
15B. Butyl Benzyl Phthalate (85-68-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
16B. 2-Chloro-naphthalene (91-58-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
18B. Chrysene (218-01-9)	X		X	<10	N/A					1	ug/L	kg/D	<10	N/A	1
19B. Dibenzo (a,h) Anthracene (53-70-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
20B. 1,2 Dichloro benzene (95-50-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21B. 1,3 Dichloro benzene (541-73-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

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EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: DSN 483

Form Approved
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Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
23B. 3,3'-Dichlorobenzidine (91-94-1)	X		X	<20	N/A					1	ug/l	kg/D	<20	N/A	1
24B. Diethyl Phthalate (84-66-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
25B. Dimethyl Phthalate (131-11-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
26B. Di-N-Butyl Phthalate (84-74-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
27B. 2,4-Dinitrotoluene (121-14-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
28B. 2,6-Dinitrotoluene (606-20-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
29B. Di-N-Octyl Phthalate (117-84-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
31B. Fluoranthene (206-44-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
32B. Fluorene (86-73-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
33B. Hexachlorobenzene (118-74-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
34B. Hexachlorobutadiene (87-68-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
35B. Hexachlorocyclopentadiene (77-47-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
36B. Hexachloroethane (67-72-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
38B. Isophorone (78-59-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
39B. Naphthalene (91-20-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
40B. Nitrobenzene (98-95-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
41B. N-Nitrosodimethylamine (62-75-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N Nitrosodiphenylamine (86-30-6)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
44B. Phenanthrene (85-01-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
45B. Pyrene (129-00-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
46B. 1,2,4-Trichlorobenzene (120-82-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4' DDD (72-54-8)			X												
10P. Dieldrin (60 57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72 20-8)			X												
15P. Endrin Aldehyde (7421 93 4)			X												
16P. Heptachlor (76 44 8)			X												

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

* Indicates compound found in blank.

Salem Generating Station
NJPDES Permit NJ0005622

APPLICATION FORM 2C-V EXPLANATIONS - DSN 483

This outfall is one of the six (6) non-contact cooling water outfalls and is primarily Delaware River Estuary water. Analytical results from each outfall are a composite of the six outfalls with the exception of temperature, flow, and total residual chlorine for which routine independent analyses are performed.

PART A
The intake analyses are based on Delaware River Estuary samples taken in accordance with the application protocol. Although the intake and effluent values are similar, the previously established sample acquisition variability is evident.

PART B and PART C
Total residual chlorine was analyzed due to the addition of sodium hypochlorite as a biofouling control agent in the service water system . Other parameters marked as "believed present" are so indicated due to their presence in the intake water and current or historical analytical data was provided to demonstrate the presence of these parameters in the intake.

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT SUMMARY TABLE

DSN 483
NON-CONTACT COOLING WATER
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Flow (MGD)	N/A	Calculated	N/A	367.86 Avg. 532.80 Max.	N/A	N/A	N/A	Calculated	N/A	5
Temperature Deg. F (Deg. C) Influent	N/A	Continuous	N/A	(15.28) Avg. (29.70) Max.	N/A	N/A	N/A	Continuous	N/A	2,6
Temperature Deg. F (Deg. C) Effluent	115 (46.1)	Continuous	N/A	(24.09) Avg. (40.70) Max.	Max 86 (30)	Max 115 (46.1)	115 (46.1) Daily Max.	Continuous	N/A	1,2,7
Temperature Difference Deg. F (Deg. C)	27.5 (15.3)	Calculated	N/A	(8.63) Avg. (20.20) Max.	N/A	N/A	27.5 (15.3) Daily Max.	Calculated	N/A	2,8
Heat, Facility (MBTU/HR)	30,600	Calculated	N/A	12331.72 Avg. 19476.72 Max.	N/A	N/A	30,600 Daily Max.	Calculated	N/A	2,9
Chlorine-Total Residual (SWS) (mg/l)	0.3 (AVG.) 0.5 (MAX.)	3X/Week	Grab	0.01 Avg. 0.54 Max.	N/A	N/A	0.3 Monthly (Avg.) 0.5 Daily (Max.)	3X/Week	Grab	3,10
Chlorine-Total Residual (CWS) (mg/l)	0.2 (MAX.)	3X/Week	Grab	0.01 Avg. 0.14 Max.	N/A	N/A	0.2 Daily (Max.)	3X/Week	Grab	3,10
pH (S.U.)	6 (Min.) 9 (Max.)	Weekly	Grab	6.1 Min. 8.4 Max.	N/A	N/A	6 Daily (Min.) 9 Daily (Max.)	Weekly	Grab	4,11

Salem Generating Station
NJPDES Permit NJ0005622

DSN 484
Non-Contact Cooling Water

This section contains only the EPA 2C-V Forms and the Permit Summary Table for this outfall. Explanations of notes, discussions of the waste stream, and further comments are combined and included as Tab 2C-V, DSN 481 - 486.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NJ0005622

Form Approved OMB No. 2040-0054 Approval Expires 3-31-88

OUTFALL NO. 484

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	2. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	2. EFFLUENT b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	2. EFFLUENT b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	2. EFFLUENT c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	2. EFFLUENT c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	3. UNITS *(specify if blank)* a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2.6	3708					1	mg/l	kg/D	2.4	3423	1
b. Chemical Oxygen Demand *(COD)*	21	29952					1	mg/l	kg/D	47	67036	1
c. Total Organic Carbon *(TOC)*	2.4	3423					1	mg/l	kg/D	2.6	3708	1
d. Total Suspended Solids *(TSS)*	40	57052					1	mg/l	kg/D	60	85578	1
e. Ammonia *(as N)*	0.16	228					1	mg/l	kg/D	0.21	299	1
f. Flow	VALUE 548		VALUE N/A		VALUE 376.83		Cont.	N/A	MGD	VALUE 361.64		Cont.
g. Temperature *(winter)*	VALUE 33.60		VALUE N/A		VALUE 17.27		Cont.	°C		VALUE 8.78		Cont.
h. Temperature *(summer)*	VALUE 36.60		VALUE N/A		VALUE 32.36		Cont.	°C		VALUE 25.21		Cont.
i. pH	MINIMUM 6.50	MAXIMUM 10.00	MINIMUM N/A	MAXIMUM N/A			260	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual	X		1.11	1583.19			<0.01	14.26	4841	mg/l	kg/D	<0.05	N/A	1
c. Color	X									CLPT Units	N/A	20	N/A	1
d. Fecal Coliform	X									MPN 100 ml	N/A	488	N/A	6
e. Fluoride (16984-48-8)	X									mg/l	kg/D	0.14	200	6
f. Nitrate-Nitrite *(as N)*	X									mg/l	kg/D	5.12	7303	105

NJ0005622

DSN 484

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X' a. Believed present	2. MARK 'X' b. Believed absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) Mass	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) Mass	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) Concentration	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) Mass	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) Concentration	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) Mass	5. INTAKE (optional) b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X									mg/l	kg/D	0.845	1193	6
h. Oil and Grease	X									mg/l	kg/D	<0.85	N/A	1
i. Phosphorus (as P), Total (7723-14-0)	X									mg/l	kg/D	0.27	381.45	1
j. Radioactivity														
(1) Alpha, Total	X									pci/l	N/A	1.3	N/A	48
(2) Beta, Total	X									pci/l	N/A	43	N/A	48
(3) Radium, Total	X									pci/l	N/A	15.5	N/A	48
(4) Radium 226, Total	X									pci/l	N/A	15.5	N/A	48
k. Sulfate (as SO_4) (14808-79-8)	X									mg/l	kg/D	660	N/A	1
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		<0.01	N/A						mg/l	kd/D	0.02	N/A	2
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)	X		0.24	351.02						mg/l	kg/D	0.38	536.86	1
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X									mg/l	kg/D	2.68	3786.27	1
t. Magnesium, Total (7439-95-4)	X									mg/l	kg/D	2.66	3758.02	1
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPA I D NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NJ0005622	DSN 484

Form Approved
OMB No 2040 0059
Approval expires 12 31 85

CONTINUED FROM PAGE 3 OF FORM 2 C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM 30 DAY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
2M. Arsenic, Total (7440-38-2)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
3M. Beryllium, Total, 7440-41-7)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
4M. Cadmium, Total (7440-43-9)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
5M. Chromium, Total (7440-47-3)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	N/A	2
6M. Copper, Total (7440-50-8)	X	X		0.004	5.85					1	mg/l	kg/D	0.005	7.06	1
7M. Lead, Total (7439-92-1)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	2.83	1
8M. Mercury, Total (7439-97-6)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
9M. Nickel, Total (7440-02-0)	X		X	<0.01	N/A					1	mg/l	kg/D	<0.01	N/A	1
10M. Selenium, Total (7782-49-2)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
11M. Silver, Total (7440-22-4)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
12M. Thallium, Total (7440-28-0)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
13M. Zinc, Total (7440-66-6)	X	X		<0.02	N/A					1	mg/l	kg/D	0.025	N/A	2
14M. Cyanide, Total (57-12-5)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
15M. Phenols, Total	X	X		<0.005	N/A					1	mg/l	kg/D	0.014	N/A	2
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTED FOR AND QUANTIFIED	2. MARK 'X' b. BELIEVED PRESENT	2. MARK 'X' c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	3. EFFLUENT d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5 INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5 INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5 INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
2V. Acrylonitrile (107-13-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
3V. Benzene (71-43-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
4V. Bis (*Chloromethyl*) Ether (542-88-1)	X		X	ND	N/A					1	ug/l	kg/D	ND	N/A	1
5V. Bromoform (75-25-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
6V. Carbon Tetrachloride (56-23-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
7V. Chlorobenzene (108-90-7)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
8V. Chlorodibromomethane (124-48-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
9V. Chloroethane (75-00-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10V. 2-Chloroethylvinyl Ether (110-75-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11V. Chloroform (67-66-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
12V. Dichlorobromomethane (75-27-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
13V. Dichlorodifluoromethane (75-71-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
14V. 1,1-Dichloroethane (75-34-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
15V. 1,2-Dichloroethane (107-06-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
16V. 1,1-Dichloroethylene (75-35-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
17V. 1,2-Dichloropropane (78-87-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
18V. 1,3-Dichloropropylene (542-75-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
19V. Ethylbenzene (100-41-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
20V. Methyl Bromide (74-83-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21V. Methyl Chloride (74-87-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: DSN 484

Form Approved. OMB No. 2040-0086. Approval expires 3-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X		X	<5*	N/A					1	ug/l	kg/D	<5*	N/A	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
24V. Tetrachloroethylene (127-18-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
25V. Toluene (108-88-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
26V. 1,2-Trans-Dichloroethylene (166-60-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
27V. 1,1,1-Trichloroethane (71-55-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
28V. 1,1,2-Trichloroethane (79-00-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
29V. Trichloroethylene (79-01-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
30V. Trichlorofluoromethane (75-69-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
31V. Vinyl Chloride (75-01-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2 Chlorophenol (95 57-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2A. 2,4-Dichlorophenol (120-83 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
3A. 2,4-Dimethylphenol (105 67-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4A. 4,6-Dinitro O Cresol (534-52-1)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
5A. 2,4 Dinitrophenol (51-28 5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
6A. 2 Nitrophenol (88 75 5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7A. 4 Nitrophenol (100 02 7)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
8A. P Chloro M Cresol (59 50 7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9A. Pentachlorophenol (87 86 5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
10A. Phenol (108 95 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11A. 2,4,6-Trichlorophenol (88 06 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2B. Acenaphtylene (208-96-8)	X		X	<10	N/A					1	ug/l	kg/d	<10	N/A	1
3B. Anthracene (120-12-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4B. Benzidine (92-87-5)	X		X	<80	N/A					1	ug/l	kg/D	<80	N/A	1
5B. Benzo (a) Anthracene (56-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
6B. Benzo (a) Pyrene (50-32-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
8B. Benzo (ghi) Perylene (191-24-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9B. Benzo (k) Fluoranthene (207-08-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
12B. Bis (2-Chloroe-propyl) Ether (102-60-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X		X	<10*	N/A					1	ug/l	kg/D	<10*	N/A	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
15B. Butyl Benzyl Phthalate (85-68-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
16B. 2-Chloro-naphthalene (91-58-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
18B. Chrysene (218-01-9)	X		X	<10	N/A					1	ug/L	kg/D	<10	N/A	1
19B. Dibenzo (a,h) Anthracene (53-70-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
20B. 1,2 Dichloro benzene (95-50-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21B. 1,3 Dichloro benzene (541-73-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM PAGE V-6

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: DSN 484

Form Approved
OMB No. 2040-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4-Dichlorobenzene (106-46-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
23B. 3,3'-Dichlorobenzidine (91-94-1)	X		X	<20	N/A					1	ug/l	kg/D	<20	N/A	1
24B. Diethyl Phthalate (84-66-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
25B. Dimethyl Phthalate (131-11-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
26B. Di-N-Butyl Phthalate (84-74-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
27B. 2,4-Dinitrotoluene (121-14-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
28B. 2,6-Dinitrotoluene (606-20-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
29B. Di-N-Octyl Phthalate (117-84-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
31B. Fluoranthene (206-44-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
32B. Fluorene (86-73-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
33B. Hexachlorobenzene (118-74-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
34B. Hexachlorobutadiene (87-68-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
35B. Hexachlorocyclopentadiene (77-47-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
36B. Hexachloroethane (67-72-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
38B. Isophorone (78-59-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
39B. Naphthalene (91-20-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
40B. Nitrobenzene (98-95-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
41B. N-Nitrosodimethylamine (62-75-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
44B. Phenanthrene (85-01-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
45B. Pyrene (129-00-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
46B. 1,2,4-Trichlorobenzene (120-82-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

* Indicates compound found in blank.

Salem Generating Station
NJPDES Permit NJ0005622

APPLICATION FORM 2C-V EXPLANATIONS - DSN 484

This outfall is one of the six (6) non-contact cooling water outfalls and is primarily Delaware River Estuary water. Analytical results from each outfall are a composite of the six outfalls with the exception of temperature, flow, and total residual chlorine for which routine independent analyses are performed.

PART A
The intake analyses are based on Delaware River Estuary samples taken in accordance with the application protocol. Although the intake and effluent values are similar, the previously established sample acquisition variability is evident.

PART B and PART C
Total residual chlorine was analyzed due to the addition of sodium hypochlorite as a biofouling control agent in the service water system . Other parameters marked as "believed present" are so indicated due to their presence in the intake water and current or historical analytical data was provided to demonstrate the presence of these parameters in the intake.

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT SUMMARY TABLE

DSN 484
NON-CONTACT COOLING WATER
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Flow (MGD)	N/A	Calculated	N/A	361.64 Avg. 532.80 Max.	N/A	N/A	N/A	Calculated	N/A	5
Temperature Deg. F (Deg. C) Influent	N/A	Continuous	N/A	(14.62) Avg. (28.90) Max.	N/A	N/A	N/A	Continuous	N/A	2,6
Temperature Deg. F (Deg. C) Effluent	115 (46.1)	Continuous	N/A	(22.64) Avg. (39.30) Max.	Max 86 (30)	Max 115 (46.1)	115 (46.1) Daily Max.	Continuous	N/A	1,2,7
Temperature Difference Deg. F (Deg. C)	27.5 (15.3)	Calculated	N/A	(8.08) Avg. (19.42) Max.	N/A	N/A	27.5 (15.3) Daily Max.	Calculated	N/A	2,8
Heat, Facility (MBTU/HR)	30,600	Calculated	N/A	12331.72 Avg. 19476.72 Max.	N/A	N/A	30,600 Daily Max.	Calculated	N/A	2,9
Chlorine-Total Residual (SWS) (mg/l)	0.3 (AVG.) 0.5 (MAX.)	3X/Week	Grab	0.01 Avg. 1.11 Max.	N/A	N/A	0.3 Monthly (Max.) 0.5 Daily (Max.)	3X/Week	Grab	3,10
Chlorine-Total Residual (CWS) (mg/l)	0.2 (MAX.)	3X/Week	Grab	0.03 Avg. 0.80 Max.	N/A	N/A	0.2 Daily (Max.)	3X/Week	Grab	3,10
pH (S.U.)	6 (Min.) 9 (Max.)	Weekly	Grab	6.5 Min. 10.0 Max.	N/A	N/A	6 Daily (Min.) 9 Daily (Max.)	Weekly	Grab	4,11

Salem Generating Station
NJPDES Permit NJ0005622

DSN 485
Non-Contact Cooling Water

This section contains only the EPA 2C-V Forms and the Permit Summary Table for this outfall. Explanations of notes, discussions of the waste stream, and further comments are combined and included as Tab 2C-V, DSN 481 - 486.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NJ0005622

Form Approved. OMB No. 2040-0086. Approval expires 3-31-88

473-668 C - 85 - 2

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 485

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2.6	3589					1	mg/l	kg/D	2.4	3313	1
b. Chemical Oxygen Demand *(COD)*	21	28994					1	mg/l	kg/D	47	64892	1
c. Total Organic Carbon *(TOC)*	2.4	3313					1	mg/l	kg/D	2.6	3589	1
d. Total Suspended Solids *(TSS)*	40	55227					1	mg/l	kg/D	60	82841	1
e. Ammonia *(as N)*	0.16	220					1	mg/l	kg/D	0.21	289	1
f. Flow	VALUE 536.39		VALUE N/A		VALUE 364.78		Cont.	N/A	MGD	VALUE 361.19		Cont.
g. Temperature *(winter)*	VALUE 33.60		VALUE N/A		VALUE 17.27		Cont.	°C		VALUE 8.78		Cont.
h. Temperature *(summer)*	VALUE 36.60		VALUE N/A		VALUE 32.36		Cont.	°C		VALUE 25.21		Cont.
i. pH	MINIMUM 5.8	MAXIMUM 10.00	MINIMUM N/A	MAXIMUM N/A			260	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual	X		2.6	306.84			<0.01	13.81	4841	mg/l	kg/D	<0.05	N/A	1
c. Color	X									CLPT Units	N/A	20	N/A	1
d. Fecal Coliform	X									MPN 100 ml	N/A	488	N/A	6
e. Fluoride (16984-48-8)	X									mg/l	kg/D	0.14	193	6
f. Nitrate-Nitrite *(as N)*	X									mg/l	kg/D	5.12	7069	105

NJ0005622 DSN 485

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X' a. Believed present	2. MARK 'X' b. Believed absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) Mass	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) Mass	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) Concentration	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) Mass	3. NO. OF ANALYSES	4. UNITS a. Concentration	4. UNITS b. Mass	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) Concentration	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) Mass	5. INTAKE (optional) b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X									mg/l	kg/D	0.845	1193	6
h. Oil and Grease	X									mg/l	kg/D	<0.85	N/A	1
i. Phosphorus (as P), Total (7723-14-0)	X									mg/l	kg/D	0.27	381.45	1
j. Radioactivity														
(1) Alpha, Total	X									pci/l	N/A	1.3	N/A	48
(2) Beta, Total	X									pci/l	N/A	43	N/A	48
(3) Radium, Total	X									pci/l	N/A	15.5	N/A	48
(4) Radium 226, Total	X									pci/l	N/A	15.5	N/A	48
k. Sulfate (as SO_4) (14808-79-8)	X									mg/l	kg/D	660	N/A	1
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		<0.01	N/A						mg/l	kd/D	0.02	N/A	2
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)	X		0.24	351.02						mg/l	kg/D	0.38	536.86	1
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X									mg/l	kg/D	2.68	3786.27	1
t. Magnesium, Total (7439-95-4)	X									mg/l	kg/D	2.66	3758.02	1
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPA I D NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NJ0005622	DSN 485

Form Approved
OMB No 2040 0059
Approval expires 12 31 85

CONTINUED FROM PAGE 3 OF FORM 2 C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present Mark "X" in column 2-c for each pollutant you believe is absent If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant If you mark column 2b for any pollutant you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall See instructions for additional details and requirements

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM 30 DAY VALUE (1) CONCENTRATION	a. MAXIMUM 30 DAY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
2M. Arsenic, Total (7440-38-2)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
3M. Beryllium, Total, 7440-41-7)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
4M. Cadmium, Total (7440-43-9)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
5M. Chromium, Total (7440-47-3)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	N/A	2
6M. Copper, Total (7440-50-8)	X	X		0.004	5.85					1	mg/l	kg/D	0.005	7.06	1
7M. Lead, Total (7439-92-1)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	2.83	1
8M. Mercury, Total (7439-97-6)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
9M. Nickel, Total (7440-02-0)	X		X	<0.01	N/A					1	mg/l	kg/D	<0.01	N/A	1
10M. Selenium, Total (7782-49-2)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
11M. Silver, Total (7440-22-4)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
12M. Thallium, Total (7440-28-0)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
13M Zinc, Total (7440-66-6)	X	X		<0.02	N/A					1	mg/l	kg/D	0.025	N/A	2
14M Cyanide, Total (57-12-5)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
15M Phenols, Total	X	X		<0.005	N/A					1	mg/l	kg/D	0.014	N/A	2
DIOXIN															
2,3,7,8 Tetra chlorodibenzo P Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
2V. Acrylonitrile (107-13-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
3V. Benzene (71-43-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
4V. Bis (Chloromethyl) Ether (542-88-1)	X		X	ND	N/A					1	ug/l	kg/D	ND	N/A	1
5V. Bromoform (75-25-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
6V. Carbon Tetrachloride (56-23-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
7V. Chlorobenzene (108-90-7)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
8V. Chlorodibromomethane (124-48-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
9V. Chloroethane (75-00-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10V. 2-Chloroethylvinyl Ether (110-75-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11V. Chloroform (67-66-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
12V. Dichlorobromomethane (75-27-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
13V. Dichlorodifluoromethane (75-71-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
14V. 1,1-Dichloroethane (75-34-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
15V. 1,2-Dichloroethane (107-06-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
16V. 1,1-Dichloroethylene (75-35-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
17V. 1,2-Dichloropropane (78-87-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
18V. 1,3-Dichloropropylene (542-75-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
19V. Ethylbenzene (100-41-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
20V. Methyl Bromide (74-83-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21V. Methyl Chloride (74-87-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

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EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: DSN 485

Form Approved
OMB No. 2040-0086
Approval expires 3-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TEST INCLUDED	b. MAY BE PRESENT	c. MAY BE ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X		X	<5*	N/A					1	ug/l	kg/D	<5*	N/A	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
24V. Tetrachloroethylene (127-18-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
25V. Toluene (108-88-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
27V. 1,1,1-Trichloroethane (71-55-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
28V. 1,1,2-Trichloroethane (79-00-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
29V. Trichloroethylene (79-01-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
30V. Trichlorofluoromethane (75-69-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
31V. Vinyl Chloride (75-01-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2A. 2,4-Dichlorophenol (120-83-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
3A. 2,4-Dimethylphenol (105-67-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4A. 4,6-Dinitro O Cresol (534-52-1)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
5A. 2,4 Dinitrophenol (51-28-5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
6A. 2 Nitrophenol (88 75 5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7A. 4 Nitrophenol (100 02 7)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
8A. P Chloro M Cresol (59 50 7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9A. Pentachlorophenol (87 86 5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
10A. Phenol (108 95 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11A. 2,4,6 Trichlorophenol (88 06 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. (2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2B. Acenaphtylene (208-96-8)	X		X	<10	N/A					1	ug/l	kg/d	<10	N/A	1
3B. Anthracene (120-12-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4B. Benzidine (92-87-5)	X		X	<80	N/A					1	ug/l	kg/D	<80	N/A	1
5B. Benzo (a) Anthracene (56-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
6B. Benzo (a) Pyrene (50-32-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
8B. Benzo (ghi) Perylene (191-24-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9B. Benzo (k) Fluoranthene (207-08-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
12B. Bis (2-Chloroiso-propyl) Ether (102-60-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X		X	<10*	N/A					1	ug/l	kg/D	<10*	N/A	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
15B. Butyl Benzyl Phthalate (85-68-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
16B. 2-Chloro-naphthalene (91-58-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
17B. 4-Chloro-phenyl Phenyl Ether (7006-72-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
18B. Chrysene (218-01-9)	X		X	<10	N/A					1	ug/L	kg/D	<10	N/A	1
19B. Dibenzo (a,h) Anthracene (53-70-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
20B. 1,2-Dichloro benzene (95-50-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21B. 1,3-Dichloro benzene (541-73-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

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EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: DSN 485

Form Approved
OMB No. 2040-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4-Dichlorobenzene (106-46-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
23B. 3,3'-Dichlorobenzidine (91-94-1)	X		X	<20	N/A					1	ug/l	kg/D	<20	N/A	1
24B. Diethyl Phthalate (84-66-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
25B. Dimethyl Phthalate (131-11-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
26B. Di-N-Butyl Phthalate (84-74-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
27B. 2,4-Dinitrotoluene (121-14-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
28B. 2,6-Dinitrotoluene (606-20-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
29B. Di-N-Octyl Phthalate (117-84-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
31B. Fluoranthene (206-44-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
32B. Fluorene (86-73-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
33B. Hexachlorobenzene (118-74-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
34B. Hexachlorobutadiene (87-68-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
35B. Hexachlorocyclopentadiene (77-47-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
36B. Hexachloroethane (67-72-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
38B. Isophorone (78-59-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
39B. Naphthalene (91-20-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
40B. Nitrobenzene (98-95-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
41B. N-Nitrosodimethylamine (62-75-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
44B. Phenanthrene (85-01-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
45B. Pyrene (129-00-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
46B. 1,2,4-Trichlorobenzene (120-82-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4' DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

* Indicates compound found in blank.

Salem Generating Station
NJPDES Permit NJ0005622

APPLICATION FORM 2C-V EXPLANATIONS - DSN 485

This outfall is one of the six (6) non-contact cooling water outfalls and is primarily Delaware River Estuary water. Analytical results from each outfall are a composite of the six outfalls with the exception of temperature, flow, and total residual chlorine for which routine independent analyses are performed.

PART A

The intake analyses are based on Delaware River Estuary samples taken in accordance with the application protocol. Although the intake and effluent values are similar, the previously established sample acquisition variability is evident.

PART B and PART C

Total residual chlorine was analyzed due to the addition of sodium hypochlorite as a biofouling control agent in the service water system . Other parameters marked as "believed present" are so indicated due to their presence in the intake water and current or historical analytical data was provided to demonstrate the presence of these parameters in the intake.

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT SUMMARY TABLE

DSN 485
NON-CONTACT COOLING WATER
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Flow (MGD)	N/A	Calculated	N/A	361.19 Avg. 532.80 Max.	N/A	N/A	N/A	Calculated	N/A	5
Temperature Deg. F (Deg. C) Influent	N/A	Continuous	N/A	(14.62) Avg. (28.90) Max.	N/A	N/A	N/A	Continuous	N/A	2,6
Temperature Deg. F (Deg. C) Effluent	115 (46.1)	Continuous	N/A	(22.64) Avg. (39.30) Max.	Max 86 (30)	Max 115 (46.1)	115 (46.1) Daily Max.	Continuous	N/A	1,2,7
Temperature Difference Deg. F (Deg. C)	27.5 (15.3)	Calculated	N/A	(8.08) Avg. (19.42) Max.	N/A	N/A	27.5 (15.3) Daily Max.	Calculated	N/A	2,8
Heat, Facility (MBTU/HR)	30,600	Calculated	N/A	12331.72 Avg. 19476.72 Max.	N/A	N/A	30,600 Daily Max.	Calculated	N/A	2,9
Chlorine-Total Residual (SWS) (mg/l)	0.3 (AVG.) 0.5 (MAX.)	3X/Week	Grab	0.01 Avg. 2.60 Max.	N/A	N/A	0.3 Monthly (Avg.) 0.5 Daily (Max.)	3X/Week	Grab	3,10
Chlorine-Total Residual (CWS) (mg/l)	0.2 (MAX.)	3X/Week	Grab	0.02 Avg. 0.26 Max.	N/A	N/A	0.2 Daily (Max.)	3X/Week	Grab	3,10
pH (S.U.)	6 (Min.) 9 (Max.)	Weekly	Grab	5.8 Min. 10.0 Max.	N/A	N/A	6 Daily (Min.) 9 Daily (Max.)	Weekly	Grab	4,11

Salem Generating Station
NJPDES Permit NJ0005622

DSN 486
Non-Contact Cooling Water

This section contains only the EPA 2C-V Forms and the Permit Summary Table for this outfall. Explanations of notes, discussions of the waste stream, and further comments are combined and included as Tab 2C-V, DSN 481 - 486.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NJ0005622

Form Approved. OMB No. 2040-0059. Approval expires 3-31-88

OUTFALL NO. 486

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2.6	3677					1	mg/l	kg/D	2.4	3394	1
b. Chemical Oxygen Demand *(COD)*	21	29705					1	mg/l	kg/D	47	66484	1
c. Total Organic Carbon *(TOC)*	2.4	3394					1	mg/l	kg/D	2.6	3677	1
d. Total Suspended Solids *(TSS)*	40	56582					1	mg/l	kg/D	60	84874	1
e. Ammonia *(as N)*	0.16	226					1	mg/l	kg/D	0.21	297	1
f. Flow	VALUE 553.50		VALUE N/A		VALUE 373.73		Cont.	N/A	MGD	VALUE 353.03		Cont.
g. Temperature *(winter)*	VALUE 33.60		VALUE N/A		VALUE 17.27		Cont.	°C		VALUE 8.78		Cont.
h. Temperature *(summer)*	VALUE 36.60		VALUE N/A		VALUE 32.36		Cont.	°C		VALUE 25.21		Cont.
i. pH	MINIMUM 6.10	MAXIMUM 8.70	MINIMUM N/A	MAXIMUM N/A			260	STANDARD UNITS				

PART B - **Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.**

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual	X		0.63	891.18			<0.01	14.15	4841	mg/l	kg/D	<0.05	N/A	1
c. Color	X									CLPT Units	N/A	20	N/A	1
d. Fecal Coliform	X									MPN 100 ml	N/A	488	N/A	6
e. Fluoride (16984-48-8)	X									mg/l	kg/D	0.14	198	6
f. Nitrate-Nitrite *(as N)*	X									mg/l	kg/D	5.12	7243	105

NJ0005622 DSN 486

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X' a. EXPECTED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (2) MASS	3. EFFLUENT d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
g. Nitrogen, Total Organic (as N)	X									mg/l	kg/D	0.845	1193	6
h. Oil and Grease	X									mg/l	kg/D	<0.85	N/A	1
i. Phosphorus (as P), Total (7723-14-0)	X									mg/l	kg/D	0.27	381.45	1
j. Radioactivity				[redacted]										
(1) Alpha, Total	X									pci/l	N/A	1.3	N/A	48
(2) Beta, Total	X									pci/l	N/A	43	N/A	48
(3) Radium, Total	X									pci/l	N/A	15.5	N/A	48
(4) Radium 226, Total	X									pci/l	N/A	15.5	N/A	48
k. Sulfate (as SO_4) (14808-79-8)	X									mg/l	kg/D	660	N/A	1
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		<0.01	N/A						mg/l	kd/D	0.02	N/A	2
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)	X		0.24	351.02						mg/l	kg/D	0.38	536.86	1
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X									mg/l	kg/D	2.68	3786.27	1
t. Magnesium, Total (7439-95-4)	X									mg/l	kg/D	2.66	3758.02	1
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NJ0005622	DSN 486

Form Approved
OMB No. 2040-0059
Approval expires 12-31-85

CONTINUED FROM PAGE 3 OF FORM 2 C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl 4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM 30 DAY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
2M. Arsenic, Total (7440-38-2)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
3M. Beryllium, Total, 7440-41-7)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
4M. Cadmium, Total (7440-43-9)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
5M. Chromium, Total (7440-47-3)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	N/A	2
6M. Copper, Total (7440-50-8)	X	X		0.004	5.85					1	mg/l	kg/D	0.005	7.06	1
7M. Lead, Total (7439-92-1)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	2.83	1
8M. Mercury, Total (7439-97-6)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
9M. Nickel, Total (7440-02-0)	X		X	<0.01	N/A					1	mg/l	kg/D	<0.01	N/A	1
10M. Selenium, Total (7782-49-2)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
11M. Silver, Total (7440-22-4)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
12M. Thallium, Total (7440-28-0)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
13M. Zinc, Total (7440-66-6)	X	X		<0.02	N/A					1	mg/l	kg/D	0.025	N/A	2
14M. Cyanide, Total (57-12-5)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
15M. Phenols, Total	X	X		<0.005	N/A					1	mg/l	kg/D	0.014	N/A	2
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
2V. Acrylonitrile (107-13-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
3V. Benzene (71-43-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
4V. Bis *(Chloromethyl)* Ether (542-88-1)	X		X	ND	N/A					1	ug/l	kg/D	ND	N/A	1
5V. Bromoform (75-25-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
6V. Carbon Tetrachloride (56-23-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
7V. Chlorobenzene (108-90-7)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
8V. Chlorodibromomethane (124-48-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
9V. Chloroethane (75-00-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10V. 2-Chloroethylvinyl Ether (110-75-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11V. Chloroform (67-66-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
12V. Dichlorobromomethane (75-27-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
13V. Dichlorodifluoromethane (75-71-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
14V. 1,1-Dichloroethane (75-34-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
15V. 1,2-Dichloroethane (107-06-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
16V. 1,1-Dichloroethylene (75-35-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
17V. 1,2-Dichloropropane (78-87-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
18V. 1,3-Dichloropropylene (542-75-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
19V. Ethylbenzene (100-41-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
20V. Methyl Bromide (74-83-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21V. Methyl Chloride (74-87-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUE ON PAGE V-5

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: DSN 486

Form Approved
OMB No. 2040-0086
Approval expires 3-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X		X	<5*	N/A					1	ug/l	kg/D	<5*	N/A	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
24V. Tetrachloroethylene (127-18-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
25V. Toluene (108-88-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
27V. 1,1,1-Trichloroethane (71-55-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
28V. 1,1,2-Trichloroethane (79-00-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
29V. Trichloroethylene (79-01-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
30V. Trichlorofluoromethane (75-69-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
31V. Vinyl Chloride (75-01-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95 57 8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2A. 2,4-Dichlorophenol (120-83 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
3A. 2,4 Dimethylphenol (105 67 9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4A. 4,6-Dinitro O Cresol (534-52 1)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
5A. 2,4 Dinitrophenol (51-28 5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
6A. 2 Nitrophenol (88 75 5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7A. 4 Nitrophenol (100 02 7)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
8A. P Chloro M Cresol (59 50 7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9A. Pentachlorophenol (87 86 5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
10A. Phenol (108 95 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11A. 2,4,6-Trichlorophenol (88 06 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

NJ0005622 DSN 486

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2B. Acenaphtylene (208-96-8)	X		X	<10	N/A					1	ug/l	kg/d	<10	N/A	1
3B. Anthracene (120-12-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4B. Benzidine (92-87-5)	X		X	<80	N/A					1	ug/l	kg/D	<80	N/A	1
5B. Benzo (a) Anthracene (56-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
6B. Benzo (a) Pyrene (50-32-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
8B. Benzo (ghi) Perylene (191-24-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9B. Benzo (k) Fluoranthene (207-08-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
12B. Bis (2-Chloroiso-propyl) Ether (102-80-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X		X	<10*	N/A					1	ug/l	kg/D	<10*	N/A	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
15B. Butyl Benzyl Phthalate (85-68-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
16B. 2-Chloro-naphthalene (91-58-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
18B. Chrysene (218-01-9)	X		X	<10	N/A					1	ug/L	kg/D	<10	N/A	1
19B. Dibenzo (a,h) Anthracene (53-70-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
20B. 1,2-Dichloro benzene (95-50-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21B. 1,3-Dichloro benzene (541-73-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

 CONTINUE ON PAGE V-7

CONTINUED FROM PAGE V-6

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: DSN 486

Form Approved
OMB No. 2040-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
23B. 3,3'-Dichlorobenzidine (91-94-1)	X		X	<20	N/A					1	ug/l	kg/D	<20	N/A	1
24B. Diethyl Phthalate (84-66-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
25B. Dimethyl Phthalate (131-11-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
26B. Di-N-Butyl Phthalate (84-74-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
27B. 2,4-Dinitrotoluene (121-14-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
28B. 2,6-Dinitrotoluene (606-20-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
29B. Di-N-Octyl Phthalate (117-84-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
31B. Fluoranthene (206-44-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
32B. Fluorene (86-73-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
33B. Hexachlorobenzene (118-74-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
34B. Hexachlorobutadiene (87-68-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
35B. Hexachlorocyclopentadiene (77-47-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
36B. Hexachloroethane (67-72-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
38B. Isophorone (78-59-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
39B. Naphthalene (91-20-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
40B. Nitrobenzene (98-95-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
41B. N-Nitrosodimethylamine (62-75-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
44B. Phenanthrene (85-01-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
45B. Pyrene (129-00-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
46B. 1,2,4 - Trichlorobenzene (120-82-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4' DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

* Indicates compound found in blank.

Salem Generating Station
NJPDES Permit NJ0005622

APPLICATION FORM 2C-V EXPLANATIONS - DSN 486

This outfall is one of the six (6) non-contact cooling water outfalls and is primarily Delaware River Estuary water. Analytical results from each outfall are a composite of the six outfalls with the exception of temperature, flow, and total residual chlorine for which routine independent analyses are performed.

PART A
The intake analyses are based on Delaware River Estuary samples taken in accordance with the application protocol. Although the intake and effluent values are similar, the previously established sample acquisition variability is evident.

PART B and PART C
Total residual chlorine was analyzed due to the addition of sodium hypochlorite as a biofouling control agent in the service water system . Other parameters marked as "believed present" are so indicated due to their presence in the intake water and current or historical analytical data was provided to demonstrate the presence of these parameters in the intake.

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT SUMMARY TABLE

DSN 486
NON-CONTACT COOLING WATER
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Flow (MGD)	N/A	Calculated	N/A	353.03 Avg. 532.80 Max.	N/A	N/A	N/A	Calculated	N/A	5
Temperature Deg. F (Deg. C) Influent	N/A	Continuous	N/A	(14.62) Avg. (28.90) Max.	N/A	N/A	N/A	Continuous	N/A	2,6
Temperature Deg. F (Deg. C) Effluent	115 (46.1)	Continuous	N/A	(22.64) Avg. (39.30) Max.	Max 86 (30)	Max 115 (46.1)	115 (46.1) Daily Max.	Continuous	N/A	1,2,7
Temperature Difference Deg. F (Deg. C)	27.5 (15.3)	Calculated	N/A	(8.08) Avg. (19.42) Max.	N/A	N/A	27.5 (15.3) Daily Max.	Calculated	N/A	2,8
Heat, Facility (MBTU/HR)	30,600	Calculated	N/A	12331.72 Avg. 19476.72 Max.	N/A	N/A	30,600 Daily Max.	Calculated	N/A	2,9
Chlorine-Total Residual (SWS) (mg/l)	0.3 (AVG.) 0.5 (MAX.)	3X/Week	Grab	0.01 Avg. 0.63 Max.	N/A	N/A	0.3 Monthly (Avg.) 0.5 Daily (Max.)	3X/Week	Grab	3,10
Chlorine-Total Residual (CWS) (mg/l)	0.2 (MAX.)	3X/Week	Grab	0.01 Avg. 0.18 Max.	N/A	N/A	0.2 Daily (Max.)	3X/Week	Grab	3,10
pH (S.U.)	6 (Min.) 9 (Max.)	Weekly	Grab	6.1 Min. 8.70 Max.	N/A	N/A	6 Daily (Min.) 9 Daily (Max.)	Weekly	Grab	4,11

Explanation of Existing Permit Reference Notes

1. This limitation shall apply from June 1st through September 30th. During the remainder of the year the temperature limitation shall be 110°F (43.3°C). (Part III-B/C, Page 1 of 7)

2. A) The net amount of heat per unit time is determined by the product of the heat capacity, discharge flow and discharge-intake temperature difference. (Part III, Section 1, I & J)

   B) The effluent temperature to be reported on the facility DMRs will, for the discharges 481-483, be calculated as the combined average of each of the separate discharges, 481-483, and will, for the discharges 484-486, be calculated as the combined average of each of the separate discharges 484-486. Likewise, the calculations of the net temperature difference will be determined by subtracting the ambient river water temperature from the average effluent temperature of 481-483 and of 484-486. (Part IV, Section 1, I & J)

   C) The thermal effluent limitations specified in this permit shall remain in effect until such time as final determinations are made by the State on the imposition of alternative thermal effluent limitations and on the location, design, construction, and capacity of the cooling water intake structures pursuant to Section 316 (a and b) respectively, of the Federal Water Pollution Control Act as amended (P.L. 92-500). Alternative thermal effluent limitations or thermal effluent limitations based upon load allocations and other factors may be imposed and/or appropriate mixing zone dimensions may be defined as a result of the determination. A schedule of compliance may be imposed upon the permittee to meet final thermal effluent limitations. (Part III, Section 1, I & J)

Explanation of Existing Permit Reference Notes

3. A) These limitations shall apply when only service system non-contact cooling water is discharged. The limitations of 0.2 mg/l shall apply at all other times. If it is necessary to chlorinate the main condensers, monitoring shall be performed three times per week during the 2-hr. periods of chlorination. (Part III - B/C, Page 1 of 7)

B) Total residual chlorine may not be discharged from any single generating unit for more than two hours per day. However, since the permittee has demonstrated that the service water system, a nuclear safety related system, has a macro invertebrate fouling problem, TRC discharges in excess of two hours per day are allowed in order to accommodate continuous chlorination of the service water system, provided that TRC discharges resulting from the main condenser cooling water chlorination do not exceed two hours per day. (Part IV - B/C, Page 2 of 6)

C) If chlorination of the main condensers is required, the permittee shall notify the Department and monitor total residual chlorine at the permitted outfalls DSN 481 through 486 three times per week, each during a two (2) hour period of chlorination. Monitoring for Total Residual Chlorine (TRC) from continuous chlorination of the Service Water System shall be performed three (3) times per week at each permitted outfall DSN 481 through 486. The amount of TRC discharged from each permitted outfall DSN 481 through 486 shall not exceed a monthly average of 0.3 mg/l or a daily maximum of 0.5 mg/l when non-contact cooling water is not being discharged through the associated permitted outfalls, DSNs 481-486. (Part IV-B/C, Page 2 of 6)

D) The permittee shall maintain a log noting the time and duration of chlorination of the main condensers. (Part IV - B/C, Page 2 of 6)

4. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units as monitored weekly using grab samples. (Part III - B/C, Page 1 of 7)

Explanation of Notes

5. Flow from DSNs 481 through 486 consists primarily of main circulating water with contributions from the reactor auxiliaries cooling water (DSNs 481B, 482B, 484B, and 485B), turbine auxiliaries cooling water (481C, 483A, 484C,and 486A), the non-radioactive liquid waste disposal system (DSN 48C), and the radioactive liquid waste system (DSNs 481A, 482A, 484A, and 485A). The specific outfalls are shown on the enclosed schematic entitled Non-Contact Cooling Water System and average flow values are shown on the Schematic of Water Flow.

   a. DSNs 481, 482, and 483 are primarily the discharges from the Unit #1 main circulating water system. DSNs 484, 485, and 486 are primarily the discharges from the Unit #2 main circulating water system. The main circulating water system is used to cool the exhaust steam from the turbines in the main condensers. The only additive to this system may be sodium hypochlorite added to reduce biofouling. Experience has indicated the addition of sodium hypochlorite to the main circulating water system is not routinely required and the addition of sodium hypochlorite to the main circulating water system has not been conducted recently. The existing NJPDES permit requires notification of the NJDEP prior to reinitiating the addition of sodium hypochlorite to the main circulating water system and specifies monitoring requirements and limitation upon reinitiation. These provisions are adequate to protect the integrity of the main circulating water system and the environment and should be retained in the permit renewal. The flow contributed by the main circulating water system is calculated based on the operating hours of the two main circulating water pumps associated with each DSN and the specified flowrate of each pump (nominally 185,000 gallons per minute by design).

   b. The reactor auxiliaries cooling system and turbine auxiliaries cooling system are subsystems of the service water system. The service water system provides cooling to smaller, critical heat exchangers throughout the plant. The enclosed schematic of Unit 1 Service Water Flows provides an indication of the type of heat exchangers and systems served by the service water system. The system for Unit 2 is similar. Extensive documentation has been submitted demonstrating that the service water system, a nuclear safety related system,

Explanation of Notes

has a macro invertebrate fouling problem. The existing NJPDES permit provides for the continuous addition of sodium hypochlorite to this low volume waste stream within specific requirements and limitations. Sodium hypochlorite can be added at the pump suction bay and discretely to each ditribution header. These provisions are adequate to protect the service water system and the environment and should be retained in the permit renewal. The Schematic of Water Flow shows the specific cooling systems, their assigned discharge serial number, and the average flows to the DSN 481 through 486 outfalls. Since the service water system has no feasible path for the addition of any pollutant (other than sodium hypochlorite) and there are no means of monitoring the discharge before it joins with the main circulating water outfalls, no additional monitoring beyond that currently required in the NJPDES permit is warranted. The service water intake screens are cleaned by applying reverse flow service water and allowing the debris and service water to discharge directly back to the Delaware River. The service water strainers are designed to remove small particles from the intake water to prevent clogging and damage to the heat exchangers in the service water system. The strainers are backwashed to remove the collected solids using service water and returned to the Delaware River through DSN 488. Any leakage or draining within the building containing the service water pumps, screens, strainers, and associated equipment is directed to building sumps which are returned to the Delaware River through DSN 488. Since sodium hypochlorite is added at the suction side of the service water pumps, residual chlorine will be present in these discharges but this small volume should have no environmental impact. The flow contribution to DSNs 481 through 486 from the service water system is calculated based on the estimated percentage of service water flow to each of the affected outfalls and the total flow through the service water system. A flow bypass line allows the discharge of the service water pumps to be returned directly to the Delaware River for measurement of the flow from each pump. This evolution is conducted by diverting the flow from a service water pump, at a rate of approximately 12,000 gallons per minute, back to the Delaware River to allow a full flow measurement of the pump capacity. During this bypass operation, the addition of sodium hypochlorite will be terminated and the discharge to the

Explanation of Notes

Delaware River will be the intake water from the Delaware River.

c. The contribution identified as "monitor tank effluent" on the Schematic of Water Flow represents the effluent from the radioactive liquid waste system. This includes DSNs 481A, 482A, 484A, and 485A, discharging to the respective main circulating water outfalls. The radioactive waste system collects system leakage, floor drains, equipment leakage, decontamination liquids, washwaters, system drains, ventilation system drains, laboratory drains, and sample wastes from areas of the plant which contain or may contain radioactive materials. These waste streams may contain trace quantities of organics, analytical laboratory chemicals, decontamination solutions, or cleaning solutions. The primary chemicals used in the systems which would drain to the radioactive liquid waste system include chromates, hydrazine, and boron. Solids created by the treatment of these liquid waste streams are transported to a facility licensed by the USNRC for disposal in accordance with USNRC requirements. These waste streams are collected in tanks, processed to reduce radioactivity, sampled for radioactivity concentrations, and then recycled for reuse if practicable or discharged in a batch mode through these outfalls. The radioactivity concentrations, quantities, and rate are regulated and limited by the US Nuclear Regulatory Commission. The volume discharged is measured on each batch. This volume is a negligible portion of the total flow at the outfalls and is reported in the Radiological Effluent Release Report and not on the Discharge Monitoring Report.

d. The non-radioactive liquid waste disposal system (NRLWDS) is identified as DSN 48C and discharges with any or all of DSN 481, 482, 484, and 485. This internal low volume waste stream is separately addressed in this application. The flow component is reported independently on the Discharge Monitoring Report and not included in the flow calculations for DSNs 481 through 486.

Outfalls for DSNs 481 through 483 represent the Unit 1 main circulating water system effluent and outfalls 484 through 486 represent the Unit 2 main circulating water system effluent.

The flow from each of DSN 481 through 486 is calculated as the

Explanation of Notes

sum of the main circulating water pump run time times the flowrate of the pump and the estimated flow contribution from the service water system as a percentage of the total volume of service water pumped.

Flowrates for the main circulating water pumps and service water pumps used in the calculations are either the design flowrates as provided by the vendor documentation or flowrates determined empirically using a test method such as fluorescein dye injection or bypass flow measurements. When the pump flowrate values used in the calculations changes due to new information, we will notify the NJDEP of the new value to be used and the bases for this value. The total volume in million gallons per day reported on the Discharge Monitoring Report will be calculated by evaluating the operating condition of each pump (on or off) at least once per hour and calculate the daily flow using the operating hours of the pump times the flowrate. If the normal method of determining pump operability (computer points) in not functional, the operators logs will provide the information to be used in the calculation.

6. The influent temperature is measured at the intake to the main circulating water structure for Unit 1 and for Unit 2. The temperature is continuously measured at and recorded and a value is input to the computer used for calculations at least once per hour. Since the water entering Unit 1 and Unit 2 is from the same bulk water (Delaware River), if one of the temperature monitoring devices is out of service for calibration or maintenance, the temperature values from the other temperature monitoring device will be utilized for the differential temperature calculations.

7. The effluent temperature is measured in the outfall pipe of each DSN 481 through 486. The effluent temperature is continuously recorded and retained in the computer at least once each hour. The Facility (FAC) effluent temperature is reported as the flow weighted discharge temperature by multiplying the effluent temperature in each of the affected outfalls times the flow in the respective outfall and dividing by the total flow. This value is calculated at least hourly and the daily average and daily maximum values are reported on the Discharge Monitoring Report pages FAC A (Unit 1; DSNs481 through 483) and FAC B (Unit 2; DSNs 484 through 486). If an effluent temperature monitoring device is out of service for calibration or maintenance, the effluent temperature will

Explanation of Notes

be determined from the effluent temperature of the remaining outfalls considering the plant operating configuration and the flow from the main circulating water pumps. The current NJPDES permit limits the effluent temperature to 46.1°C (115°F) during the period June 1 through September 30 and 43.3°C (110°F) during the period October 1 through May 31. Since the discharge is located approximately 500 feet from the shoreline and approximately 46 feet below the surface of the Delaware River, there is no reasonable access for contact by humans. The Delaware River Basin Commission limitation of 46.1°C (115°F) should apply throughout the year.

8. The differential temperature is calculated by subtracting the daily influent temperature for a unit (FAC A or FAC B) from the daily effluent temperature for the unit (FAC A or FAC B). The daily average and daily maximum differential temperature is reported on the respective Discharge Monitoring Report (FAC A or FAC B).

9. The Facility Heat Release is the total heat release for Unit 1 (FAC A) and Unit 2 (FAC B). Retention of this limitation is appropriate.

10. Total residual chlorine (TRC) may be present in the service water and/or the main circulating water. Experience has indicated the addition of sodium hypochlorite to the main circulating water system is not routinely required and the addition of sodium hypochlorite to the main circulating water system has not been conducted recently. The existing NJPDES permit requires notification of the NJDEP prior to reinitiating the addition of sodium hypochlorite to the main circulating water system and specifies monitoring requirements and limitations upon reinitiation. These provisions are adequate to protect the integrity of the main circulating water system and the environment and should be retained in the permit renewal. Extensive documentation has been submitted demonstrating that the service water system, a nuclear safety related system, has a macro invertebrate fouling problem. The existing NJPDES permit provides for the continuous addition of sodium hypochlorite to this low volume waste stream within specific requirements and limitations. These provisions are adequate to protect the service water system and the environment and should be retained in the permit renewal. Since the TRC limitations change with pump operating configurations, three independent values of TRC are reported on the Discharge Monitoring Report as appropriate, the TRC

Explanation of Notes

concentration resulting from service water chlorination with a main circulating water pump operating in that outfall, the TRC concentration resulting from service water chlorination with no main circulating water pump operating in that outfall, and the TRC concentration resulting from chlorination of the main circulating water system. Retention of the sample frequency and type is appropriate.

11. Monitoring of pH is required weekly at each outfall DSN 481 through 486. The limitations of not less than 6.0 standard units daily minimum nor greater than 9.0 standard units daily maximum are appropriate.

12. As demonstrated in the Total Suspended Solids Variability Study submitted to the NJDEP, monitoring for any additional parameters is not warranted. The inability to introduce measurable pollutants or measure representative net values in these outfalls denies the applicability of any additional monitoring.

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT RECOMMENDATION TABLE

FAC A
UNIT #1
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Temperature Deg. F (Deg. C) Influent	N/A	Continuous	N/A	(15.28) Avg. (29.70) Max.	N/A	N/A	N/A	Continuous	N/A	2,6
Temperature Deg. F (Deg. C) Effluent	115 (46.1)	Continuous	N/A	(24.09) Avg. (40.70) Max.	Max 86 (30)	Max	115 (46.1) Daily Max.	Continuous	N/A	1,2,7
Temperature Difference Deg. F (Deg. C)	27.5 (15.3)	Calculated	N/A	(8.63) Avg. (20.20) Max.	N/A	N/A	27.5 (15.3) Daily Max.	Calculated	N/A	2,8

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT RECOMMENDATION TABLE

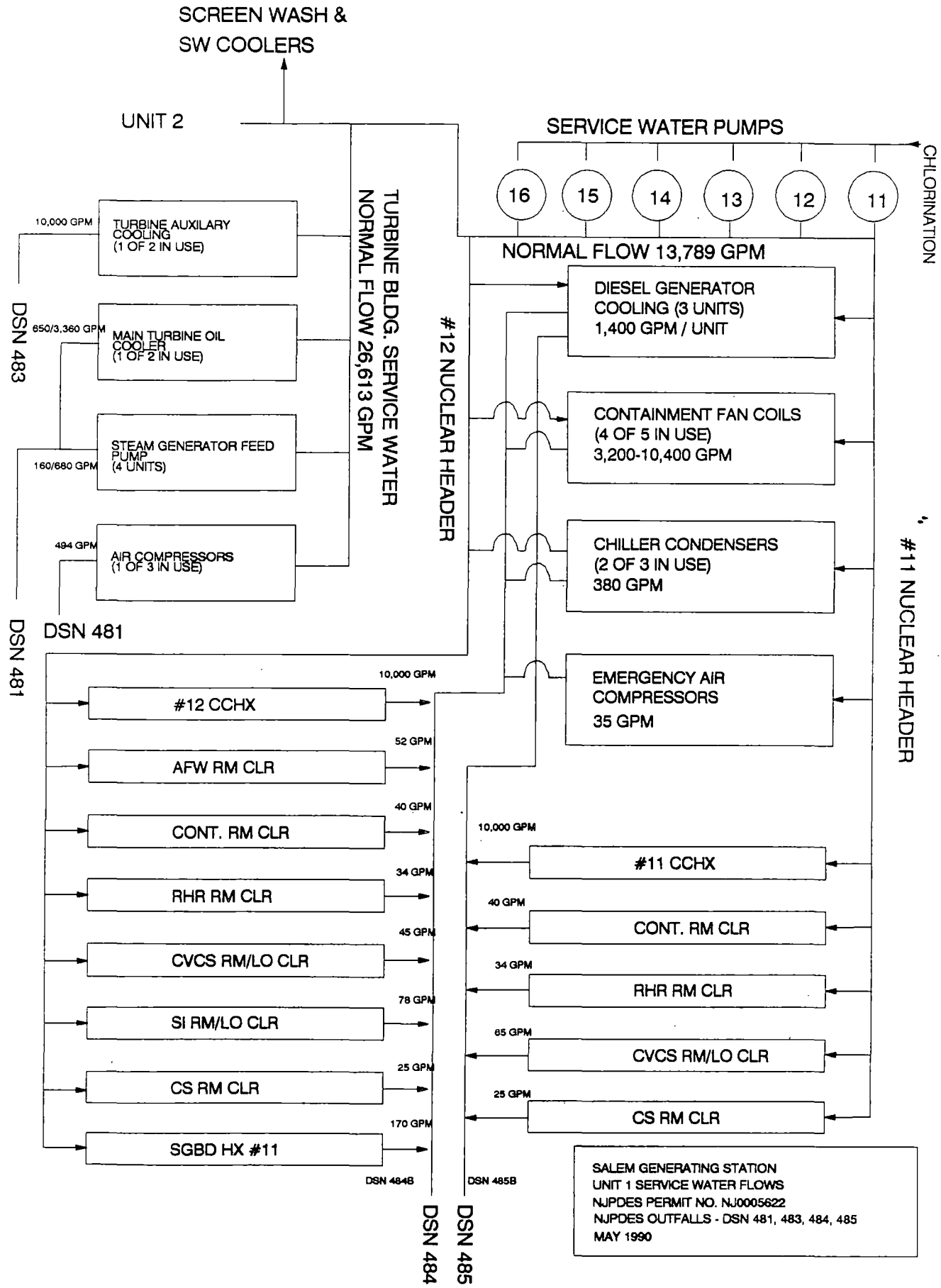
FAC B
UNIT #2
SHEET 1 OF 1

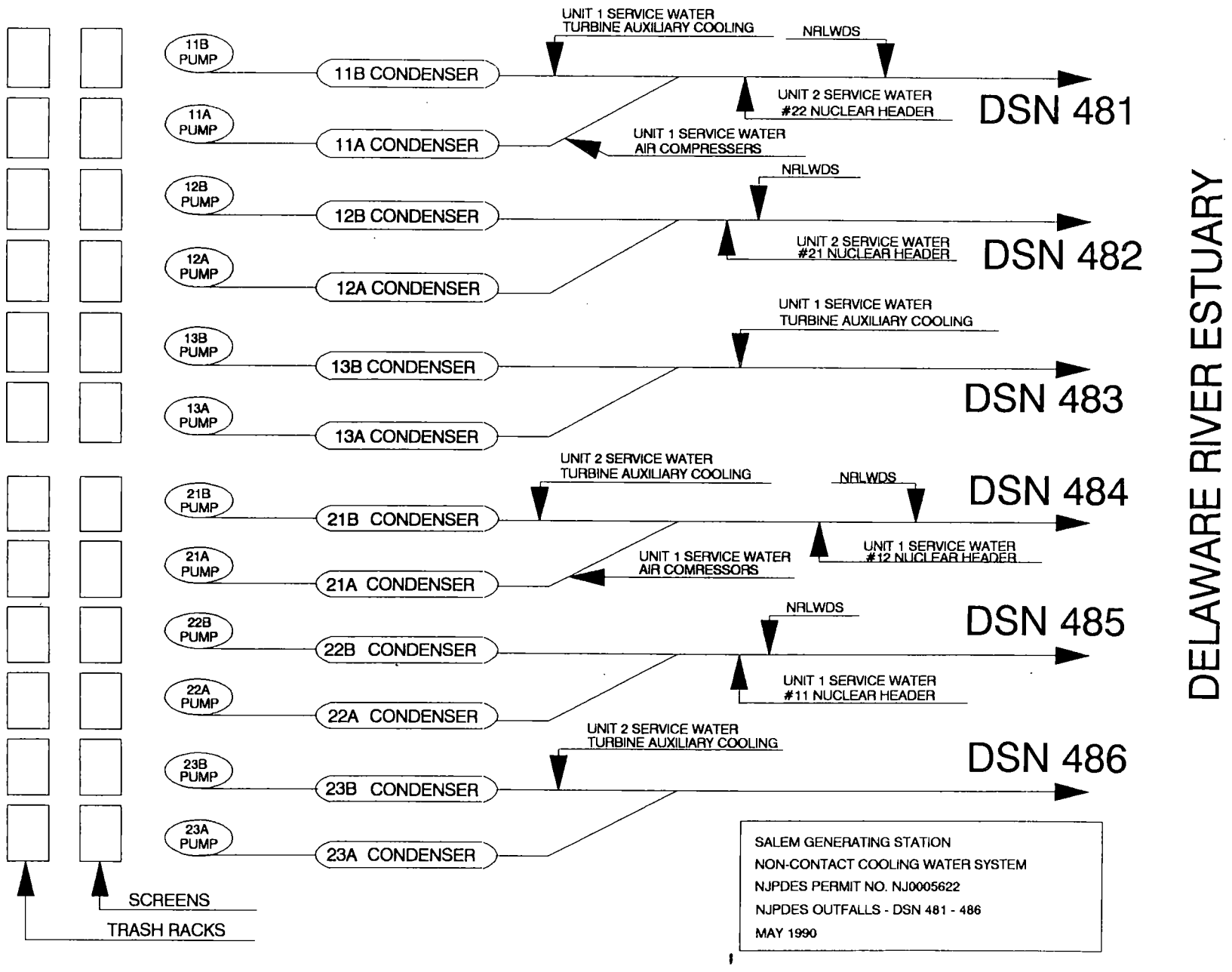
PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Temperature Deg. F (Deg. C) Influent	N/A	Continuous	N/A	(14.62) Avg. (28.90) Max.	N/A	N/A	N/A	Continuous	N/A	2,6
Temperature Deg. F (Deg. C) Effluent	115 (46.1)	Continuous	N/A	(22.64) Avg. (39.30) Max.	Max 86 (30)	Max 115 (46.1)	115 (46.1) Daily Max.	Continuous	N/A	1,2,7
Temperature Difference Deg. F (Deg. C)	27.5 (15.3)	Calculated	N/A	(8.08) Avg. (19.42) Max.	N/A	N/A	27.5 (15.3) Daily Max.	Calculated	N/A	2,8

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT RECOMMENDATION TABLE

FAC C
STATION HEAT RELEASE
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Heat, Facility (MBTU/HR)	30,600	Calculated	N/A	12331.72 AVG. 19476.72 Max.	N/A	N/A	30,600 Daily Max.	Calculated	N/A	2,9


SCREEN WASH &
SW COOLERS
UNIT 2
SERVICE WATER PUMPS
16
15
14
13
12
11
CHLORINATION
NORMAL FLOW 13,789 GPM
10,000 GPM
TURBINE AUXILARY COOLING (1 OF 2 IN USE)
650/3,360 GPM
MAIN TURBINE OIL COOLER (1 OF 2 IN USE)
160/680 GPM
STEAM GENERATOR FEED PUMP (4 UNITS)
494 GPM
AIR COMPRESSORS (1 OF 3 IN USE)
DSN 483
DSN 481
DSN 481
TURBINE BLDG. SERVICE WATER
NORMAL FLOW 26,613 GPM
#12 NUCLEAR HEADER
DIESEL GENERATOR COOLING (3 UNITS) 1,400 GPM / UNIT
CONTAINMENT FAN COILS (4 OF 5 IN USE) 3,200-10,400 GPM
CHILLER CONDENSERS (2 OF 3 IN USE) 380 GPM
EMERGENCY AIR COMPRESSORS 35 GPM
#11 NUCLEAR HEADER
10,000 GPM
#12 CCHX
52 GPM
AFW RM CLR
40 GPM
CONT. RM CLR
34 GPM
RHR RM CLR
45 GPM
CVCS RM/LO CLR
78 GPM
SI RM/LO CLR
25 GPM
CS RM CLR
170 GPM
SGBD HX #11
DSN 484B
10,000 GPM
#11 CCHX
40 GPM
CONT. RM CLR
34 GPM
RHR RM CLR
65 GPM
CVCS RM/LO CLR
25 GPM
CS RM CLR
DSN 485B
DSN 484
DSN 485
SALEM GENERATING STATION
UNIT 1 SERVICE WATER FLOWS
NJPDES PERMIT NO. NJ0005622
NJPDES OUTFALLS - DSN 481, 483, 484, 485
MAY 1990


11B PUMP
11B CONDENSER
11A PUMP
11A CONDENSER
12B PUMP
12B CONDENSER
12A PUMP
12A CONDENSER
13B PUMP
13B CONDENSER
13A PUMP
13A CONDENSER
21B PUMP
21B CONDENSER
21A PUMP
21A CONDENSER
22B PUMP
22B CONDENSER
22A PUMP
22A CONDENSER
23B PUMP
23B CONDENSER
23A PUMP
23A CONDENSER
SCREENS
TRASH RACKS
UNIT 1 SERVICE WATER TURBINE AUXILIARY COOLING
NRLWDS
UNIT 2 SERVICE WATER #22 NUCLEAR HEADER
UNIT 1 SERVICE WATER AIR COMPRESSERS
DSN 481
NRLWDS
UNIT 2 SERVICE WATER #21 NUCLEAR HEADER
DSN 482
UNIT 1 SERVICE WATER TURBINE AUXILIARY COOLING
DSN 483
UNIT 2 SERVICE WATER TURBINE AUXILIARY COOLING
NRLWDS
DSN 484
UNIT 1 SERVICE WATER AIR COMRESSORS
UNIT 1 SERVICE WATER #12 NUCLEAR HEADER
NRLWDS
DSN 485
UNIT 1 SERVICE WATER #11 NUCLEAR HEADER
UNIT 2 SERVICE WATER TURBINE AUXILIARY COOLING
DSN 486
SALEM GENERATING STATION
NON-CONTACT COOLING WATER SYSTEM
NJPDES PERMIT NO. NJ0005622
NJPDES OUTFALLS - DSN 481 - 486
MAY 1990
DELAWARE RIVER ESTUARY

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NJ0005622

Form Approved OMB No. 2040 0059 Approval expires 12 31 85

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO: 487

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	2. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	2. EFFLUENT b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	2. EFFLUENT b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	2. EFFLUENT c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	2. EFFLUENT c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	3. UNITS *(specify if blank)* a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	9	0.34					1	mg/l	kg/d	2.4	IND	1
b. Chemical Oxygen Demand *(COD)*	12	0.45					1	mg/l	kg/d	47	IND	1
c. Total Organic Carbon *(TOC)*	4.3	0.163					1	mg/l	kg/d	2.6	IND	1
d. Total Suspended Solids *(TSS)*	5.14	0.19					1	mg/l	kg/d	60	IND	1
e. Ammonia *(as N)*	0.205	0.008						mg/l	kg/d	0.21	IND	1
f. Flow	VALUE 0.02		VALUE N/A		VALUE 0.01		12	N/A	MGD	VALUE 0.01		12
g. Temperature *(winter)*	VALUE 25		VALUE N/A		VALUE 12.27		32	°C		VALUE N/A		N/A
h. Temperature *(summer)*	VALUE 33		VALUE N/A		VALUE 19.94		16	°C		VALUE N/A		N/A
i. pH	MINIMUM 6.00	MAXIMUM 8.00	MINIMUM N/A	MAXIMUM N/A			37	STANDARD UNITS				

PART B - **Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.**

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE b. NO. ANALYSES
e. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color	X									CLPT UNITS	N/A	20.0	N/A	1
d. Fecal Coliform	X									MPN/ 100 ml	N/A	488	N/A	6
e. Fluoride (16984 48-8)	X									mg/l	kg/d	0.14	IND	6
f. Nitrate-Nitrite *(as N)*	X									mg/l	kg/d	6.12	IND	105

NJ0005622 DSN 487

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X' a. EFFLUENT PRESENT	2. MARK 'X' b. EFFLUENT ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (2) MASS	3. EFFLUENT d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
g. Nitrogen, Total Organic (as N)	X									mg/l	kg/D	0.845	N/A	6
h. Oil and Grease	X		2.36	0.089					1	mg/l	kg/D	<0.85	N/A	1
i. Phosphorus (as P), Total (7723-14-0)	X									mg/l	kg/D	0.27	N/A	1
j. Radioactivity														
(1) Alpha, Total	X									pci/l	N/A	1.3	N/A	48
(2) Beta, Total	X									pci/l	N/A	43	N/A	48
(3) Radium, Total	X									pci/l	N/A	15.5	N/A	48
(4) Radium 226, Total	X									pci/l	N/A	15.5	N/A	48
k. Sulfate (as SO_4) (14808-79-8)	X									mg/l	kg/D	660	N/A	1
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		<0.01	N/A						mg/l	kd/D	0.02	N/A	2
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)	X									mg/l	kg/D	0.7	N/A	1
q. Boron, Total (7440-42-8)	X									mg/l	kg/D	0.38	N/A	1
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X									mg/l	kg/D	2.68	N/A	1
t. Magnesium, Total (7439-95-4)	X									mg/l	kg/D	2.66	N/A	1
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 487

Form Approved. OMB No. 2040-0059. Approval expires 12-31-85

CONTINUED FROM PAGE 3 OF FORM 2.C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl 4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part, please review each carefully. Complete one table (*all 7 pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X" a. TEST(ING) REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM 30 DAY VALUE (1) CONCENTRATION	a. MAXIMUM 30 DAY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (*if available*) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (*optional*) b. NO OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X								mg/l	kg/D	<0.005	N/A	1
2M. Arsenic, Total (7440-38-2)		X									mg/l	kg/D	0.01	N/A	1
3M. Beryllium, Total, 7440-41-7)			X								mg/l	kg/D	<0.0002	N/A	1
4M. Cadmium, Total (7440-43-9)		X									mg/l	kg/D	0.001	N/A	1
5M. Chromium, Total (7440-47-3)		X									mg/l	kg/D	0.002	N/A	2
6M. Copper, Total (7440-50-8)		X									mg/l	kg/D	0.005	N/A	1
7M. Lead, Total (7439-92-1)		X									mg/l	kg/D	0.002	N/A	1
8M. Mercury, Total (7439-97-6)		X									mg/l	kg/D	0.0002	N/A	1
9M. Nickel, Total (7440-02-0)		X#									mg/l	kg/D	<0.01	N/A	1
10M. Selenium, Total (7782-49-2)		X									mg/l	kg/D	0.01	N/A	1
11M. Silver, Total (7440-22-4)		X									mg/l	kg/D	0.01	N/A	1
12M. Thallium, Total (7440-28-0)			X								mg/l	kg/D	<0.002	N/A	1
13M. Zinc, Total (7440-66-6)		X									mg/l	kg/D	0.025	N/A	2
14M. Cyanide, Total (57-12-5)			X								mg/l	kg/D	<0.005	N/A	1
15M. Phenols, Total		X									mg/l	kg/D	0.014	N/A	2
DIOXIN															
2,3,7,8 Tetra chlorodibenzo P Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X								ug/l	kg/D	<5	N/A	1
2V. Acrylonitrile (107-13-1)			X								ug/l	kg/D	<5	N/A	1
3V. Benzene (71-43-2)		X#									ug/l	kg/D	<5	N/A	1
4V. Bis (Chloromethyl) Ether (542-88-1)			X								ug/l	kg/D	ND	N/A	1
5V. Bromoform (75-25-2)			X								ug/l	kg/D	<5	N/A	1
6V. Carbon Tetrachloride (56-23-5)			X								ug/l	kg/D	<5	N/A	1
7V. Chlorobenzene (108-90-7)			X								ug/l	kg/D	<5	N/A	1
8V. Chlorodibromomethane (124-48-1)			X								ug/l	kg/D	<5	N/A	1
9V. Chloroethane (75-00-3)			X								ug/l	kg/D	<10	N/A	1
10V. 2-Chloroethylvinyl Ether (110-75-8)			X								ug/l	kg/D	<10	N/A	1
11V. Chloroform (67-66-3)			X								ug/l	kg/D	<5	N/A	1
12V. Dichlorobromomethane (75-27-4)			X								ug/l	kg/D	<5	N/A	1
13V. Dichlorodifluoromethane (75-71-8)		X#									ug/l	kg/D	<10	N/A	1
14V. 1,1-Dichloroethane (75-34-3)			X								ug/l	kg/D	<5	N/A	1
15V. 1,2-Dichloroethane (107-06-2)			X								ug/l	kg/D	<5	N/A	1
16V. 1,1-Dichloroethylene (75-35-4)			X								ug/l	kg/D	<5	N/A	1
17V. 1,2-Dichloropropane (78-87-5)			X								ug/l	kg/D	<5	N/A	1
18V. 1,3-Dichloropropylene (542-75-6)			X								ug/l	kg/D	<5	N/A	1
19V. Ethylbenzene (100-41-4)		X#									ug/l	kg/D	<5	N/A	1
20V. Methyl Bromide (74-83-9)			X								ug/l	kg/D	<10	N/A	1
21V. Methyl Chloride (74-87-3)			X								ug/l	kg/D	<10	N/A	1

CONTINUE ON PAGE V-5

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (copy from Item 1 of Form 1) NJ0005622 | OUTFALL NUMBER 487

Form Approved OMB No. 2040-0086 Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)		X#									ug/l	kg/D	<5*	N/A	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X								ug/l	kg/D	<5	N/A	1
24V. Tetrachloroethylene (127-18-4)			X								ug/l	kg/D	<5	N/A	1
25V. Toluene (108-88-3)			X								ug/l	kg/D	<5	N/A	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X								ug/l	kg/D	<5	N/A	1
27V. 1,1,1-Trichloroethane (71-55-6)			X								ug/l	kg/D	<5	N/A	1
28V. 1,1,2-Trichloroethane (79-00-5)			X								ug/l	kg/D	<5	N/A	1
29V. Trichloroethylene (79-01-6)		X#									ug/l	kg/D	<5	N/A	1
30V. Trichlorofluoromethane (75-69-4)		X#									ug/l	kg/D	<5	N/A	1
31V. Vinyl Chloride (75-01-4)			X								ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95 57-8)			X								ug/l	kg/D	<10	N/A	1
2A. 2,4-Dichlorophenol (120-83 2)			X								ug/l	kg/D	<10	N/A	1
3A. 2,4-Dimethylphenol (105-67-9)			X								ug/l	kg/D	<10	N/A	1
4A. 4,6-Dinitro O Cresol (534-52-1)			X								ug/l	kg/D	<50	N/A	1
5A. 2,4 Dinitrophenol (51-28-5)			X								ug/l	kg/D	<50	N/A	1
6A. 2 Nitrophenol (88 75 5)			X								ug/l	kg/D	<10	N/A	1
7A. 4 Nitrophenol (100 02 7)			X								ug/l	kg/D	<50	N/A	1
8A. P Chloro M Cresol (59 50 7)			X								ug/l	kg/D	<10	N/A	1
9A. Pentachlorophenol (87 86 5)			X								ug/l	kg/D	<50	N/A	1
10A. Phenol (108 95 2)			X								ug/l	kg/D	<10	N/A	1
11A. 2,4,6 Trichlorophenol (88 06 2)			X								ug/l	kg/D	<10	N/A	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. Testing Required	b. Believed Present	c. Believed Absent	3. EFFLUENT a. Maximum Daily Value (1) Concentration	a. Maximum Daily Value (2) Mass	b. Maximum 30 Day Value (if available) (1) Concentration	b. (2) Mass	c. Long Term Avrg. Value (if available) (1) Concentration	c. (2) Mass	d. No. of Analyses	4. UNITS a. Concentration	b. Mass	5. INTAKE (optional) a. Long Term Average Value (1) Concentration	a. (2) Mass	b. No. of Analyses
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83 32 9)			X								ug/l	kg/D	<10	N/A	1
2B. Acenaphtylene (208 96 8)			X								ug/l	kg/d	<10	N/A	1
3B. Anthracene (120 12-7)			X								ug/l	kg/D	<10	N/A	1
4B. Benzidine (92 87 5)			X								ug/l	kg/D	<80	N/A	1
5B. Benzo (a) Anthracene (56 55 3)			X								ug/l	kg/D	<10	N/A	1
6B. Benzo (a) Pyrene (50-32 8)			X								ug/l	kg/D	<10	N/A	1
7B. 3,4-Benzo-fluoranthene (205 99-2)			X								ug/l	kg/D	<10	N/A	1
8B. Benzo (ghi) Perylene (191-24-2)			X								ug/l	kg/D	<10	N/A	1
9B. Benzo (k) Fluoranthene (207 08 9)			X								ug/l	kg/D	<10	N/A	1
10B. Bis (2-Chloroethoxy) Methane (111 91 1)			X								ug/l	kg/D	<10	N/A	1
11B. Bis (2-Chloroethyl) Ether (111-44 4)			X								ug/l	kg/D	<10	N/A	1
12B. Bis (2-Chloroisopropyl) Ether (102-60-1)			X								ug/l	kg/D	<10	N/A	1
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)		X#									ug/l	kg/D	<10*	N/A	1
14B. 4-Bromophenyl Phenyl Ether (101-55-3)			X								ug/l	kg/D	<10	N/A	1
15B. Butyl Benzyl Phthalate (85-68 7)			X								ug/l	kg/D	<10	N/A	1
16B. 2-Chloronaphthalene (91-58-7)			X								ug/l	kg/D	<10	N/A	1
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)			X								ug/l	kg/D	<10	N/A	1
18B. Chrysene (218-01 9)			X								ug/L	kg/D	<10	N/A	1
19B. Dibenzo (a,h) Anthracene (53 70 3)			X								ug/l	kg/D	<10	N/A	1
20B. 1,2 Dichlorobenzene (95 50 1)		X#									ug/l	kg/D	<10	N/A	1
21B. 1,3 Dichlorobenzene (541 73 1)			X								ug/l	kg/D	<10	N/A	1

 CONTINUE ON PAGE V 7

CONTINUED FROM PAGE V-6

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 487

Form Approved
OMB No. 2000-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)			X								ug/l	kg/D	<10	N/A	1
23B. 3,3'-Dichlorobenzidine (91-94-1)			X								ug/l	kg/D	<20	N/A	1
24B. Diethyl Phthalate (84-66-2)			X								ug/l	kg/D	<10	N/A	1
25B. Dimethyl Phthalate (131-11-3)			X								ug/l	kg/D	<10	N/A	1
26B. Di-N-Butyl Phthalate (84-74-2)			X								ug/l	kg/D	<10	N/A	1
27B. 2,4-Dinitrotoluene (121-14-2)			X								ug/l	kg/D	<10	N/A	1
28B. 2,6-Dinitrotoluene (606-20-2)			X								ug/l	kg/D	<10	N/A	1
29B. Di-N-Octyl Phthalate (117-84-0)			X								ug/l	kg/D	<10	N/A	1
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)			X								ug/l	kg/D	<10	N/A	1
31B. Fluoranthene (206-44-0)			X								ug/l	kg/D	<10	N/A	1
32B. Fluorene (86-73-7)			X								ug/l	kg/D	<10	N/A	1
33B. Hexachlorobenzene (118-74-1)			X								ug/l	kg/D	<10	N/A	1
34B. Hexachlorobutadiene (87-68-3)			X								ug/l	kg/D	<10	N/A	1
35B. Hexachlorocyclopentadiene (77-47-4)			X								ug/l	kg/D	<10	N/A	1
36B. Hexachloroethane (67-72-1)			X								ug/l	kg/D	<10	N/A	1
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)			X								ug/l	kg/D	<10	N/A	1
38B. Isophorone (78-59-1)			X								ug/l	kg/D	<10	N/A	1
39B. Naphthalene (91-20-3)			X								ug/l	kg/D	<10	N/A	1
40B. Nitrobenzene (98-95-3)			X								ug/l	kg/D	<10	N/A	1
41B. N-Nitrosodimethylamine (62-75-9)			X								ug/l	kg/D	<10	N/A	1
42B. N-Nitrosodi-N-Propylamine (621-64-7)			X								ug/l	kg/D	<10	N/A	1

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)			X								ug/l	kg/D	<10	N/A	1
44B. Phenanthrene (85-01-8)			X								ug/l	kg/D	<10	N/A	1
45B. Pyrene (129-00-0)			X								ug/l	kg/D	<10	N/A	1
46B. 1,2,4 - Trichlorobenzene (120-82-1)			X								ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-67-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

* Indicates compound found in blank.

Salem Generating Station
NJPDES Permit NJ0005622

APPLICATION FORM 2C-V EXPLANATIONS - DSN 487

1. DSN 487, the North Yard Drain, contains water from precipitation runoff, fresh water from on-site wells, and Delaware River Estuary influx. The parameters believed present in the discharge due to their presence in the intake are a compilation of the parameters found in site fresh water and the Delaware River Estuary. Since the amount of tidal influx and outflow can not be determined, the mass calculations for this situation are marked indeterminate ("IND") or not applicable (N/A).

2. Pollutants marked "X#" as Believed Present are listed due to their presence on site in quantities which could be released. These pollutants are not anticipated to be detected in the discharge.

3. The following pollutants from Table 2-C or 7:14A Appendix B are utilized at the facility in quantities which could be discharged but are not anticipated to be detected in the discharge:

Carbaryl
Diazinon
Ethanolamine
Pyrethins
Xylenol
Acetic Acid
Calcium Hypochlorite
Lead Acetate
Nitric Acid
Potassium Chromate
Sodium Hydroxide
Sodium Nitrate
Sulfuric Acid
Toluene
Zinc Carbonate
Chlorpyrifos
Dimethylamine
Formaldehyde
Xylene
Methyl Isobutyl Ketone
Ammonia
Hydrochloric Acid
Napthalene
Phosphoric Acid
Propylene Oxide
Sodium Hypochlorite
Sodium Phosphate (dibasic)
Sodium Phosphate (tribasic)
Vinyl Acetate

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT SUMMARY TABLE

DSN 487
NORTH YARD DRAIN
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Flow (MGD)	N/A	Once/Year	Calculated	0.01 Avg. 0.02 Max.	N/A	N/A	N/A	Once/Year	Calculated	1,5
Net Petroleum Hydrocarbons (mg/l)	10 Avg. 15 Max.	Once/Year	Grab	-0.10 Avg. -0.10 Max.	N/A	10 Max.	15 Daily (Max.)	Once/Year	Grab	2,6
Net COD (mg/l)	100 Max.	Once/Year	Composite	2 Avg. 2 Max.	N/A	N/A	N/A	N/A	N/A	2,7
Net TSS (mg/l)	30 Avg. 100 Max.	Once/Year	Composite	-73.36 Avg. -73.36 Max.	N/A	30 Avg.	100 Daily (Max.)	Once/Year	Composite	2,8
Net TOC (mg/l)	-	-	-	-2.60 Avg. -2.60 Max.	N/A	N/A	50 Daily (Max.)	Once/Year	Composite	7
pH (S.U.)	6.00 Min. 9.00 Max.	Once/Year	Grab	7.00 Min. 7.20 Max.	N/A	N/A	6.00 Min. 9.00 Max.	Once/Year	Grab	3

Explanation of Existing Permit Reference Notes

1. Flow is calculated based on non-precipitation related estimated discharge plus the calculated precipitation related discharge for the reporting period and reported in units of million gallons per day. (Part III - B/C, Page 2 of 7)

2. These parameters are reported as the net concentration discharged relative to the receiving water body. (Part III - B/C, Page 2 of 7)

3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored annually using grab samples. (Part III - B/C, Page 2 of 7)

4. There shall be no discharge of floating solids or visible foam in other than trace amounts. (Part III - B/C, Page 2 of 7)

Explanation of Notes

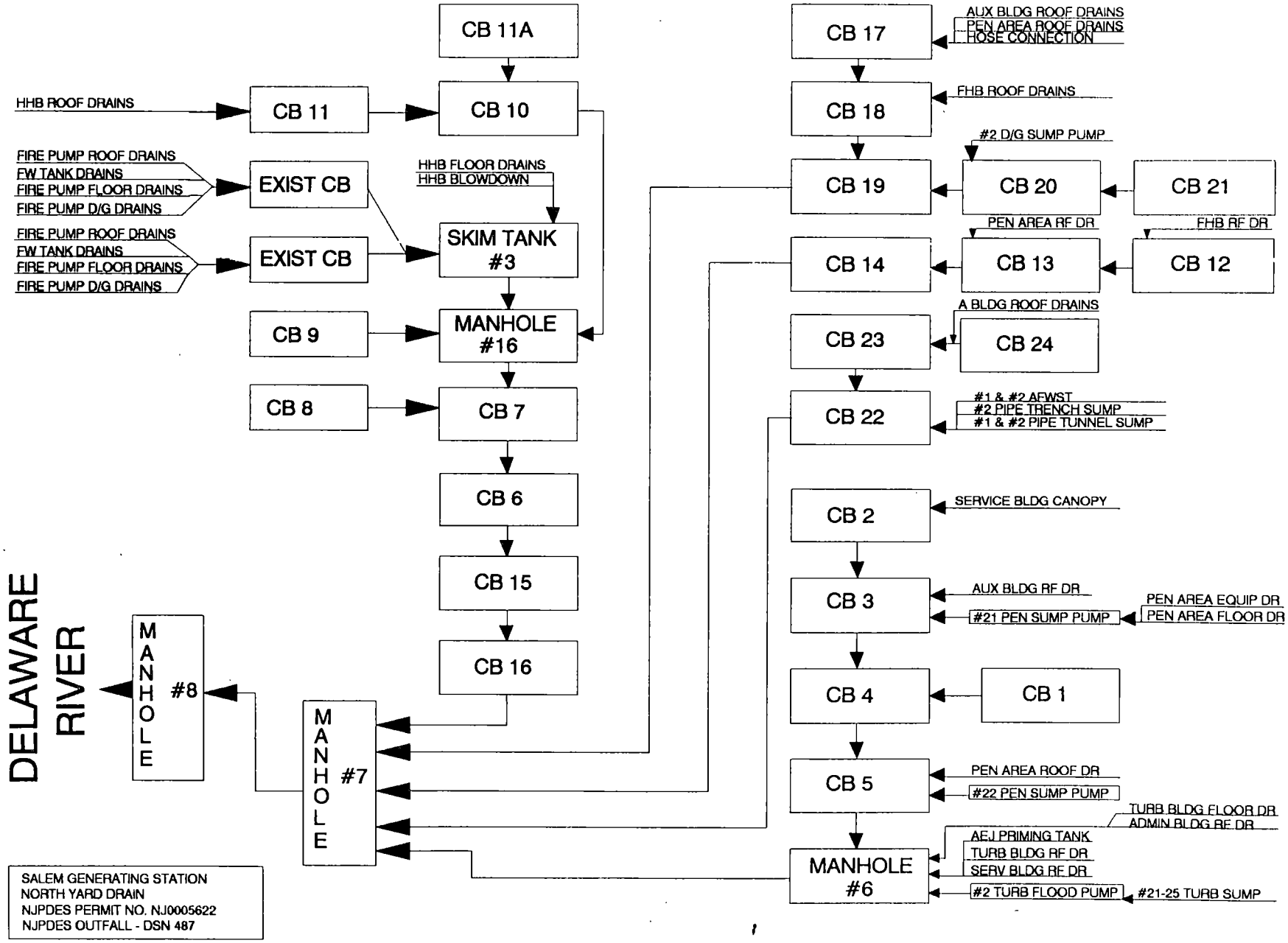
5. The North Yard Drain, outfall DSN 487, consists of precipitation runoff, roof drains, floor drains, sump pumps, flood pumps, #3 skimmer tank (DSN 487B), and river water influx. The primary contributer to the effluent flow is the river water influx. The enclosed schematic of the North Yard Drain describes the essential contributors to the system. Flow is calculated by summing the non-precipitation related discharges and the calculated precipitation related discharge and reporting the result in million gallons per day. The precipitation related component of the flow is based on the area of runoff, the runoff coefficient, and the inches of precipitation during the reporting period. The precipitation related influents drain runoff from the facility. The non-precipitation component of the flow calculation includes engineering estimates of normal discharge volumes of the non-precipitation based influents. Although most pollutants are not expected to be present in the discharge, entrained surface oils, pesticides and herbicides applied by licensed applicators, and used cleaning solutions can be postulated to enter this system during normal operations. Sump pumps and floor drains are not expected to contain any measureable unidentified pollutants but drain areas in which limited pollutants are utilized. The flood pumps are not normally used but are periodically operated for testing and the discharge could contain any of the materials used in the turbine building. The reported flow from outfall DSN 487 does not include the contribution from the river influx.

6. The net petroleum hydrocarbons are performed annually on a grab sample. The average limitation of 10 mg/l is not applicable to an annual grab sample and should be deleted. The daily maximum limitation of 15 mg/l is adequate to ensure protection of the environment.

7. On March 13, 1989, PSE&G requested the chemical oxygen demand (COD) limitations and monitoring requirements be changed to total organic carbon (TOC) limitations and monitoring requirements as delineated and allowed by the current NJPDES permit. We request this change of parameter be accomplished in this renewal and COD be deleted as a monitored and limited parameter and replaced with TOC. The net TOC limitation should be 50 mg/l based on composite sampling.

Explanation of Notes

8. The total suspended solids (TSS) average limitation of 30 mg/l is not applicable to an annual net sample and should be deleted. The daily maximum limitation of 100 mg/l net TSS is adequate to protect the environment.


CB 11A
CB 10
HHB ROOF DRAINS
CB 11
FIRE PUMP ROOF DRAINS
FW TANK DRAINS
FIRE PUMP FLOOR DRAINS
FIRE PUMP D/G DRAINS
EXIST CB
HHB FLOOR DRAINS
HHB BLOWDOWN
FIRE PUMP ROOF DRAINS
FW TANK DRAINS
FIRE PUMP FLOOR DRAINS
FIRE PUMP D/G DRAINS
EXIST CB
SKIM TANK #3
CB 9
MANHOLE #16
CB 8
CB 7
CB 6
CB 15
CB 16
DELAWARE RIVER
MANHOLE #8
MANHOLE #7
CB 17
AUX BLDG ROOF DRAINS
PEN AREA ROOF DRAINS
HOSE CONNECTION
CB 18
FHB ROOF DRAINS
#2 D/G SUMP PUMP
CB 19
CB 20
CB 21
PEN AREA RF DR
FHB RF DR
CB 14
CB 13
CB 12
A BLDG ROOF DRAINS
CB 23
CB 24
CB 22
#1 & #2 AFWST
#2 PIPE TRENCH SUMP
#1 & #2 PIPE TUNNEL SUMP
CB 2
SERVICE BLDG CANOPY
CB 3
AUX BLDG RF DR
#21 PEN SUMP PUMP
PEN AREA EQUIP DR
PEN AREA FLOOR DR
CB 4
CB 1
CB 5
PEN AREA ROOF DR
#22 PEN SUMP PUMP
TURB BLDG FLOOR DR
ADMIN BLDG RF DR
AEJ PRIMING TANK
TURB BLDG RF DR
SERV BLDG RF DR
MANHOLE #6
#2 TURB FLOOD PUMP
#21-25 TURB SUMP
SALEM GENERATING STATION
NORTH YARD DRAIN
NJPDES PERMIT NO. NJ0005622
NJPDES OUTFALL - DSN 487

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NJ0005622

Form Approved OMB No. 2040-0059 Approval expires 12-31-85

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO: 487B

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	2. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	2. EFFLUENT d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	3. UNITS (specify if blank) b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE (optional) b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	15	0.114					1	mg/l	kg/d	2.4	IND	1
b. Chemical Oxygen Demand *(COD)*	22	0.167					1	mg/l	kg/d	47	IND	1
c. Total Organic Carbon *(TOC)*	5.3	0.040					1	mg/l	kg/d	2.6	IND	1
d. Total Suspended Solids *(TSS)*	1	0.0076					1	mg/l	kg/d	60	IND	1
e. Ammonia *(as N)*	0.047	0.0004					1	mg/l	kg/d	0.21	IND	1
f. Flow	VALUE 0.002		VALUE N/A		VALUE 0.002		8	N/A	MGD	VALUE N/A		N/A
g. Temperature *(winter)*	VALUE 31.00		VALUE N/A		VALUE 22.07		3	°C		VALUE N/A		N/A
h. Temperature *(summer)*	VALUE 56.67		VALUE N/A		VALUE 33.94		4	°C		VALUE N/A		N/A
i. pH	MINIMUM 6.90	MAXIMUM 7.91	MINIMUM N/A	MAXIMUM N/A			8	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color	X									COPT UNITS	N/A	0.5	IND	1
d. Fecal Coliform		X												
e. Fluoride (16984 48 8)	X									mg/l	kg/d	0.25	IND	1
f. Nitrate-Nitrite *(as N)*	X									mg/l	kg/d	0.5	IND	1

ITEM V-B CONTINUED FROM FRONT

NJ0005622 DSN 487B

1. POLLUTANT AND CAS NO. (If available)	2. MARK "X" a. Believed present	2. MARK "X" b. Believed absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) Mass	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (1) Concentration	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (2) Mass	3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (1) Concentration	3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (2) Mass	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. Concentration	4. UNITS b. Mass	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) Concentration	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) Mass	5. INTAKE (optional) b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)		X												
h. Oil and Grease	X		<0.85	N/A					1	mg/l	kg/d			
i. Phosphorus (as P), Total (7723-14-0)		X												
j. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)	X									mg/l	kg/d	11.5	N/A	1
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		<0.01	N/A					1	mg/l	kg/d			
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)	X									mg/l	kg/d	0.7	N/A	1
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X									mg/l	kg/d	0.113	N/A	1
t. Magnesium, Total (7439-95-4)		X												
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPA I D NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NJ0005622	487B

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CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X												
2M. Arsenic, Total (7440-38-2)		X									mg/l	kg/d	0.01		1
3M. Beryllium, Total, 7440-41-7)			X												
4M. Cadmium, Total (7440-43 9)		X									mg/l	kg/d	0.001		1
5M. Chromium, Total (7440-47-3)		X									mg/l	kg/d	0.01		1
6M. Copper, Total (7440-50-8)		X									mg/l	kg/d	1.44		1
7M Lead, Total (7439-92-1)		X									mg/l	kd/d	0.005		1
8M. Mercury, Total (7439 97 6)		X									mg/l	kg/d	0.0002		1
9M. Nickel, Total (7440-02-0)		X#													
10M. Selenium, Total (7782 49 2)		X									mg/l	kg/d	0.01		1
11M. Silver, Total (7440-22-4)		X									mg/l	kg/d	0.01		1
12M. Thallium, Total (7440-28-0)			X												
13M. Zinc, Total (7440 66-6)			X												
14M. Cyanide, Total (57 12-5)			X												
15M. Phenols, Total			X												
DIOXIN															
2,3,7,8 Tetra chlorodibenzo P Dioxin (1764 01 6)			X	DESCRIBE RESULTS											

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107 02 8)			X												
2V. Acrylonitrile (107 13 1)			X												
3V. Benzene (71 43-2)		X#													
4V. Bis (*Chloromethyl*) Ether (542-88 1)			X												
5V. Bromoform (75-25-2)			X												
6V. Carbon Tetrachloride (56-23-5)			X												
7V. Chlorobenzene (108-90-7)			X												
8V. Chlorodibromomethane (124-48-1)			X												
9V. Chloroethane (75-00-3)			X												
10V. 2-Chloroethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)			X												
12V. Dichlorobromomethane (75-27-4)			X												
13V. Dichlorodifluoromethane (75-71-8)		X#													
14V. 1,1-Dichloroethane (75-34-3)			X												
15V. 1,2-Dichloroethane (107-06-2)			X												
16V. 1,1 Dichloroethylene (75-35 4)			X												
17V. 1,2 Dichloropropane (78-87-5)			X												
18V 1,3 Dichloropropylene (542 75-6)			X												
19V. Ethylbenzene (100 41 4)		X#													
20V Methyl Bromide (74 83 9)			X												
21V Methyl Chloride (74 87 3)			X												

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 487B

Form Approved
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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)		X#													
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X												
24V. Tetrachloroethylene (127-18-4)			X												
25V. Toluene (108-88-3)			X												
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X												
27V. 1,1,1-Trichloroethane (71-55-6)			X												
28V. 1,1,2-Trichloroethane (79-00-5)			X												
29V. Trichloroethylene (79-01-6)		X#													
30V. Trichlorofluoromethane (75-69-4)		X#													
31V. Vinyl Chloride (75-01-4)			X												
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X												
2A. 2,4 Dichlorophenol (120-83-2)			X												
3A. 2,4-Dimethylphenol (105-67-9)			X												
4A. 4,6-Dinitro O Cresol (534-52-1)			X												
5A. 2,4 Dinitrophenol (51-28-5)			X												
6A. 2-Nitrophenol (88-75-5)			X												
7A. 4-Nitrophenol (100-02-7)			X												
8A. P-Chloro M-Cresol (59-50-7)			X												
9A. Pentachlorophenol (87-86-5)			X												
10A. Phenol (108-95-2)			X												
11A. 2,4,6-Trichlorophenol (88-06-2)			X												

CONTINUE ON REVERSE

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			X												
2B. Acenaphtylene (208-96-8)			X												
3B. Anthracene (120-12-7)			X												
4B. Benzidine (92-87-5)			X												
5B. Benzo (a) Anthracene (56-55-3)			X												
6B. Benzo (a) Pyrene (50-32-8)			X												
7B. 3,4-Benzo-fluoranthene (205-99-2)			X												
8B. Benzo (ghi) Perylene (191-24-2)			X												
9B. Benzo (k) Fluoranthene (207-08-9)			X												
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)			X												
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)			X												
12B. Bis (2-Chloroisopropyl) Ether (102-80-1)			X												
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)		X#													
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)			X												
15B. Butyl Benzyl Phthalate (85-68-7)			X												
16B. 2-Chloro-naphthalene (91-58-7)			X												
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X												
18B. Chrysene (218-01-9)			X												
19B. Dibenzo (a,h) Anthracene (53-70-3)			X												
20B. 1,2-Dichloro-benzene (95-50-1)		X#													
21B. 1,3-Dichloro-benzene (541-73-1)			X												

CONTINUED FROM PAGE V-6

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 487B

Form Approved
OMB No 2000 0059
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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4-Dichlorobenzene (106-46-7)			X												
23B. 3,3'-Dichlorobenzidine (91-94-1)			X												
24B. Diethyl Phthalate (84-66-2)			X												
25B. Dimethyl Phthalate (131-11-3)			X												
26B. Di-N-Butyl Phthalate (84-74-2)			X												
27B. 2,4-Dinitrotoluene (121-14-2)			X												
28B. 2,6-Dinitrotoluene (606-20-2)			X												
29B. Di-N-Octyl Phthalate (117-84-0)			X												
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)			X												
31B. Fluoranthene (206-44-0)			X												
32B. Fluorene (86-73-7)			X												
33B. Hexachlorobenzene (118-74-1)			X												
34B. Hexachlorobutadiene (87-68-3)			X												
35B. Hexachlorocyclopentadiene (77-47-4)			X												
36B. Hexachloroethane (67-72-1)			X												
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)			X												
38B. Isophorone (78-59-1)			X												
39B. Naphthalene (91-20-3)			X												
40B. Nitrobenzene (98-95-3)			X												
41B. N-Nitrosodimethylamine (62 75 9)			X												
42B. N Nitrosodi N Propylamine (621 64 7)			X												

CONTINUED FROM THE FRONT

NJ0005622 DSN 487B

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)			X												
44B. Phenanthrene (85-01-8)			X												
45B. Pyrene (129-00-0)			X												
46B. 1,2,4-Trichlorobenzene (120-82-1)			X												
GC/MS FRACTION -- PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 487B

Form Approved
OMB No. 2000-0059
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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

Salem Generating Station
NJPDES Permit NJ0005622

APPLICATION FORM 2C-V EXPLANATIONS - DSN 487B

1. DSN 487B, the #3 oil skimmer, contains water from precipitation runoff, fresh water from on-site wells, and river water from system leakage and sampling. The parameters believed present in the discharge due to their presence in the intake are a compilation of the parameters found in site fresh water and the Delaware River Estuary. Since the amount of river water influx can not be determined, the mass calculations for this situation are marked indeterminate ("IND") or not applicable (N/A).

2. Pollutants marked "X#" as Believed Present are listed due to their presence on site in quantities which could be released. These pollutants are not anticipated to be detected in the discharge.

3. The following pollutants from Table 2-C or 7:14A Appendix B are utilized at the facility in quantities which could be discharged but are not anticipated to be detected in the discharge:

Carbaryl
Diazinon
Ethanolamine
Pyrethins
Xylenol
Acetic Acid
Calcium Hypochlorite
Lead Acetate
Nitric Acid
Potassium Chromate
Sodium Hydroxide
Sodium Nitrate
Sulfuric Acid
Toluene
Zinc Carbonate
Chlorpyrifos
Dimethylamine
Formaldehyde
Xylene
Methyl Isobutyl Ketone
Ammonia
Hydrochloric Acid
Napthalene
Phosphoric Acid
Propylene Oxide
Sodium Hypochlorite
Sodium Phosphate (dibasic)
Sodium Phosphate (tribasic)
Vinyl Acetate

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT SUMMARY TABLE

DSN 487B
NUMBER 3 OIL SKIMMER
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Flow (MGD)	N/A	Monthly	Calculated	0.01 Avg. 0.02 Max.	N/A	N/A	N/A	Monthly	Calculated	2,5
Effluent Temperature Deg. F (C)	110 (43.3) Max.	Monthly	Grab	(28.85) Avg. (56.67) Max.	86 (30) Max.	110 (43.3) Max.	110 (43.3) (Avg.)	Monthly	Grab	6
Petroleum Hydrocarbons (mg/l)	10 Avg. 15 Max.	Monthly	Grab	0.84 Avg. 5.30 Max.	N/A	10 Max.	10 Daily (Avg.) 15 Daily (Max.)	Monthly	Grab	
COD (mg/l)	100 Max.	Monthly	Composite	15.82 Avg. 75.00 Max.	N/A	10 Max.	N/A	N/A	N/A	7
TSS (mg/l)	30 Avg. 100 Max.	Monthly	Composite	3.89 Avg. 26.20 Max.	N/A	N/A	30 Daily (Avg.) 100 Daily (Max.)	Monthly	Grab	1,8
TOC (mg/l)	-	-	-	-	N/A	N/A	50 Daily (Max.)	Monthly	Grab	7
pH (S.U.)	6.0 Min. 9.0 Max.	Monthly	Grab	6.90 Min. 7.91 Max.	N/A	N/A	6.0 Min. 9.0 Max.	Monthly	Grab	3

Explanation of Existing Permit Reference Notes

1. Total Suspended Solids shall not exceed 45 mg/l as a 7-day average. (Part III - B/C, Page 2a of 7).

2. Flow is calculated based on non-precipitation related estimated discharge plus the calculated precipitation related discharge for the reporting period and reported in units of million gallons per day. (Part III - B/C, Page 2a of 7)

3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored monthly using grab samples. (Part III - B/C, Page 2a of 7)

4. There shall be no discharge of floating solids or visible foam in other than trace amounts. (Part III - B/C, Page 2a of 7)

Explanation of Notes

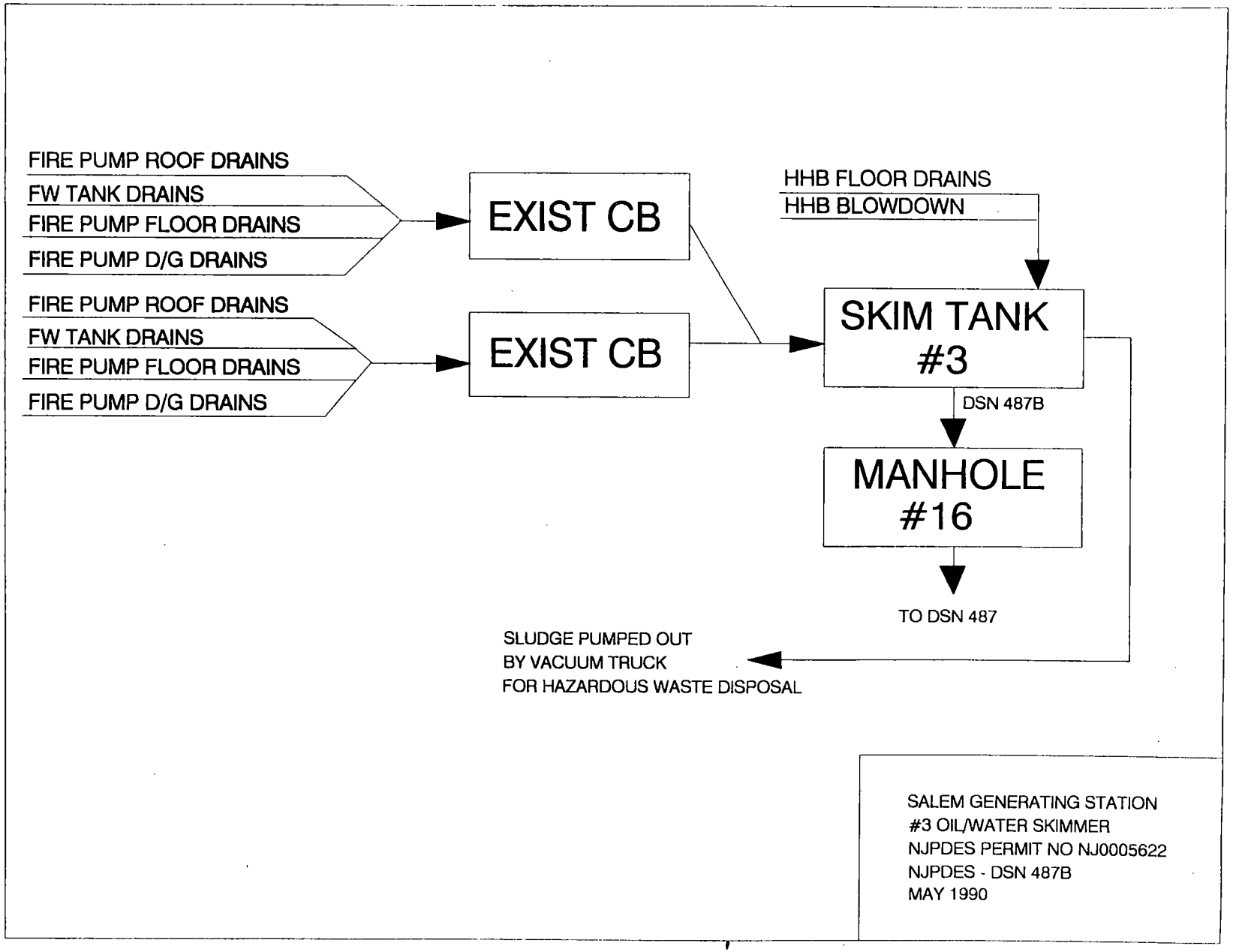
5. The #3 oil water skimming tank, outfall DSN 487B, consists of precipitation runoff, roof drains, floor drains, equipment drains, and auxiliary boiler blowdown and discharges to outfall DSN 487. The system is essentially designed for spill prevention and mitigation. The enclosed schematic of the #3 Oil Water Skimmer describes the essential contributors to the system. Flow is calculated by summing the non-precipitation related discharges and the calculated precipitation related discharge and reporting the result in million gallons per day. The precipitation related component of the flow is based on the area of runoff, the runoff coefficient, and the inches of precipitation during the reporting period. The precipitation related influents drain runoff from the facility. The non-precipitation component of the flow calculation includes engineering estimates of normal discharge volumes of the non-precipitation based influents. Although most pollutants are not expected to be present in the discharge, pollutants utilized in the area can be postulated to enter this system during normal operations. Equipment and floor drains are not expected to contain any measurable unidentified pollutants but drain areas in which limited lubricants, chemicals, and cleaning solutions are utilized. The auxiliary boiler blowdown is discharged through outfall DSN 487B. The auxiliary boiler utilizes ammonia and hyrazine for corrosion control, during normal operations most hydrazine is thermally decomposed to ammonia prior to discharge in the blowdown.

6. The daily maximum temperature limitation of 110°F (43.3°C) is based on the DRBC limitation where exposure to human contact is anticipated. Since exposure to human contact is not practicable and this DSN discharges to outfall DSN 487, we request the limitation be changed to 110°F (43.3°C) as a monthly average.

7. On March 13, 1989, PSE&G requested the chemical oxygen demand (COD) limitations and monitoring requirements be changed to total organic carbon (TOC) limitations and monitoring requirements as delineated and allowed by the current NJPDES permit. We request this change of parameter be accomplished in this renewal and COD be deleted as a monitored and limited parameter and replaced with TOC. The TOC limitation should be 50 mg/l based on monthly grab sampling.

Explanation of Notes

8. The total suspended solids (TSS) limitation of 45 mg/l as a seven day average is not applicable to this DSN. The monthly sample requirement and limitations on the daily average and daily maximum concentrations provide adequate protection of the environment.


FIRE PUMP ROOF DRAINS
FW TANK DRAINS
FIRE PUMP FLOOR DRAINS
FIRE PUMP D/G DRAINS
EXIST CB
FIRE PUMP ROOF DRAINS
FW TANK DRAINS
FIRE PUMP FLOOR DRAINS
FIRE PUMP D/G DRAINS
EXIST CB
HHB FLOOR DRAINS
HHB BLOWDOWN
SKIM TANK #3
DSN 487B
MANHOLE #16
TO DSN 487
SLUDGE PUMPED OUT
BY VACUUM TRUCK
FOR HAZARDOUS WASTE DISPOSAL
SALEM GENERATING STATION
#3 OIL/WATER SKIMMER
NJPDES PERMIT NO NJ0005622
NJPDES - DSN 487B
MAY 1990

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NJ0005622

Form Approved OMB No. 2040-0059 Approval expires 12-31-85

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO: 488

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	2. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	2. EFFLUENT d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	3. UNITS (specify if blank) b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE (optional) b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	9.0	23.85					1	mg/l	kg/d	2.4	6.36	1
b. Chemical Oxygen Demand *(COD)*	38	100.68					1	mg/l	kg/d	47	124.53	1
c. Total Organic Carbon *(TOC)*	6.5	17.22					1	mg/l	kg/d	2.6	6.89	1
d. Total Suspended Solids *(TSS)*	56	148.37					1	mg/l	kg/d	60	158.97	1
e. Ammonia *(as N)*	7	18.55					1	mg/l	kg/d	0.21	0.56	1
f. Flow	VALUE		VALUE		VALUE 0.70 (est)		N/A	N/A	MGD	VALUE		
g. Temperature *(winter)*	VALUE 14.3		VALUE		VALUE		1	°C		VALUE		
h. Temperature *(summer)*	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM	MAXIMUM 7.61	MINIMUM	MAXIMUM				STANDARD UNITS				

PART B - **Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.**

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual	X		<0.05	N/A					1	mg/l	N/A			
c. Color	X									COPT UNITS	N/A	20	N/A	1
d. Fecal Coliform	X									MPN/ 100 ml	N/A	488	N/A	6
e. Fluoride (16984 48-8)	X									mg/l	kg/d	0.14	N/A	6
f. Nitrate–Nitrite *(as N)*	X									mg/l	kg/d	6.12	N/A	105

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ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X' a. Believed Present	2. MARK 'X' b. Believed Absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) Mass	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (1) Concentration	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (2) Mass	3. EFFLUENT c. LONG TERM AVG. VALUE (If available) (1) Concentration	3. EFFLUENT c. LONG TERM AVG. VALUE (If available) (2) Mass	3. EFFLUENT d. NO OF ANALYSES	4. UNITS a. Concentration	4. UNITS b. Mass	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) Concentration	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) Mass	5. INTAKE (optional) b. NO OF ANALYSES
g. Nitrogen, Total Organic (as N)	X									mg/l	kg/D	0.845	N/A	6
h. Oil and Grease	X		<0.85	N/A					1	mg/l	kg/D	<0.85	N/A	1
i. Phosphorus (as P), Total (7723-14-0)	X									mg/l	kg/D	0.27	N/A	1
j. Radioactivity														
(1) Alpha, Total	X									pci/l	N/A	1.3	N/A	48
(2) Beta, Total	X									pci/l	N/A	43	N/A	48
(3) Radium, Total	X									pci/l	N/A	15.5	N/A	48
(4) Radium 226, Total	X									pci/l	N/A	15.5	N/A	48
k. Sulfate (as SO_4) (14808-79-8)	X									mg/l	kg/D	660	N/A	1
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X									mg/l	kd/D	0.02	N/A	2
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)	X									mg/l	kg/D	0.7	N/A	1
q. Boron, Total (7440-42-8)	X									mg/l	kg/D	0.38	N/A	1
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X									mg/l	kg/D	2.68	N/A	1
t. Magnesium, Total (7439-95-4)	X									mg/l	kg/D	2.66	N/A	1
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

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Form Approved. OMB No. 2040-0059. Approval expires 12-31-85

CONTINUED FROM PAGE 3 OF FORM 2 C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4, 6-dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (*all 7 pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X								mg/l	kg/D	<0.005	N/A	1
2M. Arsenic, Total (7440-38-2)		X									mg/l	kg/D	0.01	N/A	1
3M. Beryllium, Total, (7440-41-7)			X								mg/l	kg/D	<0.0002	N/A	1
4M. Cadmium, Total (7440-43-9)		X									mg/l	kg/D	0.001	N/A	1
5M. Chromium, Total (7440-47-3)		X									mg/l	kg/D	0.002	N/A	2
6M. Copper, Total (7440-50-8)		X									mg/l	kg/D	0.005	N/A	1
7M. Lead, Total (7439-92-1)		X									mg/l	kg/D	0.002	N/A	1
8M. Mercury, Total (7439-97-6)		X									mg/l	kg/D	0.0002	N/A	1
9M. Nickel, Total (7440-02-0)		X#									mg/l	kg/D	<0.01	N/A	1
10M. Selenium, Total (7782-49-2)		X									mg/l	kg/D	0.01	N/A	1
11M. Silver, Total (7440-22-4)		X									mg/l	kg/D	0.01	N/A	1
12M. Thallium, Total (7440-28-0)			X								mg/l	kg/D	<0.002	N/A	1
13M. Zinc, Total (7440-66-6)		X									mg/l	kg/D	0.025	N/A	2
14M. Cyanide, Total (57-12-5)			X								mg/l	kg/D	<0.005	N/A	1
15M. Phenols, Total		X									mg/l	kg/D	0.014	N/A	2
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

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CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	c. KNOWN OR BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X								ug/l	kg/D	<5	N/A	1
2V. Acrylonitrile (107-13-1)			X								ug/l	kg/D	<5	N/A	1
3V. Benzene (71-43-2)		X#									ug/l	kg/D	<5	N/A	1
4V. Bis *(Chloromethyl)* Ether (542-88-1)			X								ug/l	kg/D	ND	N/A	1
5V. Bromoform (75-25-2)			X								ug/l	kg/D	<5	N/A	1
6V. Carbon Tetrachloride (56-23-5)			X								ug/l	kg/D	<5	N/A	1
7V. Chlorobenzene (108-90-7)			X								ug/l	kg/D	<5	N/A	1
8V. Chlorodibromomethane (124-48-1)			X								ug/l	kg/D	<5	N/A	1
9V. Chloroethane (75-00-3)			X								ug/l	kg/D	<10	N/A	1
10V. 2-Chloroethylvinyl Ether (110-75-8)			X								ug/l	kg/D	<10	N/A	1
11V. Chloroform (67-66-3)			X								ug/l	kg/D	<5	N/A	1
12V. Dichlorobromomethane (75-27-4)			X								ug/l	kg/D	<5	N/A	1
13V. Dichlorodifluoromethane (75-71-8)		X#									ug/l	kg/D	<10	N/A	1
14V. 1,1-Dichloroethane (75-34-3)			X								ug/l	kg/D	<5	N/A	1
15V. 1,2-Dichloroethane (107-06-2)			X								ug/l	kg/D	<5	N/A	1
16V. 1,1-Dichloroethylene (75-35-4)			X								ug/l	kg/D	<5	N/A	1
17V. 1,2-Dichloropropane (78-87-5)			X								ug/l	kg/D	<5	N/A	1
18V. 1,3-Dichloropropylene (542-75-6)			X								ug/l	kg/D	<5	N/A	1
19V. Ethylbenzene (100-41-4)		X#									ug/l	kg/D	<5	N/A	1
20V. Methyl Bromide (74-83-9)			X								ug/l	kg/D	<10	N/A	1
21V. Methyl Chloride (74-87-3)			X								ug/l	kg/D	<10	N/A	1

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Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)		X#									ug/l	kg/D	<5*	N/A	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X								ug/l	kg/D	<5	N/A	1
24V. Tetrachloroethylene (127-18-4)			X								ug/l	kg/D	<5	N/A	1
25V. Toluene (108-88-3)			X								ug/l	kg/D	<5	N/A	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X								ug/l	kg/D	<5	N/A	1
27V. 1,1,1-Trichloroethane (71-55-6)			X								ug/l	kg/D	<5	N/A	1
28V. 1,1,2-Trichloroethane (79-00-5)			X								ug/l	kg/D	<5	N/A	1
29V. Trichloroethylene (79-01-6)		X#									ug/l	kg/D	<5	N/A	1
30V. Trichlorofluoromethane (75-69-4)		X#									ug/l	kg/D	<5	N/A	1
31V. Vinyl Chloride (75-01-4)			X								ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95 57-8)			X								ug/l	kg/D	<10	N/A	1
2A. 2,4-Dichlorophenol (120-83 2)			X								ug/l	kg/D	<10	N/A	1
3A. 2,4-Dimethylphenol (105-67-9)			X								ug/l	kg/D	<10	N/A	1
4A. 4,6-Dinitro O Cresol (534-52 1)			X								ug/l	kg/D	<50	N/A	1
5A. 2,4 Dinitrophenol (51-28 5)			X								ug/l	kg/D	<50	N/A	1
6A. 2 Nitrophenol (88 75 5)			X								ug/l	kg/D	<10	N/A	1
7A. 4 Nitrophenol (100 02 7)			X								ug/l	kg/D	<50	N/A	1
8A. P Chloro M Cresol (59 50 7)			X								ug/l	kg/D	<10	N/A	1
9A. Pentachlorophenol (87 86 5)			X								ug/l	kg/D	<50	N/A	1
10A. Phenol (108 95 2)			X								ug/l	kg/D	<10	N/A	1
11A. 2,4,6-Trichlorophenol (88 06 2)			X								ug/l	kg/D	<10	N/A	1

CONTINUED FROM THE FRONT

1 POLLUTANT AND CAS NUMBER (if available)	2 MARK X a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3 EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4 UNITS a. CONCENTRATION	b. MASS	5 INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83 32 9)			X								ug/l	kg/D	<10	N/A	1
2B. Acenaphtylene (208 96 8)			X								ug/l	kg/d	<10	N/A	1
3B. Anthracene (120 12 7)			X								ug/l	kg/D	<10	N/A	1
4B. Benzidine (92 87 5)			X								ug/l	kg/D	<80	N/A	1
5B. Benzo (a) Anthracene (56 55 3)			X								ug/l	kg/D	<10	N/A	1
6B. Benzo (a) Pyrene (50-32-8)			X								ug/l	kg/D	<10	N/A	1
7B. 3,4-Benzo-fluoranthene (205 99 2)			X								ug/l	kg/D	<10	N/A	1
8B. Benzo (ghi) Perylene (191-24 2)			X								ug/l	kg/D	<10	N/A	1
9B. Benzo (k) Fluoranthene (207 08 9)			X								ug/l	kg/D	<10	N/A	1
10B. Bis (2-Chloro-ethoxy) Methane (111 91 1)			X								ug/l	kg/D	<10	N/A	1
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)			X								ug/l	kg/D	<10	N/A	1
12B. Bis (2-Chloro-propyl) Ether (102-60-1)			X								ug/l	kg/D	<10	N/A	1
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)		X#									ug/l	kg/D	<10*	N/A	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)			X								ug/l	kg/D	<10	N/A	1
15B. Butyl Benzyl Phthalate (85-68-7)			X								ug/l	kg/D	<10	N/A	1
16B. 2-Chloro-naphthalene (91-58-7)			X								ug/l	kg/D	<10	N/A	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X								ug/l	kg/D	<10	N/A	1
18B. Chrysene (218 01 9)			X								ug/L	kg/D	<10	N/A	1
19B. Dibenzo (a,h) Anthracene (53 70 3)			X								ug/l	kg/D	<10	N/A	1
20B. 1,2 Dichloro benzene (95 50 1)		X#									ug/l	kg/D	<10	N/A	1
21B. 1,3 Dichloro benzene (541 73 1)			X								ug/l	kg/D	<10	N/A	1

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OUTFALL NUMBER: 488

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)			X								ug/l	kg/D	<10	N/A	1
23B. 3,3'-Dichlorobenzidine (91-94-1)			X								ug/l	kg/D	<20	N/A	1
24B. Diethyl Phthalate (84-66-2)			X								ug/l	kg/D	<10	N/A	1
25B. Dimethyl Phthalate (131-11-3)			X								ug/l	kg/D	<10	N/A	1
26B. Di-N-Butyl Phthalate (84-74-2)			X								ug/l	kg/D	<10	N/A	1
27B. 2,4-Dinitrotoluene (121-14-2)			X								ug/l	kg/D	<10	N/A	1
28B. 2,6-Dinitrotoluene (606-20-2)			X								ug/l	kg/D	<10	N/A	1
29B. Di-N-Octyl Phthalate (117-84-0)			X								ug/l	kg/D	<10	N/A	1
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)			X								ug/l	kg/D	<10	N/A	1
31B. Fluoranthene (206-44-0)			X								ug/l	kg/D	<10	N/A	1
32B. Fluorene (86-73-7)			X								ug/l	kg/D	<10	N/A	1
33B. Hexachlorobenzene (118-74-1)			X								ug/l	kg/D	<10	N/A	1
34B. Hexachlorobutadiene (87-68-3)			X								ug/l	kg/D	<10	N/A	1
35B. Hexachlorocyclopentadiene (77-47-4)			X								ug/l	kg/D	<10	N/A	1
36B. Hexachloroethane (67-72-1)			X								ug/l	kg/D	<10	N/A	1
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)			X								ug/l	kg/D	<10	N/A	1
38B. Isophorone (78-59-1)			X								ug/l	kg/D	<10	N/A	1
39B. Naphthalene (91-20-3)			X								ug/l	kg/D	<10	N/A	1
40B. Nitrobenzene (98-95-3)			X								ug/l	kg/D	<10	N/A	1
41B. N-Nitrosodimethylamine (62-75-9)			X								ug/l	kg/D	<10	N/A	1
42B. N-Nitrosodi-N-Propylamine (621-64-7)			X								ug/l	kg/D	<10	N/A	1

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. BELIEVED ABSENT	b. BELIEVED PRESENT	c. BELIEVED ADSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)			X								ug/l	kg/D	<10	N/A	1
44B. Phenanthrene (85-01-8)			X								ug/l	kg/D	<10	N/A	1
45B. Pyrene (129-00-0)			X								ug/l	kg/D	<10	N/A	1
46B. 1,2,4 - Trichlorobenzene (120-82-1)			X								ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60 57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421 93 4)			X												
16P. Heptachlor (76 44-8)			X												

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION — PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

* Indicates compound found in blank.

Salem Generating Station
NJPDES Permit NJ0005622

APPLICATION FORM 2C-V EXPLANATIONS - DSN 488

1. DSN 488, the West Yard Drain, contains water from precipitation runoff, fresh water from on-site wells, and Delaware River Estuary influx. The parameters believed present in the discharge due to their presence in the intake are a compilation of the parameters found in site fresh water and the Delaware River Estuary. Since the amount of tidal influx and outflow can not be determined, the mass calculations for this situation are marked indeterminate ("IND") or not applicable (N/A). The discharge flowrate has been estimated for this application.

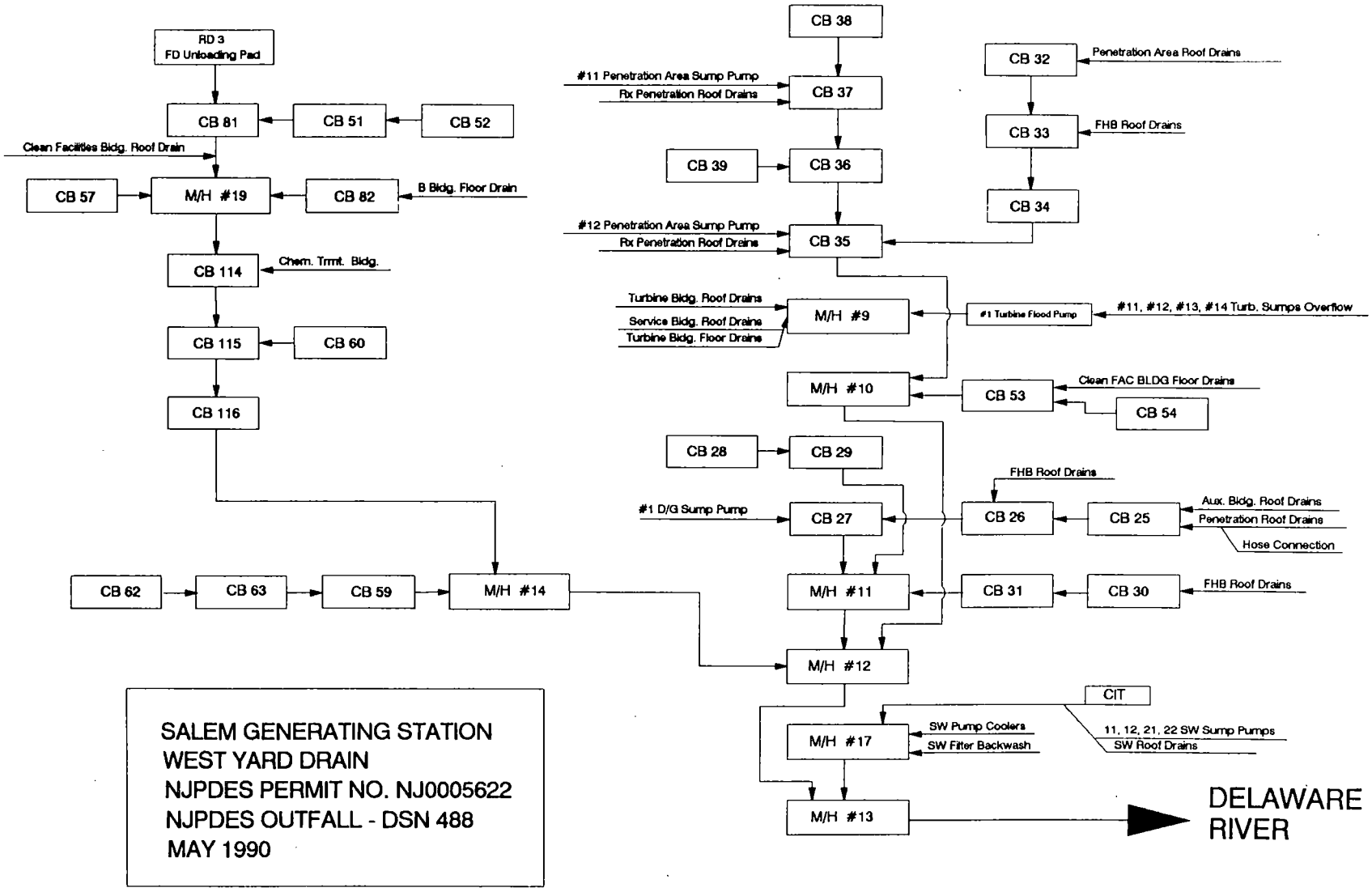
2. Pollutants marked "X#" as Believed Present are listed due to their presence on site in quantities which could be released. These pollutants are not anticipated to be detected in the discharge.

3. The following pollutants from Table 2-C or 7:14A Appendix B are utilized at the facility in quantities which could be discharged but are not anticipated to be detected in the discharge:

Carbaryl	Chlorpyrifos
Diazinon	Dimethylamine
Ethanolamine	Formaldehyde
Pyrethins	Xylene
Xylenol	Methyl Isobutyl Ketone
Acetic Acid	Ammonia
Calcium Hypochlorite	Hydrochloric Acid
Lead Acetate	Napthalene
Nitric Acid	Phosphoric Acid
Potassium Chromate	Propylene Oxide
Sodium Hydroxide	Sodium Hypochlorite
Sodium Nitrate	Sodium Phosphate (dibasic)
Sulfuric Acid	Sodium Phosphate (tribasic)
Toluene	Vinyl Acetate
Zinc Carbonate	

1. The West Yard Drain, outfall DSN 488, consists of precipitation runoff, roof drains, floor drains, sump pumps, #1 flood pump, service water sump pumps, service water strainer backwash, and river water influx. The primary contributor to the effluent flow is the river water influx. The enclosed schematic of the West Yard Drain describes the essential contributors to the system. Flow is composed of the sum of the non-precipitation related discharges and the calculated precipitation related discharge. The precipitation related component of the flow is based on the area of runoff, the runoff coefficient, and the inches of precipitation. The precipitation related influents drain runoff from the facility. The non-precipitation component of the flow includes engineering estimates of normal discharge volumes of the non-precipitation based influents. Although most pollutants are not expected to be present in the discharge, pollutant utilized in the area can be postulated to enter this system during normal operations. Sump pumps and floor drains are not expected to contain any measurable unidentified pollutants, but drain areas in which limited pollutants are utilized. The flood pump is not normally used but is periodically operated for testing and the discharge could contain any of the materials used in the turbine building. The service water strainers are designed to remove small particles from the intake water to prevent clogging and damage to the heat exchangers in the service water system. The strainers are backwashed to remove the collected solids using service water and returned to the Delaware River through DSN 488. Any leakage or draining within the building containing the service water pumps, screens, strainers, and associated equipment is directed to building sumps which are returned to the Delaware River through DSN 488. Since sodium hypochlorite is added at the suction side of the service water pumps, residual chlorine will be present in these discharges but this small volume should have no environmental impact.

2. This outfall was evaluated by the USEPA during issuance of the NPDES permit and by the NJDEP during the issuance of the NJPDES permit in 1985 and neither permit contained monitoring requirements or limitations.



SALEM GENERATING STATION
WEST YARD DRAIN
NJPDES PERMIT NO. NJ0005622
NJPDES OUTFALL - DSN 488
MAY 1990

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NJ0005622

Form Approved OMB No. 2040-0059 Approval expires 12-31-85

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO: 489

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	2. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	3. UNITS (specify if blank) b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE (optional) b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	36	1.36					1	mg/l	kg/d	2.4	N/A	1
b. Chemical Oxygen Demand *(COD)*	<10	N/A					1	mg/l	kg/d	47	N/A	1
c. Total Organic Carbon *(TOC)*	9.4	0.36					1	mg/l	kg/d	2.6	N/A	1
d. Total Suspended Solids *(TSS)*	3.20	0.12					1	mg/l	kg/d	60	N/A	1
e. Ammonia *(as N)*	1.18	0.045					1	mg/l	kg/d	0.21	N/A	1
f. Flow	VALUE 0.02		VALUE N/A		VALUE 0.01			N/A	MGD	VALUE N/A		N/A
g. Temperature *(winter)*	VALUE 25		VALUE N/A		VALUE 12.27		31	°C		VALUE N/A		N/A
h. Temperature *(summer)*	VALUE 33		VALUE N/A		VALUE 19.94		16	°C		VALUE N/A		N/A
i. pH	MINIMUM 5.40	MAXIMUM 7.90	MINIMUM N/A	MAXIMUM N/A			37	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color	X									CLPT UNITS	N/A	20	N/A	1
d. Fecal Coliform	X									MPN/ 100 ml	N/A	488	N/A	6
e. Fluoride (16984 48-8)	X									mg/l	kg/d	0.14	N/A	6
f. Nitrate-Nitrite *(as N)*	X									mg/l	kg/d	6.12	N/A	105

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. Believed Present	2. MARK 'X' b. Believed Absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) Mass	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) Mass	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) Concentration	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) Mass	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) Concentration	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) Mass	5. INTAKE (optional) b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X									mg/l	kg/D	0.845	N/A	6
h. Oil and Grease	X		<0.86	N/A					1	mg/l	kg/D	<0.85	N/A	1
i. Phosphorus (as P), Total (7723-14-0)	X									mg/l	kg/D	0.27	N/A	1
j. Radioactivity														
(1) Alpha, Total	X									pci/l	N/A	1.3	N/A	48
(2) Beta, Total	X									pci/l	N/A	43	N/A	48
(3) Radium, Total	X									pci/l	N/A	15.5	N/A	48
(4) Radium 226, Total	X									pci/l	N/A	15.5	N/A	48
k. Sulfate (as SO_4) (14808-79-8)	X									mg/l	kg/D	660	N/A	1
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		<0.05	N/A					1	mg/l	kd/D	0.02	N/A	2
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)	X									mg/l	kg/D	0.7	N/A	1
q. Boron, Total (7440-42-8)	X									mg/l	kg/D	0.38	N/A	1
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X									mg/l	kg/D	2.68	N/A	1
t. Magnesium, Total (7439-95-4)	X									mg/l	kg/D	2.66	N/A	1
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

CONTINUE ON PAGE V-3

EPA I.D. NUMBER (copy from Item 1 of Form 1) NJ0005622 | OUTFALL NUMBER 489

Form Approved. OMB No. 2040-0086. Approval expires 12-31-85

CONTINUED FROM PAGE 3 OF FORM 2C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl 4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (*all 7 pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM 30 DAY VALUE (1) CONCENTRATION	a. (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. (2) MASS	c. LONG TERM AVG. VALUE (*if available*) (1) CONCENTRATION	c. (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (*optional*) b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X								mg/l	kg/D	<0.005	N/A	1
2M. Arsenic, Total (7440-38-2)		X									mg/l	kg/D	0.01	N/A	1
3M. Beryllium, Total, 7440-41-7)			X								mg/l	kg/D	<0.0002	N/A	1
4M Cadmium, Total (7440-43-9)		X									mg/l	kg/D	0.001	N/A	1
5M Chromium, Total (7440-47-3)		X									mg/l	kg/D	0.002	N/A	2
6M Copper, Total (7440-50-8)		X									mg/l	kg/D	0.005	N/A	1
7M Lead, Total (7439-92-1)		X									mg/l	kg/D	0.002	N/A	1
8M. Mercury, Total (7439-97-6)		X									mg/l	kg/D	0.0002	N/A	1
9M. Nickel, Total (7440-02-0)		X#									mg/l	kg/D	<0.01	N/A	1
10M Selenium, Total (7782-49-2)		X									mg/l	kg/D	0.01	N/A	1
11M Silver, Total (7440-22-4)		X									mg/l	kg/D	0.01	N/A	1
12M Thallium, Total (7440-28-0)			X								mg/l	kg/D	<0.002	N/A	1
13M Zinc, Total (7440-66-6)		X									mg/l	kg/D	0.025	N/A	2
14M Cyanide, Total (57-12-5)			X								mg/l	kg/D	<0.005	N/A	1
15M Phenols, Total		X									mg/l	kg/D	0.014	N/A	2
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

NJ0005622 DSN 489

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X								ug/l	kg/D	<5	N/A	1
2V. Acrylonitrile (107-13-1)			X								ug/l	kg/D	<5	N/A	1
3V. Benzene (71-43-2)		X#									ug/l	kg/D	<5	N/A	1
4V. Bis (Chloromethyl) Ether (542-88-1)			X								ug/l	kg/D	ND	N/A	1
5V. Bromoform (75-25-2)			X								ug/l	kg/D	<5	N/A	1
6V. Carbon Tetrachloride (56-23-5)			X								ug/l	kg/D	<5	N/A	1
7V. Chlorobenzene (108-90-7)			X								ug/l	kg/D	<5	N/A	1
8V. Chlorodibromomethane (124-48-1)			X								ug/l	kg/D	<5	N/A	1
9V. Chloroethane (75-00-3)			X								ug/l	kg/D	<10	N/A	1
10V. 2-Chloroethylvinyl Ether (110-75-8)			X								ug/l	kg/D	<10	N/A	1
11V. Chloroform (67-66-3)			X								ug/l	kg/D	<5	N/A	1
12V. Dichlorobromomethane (75-27-4)			X								ug/l	kg/D	<5	N/A	1
13V. Dichlorodifluoromethane (75-71-8)		X#									ug/l	kg/D	<10	N/A	1
14V. 1,1-Dichloroethane (75-34-3)			X								ug/l	kg/D	<5	N/A	1
15V. 1,2-Dichloroethane (107-06-2)			X								ug/l	kg/D	<5	N/A	1
16V. 1,1-Dichloroethylene (75-35-4)			X								ug/l	kg/D	<5	N/A	1
17V. 1,2-Dichloropropane (78-87-5)			X								ug/l	kg/D	<5	N/A	1
18V. 1,3-Dichloropropylene (542-75-6)			X								ug/l	kg/D	<5	N/A	1
19V. Ethylbenzene (100-41-4)		X#									ug/l	kg/D	<5	N/A	1
20V. Methyl Bromide (74-83-9)			X								ug/l	kg/D	<10	N/A	1
21V. Methyl Chloride (74-87-3)			X								ug/l	kg/D	<10	N/A	1

CONTINUE ON PAGE V-5

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 489

Form Approved
OMB No. 2040-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. testing required	b. believed present	c. believed absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION — VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)		X#									ug/l	kg/D	<5*	N/A	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X								ug/l	kg/D	<5	N/A	1
24V. Tetrachloroethylene (127-18-4)			X								ug/l	kg/D	<5	N/A	1
25V. Toluene (108-88-3)			X								ug/l	kg/D	<5	N/A	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X								ug/l	kg/D	<5	N/A	1
27V. 1,1,1-Trichloroethane (71-55-6)			X								ug/l	kg/D	<5	N/A	1
28V. 1,1,2-Trichloroethane (79-00-5)			X								ug/l	kg/D	<5	N/A	1
29V. Trichloroethylene (79-01-6)		X#									ug/l	kg/D	<5	N/A	1
30V. Trichlorofluoromethane (75-69-4)		X#									ug/l	kg/D	<5	N/A	1
31V. Vinyl Chloride (75-01-4)			X								ug/l	kg/D	<10	N/A	1
GC/MS FRACTION — ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X								ug/l	kg/D	<10	N/A	1
2A. 2,4-Dichlorophenol (120-83-2)			X								ug/l	kg/D	<10	N/A	1
3A. 2,4-Dimethylphenol (105-67-9)			X								ug/l	kg/D	<10	N/A	1
4A. 4,6-Dinitro O Cresol (534-52-1)			X								ug/l	kg/D	<50	N/A	1
5A. 2,4 Dinitrophenol (51-28-5)			X								ug/l	kg/D	<50	N/A	1
6A. 2 Nitrophenol (88-75-5)			X								ug/l	kg/D	<10	N/A	1
7A. 4 Nitrophenol (100-02-7)			X								ug/l	kg/D	<50	N/A	1
8A. P-Chloro M Cresol (59-50-7)			X								ug/l	kg/D	<10	N/A	1
9A. Pentachlorophenol (87-86-5)			X								ug/l	kg/D	<50	N/A	1
10A. Phenol (108-95-2)			X								ug/l	kg/D	<10	N/A	1
11A. 2,4,6-Trichlorophenol (88-06-2)			X								ug/l	kg/D	<10	N/A	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK X			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. Testing required by EPA	b. Believed present	c. Believed absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
18. Acenaphthene (83-32-9)			X								ug/l	kg/D	<10	N/A	1
28. Acenaphtylene (208-96-8)			X								ug/l	kg/d	<10	N/A	1
38. Anthracene (120-12-7)			X								ug/l	kg/D	<10	N/A	1
48. Benzidine (92-87-5)			X								ug/l	kg/D	<80	N/A	1
58. Benzo (a) Anthracene (56-55-3)			X								ug/l	kg/D	<10	N/A	1
68. Benzo (a) Pyrene (50-32-8)			X								ug/l	kg/D	<10	N/A	1
78. 3,4-Benzo-fluoranthene (205-99-2)			X								ug/l	kg/D	<10	N/A	1
88. Benzo (ghi) Perylene (191-24-2)			X								ug/l	kg/D	<10	N/A	1
98. Benzo (k) Fluoranthene (207-08-9)			X								ug/l	kg/D	<10	N/A	1
108. Bis (2-Chloro-ethoxy) Methane (111-91-1)			X								ug/l	kg/D	<10	N/A	1
118. Bis (2-Chloro-ethyl) Ether (111-44-4)			X								ug/l	kg/D	<10	N/A	1
128. Bis (2-Chloro-propyl) Ether (102-60-1)			X								ug/l	kg/D	<10	N/A	1
138. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)		X#									ug/l	kg/D	<10*	N/A	1
148. 4-Bromo-phenyl Phenyl Ether (101-55-3)			X								ug/l	kg/D	<10	N/A	1
158. Butyl Benzyl Phthalate (85-68-7)			X								ug/l	kg/D	<10	N/A	1
168. 2-Chloro-naphthalene (91-58-7)			X								ug/l	kg/D	<10	N/A	1
178. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X								ug/l	kg/D	<10	N/A	1
188. Chrysene (218-01-9)			X								ug/L	kg/D	<10	N/A	1
198. Dibenzo (a,h) Anthracene (53-70-3)			X								ug/l	kg/D	<10	N/A	1
208. 1,2 Dichloro benzene (95-50-1)		X#									ug/l	kg/D	<10	N/A	1
218. 1,3 Dichloro benzene (541-73-1)			X								ug/l	kg/D	<10	N/A	1

CONTINUED FROM PAGE V-6

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622 | OUTFALL NUMBER: 489

Form Approved
OMB No. 2040-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)			X								ug/l	kg/D	<10	N/A	1
23B. 3,3'-Dichlorobenzidine (91-94-1)			X								ug/l	kg/D	<20	N/A	1
24B. Diethyl Phthalate (84-66-2)			X								ug/l	kg/D	<10	N/A	1
25B. Dimethyl Phthalate (131-11-3)			X								ug/l	kg/D	<10	N/A	1
26B. Di-N-Butyl Phthalate (84-74-2)			X								ug/l	kg/D	<10	N/A	1
27B. 2,4-Dinitrotoluene (121-14-2)			X								ug/l	kg/D	<10	N/A	1
28B. 2,6-Dinitrotoluene (606-20-2)			X								ug/l	kg/D	<10	N/A	1
29B. Di-N-Octyl Phthalate (117-84-0)			X								ug/l	kg/D	<10	N/A	1
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)			X								ug/l	kg/D	<10	N/A	1
31B. Fluoranthene (206-44-0)			X								ug/l	kg/D	<10	N/A	1
32B. Fluorene (86-73-7)			X								ug/l	kg/D	<10	N/A	1
33B. Hexachlorobenzene (118-74-1)			X								ug/l	kg/D	<10	N/A	1
34B. Hexachlorobutadiene (87-68-3)			X								ug/l	kg/D	<10	N/A	1
35B. Hexachlorocyclopentadiene (77-47-4)			X								ug/l	kg/D	<10	N/A	1
36B. Hexachloroethane (67-72-1)			X								ug/l	kg/D	<10	N/A	1
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)			X								ug/l	kg/D	<10	N/A	1
38B. Isophorone (78-59-1)			X								ug/l	kg/D	<10	N/A	1
39B. Naphthalene (91-20-3)			X								ug/l	kg/D	<10	N/A	1
40B. Nitrobenzene (98 95-3)			X								ug/l	kg/D	<10	N/A	1
41B. N-Nitrosodimethylamine (62 75 9)			X								ug/l	kg/D	<10	N/A	1
42B. N-Nitrosodi N Propylamine (621 64 7)			X								ug/l	kg/D	<10	N/A	1

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVG. VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)			X								ug/l	kg/D	<10	N/A	1
44B. Phenanthrene (85-01-8)			X								ug/l	kg/D	<10	N/A	1
45B. Pyrene (129-00-0)			X								ug/l	kg/D	<10	N/A	1
46B. 1,2,4-Trichlorobenzene (120-82-1)			X								ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

CONTINUED FROM PAGE V-8

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 489

Form Approved
OMB No. 2000-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION — PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

EPA Form 3510-2C (Rev. 4-84)

* Indicates compound found in blank.

EPA Form 3510-2C (Rev. 2-85)

Salem Generating Station
NJPDES Permit NJ0005622

APPLICATION FORM 2C-V EXPLANATIONS - DSN 489

1. DSN 489, the South Yard Drain, contains water from precipitation runoff, fresh water from on-site wells, and Delaware River Estuary influx. The parameters believed present in the discharge due to their presence in the intake are a compilation of the parameters found in site fresh water and the Delaware River Estuary. Since the amount of tidal influx and outflow can not be determined, the mass calculations for this situation are marked indeterminate ("IND") or not applicable (N/A).

2. Pollutants marked "X#" as Believed Present are listed due to their presence on site in quantities which could be released. These pollutants are not anticipated to be detected in the discharge.

3. The following pollutants from Table 2-C or 7:14A Appendix B are utilized at the facility in quantities which could be discharged but are not anticipated to be detected in the discharge:

Carbaryl
Diazinon
Ethanolamine
Pyrethins
Xylenol
Acetic Acid
Calcium Hypochlorite
Lead Acetate
Nitric Acid
Potassium Chromate
Sodium Hydroxide
Sodium Nitrate
Sulfuric Acid
Toluene
Zinc Carbonate
Chlorpyrifos
Dimethylamine
Formaldehyde
Xylene
Methyl Isobutyl Ketone
Ammonia
Hydrochloric Acid
Napthalene
Phosphoric Acid
Propylene Oxide
Sodium Hypochlorite
Sodium Phosphate (dibasic)
Sodium Phosphate (tribasic)
Vinyl Acetate

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT SUMMARY TABLE

DSN 489
SOUTH YARD DRAIN
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Flow (MGD)	N/A	Once/Year	Calculated	0.01 Avg. 0.02 Max.	N/A	N/A	N/A	Once/Year	Calculated	1,5
Net Petroleum Hydrocarbons (mg/l)	10 Avg. 15 Max.	Once/Year	Grab	6.80 Avg. 6.80 Max.	N/A	10 Max.	10 Avg. 15 Max.	Once/Year	Grab	2,6
Net COD (mg/l)	100 Max.	Once/Year	Composite	0.00 Avg. 0.00 Max.	N/A	N/A	100 Max.	Once/Year	Composite	2,7
Net TSS (mg/l)	30 Avg. 100 Max.	Once/Year	Composite	-57.30 Avg. -57.30 Max.	N/A	30 Avg. 100 Max.	30 Avg. 100 Max.	Once/Year	Composite	2,8
Net TOC (mg/l)	-	-	-	-1.30 Avg. -1.30 Max.	N/A	N/A	50 Daily (Max.)	Once/Year	Composite	7
pH (S.U.)	6.0 Min. 9.0 Max.	Once/Year	Grab	7.10 Min. 7.10 Max.	N/A	N/A	6.0 Min. 9.0 Max.	Once/Year	Grab	3

Explanation of Existing Permit Reference Notes

1. Flow is calculated based on non-precipitation related estimated discharge plus the calculated precipitation related discharge for the reporting period and reported in units of million gallons per day. (Part III - B/C, Page 4 of 7)

2. These parameters are reported as the net concentration discharged relative to the receiving water body. (Part III - B/C, Page 4 of 7)

3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored annually using grab samples. (Part III - B/C, Page 4 of 7)

4. There shall be no discharge of floating solids or visible foam in other than trace amounts. (Part III - B/C, Page 4 of 7)

Explanation of Notes

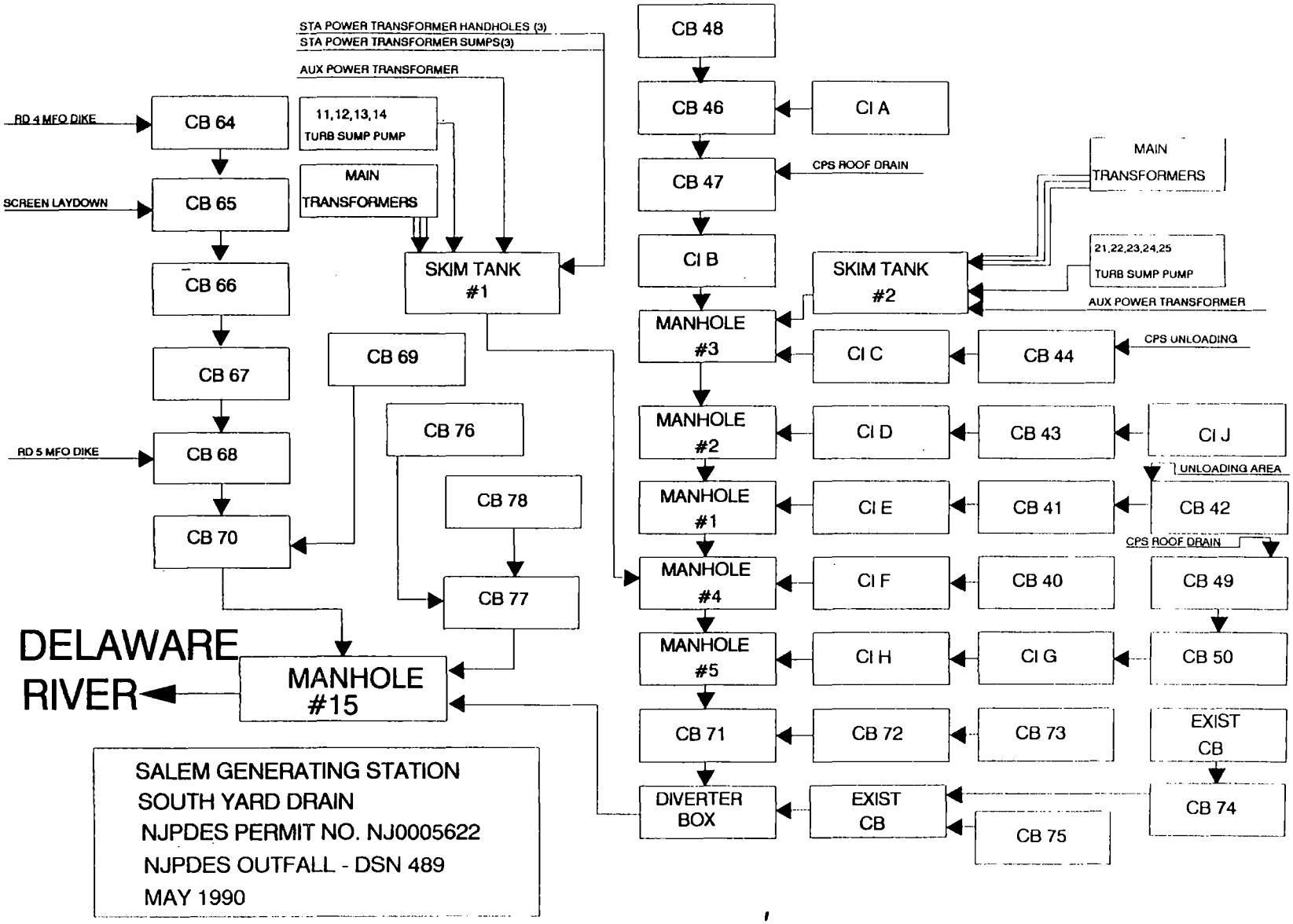
5. The South Yard Drain, outfall DSN 489, consists of precipitation runoff, roof drains, floor drains, sump pumps, #1 oil water skimmer (DSN 489 A), #2 oil water skimmer(DSN 489B), and river water influx. The primary contributer to the effluent flow is the river water influx. The enclosed schematic of the South Yard Drain describes the essential contributors to the system. Flow is calculated by summing the non-precipitation related discharges and the calculated precipitation related discharge and reporting the result in million gallons per day. The precipitation related component of the flow is based on the area of runoff, the runoff coefficient, and the inches of precipitation during the reporting period. The precipitation related influents drain runoff from the facility. The non-precipitation component of the flow calculation includes engineering estimates of normal discharge volumes of the non-precipitation based influents. Although most pollutants are not expected to be present in the discharge, trace amounts of pollutants can be postulated to enter this system during normal operations. Sump pumps and floor drains are not expected to contain any measureable unidentified pollutants but drain areas in which limited pollutants are utilized. The reported flow from outfall DSN 489 does not include the contribution from the river influx.

6. Net petroleum hydrocarbons are performed annually on a grab sample. The average limitation of 10 mg/l is not applicable to an annual grab sample and should be deleted. The daily maximum limitation of 15 mg/l is adequate to ensure protection of the environment.

7. On March 13, 1989, PSE&G requested the chemical oxygen demand (COD) limitations and monitoring requirements be changed to total organic carbon (TOC) limitations and monitoring requirements as delineated and allowed by the current NJPDES permit. We request this change of parameter be accomplished in this renewal and COD be deleted as a monitored and limited parameter and replaced with TOC. The net TOC limitation should be 50 mg/l based on composite sampling.

Explanation of Notes

8. The total suspended solids (TSS) average limitation of 30 mg/l is not applicable to an annual net sample and should be deleted. The daily maximum limitation of 100 mg/l net TSS is adequate to protect the environment.


STA POWER TRANSFORMER HANDHOLES (3)
STA POWER TRANSFORMER SUMPS(3)
AUX POWER TRANSFORMER
RD 4 MFO DIKE
CB 64
11,12,13,14
TURB SUMP PUMP
MAIN
TRANSFORMERS
SCREEN LAYDOWN
CB 65
CB 66
CB 67
RD 5 MFO DIKE
CB 68
CB 70
SKIM TANK
#1
CB 69
CB 76
CB 78
CB 77
DELAWARE
RIVER
MANHOLE
#15
CB 48
CB 46
CI A
CB 47
CPS ROOF DRAIN
CI B
MANHOLE
#3
MANHOLE
#2
MANHOLE
#1
MANHOLE
#4
MANHOLE
#5
CB 71
DIVERTER
BOX
MAIN
TRANSFORMERS
SKIM TANK
#2
21,22,23,24,25
TURB SUMP PUMP
AUX POWER TRANSFORMER
CPS UNLOADING
CI C
CB 44
CI D
CB 43
CI J
UNLOADING AREA
CI E
CB 41
CB 42
CPS ROOF DRAIN
CI F
CB 40
CB 49
CI H
CI G
CB 50
CB 72
CB 73
EXIST
CB
EXIST
CB
CB 74
CB 75
SALEM GENERATING STATION
SOUTH YARD DRAIN
NJPDES PERMIT NO. NJ0005622
NJPDES OUTFALL - DSN 489
MAY 1990

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NJ0005622

Form Approved OMB No. 2040-0059 Approval expires 12-31-85

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO: 489A

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	2. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	2. EFFLUENT d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	3. UNITS (specify if blank) b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE (optional) b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	14	0.16					1	mg/l	kg/d	2.4	N/A	1
b. Chemical Oxygen Demand *(COD)*	29	0.33					1	mg/l	kg/d	4.7	N/A	1
c. Total Organic Carbon *(TOC)*	5.8	0.066					1	mg/l	kg/d	2.6	N/A	1
d. Total Suspended Solids *(TSS)*	3	0.034					1	mg/l	kg/d	6.0	N/A	1
e. Ammonia *(as N)*	0.54	0.0061					1	mg/l	kg/d	0.21	N/A	1
f. Flow	VALUE 0.003		VALUE N/A		VALUE 0.003		8	N/A	MGD	VALUE N/A		N/A
g. Temperature *(winter)*	VALUE 17		VALUE		VALUE		1	°C		VALUE N/A		N/A
h. Temperature *(summer)*	VALUE		VALUE		VALUE			°C		VALUE N/A		N/A
i. pH	MINIMUM 6.80	MAXIMUM 7.83	MINIMUM N/A	MAXIMUM N/A			8	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color	X									COPT UNITS	N/A	0.5	N/A	1
d. Fecal Coliform	X									MPN/ 100 ml	N/A	488	N/A	6
e. Fluoride (16984 48-8)	X									mg/l	kg/d	0.14	N/A	6
f. Nitrate-Nitrite *(as N)*	X									mg/l	kg/d	5.12	N/A	105

NJ0005622 DSN 489A

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X									mg/l	kg/D	0.845	N/A	6
h. Oil and Grease	X		3.11	0.035					1	mg/l	kg/D	<0.85	N/A	1
i. Phosphorus (as P), Total (7723-14-0)	X									mg/l	kg/D	0.27	N/A	1
j. Radioactivity														
(1) Alpha, Total	X									pci/l	N/A	1.3	N/A	48
(2) Beta, Total	X									pci/l	N/A	43	N/A	48
(3) Radium, Total	X									pci/l	N/A	15.5	N/A	48
(4) Radium 226, Total	X									pci/l	N/A	15.5	N/A	48
k. Sulfate (as SO_4) (14808-79-8)	X									mg/l	kg/D	660	N/A	1
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		<0.01	N/A					1	mg/l	kd/D	0.02	N/A	2
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)	X									mg/l	kg/D	0.7	N/A	1
q. Boron, Total (7440-42-8)	X									mg/l	kg/D	0.38	N/A	1
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X									mg/l	kg/D	2.68	N/A	1
t. Magnesium, Total (7439-95-4)	X									mg/l	kg/D	2.66	N/A	1
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NJ0005622	489A

Form Approved
OMB No. 2040-0059
Approval Expires 12-31-85

CONTINUED FROM PAGE 3 OF FORM 2 C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2-b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2-b for acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4, 6-dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (*all 7 pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM 30 DAY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
2M. Arsenic, Total (7440-38-2)	X	X		<0.002	N/A					1	mg/l	kg/D	0.01	N/A	1
3M. Beryllium, Total, 7440-41-7)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
4M. Cadmium, Total (7440-43-9)	X	X		<0.002	N/A					1	mg/l	kg/D	0.001	N/A	1
5M. Chromium, Total (7440-47-3)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	N/A	2
6M. Copper, Total (7440-50-8)	X	X		< 0.004	N/A					1	mg/l	kg/D	0.005	N/A	1
7M. Lead, Total (7439-92-1)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	N/A	1
8M. Mercury, Total (7439-97-6)	X	X		<0.0002	N/A					1	mg/l	kg/D	0.0002	N/A	1
9M. Nickel, Total (7440-02-0)	X	X#		<0.01	N/A					1	mg/l	kg/D	<0.01	N/A	1
10M. Selenium, Total (7782-49-2)	X	X		<0.002	N/A					1	mg/l	kg/D	0.01	N/A	1
11M. Silver, Total (7440-22-4)	X	X		<0.002	N/A					1	mg/l	kg/D	0.01	N/A	1
12M. Thallium, Total (7440-28-0)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
13M. Zinc, Total (7440-66-6)	X	X		<0.02	N/A					1	mg/l	kg/D	0.025	N/A	2
14M. Cyanide, Total (57-12-5)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
15M. Phenols, Total	X	X		<0.005	N/A					1	mg/l	kg/D	0.014	N/A	2
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION — VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
2V. Acrylonitrile (107-13-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
3V. Benzene (71-43-2)	X	X#		<5	N/A					1	ug/l	kg/D	<5	N/A	1
4V. Bis (*Chloromethyl*) Ether (542-88-1)	X		X	ND	N/A					1	ug/l	kg/D	ND	N/A	1
5V. Bromoform (75-25-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
6V. Carbon Tetrachloride (56-23-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
7V. Chlorobenzene (108-90-7)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
8V. Chlorodibromomethane (124-48-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
9V. Chloroethane (75-00-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10V. 2-Chloroethylvinyl Ether (110-75-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11V. Chloroform (67-66-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
12V. Dichlorobromomethane (75-27-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
13V. Dichlorodifluoromethane (75-71-8)	X	X#		<10	N/A					1	ug/l	kg/D	<10	N/A	1
14V. 1,1-Dichloroethane (75-34-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
15V. 1,2-Dichloroethane (107-06-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
16V. 1,1-Dichloroethylene (75-35-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
17V. 1,2-Dichloropropane (78-87-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
18V 1,3-Dichloropropylene (542-75-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
19V. Ethylbenzene (100-41-4)	X	X#		<5	N/A					1	ug/l	kg/D	<5	N/A	1
20V. Methyl Bromide (74-83-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21V. Methyl Chloride (74-87-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

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EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 489A

Form Approved. OMB No. 2040-0086. Approval expires 12-31-89

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X	X#		<5*	N/A					1	ug/l	kg/D	<5*	N/A	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
24V. Tetrachloroethylene (127-18-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
25V. Toluene (108-88-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
27V. 1,1,1-Trichloroethane (71-55-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
28V. 1,1,2-Trichloroethane (79-00-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
29V. Trichloroethylene (79-01-6)	X	X#		<5	N/A					1	ug/l	kg/D	<5	N/A	1
30V. Trichlorofluoromethane (75-69-4)	X	X#		<5	N/A					1	ug/l	kg/D	<5	N/A	1
31V. Vinyl Chloride (75-01-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2A. 2,4-Dichlorophenol (120-83-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
3A. 2,4-Dimethylphenol (105-67-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4A. 4,6-Dinitro O Cresol (534-52-1)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
5A. 2,4 Dinitrophenol (51-28-5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
6A. 2 Nitrophenol (88-75-5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7A. 4 Nitrophenol (100-02-7)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
8A. P-Chloro-M-Cresol (59-50-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9A. Pentachlorophenol (87-86-5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
10A. Phenol (108-95-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11A. 2,4,6-Trichlorophenol (88-06-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK X a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	a. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83 32 9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2B. Acenaphtylene (208 96 8)	X		X	<10	N/A					1	ug/l	kg/d	<10	N/A	1
3B. Anthracene (120 12 7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4B. Benzidine (92 87 5)	X		X	<80	N/A					1	ug/l	kg/D	<80	N/A	1
5B. Benzo (a) Anthracene (56 55 3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
6B. Benzo (a) Pyrene (50 32 8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7B. 3,4-Benzo-fluoranthene (205 99 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
8B. Benzo (ghi) Perylene (191-24 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9B. Benzo (k) Fluoranthene (207 08 9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10B. Bis (2-Chloro-ethoxy) Methane (111 91 1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11B. Bis (2-Chloro-ethyl) Ether (111-44 4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
12B. Bis (2-Chloroiso-propyl) Ether (102-80 1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81 7)	X	X#		<10*	N/A					1	ug/l	kg/D	<10*	N/A	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
15B. Butyl Benzyl Phthalate (85-68 7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
16B. 2-Chloro-naphthalene (91 58 7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72 3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
18B. Chrysene (218 01 9)	X		X	<10	N/A					1	ug/L	kg/D	<10	N/A	1
19B. Dibenzo (a,h) Anthracene (53 70 3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
20B. 1,2 Dichloro benzene (95 50 1)	X	X#		<10	N/A					1	ug/l	kg/D	<10	N/A	1
21B. 1,3 Dichloro benzene (541 73 1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

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EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 489A

Form Approved
OMB No. 2040-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANAL YSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO OF ANAL YSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
23B. 3,3'-Dichlorobenzidine (91-94-1)	X		X	<20	N/A					1	ug/l	kg/D	<20	N/A	1
24B. Diethyl Phthalate (84-66-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
25B. Dimethyl Phthalate (131-11-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
26B. Di-N-Butyl Phthalate (84-74-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
27B. 2,4-Dinitrotoluene (121-14-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
28B. 2,6-Dinitrotoluene (606-20-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
29B. Di-N-Octyl Phthalate (117-84-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
30B. 1,2-Diphenylhydrazine (as *Azobenzene*) (122-66-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
31B. Fluoranthene (206-44-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
32B. Fluorene (86-73-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
33B. Hexachlorobenzene (118-74-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
34B. Hexachlorobutadiene (87-68-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
35B. Hexachlorocyclopentadiene (77-47-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
36B. Hexachloroethane (67-72-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
38B. Isophorone (78-59-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
39B. Naphthalene (91-20-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
40B. Nitrobenzene (98-95-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
41B. N-Nitrosodimethylamine (62-75-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUE ON REVERSE

NJ0005622 DSN 489A

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)															
43B. N Nitrosodiphenylamine (86-30-6)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
44B. Phenanthrene (85-01-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
45B. Pyrene (129-00-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
46B. 1,2,4 - Trichlorobenzene (120-82-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

* Indicates compound found in blank.

Salem Generating Station
NJPDES Permit NJ0005622

APPLICATION FORM 2C-V EXPLANATIONS - DSN 489A

1. DSN 489A, the #1 oil skimmer, contains water from precipitation runoff, fresh water from on-site wells, and river water from system leakage and sampling. The parameters believed present in the discharge due to their presence in the intake are a compilation of the parameters found in site fresh water and the Delaware River Estuary. Since the amount of river water influx can not be determined, the mass calculations for this situation are marked indeterminate ("IND")or not applicable (N/A).

2. Pollutants marked "X#" as Believed Present are listed due to their presence on site in quantities which could be released. These pollutants are not anticipated to be detected in the discharge.

3. The following pollutants from Table 2-C or 7:14A Appendix B are utilized at the facility in quantities which could be discharged but are not anticipated to be detected in the discharge:

Carbaryl	Chlorpyrifos
Diazinon	Dimethylamine
Ethanolamine	Formaldehyde
Pyrethins	Xylene
Xylenol	Methyl Isobutyl Ketone
Acetic Acid	Ammonia
Calcium Hypochlorite	Hydrochloric Acid
Lead Acetate	Napthalene
Nitric Acid	Phosphoric Acid
Potassium Chromate	Propylene Oxide
Sodium Hydroxide	Sodium Hypochlorite
Sodium Nitrate	Sodium Phosphate (dibasic)
Sulfuric Acid	Sodium Phosphate (tribasic)
Toluene	Vinyl Acetate
Zinc Carbonate	

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT SUMMARY TABLE

DSN 489A
NUMBER 1 OIL SKIMMER
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Flow (MGD)	N/A	Monthly	Calculated	0.003 Avg.	N/A	N/A	N/A	Monthly	Calculated	2,5
Petroleum Hydrocarbons (mg/l)	10 Avg. 15 Max.	Monthly	Grab	2.15 Avg. 8.29 Max.	N/A	10 Max.	10 Avg. 15 Max.	Monthly	Grab	
COD (mg/l)	100 Max.	Monthly	Grab	28.79 Avg. 60.00 Max.	N/A	N/A				7
TSS (mg/l)	30 Avg. 100 Max.	Monthly	Grab	3.09 Avg. 7.40 Max.	N/A	30 Avg. 100 Max.	30 Avg. 100 Max.	Monthly	Grab	1,8
TOC (mg/l)	-	-	-	-	N/A	N/A	50 Daily (Max.)	Monthly	Grab	7
pH (S.U.)	6.0 Min. 9.0 Max.	Monthly	Grab	6.80 Min. 7.83 Max.	N/A	N/A	6.0 Min. 9.0 Max.	Monthly	Grab	3

Explanation of Existing Permit Reference Notes

1. Total Suspended Solids shall not exceed 45 mg/l as a 7-day average. (Part III - B/C, Page 4a of 7).

2. Flow is calculated based on non-precipitation related estimated discharge plus the calculated precipitation related discharge for the reporting period and reported in units of million gallons per day. (Part III - B/C, Page 4a of 7)

3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored monthly using grab samples. (Part III - B/C, Page 4a of 7)

4. There shall be no discharge of floating solids or visible foam in other than trace amounts. (Part III - B/C, Page 4a of 7)

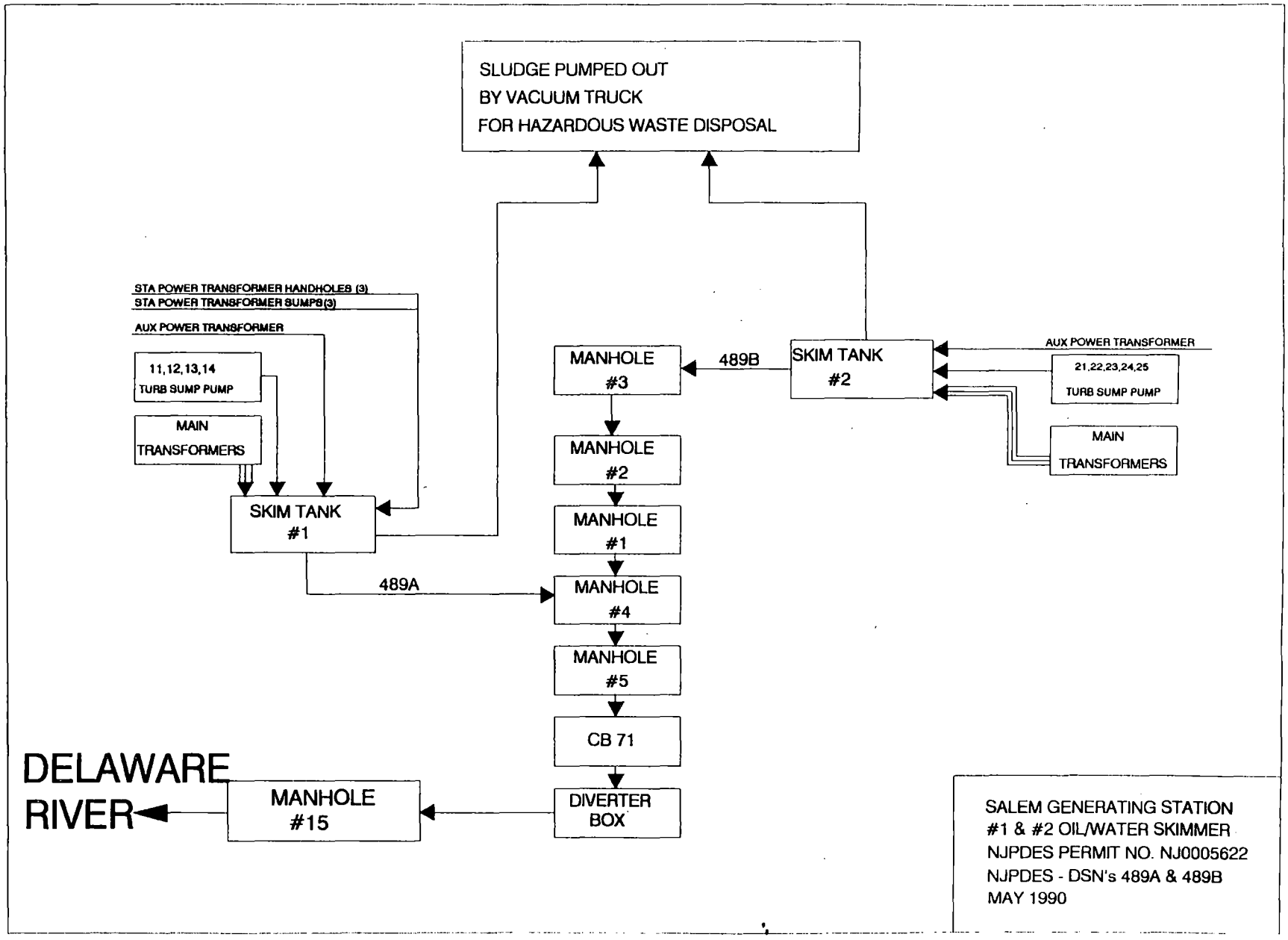
Explanation of Notes

5. The #1 oil water skimming tank, outfall DSN 489A, consists of precipitation runoff, roof drains, floor drains, equipment drains, and transformer sump drains and discharges to outfall DSN 489. This system is also used for spill prevention and mitigation. The enclosed schematic of the #1 & #2 Oil Water Skimmer describes the essential contributors to the system. Flow is calculated by summing the non-precipitation related discharges and the calculated precipitation related discharge and reporting the result in million gallons per day. The precipitation related component of the flow is based on the area of runoff, the runoff coefficient, and the inches of precipitation during the reporting period. The precipitation related influents drain runoff from the facility. The non-precipitation component of the flow calculation includes engineering estimates of normal discharge volumes of the non-precipitation based influents. Although most pollutants are not expected to be present in the discharge, pollutants used in the facility can be postulated to enter this system during normal operations. Equipment and floor drains and sumps are not expected to contain any measurable unidentified pollutants but drain areas in which limited pollutants are utilized. The chemical handling and storage areas in the facility normally drain to the chemical waste system which discharges to the Non-Radioactive Liquid Waste Disposal System (DSN 48C), however, system leakage from components and equipment containing very dilute quantities of acid, caustic, ammonia, and hydrazine can reach the turbine building sumps and be discharged through this DSN.

7. On March 13, 1989, PSE&G requested the chemical oxygen demand (COD) limitations and monitoring requirements be changed to total organic carbon (TOC) limitations and monitoring requirements as delineated and allowed by the current NJPDES permit. We request this change of parameter be accomplished in this renewal and COD be deleted as a monitored and limited parameter and replaced with TOC. The TOC limitation should be 50 mg/l based on monthly grab sampling.

Explanation of Notes

8. The total suspended solids (TSS) limitation of 45 mg/l as a seven day average is not applicable to this DSN. The monthly sample requirement and limitations on the daily average and daily maximum concentrations provide adequate protection of the environment.


SLUDGE PUMPED OUT
BY VACUUM TRUCK
FOR HAZARDOUS WASTE DISPOSAL
STA POWER TRANSFORMER HANDHOLES (3)
STA POWER TRANSFORMER SUMPS(3)
AUX POWER TRANSFORMER
11,12,13,14
TURB SUMP PUMP
MAIN
TRANSFORMERS
SKIM TANK
#1
489A
MANHOLE
#3
489B
SKIM TANK
#2
AUX POWER TRANSFORMER
21,22,23,24,25
TURB SUMP PUMP
MAIN
TRANSFORMERS
MANHOLE
#2
MANHOLE
#1
MANHOLE
#4
MANHOLE
#5
CB 71
DIVERTER
BOX
MANHOLE
#15
DELAWARE
RIVER
SALEM GENERATING STATION
#1 & #2 OIL/WATER SKIMMER
NJPDES PERMIT NO. NJ0005622
NJPDES - DSN's 489A & 489B
MAY 1990

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NJ0005622

Form Approved OMB No. 2040-0059 Approval expires 12-31-85

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO: 489B

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	2. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	2. EFFLUENT d. NO. OF ANALYSES	3 UNITS (specify if blank) a. CONCENTRATION	3 UNITS (specify if blank) b. MASS	4 INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4 INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	4 INTAKE (optional) b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	7.5	0.085					1	mg/l	kg/d	2.4	N/A	1
b. Chemical Oxygen Demand *(COD)*	27	0.31					1	mg/l	kg/d	47	N/A	1
c. Total Organic Carbon *(TOC)*	5.6	0.064					1	mg/l	kg/d	2.6	N/A	1
d. Total Suspended Solids *(TSS)*	2	0.023					1	mg/l	kg/d	60	N/A	1
e. Ammonia *(as N)*	1.27	0.014					1	mg/l	kg/d	0.21	N/A	1
f. Flow	VALUE .003		VALUE N/A		VALUE 0.003		9	N/A	MGD	VALUE N/A		N/A
g. Temperature *(winter)*	VALUE 17		VALUE		VALUE		1	°C		VALUE N/A		N/A
h. Temperature *(summer)*	VALUE		VALUE		VALUE			°C		VALUE N/A		N/A
i. pH	MINIMUM 6.60	MAXIMUM 7.29	MINIMUM N/A	MAXIMUM N/A			9	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color	X									COPT UNITS	N/A	0.5	N/A	1
d. Fecal Coliform	X									MPN/ 100 ml	N/A	488	N/A	6
e. Fluoride (16984-48-8)	X									mg/l	kg/d	0.14	N/A	6
f. Nitrate--Nitrite *(as N)*	X									mg/l	kg/d	5.12	N/A	105

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X' a. Believed Present	2. MARK 'X' b. Believed Absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) Mass	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (1) Concentration	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (2) Mass	3. EFFLUENT c. LONG TERM AVG. VALUE (If available) (1) Concentration	3. EFFLUENT c. LONG TERM AVG. VALUE (If available) (2) Mass	3. EFFLUENT d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) Concentration	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) Mass	5. INTAKE (optional) b. NO OF ANALYSES
g. Nitrogen, Total Organic (as N)	X									mg/l	kg/D	0.845	N/A	6
h. Oil and Grease	X		0.91	0.01					1	mg/l	kg/D	<0.85	N/A	1
i. Phosphorus (as P), Total (7723-14-0)	X									mg/l	kg/D	0.27	N/A	1
j. Radioactivity														
(1) Alpha, Total	X									pci/l	N/A	1.3	N/A	48
(2) Beta, Total	X									pci/l	N/A	43	N/A	48
(3) Radium, Total	X									pci/l	N/A	15.5	N/A	48
(4) Radium 226, Total	X									pci/l	N/A	15.5	N/A	48
k. Sulfate (as SO_4) (14808-79-8)	X									mg/l	kg/D	660	N/A	1
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		<0.01	N/A					1	mg/l	kd/D	0.02	N/A	2
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)	X									mg/l	kg/D	0.7	N/A	1
q. Boron, Total (7440-42-8)	X									mg/l	kg/D	0.38	N/A	1
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X									mg/l	kg/D	2.68	N/A	1
t. Magnesium, Total (7439-95-4)	X									mg/l	kg/D	2.66	N/A	1
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NJ0005622	489B

Form Approved
OMB No. 2040-0086
Approval expires 12-31-85

CONTINUED FROM PAGE 3 OF FORM 2 C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2-b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2-b for acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4,6-dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2-b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (*all 7 pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (*optional*)		
	a. TEST(ING) REQUIRED	b. GC/MS FRACTION	c. GC/MS FRACTION ABSENT	a. MAXIMUM 30 DAY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE	b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
2M. Arsenic, Total (7440-38-2)	X	X		<0.002	N/A					1	mg/l	kg/D	0.01	N/A	1
3M. Beryllium, Total, 7440-41-7)	X		X	<0.0002	N/A					1	mg/l	kg/D	<0.0002	N/A	1
4M. Cadmium, Total (7440-43-9)	X	X		<0.002	N/A					1	mg/l	kg/D	0.001	N/A	1
5M. Chromium, Total (7440-47-3)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	N/A	2
6M. Copper, Total (7440-50-8)	X	X		< 0.004	N/A					1	mg/l	kg/D	0.005	N/A	1
7M. Lead, Total (7439-92-1)	X	X		<0.002	N/A					1	mg/l	kg/D	0.002	N/A	1
8M. Mercury, Total (7439-97-6)	X	X		<0.0002	N/A					1	mg/l	kg/D	0.0002	N/A	1
9M. Nickel, Total (7440-02-0)	X	X#		<0.01	N/A					1	mg/l	kg/D	<0.01	N/A	1
10M. Selenium, Total (7782-49-2)	X	X		<0.002	N/A					1	mg/l	kg/D	0.01	N/A	1
11M. Silver, Total (7440-22-4)	X	X		<0.002	N/A					1	mg/l	kg/D	0.01	N/A	1
12M. Thallium, Total (7440-28-0)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
13M. Zinc, Total (7440-66-6)	X	X		<0.02	N/A					1	mg/l	kg/D	0.025	N/A	2
14M. Cyanide, Total (57-12-5)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
15M. Phenols, Total	X	X		<0.005	N/A					1	mg/l	kg/D	0.014	N/A	2
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
2V. Acrylonitrile (107-13-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
3V. Benzene (71-43-2)	X	X#		<5	N/A					1	ug/l	kg/D	<5	N/A	1
4V. Bis (Chloromethyl) Ether (542-88-1)	X		X	ND	N/A					1	ug/l	kg/D	ND	N/A	1
5V. Bromoform (75-25-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
6V. Carbon Tetrachloride (56-23-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
7V. Chlorobenzene (108-90-7)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
8V. Chlorodibromomethane (124-48-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
9V. Chloroethane (75-00-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10V. 2-Chloroethylvinyl Ether (110-75-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11V. Chloroform (67-66-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
12V. Dichlorobromomethane (75-27-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
13V. Dichlorodifluoromethane (75-71-8)	X	X#		<10	N/A					1	ug/l	kg/D	<10	N/A	1
14V. 1,1-Dichloroethane (75-34-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
15V. 1,2-Dichloroethane (107-06-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
16V. 1,1-Dichloroethylene (75-35-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
17V. 1,2-Dichloropropane (78-87-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
18V 1,3-Dichloropropylene (542-75-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
19V Ethylbenzene (100-41-4)	X	X#		<5	N/A					1	ug/l	kg/D	<5	N/A	1
20V Methyl Bromide (74-83-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21V Methyl Chloride (74-87-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 489B

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OMB No. 2040-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X	X#		<5*	N/A					1	ug/l	kg/D	<5*	N/A	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
24V. Tetrachloroethylene (127-18-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
25V. Toluene (108-88-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
27V. 1,1,1-Trichloroethane (71-55-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
28V. 1,1,2-Trichloroethane (79-00-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
29V. Trichloroethylene (79-01-6)	X	X#		<5	N/A					1	ug/l	kg/D	<5	N/A	1
30V. Trichlorofluoromethane (75-69-4)	X	X#		<5	N/A					1	ug/l	kg/D	<5	N/A	1
31V. Vinyl Chloride (75-01-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95 57-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2A. 2,4-Dichlorophenol (120-83 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
3A. 2,4-Dimethyl phenol (105-67 9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4A. 4,6-Dinitro-O Cresol (534-52-1)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
6A. 2,4 Dinitrophenol (51-28 5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
6A. 2 Nitrophenol (88 75 5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7A. 4 Nitrophenol (100 02 7)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
8A. P Chloro M Cresol (59 50 7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9A. Pentachlorophenol (87 86 5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
10A. Phenol (108 95 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11A. 2,4,6-Trichlorophenol (88 06 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK X a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2B. Acenaphtylene (208-96-8)	X		X	<10	N/A					1	ug/l	kg/d	<10	N/A	1
3B. Anthracene (120-12-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4B. Benzidine (92-87-5)	X		X	<80	N/A					1	ug/l	kg/D	<80	N/A	1
5B. Benzo (a) Anthracene (56-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
6B. Benzo (a) Pyrene (50-32-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
8B. Benzo (ghi) Perylene (191-24-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9B. Benzo (k) Fluoranthene (207-08-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
12B. Bis (2-Chloroisopropyl) Ether (102-80-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X	X#		<10*	N/A					1	ug/l	kg/D	<10*	N/A	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
15B. Butyl Benzyl Phthalate (85-68-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
16B. 2-Chloro-naphthalene (91-58-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
18B. Chrysene (218-01-9)	X		X	<10	N/A					1	ug/L	kg/D	<10	N/A	1
19B. Dibenzo (a,h) Anthracene (53-70-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
20B. 1,2 Dichloro benzene (95-50-1)	X	X#		<10	N/A					1	ug/l	kg/D	<10	N/A	1
21B. 1,3 Dichloro benzene (541-73-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUE ON PAGE V-7

CONTINUED FROM PAGE V-6

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 489B

Form Approved
OMB No. 2040-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
23B. 3,3'-Dichlorobenzidine (91-94-1)	X		X	<20	N/A					1	ug/l	kg/D	<20	N/A	1
24B. Diethyl Phthalate (84-66-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
25B. Dimethyl Phthalate (131-11-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
26B. Di-N-Butyl Phthalate (84-74-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
27B. 2,4-Dinitrotoluene (121-14-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
28B. 2,6-Dinitrotoluene (606-20-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
29B. Di-N-Octyl Phthalate (117-84-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
31B. Fluoranthene (206-44-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
32B. Fluorene (86-73-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
33B. Hexachlorobenzene (118-74-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
34B. Hexachlorobutadiene (87-68-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
35B. Hexachlorocyclopentadiene (77-47-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
36B. Hexachloroethane (67-72-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
38B. Isophorone (78-59-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
39B. Naphthalene (91-20-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
40B. Nitrobenzene (98-95-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
41B. N-Nitrosodimethylamine (62 75 9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
42B. N-Nitrosodi N Propylamine (621 64 7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
44B. Phenanthrene (85-01-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
45B. Pyrene (129-00-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
46B. 1,2,4 - Trichlorobenzene (120-82-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72 20-8)			X												
15P. Endrin Aldehyde (7421 93 4)			X												
16P. Heptachlor (76 44-8)			X												

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION — PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

* Indicates compound found in blank.

Salem Generating Station
NJPDES Permit NJ0005622

APPLICATION FORM 2C-V EXPLANATIONS - DSN 489B

1. DSN 489B, the #2 oil skimmer, contains water from precipitation runoff, fresh water from on-site wells, and river water from system leakage and sampling. The parameters believed present in the discharge due to their presence in the intake are a compilation of the parameters found in site fresh water and the Delaware River Estuary. Since the amount of river water influx can not be determined, the mass calculations for this situation are marked indeterminate ("IND") or not applicable (N/A).

2. Pollutants marked "X#" as Believed Present are listed due to their presence on site in quantities which could be released. These pollutants are not anticipated to be detected in the discharge.

3. The following pollutants from Table 2-C or 7:14A Appendix B are utilized at the facility in quantities which could be discharged but are not anticipated to be detected in the discharge:

Carbaryl	Chlorpyrifos
Diazinon	Dimethylamine
Ethanolamine	Formaldehyde
Pyrethins	Xylene
Xylenol	Methyl Isobutyl Ketone
Acetic Acid	Ammonia
Calcium Hypochlorite	Hydrochloric Acid
Lead Acetate	Napthalene
Nitric Acid	Phosphoric Acid
Potassium Chromate	Propylene Oxide
Sodium Hydroxide	Sodium Hypochlorite
Sodium Nitrate	Sodium Phosphate (dibasic)
Sulfuric Acid	Sodium Phosphate (tribasic)
Toluene	Vinyl Acetate
Zinc Carbonate	

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT SUMMARY TABLE

DSN 489B
NUMBER 2 OIL SKIMMER
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Flow (MGD)	N/A	Monthly	Calculated	0.003 Avg.	N/A	N/A	N/A	Monthly	Calculated	2,5
Petroleum Hydrocarbons (mg/l)	10 Avg. 15 Max.	Monthly	Grab	4.82 Avg. 16.00 Max.	N/A	10 Max.	10 Avg. 15 Max.	Monthly	Grab	
COD (mg/l)	100 Max.	Monthly	Grab	26.87 Avg. 60.80 Max.	N/A	10 Max.				7
TSS (mg/l)	30 Avg. 100 Max.	Monthly	Grab	7.60 Avg. 21.40 Max.	N/A	30 Avg. 100 Max.	30 Avg. 100 Max.	Monthly	Grab	1,8
TOC (mg/l)	-	-	-	-	N/A	N/A	50 Daily (Max.)	Monthly	Grab	7
pH (S.U.)	6.0 Min. 9.0 Min.	Monthly	Grab	6.60 Min. 7.29 Max.	N/A	N/A	6.0 Min. 9.0 Min.	Monthly	Grab	3

Salem Generating Station
NJPDES Permit NJ0005622
Permit Summary Table

DSN 489B
Number 2 Oil Skimmer

Explanation of Existing Permit Reference Notes

1. Total Suspended Solids shall not exceed 45 mg/l as a 7-day average. (Part III - B/C, Page 4b of 7).

2. Flow is calculated based on non-precipitation related estimated discharge plus the calculated precipitation related discharge for the reporting period and reported in units of million gallons per day. (Part III - B/C, Page 4b of 7)

3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored monthly using grab samples. (Part III - B/C, Page 4b of 7)

4. There shall be no discharge of floating solids or visible foam in other than trace amounts. (Part III - B/C, Page 4b of 7)

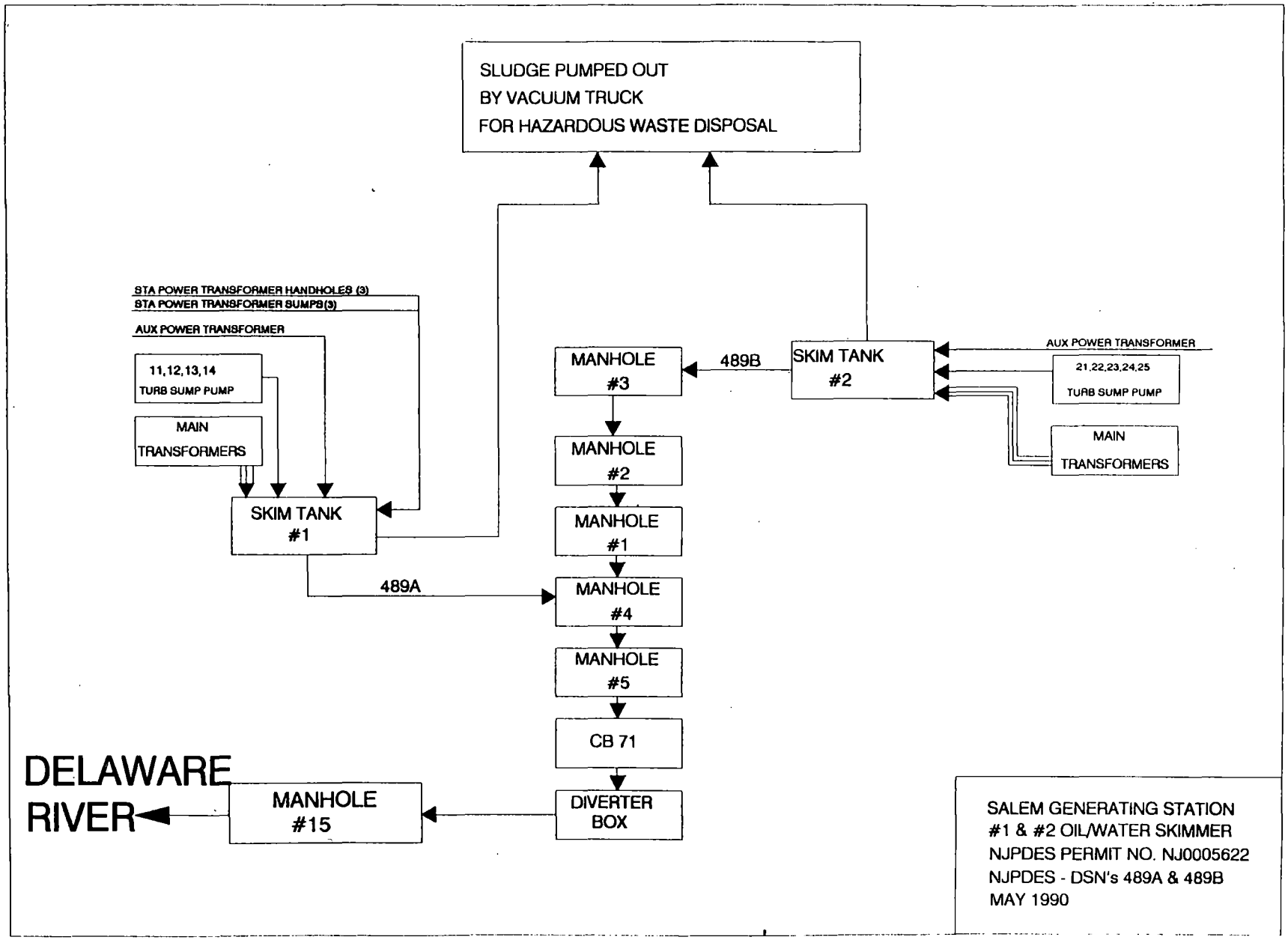
Explanation of Notes

5. The #2 oil water skimming tank, outfall DSN 489B, consists of precipitation runoff, roof drains, floor drains, equipment drains, and transformer sump drains and discharges to outfall DSN 489. This system is also used for spill prevention and mitigation. The enclosed schematic of the #1 & #2 Oil Water Skimmer describes the essential contributors to the system. Flow is calculated by summing the non-precipitation related discharges and the calculated precipitation related discharge and reporting the result in million gallons per day. The precipitation related component of the flow is based on the area of runoff, the runoff coefficient, and the inches of precipitation during the reporting period. The precipitation related influents drain runoff from the facility. The non-precipitation component of the flow calculation includes engineering estimates of normal discharge volumes of the non-precipitation based influents. Although most pollutants are not expected to be present in the discharge, pollutants used in the facility can be postulated to enter this system during normal operations. Equipment and floor drains and sumps are not expected to contain any measurable unidentified pollutants but drain areas in which limited pollutants are utilized. The chemical handling and storage areas in the facility normally drain to the chemical waste system which discharges to the Non-Radioactive Liquid Waste Disposal System (DSN 48C), however, system leakage from components and equipment containing very dilute quantities of acid, caustic, ammonia, and hydrazine can reach the turbine building sumps and be discharged through this DSN.

7. On March 13, 1989, PSE&G requested the chemical oxygen demand (COD) limitations and monitoring requirements be changed to total organic carbon (TOC) limitations and monitoring requirements as delineated and allowed by the current NJPDES permit. We request this change of parameter be accomplished in this renewal and COD be deleted as a monitored and limited parameter and replaced with TOC. The TOC limitation should be 50 mg/l based on monthly grab sampling.

Explanation of Notes

8. The total suspended solids (TSS) limitation of 45 mg/l as a seven day average is not applicable to this DSN. The monthly sample requirement and limitations on the daily average and daily maximum concentrations provide adequate protection of the environment.


SLUDGE PUMPED OUT
BY VACUUM TRUCK
FOR HAZARDOUS WASTE DISPOSAL
STA POWER TRANSFORMER HANDHOLES (3)
STA POWER TRANSFORMER SUMPS (3)
AUX POWER TRANSFORMER
11,12,13,14
TURB SUMP PUMP
MAIN
TRANSFORMERS
SKIM TANK
#1
489A
MANHOLE
#3
489B
SKIM TANK
#2
AUX POWER TRANSFORMER
21,22,23,24,25
TURB SUMP PUMP
MAIN
TRANSFORMERS
MANHOLE
#2
MANHOLE
#1
MANHOLE
#4
MANHOLE
#5
CB 71
DIVERTER
BOX
MANHOLE
#15
DELAWARE
RIVER
SALEM GENERATING STATION
#1 & #2 OIL/WATER SKIMMER
NJPDES PERMIT NO. NJ0005622
NJPDES - DSN's 489A & 489B
MAY 1990

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NJ0005622

Form Approved OMB No. 2040-0059 Approval expires 12-31-85

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO: 491

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	2. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	2. EFFLUENT d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	3. UNITS (specify if blank) b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE (optional) b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	4.8	0.18					1	mg/l	kg/d			
b. Chemical Oxygen Demand *(COD)*	25	0.95					1	mg/l	kg/d			
c. Total Organic Carbon *(TOC)*	6.7	0.25					1	mg/l	kg/d			
d. Total Suspended Solids *(TSS)*	3	0.11					1	mg/l	kg/d			
e. Ammonia *(as N)*	<0.03	N/A					1	mg/l	kg/d			
f. Flow	VALUE		VALUE		VALUE 0.01 (est)			N/A	MGD	VALUE		
g. Temperature *(winter)*	VALUE 11.5°C		VALUE		VALUE		1	°C		VALUE		
h. Temperature *(summer)*	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM	MAXIMUM 7.2	MINIMUM	MAXIMUM			1	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color		X												
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)		X												
f. Nitrate-Nitrite *(as N)*		X												

ITEM V-B CONTINUED FROM FRONT

NJ0005622 DSN 491

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (If available) (2) MASS	c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (If available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)		X												
h. Oil and Grease	X		<0.85	N/A					1	mg/l	kg/d			
i. Phosphorus (as P), Total (7723-14-0)		X												
j. Radioactivity				[redacted]										
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)		X												
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)		X												
t. Magnesium, Total (7439-95-4)		X												
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NJ0005622	491

Form Approved
OMB No. 2000-0059
Approval expires 12-31-85

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						d. NO. OF ANALYSES	4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)			a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X												
2M. Arsenic, Total (7440-38-2)			X												
3M. Beryllium, Total, 7440-41-7)			X												
4M. Cadmium, Total (7440-43-9)			X												
5M. Chromium, Total (7440-47-3)			X												
6M. Copper, Total (7440-50-8)			X												
7M. Lead, Total (7439-92-1)			X												
8M. Mercury, Total (7439-97-6)			X												
9M. Nickel, Total (7440-02-0)			X												
10M. Selenium, Total (7782-49-2)			X												
11M. Silver, Total (7440-22-4)			X												
12M. Thallium, Total (7440-28-0)			X												
13M. Zinc, Total (7440-66-6)			X												
14M. Cyanide, Total (57-12-5)			X												
15M. Phenols, Total			X												
DIOXIN															
2,3,7,8 Tetra chlorodibenzo P Dioxin (1764 01 6)			X	DESCRIBE RESULTS											

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X												
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)			X												
4V. Bis (*Chloromethyl*) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)			X												
6V. Carbon Tetrachloride (56-23-5)			X												
7V. Chlorobenzene (108-90-7)			X												
8V. Chlorodibromomethane (124-48-1)			X												
9V. Chloroethane (75-00-3)			X												
10V. 2-Chloroethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)			X												
12V. Dichlorobromomethane (75-27-4)			X												
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75-34-3)			X												
15V. 1,2-Dichloroethane (107-06-2)			X												
16V. 1,1 Dichloroethylene (75-35-4)			X												
17V. 1,2 Dichloropropane (78-87-5)			X												
18V. 1,3-Dichloropropylene (542-75-6)			X												
19V. Ethylbenzene (100-41-4)			X												
20V. Methyl Bromide (74-83-9)			X												
21V. Methyl Chloride (74-87-3)			X												

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 491

Form Approved
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Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)			X												
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X												
24V. Tetrachloroethylene (127-18-4)			X												
25V. Toluene (108-88-3)			X												
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X												
27V. 1,1,1-Trichloroethane (71-55-6)			X												
28V. 1,1,2-Trichloroethane (79-00-5)			X												
29V. Trichloroethylene (79-01-6)			X												
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)			X												
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X												
2A. 2,4 Dichlorophenol (120-83-2)			X												
3A. 2,4-Dimethylphenol (105-67-9)			X												
4A. 4,6-Dinitro O Cresol (534-52-1)			X												
5A. 2,4 Dinitrophenol (51-28-5)			X												
6A. 2-Nitrophenol (88-75-5)			X												
7A. 4-Nitrophenol (100-02-7)			X												
8A. P Chloro M-Cresol (59-50-7)			X												
9A. Pentachlorophenol (87-86-5)			X												
10A. Phenol (108-95-2)			X												
11A. 2,4,6-Trichlorophenol (88-06-2)			X												

CONTINUE ON REVERSE

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			X												
2B. Acenaphtylene (208-96-8)			X												
3B. Anthracene (120-12-7)			X												
4B. Benzidine (92-87-5)			X												
5B. Benzo *(a)* Anthracene (56-55-3)			X												
6B. Benzo *(a)* Pyrene (50-32-8)			X												
7B. 3,4-Benzo-fluoranthene (205-99-2)			X												
8B. Benzo *(ghi)* Perylene (191-24-2)			X												
9B. Benzo *(k)* Fluoranthene (207-08-9)			X												
10B. Bis *(2-Chloro-ethoxy)* Methane (111-91-1)			X												
11B. Bis *(2-Chloro-ethyl)* Ether (111-44-4)			X												
12B. Bis *(2-Chloroiso-propyl)* Ether (102-60-1)			X												
13B. Bis *(2-Ethyl-hexyl)* Phthalate (117-81-7)			X												
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)			X												
15B. Butyl Benzyl Phthalate (85-68-7)			X												
16B. 2-Chloro-naphthalene (91-58-7)			X												
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X												
18B. Chrysene (218-01-9)			X												
19B. Dibenzo *(a,h)* Anthracene (53-70-3)			X												
20B. 1,2-Dichloro-benzene (95-50-1)			X												
21B. 1,3-Dichloro-benzene (541-73-1)			X												

EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 491

Form Approved
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Approval expires 12 31 88

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	2. MARK 'X' b. BELIEVED PRESENT	2. MARK 'X' c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	3. EFFLUENT d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)			X												
23B. 3,3'-Dichlorobenzidine (91-94-1)			X												
24B. Diethyl Phthalate (84-66-2)			X												
25B. Dimethyl Phthalate (131-11-3)			X												
26B. Di-N-Butyl Phthalate (84-74-2)			X												
27B. 2,4-Dinitrotoluene (121-14-2)			X												
28B. 2,6-Dinitrotoluene (606-20-2)			X												
29B. Di-N-Octyl Phthalate (117-84-0)			X												
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)			X												
31B. Fluoranthene (206-44-0)			X												
32B. Fluorene (86-73-7)			X												
33B. Hexachlorobenzene (118-74-1)			X												
34B. Hexachlorobutadiene (87-68-3)			X												
35B. Hexachlorocyclopentadiene (77-47-4)			X												
36B. Hexachloroethane (67-72-1)			X												
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)			X												
38B. Isophorone (78-59-1)			X												
39B. Naphthalene (91-20-3)			X												
40B. Nitrobenzene (98-95-3)			X												
41B. N-Nitrosodimethylamine (62 75-9)			X												
42B. N-Nitrosodi-N Propylamine (621 64 7)			X												

CONTINUE ON REVER

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS (1) CONCENTRATION	(2) MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)			X												
44B. Phenanthrene (85-01-8)			X												
45B. Pyrene (129-00-0)			X												
46B. 1,2,4-Trichlorobenzene (120-82-1)			X												
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

CONTINUED ON PAGE V-9

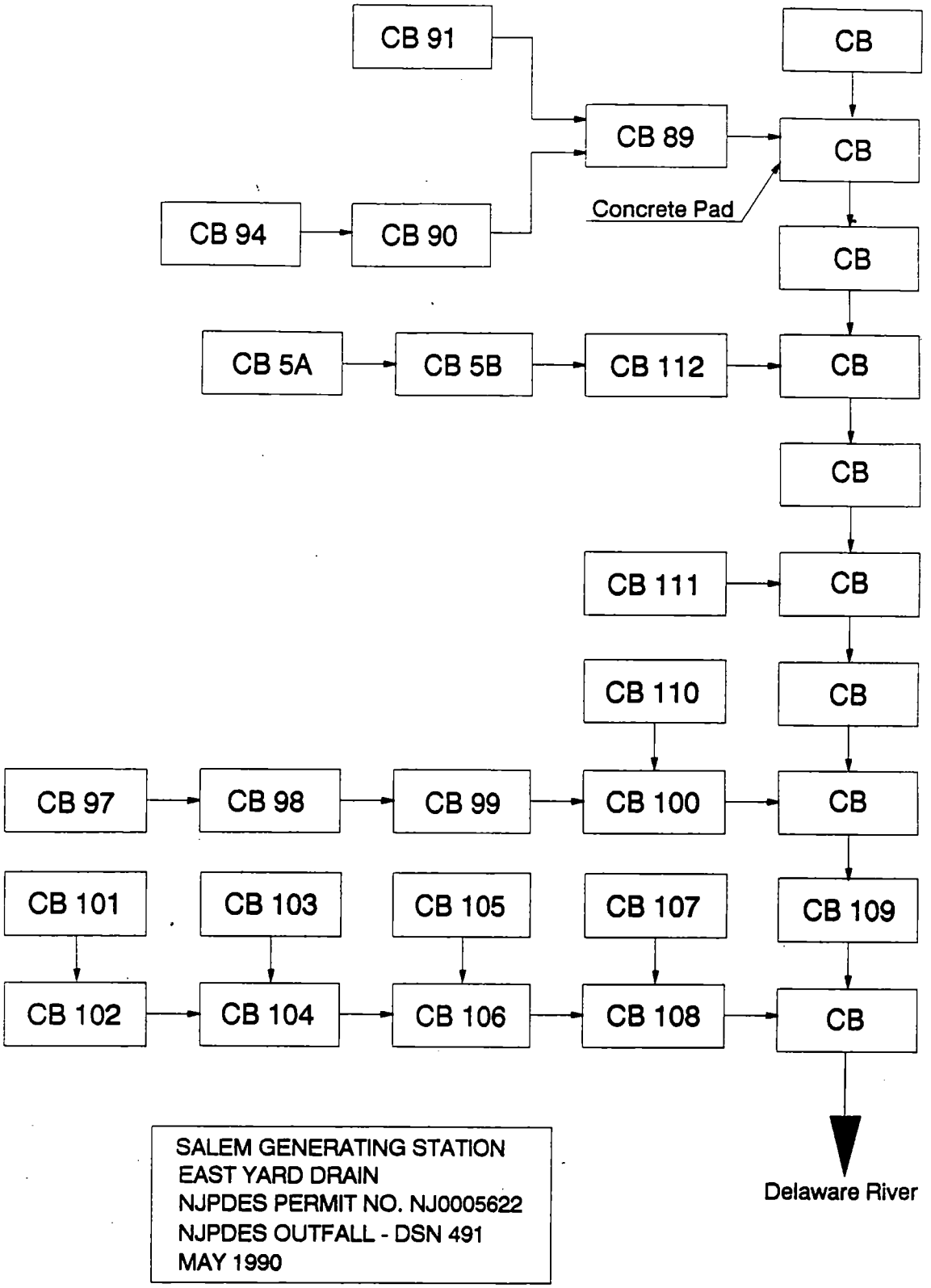
EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NJ0005622	491

Form Approved
OMB No 2000 0059
Approval expires 12 31 85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

1. The East Yard Drain, outfall DSN 491, consists solely of precipitation runoff from areas of the property disassociated with any process areas. These areas are primarily an employee parking lot and the area adjacent to an access roadway. The enclosed schematic of the East Yard Drain describes the essential contributing inlets to the system. Although most pollutants are not expected to be present in the discharge, any pollutant which would be expected to be in runoff in rural roadway runoff could enter the system. Oil and Grease analysis was performed due to the presence of automobiles. The flowrate was estimated for the purposes of this application.

2. This outfall was evaluated by the NJDEP during issuance of the NJPDES permit in 1985 and the permit contained neither monitoring requirements nor limitations. PSE&G believes this outfall will be uncontaminated and that no limitations or monitoring requirements are applicable at this outfall.



SALEM GENERATING STATION
EAST YARD DRAIN
NJPDES PERMIT NO. NJ0005622
NJPDES OUTFALL - DSN 491
MAY 1990

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NJ0005622

Form Approved OMB No. 2040-0059 Approval expires 12-31-85

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO: 48C

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	2. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	2. EFFLUENT d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	3. UNITS (specify if blank) b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE (optional) b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	2.4	2.36					1	mg/l	kg/d	2.4	N/A	1
b. Chemical Oxygen Demand *(COD)*	251	247			23.54	23.17	96	mg/l	kg/d	47	N/A	1
c. Total Organic Carbon *(TOC)*	102	100			8.28	8.1	18	mg/l	kg/d	2.6	N/A	1
d. Total Suspended Solids *(TSS)*	88	86.6			12.79	12.59	96	mg/l	kg/d	60	N/A	1
e. Ammonia *(as N)*	70	68.89			22.70	22.34	96	mg/l	kg/d	0.21	N/A	1
f. Flow	VALUE 0.34		VALUE N/A		VALUE 0.26		48	N/A	MGD	VALUE N/A		N/A
g. Temperature *(winter)*	VALUE 31		VALUE N/A		VALUE 12.88		24	°C		VALUE N/A		N/A
h. Temperature *(summer)*	VALUE 32		VALUE N/A		VALUE 18.10		24	°C		VALUE N/A		N/A
i. pH	MINIMUM 2.40	MAXIMUM 12.70	MINIMUM N/A	MAXIMUM N/A				STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual	X													
c. Color	X									COPT UNITS	N/A	20	N/A	1
d. Fecal Coliform	X									MPN/ 100 ml	N/A	488	N/A	6
e. Fluoride (16984 48-8)	X									mg/l	kg/d	0.14	N/A	6
f. Nitrate-Nitrite *(as N)*	X		0.011	0.01					1	mg/l	kg/d	6.12	N/A	105

CONTINUE ON REVERSE

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (If available)	2. MARK 'X' a. Believed present	2. MARK 'X' b. Believed absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	a. MAXIMUM DAILY VALUE (2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	b. MAXIMUM 30 DAY VALUE (if available) (2) Mass	c. LONG TERM AVRG. VALUE (if available) (1) Concentration	c. LONG TERM AVRG. VALUE (if available) (2) Mass	d. NO OF ANALYSES	4. UNITS a. Concentration	4. UNITS b. Mass	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) Concentration	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) Mass	5. INTAKE (optional) b. NO OF ANALYSES
g. Nitrogen, Total Organic (as N)	X		6	5.9					1	mg/l	kg/D	0.845	N/A	6
h. Oil and Grease	X									mg/l	kg/D	<0.85	N/A	1
i. Phosphorus (as P), Total (7723-14-0)	X		0.9	0.89					1	mg/l	kg/D	0.27	N/A	1
j. Radioactivity				[redacted]										
(1) Alpha, Total	X									pci/l	N/A	1.3	N/A	48
(2) Beta, Total	X									pci/l	N/A	4.3	N/A	48
(3) Radium, Total	X									pci/l	N/A	15.5	N/A	48
(4) Radium 226, Total	X									pci/l	N/A	15.5	N/A	48
k. Sulfate (as SO_4) (14808-79-8)	X		10,000	9841					1	mg/l	kg/D	660	N/A	1
l. Sulfide (as S)	X		1.9	1.87					1	mg/l	kg/D			
m. Sulfite (as SO_3) (14265-45-3)	X		<1.0	N/A					1	mg/l	kg/D			
n. Surfactants	X		<0.01	N/A					1	mg/l	kd/D	0.02	N/A	1
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)	X									mg/l	kg/d	0.7	N/A	I
q. Boron, Total (7440-42-8)	X									mg/l	kg/D	0.38	N/A	1
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X		2.2	2.17					1	mg/l	kg/D	2.68	N/A	1
t. Magnesium, Total (7439-95-4)	X									mg/l	kg/D	2.66	N/A	1
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPA I.D. NUMBER (copy from Item 1 of Form 1) NJ0005622 | OUTFALL NUMBER 48C

Form Approved. OMB No. 2040-0086. Approval expires 12-31-85

CONTINUED FROM PAGE 3 OF FORM 2 C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2-b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2-b for acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4, 6-dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2-b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (*all 7 pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TEST-ING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM 30 DAY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X		X	<0.06	N/A					1	mg/l	kg/D	<0.005	N/A	1
2M. Arsenic, Total (7440-38-2)	X	X		<0.002	N/A					1	mg/l	kg/D	0.01	N/A	1
3M. Beryllium, Total, 7440-41-7)	X		X	<0.0005	N/A					1	mg/l	kg/D	<0.0002	N/A	1
4M. Cadmium, Total (7440-43-9)	X	X		<0.002	N/A					1	mg/l	kg/D	0.001	N/A	1
5M. Chromium, Total (7440-47-3)	X	X		<0.012	N/A					1	mg/l	kg/D	0.002	N/A	2
6M. Copper, Total (7440-50-8)	X	X		0.31	0.31					1	mg/l	kg/D	0.005	N/A	1
7M. Lead, Total (7439-92-1)	X	X		0.004	0.0039					1	mg/l	kg/D	0.002	N/A	1
8M. Mercury, Total (7439-97-6)	X	X		<0.0002	N/A					1	mg/l	kg/D	0.0002	N/A	1
9M. Nickel, Total (7440-02-0)	X	X		0.09	0.089					1	mg/l	kg/D	<0.01	N/A	1
10M. Selenium, Total (7782-49-2)	X	X		<0.002	N/A					1	mg/l	kg/D	0.01	N/A	1
11M. Silver, Total (7440-22-4)	X	X		<0.002	N/A					1	mg/l	kg/D	0.01	N/A	1
12M. Thallium, Total (7440-28-0)	X		X	<0.002	N/A					1	mg/l	kg/D	<0.002	N/A	1
13M. Zinc, Total (7440-66-6)	X	X		0.160	0.157					1	mg/l	kg/D	0.025	N/A	2
14M. Cyanide, Total (57-12-5)	X		X	<0.005	N/A					1	mg/l	kg/D	<0.005	N/A	1
15M. Phenols, Total	X	X		0.008	0.0079					1	mg/l	kg/D	0.014	N/A	2
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
2V. Acrylonitrile (107-13-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
3V. Benzene (71-43-2)	X	X#		<5	N/A					1	ug/l	kg/D	<5	N/A	1
4V. Bis (Chloromethyl) Ether (542-88-1)	X		X	ND	N/A					1	ug/l	kg/D	ND	N/A	1
5V. Bromoform (75-25-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
6V. Carbon Tetrachloride (56-23-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
7V. Chlorobenzene (108-90-7)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
8V. Chlorodibromomethane (124-48-1)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
9V. Chloroethane (75-00-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10V. 2-Chloroethylvinyl Ether (110-75-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11V. Chloroform (67-66-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
12V. Dichlorobromomethane (75-27-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
13V. Dichlorodifluoromethane (75-71-8)	X	X#		<10	N/A					1	ug/l	kg/D	<10	N/A	1
14V. 1,1-Dichloroethane (75-34-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
15V. 1,2-Dichloroethane (107-06-2)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
16V. 1,1-Dichloroethylene (75-35-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
17V. 1,2-Dichloropropane (78-87-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
18V. 1,3-Dichloropropylene (542-75-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
19V. Ethylbenzene (100 41 4)	X	X#		<5	N/A					1	ug/l	kg/D	<5	N/A	1
20V. Methyl Bromide (74 83 9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
21V. Methyl Chloride (74 87 3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

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EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 48C

Form Approved
OMB No. 2040-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X	X#		<5*	N/A					1	ug/l	kg/D	<5*	N/A	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
24V. Tetrachloroethylene (127-18-4)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
25V. Toluene (108-88-3)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
27V. 1,1,1-Trichloroethane (71-55-6)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
28V. 1,1,2-Trichloroethane (79-00-5)	X		X	<5	N/A					1	ug/l	kg/D	<5	N/A	1
29V. Trichloroethylene (79-01-6)	X	X#		<5	N/A					1	ug/l	kg/D	<5	N/A	1
30V. Trichlorofluoromethane (75-69-4)	X	X#		<5	N/A					1	ug/l	kg/D	<5	N/A	1
31V. Vinyl Chloride (75-01-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2 Chlorophenol (95 57 8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2A. 2,4 Dichlorophenol (120-83 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
3A. 2,4 Dimethylphenol (105 67 9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4A. 4,6-Dinitro O Cresol (534 52 1)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
5A. 2,4 Dinitrophenol (51-28 5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
6A. 2 Nitrophenol (88 75 5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7A. 4 Nitrophenol (100 02 7)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
8A. P Chloro M Cresol (59 50 7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9A. Pentachlorophenol (87 86 5)	X		X	<50	N/A					1	ug/l	kg/D	<50	N/A	1
10A. Phenol (108 95 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11A. 2,4,6-Trichlorophenol (88 06 2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK X a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. (2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. (2) MASS	b. NO OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
2B. Acenaphtylene (208-96-8)	X		X	<10	N/A					1	ug/l	kg/d	<10	N/A	1
3B. Anthracene (120-12-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
4B. Benzidine (92-87-5)	X		X	<80	N/A					1	ug/l	kg/D	<80	N/A	1
5B. Benzo (a) Anthracene (56-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
6B. Benzo (a) Pyrene (50-32-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
8B. Benzo (ghi) Perylene (191-24-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
9B. Benzo (k) Fluoranthene (207-08-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
12B. Bis (2-Chloroisopropyl) Ether (102-80-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X	X		14*	13.78					1	ug/l	kg/D	<10*	N/A	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
15B. Butyl Benzyl Phthalate (85-68-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
16B. 2-Chloro-naphthalene (91-58-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
17B. 4-Chloro-phenyl Phenyl Ether (7006-72-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
18B. Chrysene (218-01-9)	X		X	<10	N/A					1	ug/L	kg/D	<10	N/A	1
19B. Dibenzo (a,h) Anthracene (53-70-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
20B. 1,2 Dichloro benzene (95-50-1)	X	X#		<10	N/A					1	ug/l	kg/D	<10	N/A	1
21B. 1,3 Dichloro benzene (541-73-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

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EPA I.D. NUMBER (copy from Item 1 of Form 1): NJ0005622

OUTFALL NUMBER: 48C

Form Approved
OMB No. 2040-0086
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
23B. 3,3'-Dichlorobenzidine (91-94-1)	X		X	<20	N/A					1	ug/l	kg/D	<20	N/A	1
24B. Diethyl Phthalate (84-66-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
25B. Dimethyl Phthalate (131-11-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
26B. Di-N-Butyl Phthalate (84-74-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
27B. 2,4-Dinitrotoluene (121-14-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
28B. 2,6-Dinitrotoluene (606-20-2)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
29B. Di-N-Octyl Phthalate (117-84-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
31B. Fluoranthene (206-44-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
32B. Fluorene (86-73-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
33B. Hexachlorobenzene (118-74-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
34B. Hexachlorobutadiene (87-68-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
35B. Hexachlorocyclopentadiene (77-47-4)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
36B. Hexachloroethane (67-72-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
38B. Isophorone (78-59-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
39B. Naphthalene (91-20-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
40B. Nitrobenzene (98-95-3)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
41B. N-Nitrosodimethylamine (62-75-9)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N Nitrosodiphenylamine (86-30-6)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
44B. Phenanthrene (85-01-8)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
45B. Pyrene (129-00-0)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
46B. 1,2,4 - Trichlorobenzene (120-82-1)	X		X	<10	N/A					1	ug/l	kg/D	<10	N/A	1
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4' DDD (72-54-8)			X												
10P. Dieldrin (60 57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72 20 8)			X												
15P. Endrin Aldehyde (7421 93 4)			X												
16P. Heptachlor (76 44 8)			X												

CONTINUED FROM PAGE V-8

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NJ0005622	48C

Form Approved
OMB No. 2040-0059
Approval expires 12-31-85

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor - Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

EPA Form 3510-2C (Rev. 4-84)

* Indicates compound found in blank.

Salem Generating Station
NJPDES Permit NJ0005622

APPLICATION FORM 2C-V EXPLANATIONS - DSN 48C

1. DSN 48C, the non-radioactive liquid waste disposal system (NRLWDS), receives primarily fresh water from on-site wells and some river water from system leakage and sampling. The parameters believed present in the discharge due to their presence in the intake are a compilation of the parameters found in site fresh water and the Delaware River Estuary. Since the amount of the different water influxes can not be determined, the mass calculations for this situation are marked indeterminate ("IND") or not applicable (N/A).

2. Pollutants marked "X#" as Believed Present are listed due to their presence on site in quantities which could be released. These pollutants are not anticipated to be detected in the discharge.

3. The following pollutants from Table 2-C or 7:14A Appendix B are utilized at the facility in quantities which could be discharged but are not anticipated to be detected in the discharge:

Carbaryl
Diazinon
Ethanolamine
Pyrethins
Xylenol
Acetic Acid
Calcium Hypochlorite
Lead Acetate
Nitric Acid
Potassium Chromate
Sodium Hydroxide
Sodium Nitrate
Sulfuric Acid
Toluene
Zinc Carbonate
Chlorpyrifos
Dimethylamine
Formaldehyde
Xylene
Methyl Isobutyl Ketone
Ammonia
Hydrochloric Acid
Napthalene
Phosphoric Acid
Propylene Oxide
Sodium Hypochlorite
Sodium Phosphate (dibasic)
Sodium Phosphate (tribasic)
Vinyl Acetate

SALEM GENERATING STATION
NJPDES PERMIT NJ0005622 RENEWAL
PERMIT SUMMARY TABLE

DSN 48C
NON-RADIOACTIVE WASTE SYSTEM
SHEET 1 OF 1

PARAMETER	EXISTING PERMIT LIMIT	FREQUENCY	TYPE	FILES	SWQS	DRBC	PERMIT RECOMMENDATIONS LIMIT	FREQUENCY	TYPE	NOTES
Flow (MGD)	N/A	Continuous	N/A	0.26 Avg. 0.94 Max.	N/A	N/A	N/A	Continuous	N/A	3
Petroleum Hydrocarbons (mg/l)	10 Avg. 15 Max.	Twice Monthly	Grab	0.38 Avg. 7.40 Max.	N/A	N/A	10 Daily (Avg.) 15 Daily (Max.)	Twice Monthly	Grab	4
COD (mg/l)	100 Max.	Twice Monthly	Composite	23.54 Avg. 251.00 Max.	N/A	N/A	N/A			5
TSS (mg/l)	30 Avg. 100 Max.	Twice Monthly	Composite	12.79 Avg. 88.00 Max.	N/A	30 Avg. 100 Max.	100 Daily (Avg.)	Twice Monthly	Composite	1,6
Ammonia as NH4 (mg/l)	35 Avg. 70 Max.	Twice Monthly	Grab	22.70 Avg. 70.00 Max.	-	35 Avg.	-	-	-	7
Toxicity-96 Hr. LC 50	>_ 50% By Volume	One Test Every Three Months	N/A	80% Avg. 100% Max.	-	-	-	-	-	2,8
TOC (mg/l)	-	-	-	-	-	-	50 Daily (Max.)	Twice Monthly	Composite	5

Explanation of Existing Permit Reference Notes

1. Total suspended solids shall not exceed 45 mg/l as a 7-day average. (Part III - B/C, Page 5 of 7)

2. ACUTE TOXICITY BIOMONITORING REQUIREMENTS (Part IV -B/C, Page 4 of 6) The permittee shall conduct definitive flow-through or definitive static renewal acute toxicity tests (bioassays) on its wastewater discharge. The first acute toxicity test shall be initiated no later than three months from EDP, unless otherwise specified by the NJDEP.

   A. All toxicity test procedures shall be conducted in accordance with the following:

      1. Acute toxicity test procedures shall conform to the "Regulations Governing Laboratory Certification and Standards of Performance" (N.J.A.C. 7:18). Subchapter 6 of the regulations contains the criteria and procedures for acute toxicity testing and analysis. The laboratory performing your acute toxicity testing will have to be within the laboratory certification program included within those regulations.

      2. Test results shall be expressed in terms of the mortalities in each effluent concentration and, if they can be calculated, the median lethal concentration (LC50) with confidence interval.

   B. Test Species and Test Duration

      1. The test duration shall be 96 hrs.

      2. The appropriate test species shall be designated in accordance with NJAC 7:9-4.5(f).

   C. Monitoring Frequency

      1. The initial monitoring frequency shall be:

         one test every three months

Explanation of Existing Permit Reference Notes

2. If the permittee completes four tests which show no measurable acute toxicity, the permittee may petition the Department for modification of the biomonitoring requirements.

3. If the control mortality in any acute toxicity test is greater than or equal to 10% for a fish species or greater than or equal to 15% for an invertebrate species, the test is invalid and the permittee shall begin an additional definitive acute toxicity test no later than 30 days after the completion of the invalid test in accordance with NJAC 7:18-6.

D. The following information shall be submitted within two months from EDP:

1. A fully completed "Methodology Questionnaire for Acute Toxicity Tests" form, which includes an identification of the certified acute toxicity testing laboratory responsible for the testing. Copies of this form are provided to certified laboratories.

2. A schematic diagram which depicts the location that the effluent samples will be taken; the diagram shall indicate the location of effluent sampling in relation to any wastewater treatment facilities and all Discharge Serial Numbers (DSN's).

3. A photocopy of a county map or USGS quad with the location of the dilution water sampling site relative to the effluent discharge point marked (unless the use of an artificial water has been approved).

Explanation of Existing Permit Reference Notes

E. Acute toxicity test results shall be reported on the "NJPDES Biomonitoring Report Form - Acute Bioassays," copies of which are provided to certified laboratories.

1. TWO COPIES of each completed report form shall be submitted within 60 days of test completion to:

Industrial Biomonitoring Program
Bureau of Industrial Discharge Permits
Division of Water Resources
CN-029
Trenton, New Jersey 08625

The test results shall also be reported on the permittee's Discharge Monitoring Report (DMR) for the monitoring period during which the test was conducted.

2) All other required submissions shall be submitted to the above address.

Explanation of Notes

3. Flow from the Non-Radioactive Liquid Waste Disposal System (NRLWDS) is continuously measured by an installed flowmeter and reported in million gallons per day . During periods of calibration, maintenance, or failure of the flowmeter, flow will be calculated using the operating hours of the discharge pumps times the flowrate of the discharge pumps. The enclosed schematic Non-Rad Liquid Waste Disposal shows the influents to and treatment capabilities of this system. The influents are annotated with a letter designator and include, respectively:

   A. Regenerant wastes from demineralizers utilized for producing ultrapure water. These waste streams contain dilute acid and caustic regenerants and impurities removed from site well water. The impurities in the well water are removed by demineralizers to obtain demineralized (ultrapure) water. When the demineralizers are no longer capable of efficiently removing impurities, they are regenerated utilizing dilute acid and caustic.

   B. The chemical unloading area spill pad drains, chemical feed tank drains and floor drains, and the demineralizer area sump are in this grouping. The acid and caustic chemical unloading area spill pad drains and the ammonia filling connection drains are routed to the NRLWDS. The chemical feed tanks are utilized for handling and adding feedwater treatment chemicals, primarily ammonium hydroxide and hydrazine. The tank drains, tank overflows, and areal floor drains are routed to the NRLWDS. These drains may contain residual treatment chemicals or washwater containing dilute cleaning agents. The demineralizer sump, identified as # 15 turbine building sump, collects spillage, leakage, overflows, floor drains, service water system sampling and leakage, analytical laboratory drains for the demineralizer plant, and tank drainage from the acid and caustic storage area. The floor drains could also contain small amounts of cleaning solutions and lubricants.

   C. The feedwater analyzers are process instrumentation utilized to measure the purity of the process water streams. The analyzers take a process water sidestream and analyze for various parameters and drain the sample water to the NRLWDS. This is a very small volume waste stream and is primarily pure water with analytical reagents and treatment chemicals.

Explanation of Notes

D. Steam generator blowdown can be directed to the NRLWDS. During normal operations, steam generator blowdown is returned to the condensers for reuse. Steam generator blowdown contains ammonia, hydrazine (most is converted to ammonia at normal operating temperature), and trace minerals and metals. During major maintenance periods when the steam generators are not operating, they are maintained at ambient temperatures and filled with pure water treated with ammonia and hydrazine. During the return to operating status, the steam generators are drained to the NRLWDS to achieve operating levels.

E. The NRLWDS vents, drains, analytical laboratory drains, floor drains, and system recycle water are returned to the NRLWDS.

F. The condensate polishing demineralizers remove any impurities from the steam cycle condensate water by demineralization. These demineralizers are regenerated using dilute acid and caustic and the regenerant wastes are routed to the NRLWDS. Regenerant waste can contain dilute acid and caustic, impurities removed by demineralization, and treatment chemicals (ammonia and residual hydrazine) removed by demineralization.

The influents to the NRLWDS are collected in the equalization mixing basin where some self-neutralization of the dilute acid and caustic wastes occurs and initial settling of solids will occur. The waste stream is normally transferred through the #2 clarifier, the mix tank, the #1 clarifier, and then transferred to any or all of DSNs 481, 482, 484, and/or 485. Either or both clarifiers can be bypassed, depending on waste stream quality. The mix tank normally is used for the addition of caustic to facilitate precipitation and the capability has been installed, although not normally used, for the addition of a coagulant aid. The mixed media filter skid is installed but not normally used. If necessary for treatment, sodium hypochlorite, hydrogen peroxide, or ozone can be added in the equalization basin or the clarifiers. Any residual chlorine discharged from this method of treatment will be measured at the outfall of DSNs 481, 482, 484, and/or 485 as appropriate. The NRLWDS is normally operated in the continuous mode but can be operated in the batch mode if treatment requirements dictate this operating mode.

Explanation of Notes

4. Discharge Monitoring Report review indicates that the petroleum hydrocarbon limitation is not necessary at this outfall but inclusion in the current NJPDES permit was based on DRBC regulations.

5. On March 13, 1989, PSE&G requested the Chemical Oxygen Demand (COD) limitations and monitoring requirements be changed to Total Organic Carbon (TOC) limitations and monitoring requirements. We request this change of parameter be accomplished in this renewal and COD be deleted as a monitored and limited parameter and replaced with TOC. The TOC limitation should be 50 mg/l based on composite sampling.

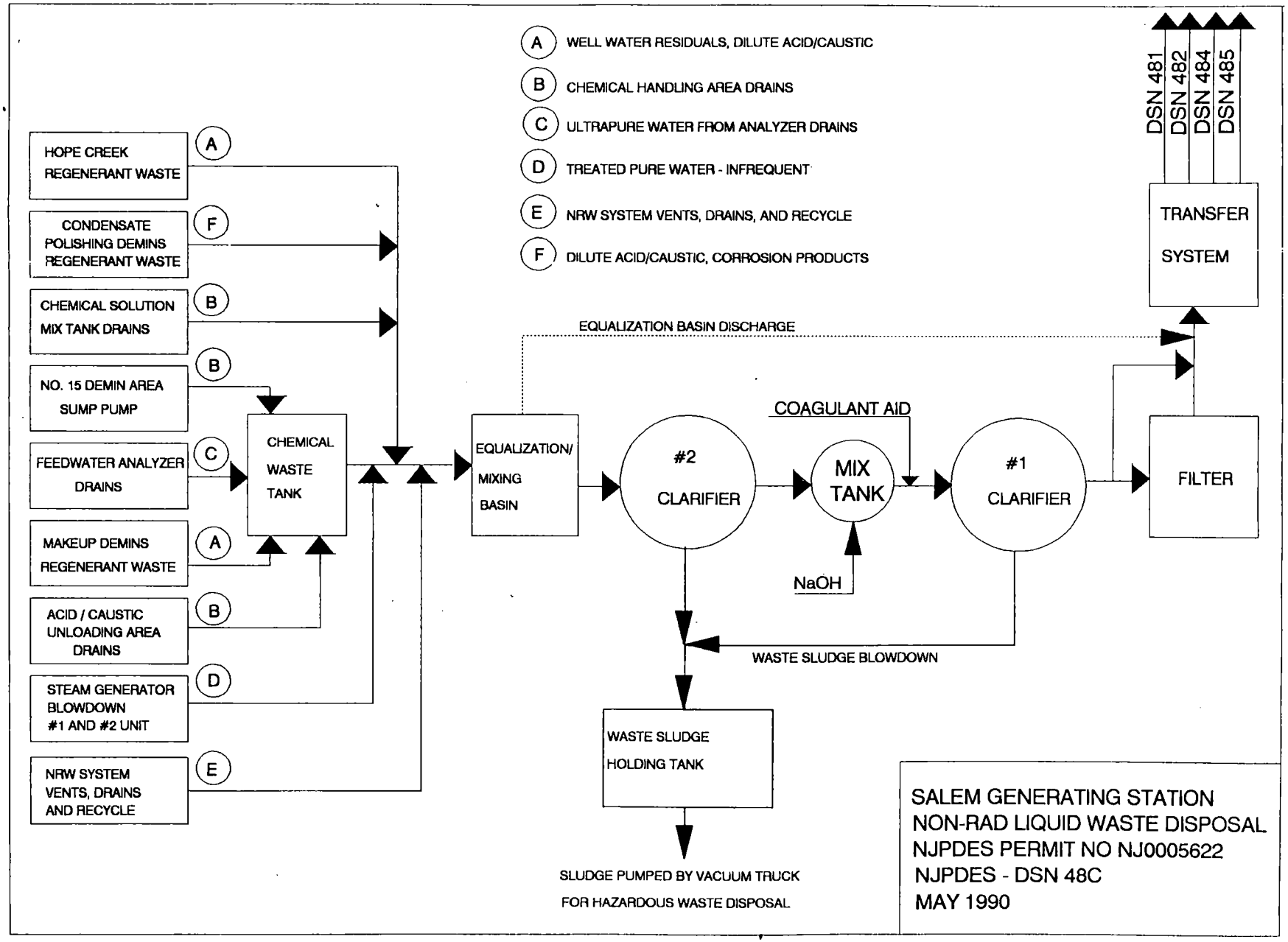
6. Total suspended solids (TSS) are monitored twice monthly using composite samples. The NRLWDS, DSN 48C, discharges to the main circulating water (non-contact cooling water) outfalls which are once through Delaware River water. The Delaware River water averages approximately 109 mg/l TSS. The daily average limitation of 30 mg/l is approximately one third the concentration of the receiving water stream. We request the TSS daily average limitation at DSN 48C be changed to 100 mg/l. This limitation is consistent with the normal quality of the receiving stream. The (TSS) limitation of 45 mg/l as a seven day average is not applicable to this DSN.

7. The ammonia limitation was carried over from the 1979 NPDES permit issued by the USEPA. The DRBC requires the effluent to tidal waters not to exceed 35 mg/l as a thirty day average (Part III, Section 4.30.5.D). A study of the ammonia concentration in the Delaware River based on the 1989 USEPA Ambient Water Quality Criterion for Ammonia relative to the discharge from the NRLWDS was conducted and is enclosed behind the tab marked Ammonia Study. The executive summary of the study states, in part, "Using the statistically based permit limit derivation procedure developed by U.S. EPA (1985b), daily maximum and average monthly permit limits of 2,888 mg/l and 1,693 mg/l total ammonia were calculated for the 48C wastestream, respectively. Compliance with these permit limits would ensure protection of aquatic life against the toxic effects of ammonia". These derived limitations deny the applicability of ammonia limitations at the discharge of DSN 48C. We request ammonia monitoring and limitations be deleted from this outfall.

8. Biomonitoring has been conducted at this outfall in accordance with the current NJPDES permit. The performance of

Explanation of Notes

biomonitoring testing at this outfall is inappropriate and provides no measure of the impact of the discharge on indigenous species. The NRLWDS is a low volume internal waste stream discharging primarily fresh water at an elevated pH with small amounts of pollutants. The discharge of DSN 48C is to the non-contact cooling water outfalls where comingling results in a minimum dilution of approximately 1440 to 1 in the discharge and approximately 348,000 to 1 in the Delaware River. The qualities of the effluent which could cause trauma to aquatic organisms are the pH and the high purity of the effluent, both of which are assimilated by the non-contact cooling water prior to exposure to aquatic organisms. we request biomonitoring requirements be deleted in the permit renewal.


A WELL WATER RESIDUALS, DILUTE ACID/CAUSTIC
B CHEMICAL HANDLING AREA DRAINS
C ULTRAPURE WATER FROM ANALYZER DRAINS
D TREATED PURE WATER - INFREQUENT
E NRW SYSTEM VENTS, DRAINS, AND RECYCLE
F DILUTE ACID/CAUSTIC, CORROSION PRODUCTS
DSN 481
DSN 482
DSN 484
DSN 485
TRANSFER SYSTEM
HOPE CREEK REGENERANT WASTE
A
CONDENSATE POLISHING DEMINS REGENERANT WASTE
F
CHEMICAL SOLUTION MIX TANK DRAINS
B
NO. 15 DEMIN AREA SUMP PUMP
B
FEEDWATER ANALYZER DRAINS
C
MAKEUP DEMINS REGENERANT WASTE
A
ACID / CAUSTIC UNLOADING AREA DRAINS
B
STEAM GENERATOR BLOWDOWN #1 AND #2 UNIT
D
NRW SYSTEM VENTS, DRAINS AND RECYCLE
E
CHEMICAL WASTE TANK
EQUALIZATION/ MIXING BASIN
EQUALIZATION BASIN DISCHARGE
#2 CLARIFIER
COAGULANT AID
MIX TANK
NaOH
#1 CLARIFIER
FILTER
WASTE SLUDGE BLOWDOWN
WASTE SLUDGE HOLDING TANK
SLUDGE PUMPED BY VACUUM TRUCK FOR HAZARDOUS WASTE DISPOSAL
SALEM GENERATING STATION
NON-RAD LIQUID WASTE DISPOSAL
NJPDES PERMIT NO NJ0005622
NJPDES - DSN 48C
MAY 1990

EVALUATION OF POTENTIAL AQUATIC EFFECTS FROM THE DISCHARGE OF AMMONIA TO THE DELAWARE RIVER FROM THE SALEM GENERATING STATION

Prepared for:

Public Service Electric & Gas

Prepared by:
EA Mid-Atlantic Regional Operations
EA Engineering, Science, and Technology, Inc.

April 6, 1990

11186.01

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The objective of this study was to evaluate the non-radiological wastestream (48C) monitoring data for the Salem Generating Station and determine the concentration of un-ionized ammonia in the circulating waters that are discharged to the Delaware River.

The non-radiological wastestream (48C) has a relatively small volume of water (~0.34 mgd). This wastestream is diluted by at least one (and as many as four) circulating water lines. An automatic switching system prevents the discharge of 48C wastewater to individual circulating lines when their flows are less than 266.4 mgd.

Based on an extensive monitoring database for the Salem facility, this study clearly demonstrates that ammonia from the 48C wastestream would not be expected to have any adverse effect on aquatic life in the Delaware River. Concentrations of un-ionized ammonia are well below concentrations determined by U.S. EPA to be safe for aquatic life, whether based on mean, 95th percentile or worst-case estimation techniques. When compared to the most restrictive of U.S. EPA's acute water quality criteria for ammonia, calculated discharge concentrations of un-ionized ammonia are approximately 7 to 20 times lower than the criterion based on worst-case input parameters; approximately 14 to 69 times lower then the criteria based on 95th percentile estimates; and approximately 935 to 3,740 times lower than the criterion based on geometric mean input values. It should be clearly understood that the worst-case and 95th percentile estimates are based on the extremely unlikely assumption that maximum values for 48C flow, 48C ammonia, percent un-ionized ammonia and the minimum circulating flows occur simultaneously. Additional dilution would occur after the effluents are released to the Delaware River.

Comparison of estimated end-of-pipe discharge concentrations of un-ionized ammonia to U.S. EPA's most restrictive chronic water quality criterion indicates that the chronic criterion would only be exceeded in the whole effluent (0.0267 mg/L un-ionized ammonia) under the conditions of maximum observed total ammonia concentrations, maximum percent un-ionized ammonia, maximum 48C flow and minimum circulating water flow (i.e., minimum dilution). It is unlikely that these conditions would occur simultaneously. Further, because the effluent is diluted 2:1 within the initial plume rise to the surface, chronically toxic conditions would not exist within the Delaware River outside of the effluent plume. In addition, the effluent is diluted by a factor of at least 10 to 1 within 20 percent of the width of the Delaware River. This ensures that instream un-ionized ammonia concentrations are well below chronically toxic levels.

Using the statistically based permit limit derivation procedure developed by U.S. EPA (1985b), daily maximum and average monthly permit limits of 2,888 mg/L and 1,693 mg/L total ammonia were calculated for the 48C wastestream, respectively. Compliance with these permit limits would ensure protection of aquatic life in the Delaware River against the toxic effects of ammonia.

1. INTRODUCTION

Ammonia is discharged via the non-radiological wastestream (48C) into the large volume of circulating waters which are ultimately discharged to the Delaware River at PSE&G's Salem Generating Station. The objective of this study was to evaluate the 48C wastestream monitoring data and determine the concentration of the toxic form of ammonia (un-ionized ammonia) in the circulating waters discharged to the Delaware River. Average and worst-case un-ionized ammonia concentrations were estimated and these were compared to U.S. EPA's acute and chronic water quality criterion for ammonia to determine the toxicological effect of discharged concentrations of ammonia to the Delaware River estuary. Further, monthly average and daily maximum concentrations of total ammonia in the 48C wastestream which would not violate U.S.. EPA's acute water quality criterion for ammonia were calculated.

2. BACKGROUND

In evaluating the toxicological significance of ammonia concentrations measured in the Salem Generating Station's non-radiological wastestream (48C), it is important to understand Salem's discharge configuration (Section 2.1) and the speciation of ammonia in water (Section 2.2).

2.1 WASTEWATER DISCHARGE CONFIGURATION

A schematic of Salem's wastewater system is presented in Figure 2-1. As this figure illustrates, the non-radiological (48C) wastestream is not released directly to the Delaware River. Rather, the wastestream is discharged to one or more of four circulating waters (Outfalls 481, 482, 484, and 485) used for non-contact cooling. In addition, an automatic switching system prevents discharge of 48C wastewaters to individual circulating lines when flows in those circulating water lines are less than 185,000 gpm (266.4 mgd). Therefore, all individual circulating water lines receiving 48C wastewater have flows greater than this value.

2.2 SPECIATION OF AMMONIA

Ammonia exists in two predominant forms in natural waters. These forms are ionized ammonia (NH_4^+) and un-ionized ammonia (NH_3, noted as UIA). The relative proportions of these two forms (species) are controlled by physical-chemical factors (e.g. pH, temperature and salinity). These two species are interconvertable through equilibrium processes (see equilibrium relationship

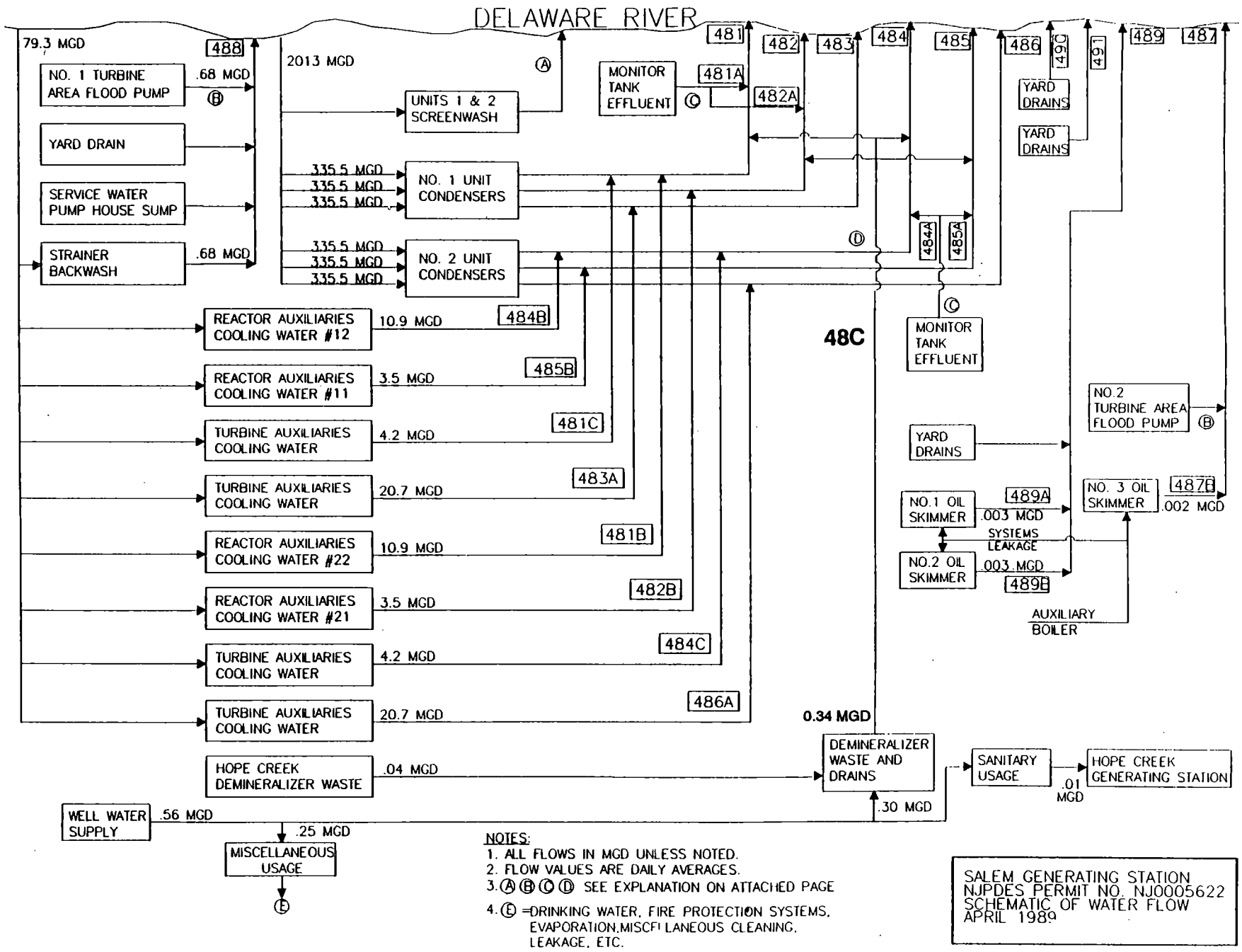


Figure 2-1. Schematic of Salem Generating Station's Wastewater System.

below) and their sum constitutes what is known as "total ammonia" (ionized + un-ionized):

$$NH_3 + H_2O \text{ <--> } NH_4^+ + OH^-$$

As noted above, the relative proportion of ionized and un-ionized forms of ammonia in water is influenced by several environmental conditions, the most important of which are pH and temperature. As either, or both, of these parameters increase, the proportion of the un-ionized form of ammonia increases (Figure 2-2). Salinity also influences the ammonia equilibria. With this parameter, the proportion of un-ionized ammonia decreases with increasing salinity. Because only the relative proportions of ionized and un-ionized ammonia change under normal environmental conditions, the total ammonia concentration ($NH_3 + NH_4^+$) is not substantially affected by speciation.

EPA (1985, p.1) states that, "**the toxicity of aqueous ammonia solutions to aquatic organisms is primarily attributable to the NH_3 species, with the NH_4^+ species being relatively less toxic**". Therefore, EPA concludes that, "**it is important to know the concentration of NH_3 in any aqueous solution in order to determine what concentrations of total ammonia are toxic to aquatic life**" (EPA 1985, p.1). The critical factor to be considered in this situation is the concentration of un-ionized ammonia discharged to the receiving system, not the total ammonia concentration. The goal of this study was to estimate concentrations of un-ionized ammonia entering the receiving system based on ammonia speciation equilibria as driven by pH, temperature, salinity, influent total ammonia, and degree of dilution.

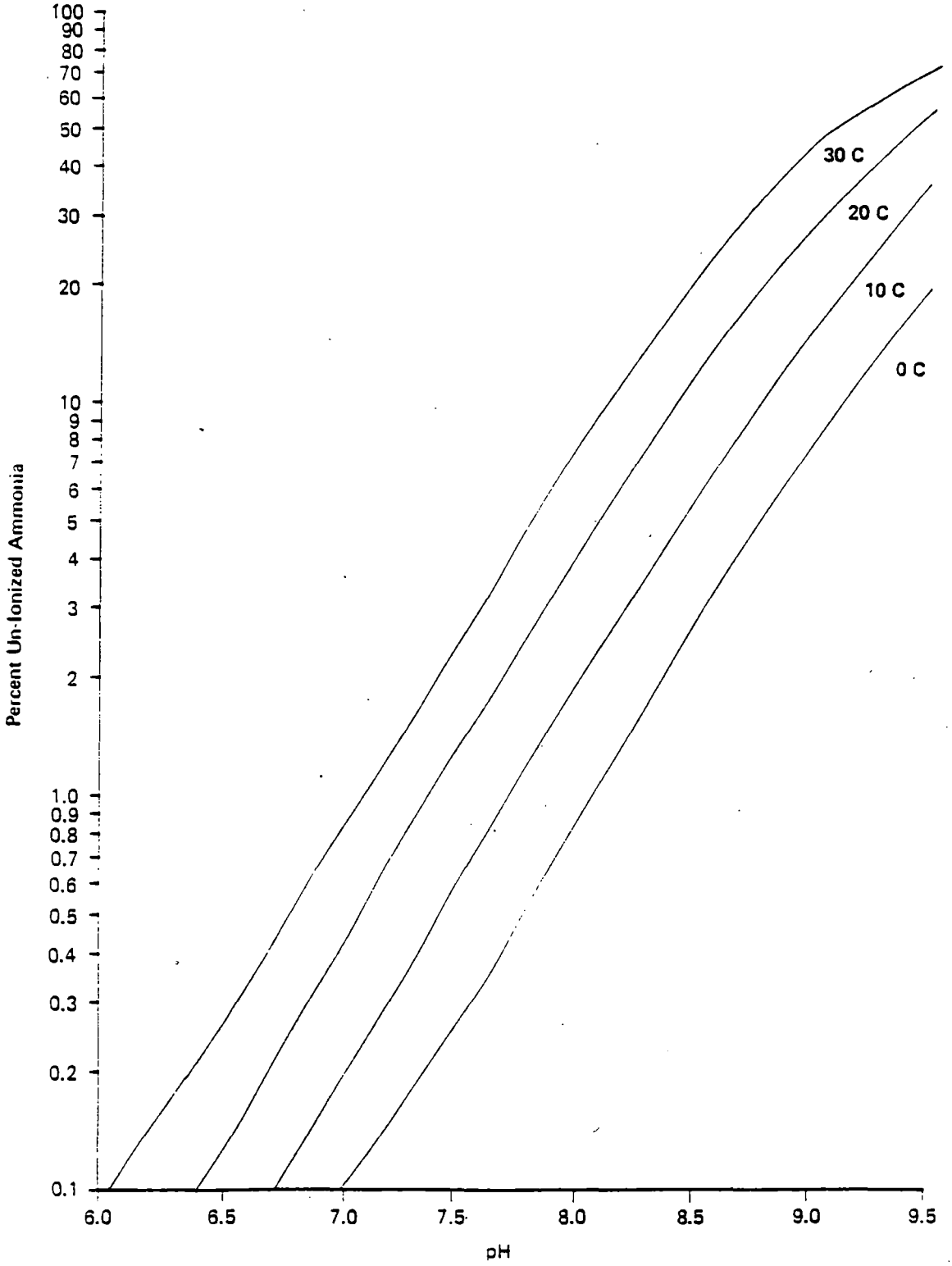


Figure 2-2. Percent un-ionized ammonia as a function of pH and temperature in fresh water (drawn from values tabulated by Thurston et al. 1977).

3. METHODS

The non-radiological (48C) wastestream is discharged to one or more of the circulation water lines (Outfalls 481, 482, 484, 485). Therefore, in order to assess the toxicological significance of these ammonia concentrations, 48C discharges to both individual circulating waters and combined circulating water flows were addressed.

Data used in this assessment were NPDES monitoring data collected from January 1986 through December 1988. Data for the month of September 1987 were excluded due to the absence of data necessary to calculate the average monthly pH. Additionally, because the 48C wastestream is discharged only to circulating water lines with average flows of greater than 266.4 mgd, monthly data for lines with flows less than this value were not used for estimating total diluted un-ionized ammonia (UIA) concentrations in individual circulating waters (Section 3.1).

For each of these two scenarios (individual and combined circulation), two approaches were adopted:

(1) Maximum, minimum, 95th percentile, and geometric mean values for total-diluted UIA concentrations were calculated directly from monitoring data, and
(2) Maximum, minimum, 95th percentile, and geometric mean values were calculated for the parameters used in determining UIA concentrations (e.g., temperature, pH, flows and extent of dilution). Combinations of these data were used to estimate total-diluted UIA concentrations.

Section 3.1 estimates the un-ionized ammonia discharge concentrations assuming the entire 48C wastestream mixes with only one of the recirculating water lines (i.e., Outfalls 481,

482, 484, or 485). Section 3.2 describes the more frequent conditions when the 48C wastestream is divided among more than one of the four recirculating water lines.

3.1 AMMONIA CONCENTRATIONS IN INDIVIDUAL CIRCULATING WATERS

The initial step for estimating UIA concentrations was to determine the monthly average percentages of total ammonia that were present in the un-ionized form assuming that only one circulation line received all of the 48C discharge. Since the percentage of un-ionized ammonia is dependent on the temperature, pH, and salinity of the medium, percentages of total ammonia in the un-ionized form (% UIA) were estimated for circulating waters by using monthly average temperature, pH, and salinity for the circulating water lines 481, 482, 484, and 485 (with flows > 266.4 mgd). Salem Generating Station's 316(b) demonstration report (PSE&G 1984) indicates that the mean salinity of the intake water is 5 parts per thousand (ppt). This value was used in all calculations. Estimation of un-ionized ammonia concentrations in circulating water lines was performed according to the following relationships (modified from U.S. EPA 1985a):

% UIA [percentage of un-ionized ammonia in solution]

$$= 100/(1 + 10^{[pka - pH]})$$

where:

pKa [equilibrium coefficient corrected for temperature (C) and ionic strength (I)]

$$= 0.09018 + (2729.92/[273.2 + \text{temperature}]) + (0.142*I)$$

and:

I [ionic strength (M), based on salinity (ppt)]

$$= (19.9273 * \text{salinity})/(1000-[1.005109 * \text{salinity}])$$

Monthly average percent UIA values estimated for circulating water lines 481, 482, 484, and 485 are presented in Table 3-1. Monthly average concentrations of un-ionized ammonia were calculated from these data by multiplying the monthly average percent UIA values by the average total ammonia concentrations for the 48C non-radiological wastestream (Table 3-1).

Because the ammonia contributed by the 48C wastestream is diluted by the circulating water flow, a dilution factor must be included in the determination of the final UIA concentrations. This dilution factor was calculated by dividing monthly average 48C flows by the corresponding monthly average flows in each circulating water line with monthly average flow greater than 266.4 mgd. The resulting dilution factors were then multiplied by the monthly average UIA values to yield total-diluted monthly average UIA concentrations. The total-diluted UIA concentration data and the dilution factors, calculated for each circulating line receiving 48C wastewater discharge are presented in Table 3-1.

Table 3-2 presents maximum, minimum, 95th percentile and geometric means for the monthly average total-diluted UIA concentration data, and the monthly average values for the parameters used in determining these estimates (i.e., % UIA, total UIA, 48C flow, circulating water flow, and dilution). Geometric statistics (mean and 95th percentiles), rather than

TABLE 3-1 CIRCULATION WATER DATA: MONTHLY AVERAGE MEASUREMENTS/CALCULATIONS

OBS	MON	OUTFALL	AVE SAL	AVE PH	AVE T	MONTHLY AVE CIRC FLOW (mgd)	MONTHLY AVE % UIA	AVE TOT AMMONIA CONC 48C (mg/L)	MONTHLY AVE UIA CONC (mg/L)	MONTHLY AVE 48C FLOW (mgd)	DILUTION FACTOR	DILUTED MON AVE UIA CONC (mg/L)
1	JAN86	481	5	7.5	14.3	432.5	0.78848	15.50	0.12221	0.41	0.00094798	0.00011586
2	JAN86	482	5	.	14.3	468.3	.	15.50	.	0.41	0.00087551	.
3	JAN86	484	5	8.1	7.1	343.7	1.77237	15.50	0.27472	0.41	0.00119290	0.00032771
4	FEB86	481	5	7.7	13.6	462.6	1.18004	19.25	0.22716	0.43	0.00092953	0.00021115
5	FEB86	482	5	7.7	13.6	443.6	1.18004	19.25	0.22716	0.43	0.00096934	0.00022019
6	FEB86	484	5	7.6	11.4	474.9	0.79434	19.25	0.15291	0.43	0.00090545	0.00013845
7	FEB86	485	5	7.7	11.4	466.6	0.99796	19.25	0.19211	0.43	0.00092156	0.00017704
8	MAR86	481	5	7.4	17.9	312.9	0.82050	26.30	0.21579	0.30	0.00095877	0.00020689
9	MAR86	484	5	.	16.1	499.8	.	26.30	.	0.30	0.00060024	.
10	MAR86	485	5	7.5	16.1	494.8	0.90234	26.30	0.23731	0.30	0.00060631	0.00014389
11	APR86	484	5	7.3	21.2	468.8	0.83014	15.17	0.12593	0.24	0.00051195	0.00006447
12	APR86	485	5	.	21.2	451.0	.	15.17	.	0.24	0.00053215	.
13	MAY86	481	5	7.4	28.7	372.0	1.75965	15.35	0.27011	0.33	0.00088710	0.00023961
14	MAY86	484	5	7.3	27.6	403.5	1.30131	15.35	0.19975	0.33	0.00081784	0.00016336
15	MAY86	485	5	.	27.6	422.9	.	15.35	.	0.33	0.00078033	.
16	JUN86	481	5	7.2	32.8	452.9	1.47182	22.05	0.32454	0.38	0.00083904	0.00027230
17	JUN86	482	5	7.3	32.8	428.8	1.84587	22.05	0.40701	0.38	0.00088619	0.00036069
18	JUN86	484	5	7.4	35.2	378.1	2.70284	22.05	0.59598	0.38	0.00100503	0.00059897
19	JUN86	485	5	.	35.2	392.9	.	22.05	.	0.38	0.00096717	.
20	JUL86	481	5	7.3	34.6	343.4	2.07659	15.35	0.31876	0.43	0.00125218	0.00039914
21	JUL86	482	5	.	34.6	412.8	.	15.35	.	0.43	0.00104167	.
22	JUL86	484	5	7.3	34.5	470.8	2.06314	15.35	0.31669	0.43	0.00091334	0.00028925
23	JUL86	485	5	.	34.5	484.4	.	15.35	.	0.43	0.00088770	.
24	AUG86	481	5	7.3	33.7	374.2	1.95824	17.00	0.33290	0.53	0.00141635	0.00047151
25	AUG86	482	5	7.4	33.7	371.3	2.45284	17.00	0.41698	0.53	0.00142742	0.00059521
26	AUG86	484	5	7.4	31.7	394.2	2.15111	17.00	0.36569	0.53	0.00134450	0.00049167
27	AUG86	485	5	7.3	31.7	388.1	1.71628	17.00	0.29177	0.53	0.00136563	0.00039845
28	SEP86	481	5	7.6	31.2	315.2	3.25847	18.50	0.60282	0.41	0.00130076	0.00078412
29	SEP86	482	5	7.5	31.2	326.7	2.60576	18.50	0.48206	0.41	0.00125497	0.00060498
30	OCT86	481	5	7.6	29.4	465.6	2.89271	4.30	0.12439	0.33	0.00070876	0.00008816
31	NOV86	481	5	7.8	23.8	475.1	3.09249	31.00	0.95867	0.32	0.00067354	0.00064571
32	NOV86	482	5	7.8	23.8	267.9	3.09249	31.00	0.95867	0.32	0.00119448	0.00114511
33	DEC86	481	5	7.3	18.7	431.1	0.69237	33.50	0.23194	0.34	0.00078868	0.00018293
34	DEC86	482	5	7.4	18.7	374.2	0.87008	33.50	0.29148	0.34	0.00090861	0.00026484
35	JAN87	482	5	7.4	18.4	292.9	0.85118	25.00	0.21280	0.39	0.00133151	0.00028334
36	FEB87	481	5	7.5	15.6	405.5	0.86931	35.50	0.30861	0.23	0.00056720	0.00017504
37	FEB87	482	5	7.5	15.6	366.7	0.86931	35.50	0.30861	0.23	0.00062722	0.00019356
38	FEB87	484	5	7.5	15.4	404.7	0.85641	35.50	0.30403	0.23	0.00056832	0.00017278
39	FEB87	485	5	7.4	15.4	275.1	0.68147	35.50	0.24192	0.23	0.00083606	0.00020226
40	MAR87	481	5	7.7	15.7	387.1	1.38102	60.00	0.82861	0.27	0.00069749	0.00057795
41	MAR87	482	5	7.5	15.7	334.4	0.87583	60.00	0.52550	0.27	0.00080742	0.00042430
42	MAR87	484	5	7.9	14.5	402.8	1.98661	60.00	1.19197	0.27	0.00067031	0.00079898
43	MAR87	485	5	7.8	14.5	340.5	1.58449	60.00	0.95070	0.27	0.00079295	0.00075386
44	APR87	481	5	7.5	23.0	379.6	1.48804	15.00	0.22321	0.29	0.00076396	0.00017052
45	APR87	482	5	7.5	23.0	381.1	1.48804	15.00	0.22321	0.29	0.00076096	0.00016985
46	APR87	484	5	7.5	19.5	334.5	1.15840	15.00	0.17376	0.29	0.00086697	0.00015064
47	APR87	485	5	7.5	19.5	299.7	1.15840	15.00	0.17376	0.29	0.00096763	0.00016814

TABLE 3-1 (CONT.)

OBS	MON	OUTFALL	AVE SAL	AVE PH	AVE T	MONTHLY AVE CIRC FLOW (mgd)	MONTHLY AVE % UIA	AVE TOT AMMONIA CONC 48C (mg/L)	MONTHLY AVE UIA CONC (mg/L)	MONTHLY AVE 48C FLOW (mgd)	DILUTION FACTOR	DILUTED MON AVE UIA CONC (mg/L)
48	MAY87	481	5	7.3	27.8	417.5	1.31926	33.00	0.43536	0.24	0.00057485	0.00025026
49	MAY87	482	5	7.2	27.8	431.5	1.05078	33.00	0.34676	0.24	0.00055620	0.00019287
50	MAY87	485	5	7.4	19.5	285.0	0.92234	33.00	0.30437	0.24	0.00084211	0.00025631
51	JUN87	481	5	7.1	33.5	430.7	1.22825	35.50	0.43603	0.29	0.00067332	0.00029359
52	JUN87	482	5	7.1	33.5	442.1	1.22825	35.50	0.43603	0.29	0.00065596	0.00028602
53	JUN87	484	5	7.2	30.9	322.6	1.29683	35.50	0.46038	0.29	0.00089895	0.00041385
54	JUN87	485	5	7.2	30.9	284.5	1.29683	35.50	0.46038	0.29	0.00101933	0.00046928
55	JUL87	481	5	7.4	39.1	414.3	3.45918	17.00	0.58806	0.40	0.00096548	0.00056776
56	JUL87	482	5	7.5	39.1	381.0	4.31619	17.00	0.73375	0.40	0.00104987	0.00077034
57	JUL87	484	5	7.5	34.1	413.9	3.14875	17.00	0.53529	0.40	0.00096642	0.00051731
58	JUL87	485	5	7.2	34.1	435.8	1.60330	17.00	0.27256	0.40	0.00091785	0.00025017
59	AUG87	481	5	7.4	35.8	470.8	2.80889	26.00	0.73031	0.34	0.00072218	0.00052741
60	AUG87	482	5	.	35.8	480.9	.	26.00	.	0.34	0.00070701	.
61	AUG87	484	5	7.4	27.0	300.8	1.56700	26.00	0.40742	0.34	0.00113032	0.00046052
62	AUG87	485	5	7.0	27.0	280.3	0.62978	26.00	0.16374	0.34	0.00121299	0.00019862
63	OCT87		5	.	.	.	.	26.00	.	0.22	.	.
64	NOV87		5	.	.	.	.	19.50	.	0.06	.	.
65	DEC87	484	5	7.2	12.8	284.3	0.35390	6.60	0.02336	0.15	0.00052761	0.00001232
66	DEC87	485	5	7.3	12.8	279.6	0.44513	6.60	0.02938	0.15	0.00053648	0.00001576
67	JAN88	484	5	7.3	12.2	476.9	0.42512	.	.	0.17	0.00035647	.
68	JAN88	485	5	7.1	12.2	475.1	0.26865	.	.	0.17	0.00035782	.
69	FEB88	481	5	7.0	3.4	282.6	0.10607	27.50	0.02917	0.22	0.00077849	0.00002271
70	FEB88	484	5	7.1	13.2	502.3	0.29006	27.50	0.07977	0.22	0.00043799	0.00003494
71	FEB88	485	5	6.9	13.2	458.7	0.18321	27.50	0.05038	0.22	0.00047962	0.00002416
72	MAR88	481	5	7.7	16.4	495.9	1.45451	37.00	0.53817	0.20	0.00040331	0.00021705
73	MAR88	482	5	7.6	16.4	463.0	1.15883	37.00	0.42877	0.20	0.00043197	0.00018521
74	MAR88	484	5	7.5	17.9	509.9	1.03075	37.00	0.38138	0.20	0.00039223	0.00014959
75	MAR88	485	5	7.4	17.9	474.8	0.82050	37.00	0.30358	0.20	0.00042123	0.00012788
76	APR88	482	5	7.9	17.4	357.8	2.45871	6.75	0.16596	0.21	0.00058692	0.00009741
77	APR88	484	5	7.7	21.0	507.6	2.03031	6.75	0.13705	0.21	0.00041371	0.00005670
78	APR88	485	5	7.7	21.0	496.9	2.03031	6.75	0.13705	0.21	0.00042262	0.00005792
79	MAY88	481	5	7.4	27.5	496.6	1.62162	52.00	0.84324	1.75	0.00352396	0.00297156
80	MAY88	482	5	7.5	27.5	498.1	2.03297	52.00	1.05714	1.75	0.00351335	0.00371411
81	MAY88	484	5	7.5	27.0	503.8	1.96477	52.00	1.02168	1.75	0.00347360	0.00354891
82	MAY88	485	5	7.5	27.0	498.4	1.96477	52.00	1.02168	1.75	0.00351124	0.00358736
83	JUN88	481	5	7.3	33.0	491.7	1.87034	31.25	0.58448	2.55	0.00518609	0.00303117
84	JUN88	482	5	7.3	33.0	480.6	1.87034	31.25	0.58448	2.55	0.00530587	0.00310118
85	JUN88	484	5	7.2	32.0	469.9	1.39574	31.25	0.43617	2.55	0.00542669	0.00236695
86	JUN88	485	5	7.3	32.0	466.6	1.75080	31.25	0.54713	2.55	0.00546507	0.00299008
87	JUL88	481	5	7.6	36.9	509.5	4.69218	37.75	1.77130	0.20	0.00039254	0.00069531
88	JUL88	482	5	7.4	36.9	507.0	3.01274	37.75	1.13731	0.20	0.00039448	0.00044864
89	JUL88	484	5	7.4	35.7	499.1	2.79096	37.75	1.05359	0.20	0.00040072	0.00042220
90	JUL88	485	5	7.0	35.7	502.3	1.13009	37.75	0.42661	0.20	0.00039817	0.00016986
91	AUG88	481	5	7.4	38.1	498.1	3.24963	52.13	1.69403	0.22	0.00044168	0.00074822
92	AUG88	482	5	6.7	38.1	485.2	0.66570	52.13	0.34703	0.22	0.00045342	0.00015735
93	AUG88	484	5	7.4	36.5	500.9	2.93717	52.13	1.53115	0.22	0.00043921	0.00067249
94	AUG88	485	5	6.6	36.5	498.8	0.47731	52.13	0.24882	0.22	0.00044106	0.00010974

TABLE 3-1 (CONT.)

OBS	MON	OUTFALL	AVE SAL	AVE PH	AVE T	MONTHLY AVE CIRC FLOW (mgd)	MONTHLY AVE % UIA	AVE TOT AMMONIA CONC 48C (mg/L)	MONTHLY AVE UIA CONC (mg/L)	MONTHLY AVE 48C FLOW (mgd)	DILUTION FACTOR	DILUTED MON AVE UIA CONC (mg/L)
95	SEP88	481	5	7.5	28.7	371.8	2.20522	15.58	0.34357	0.19	0.00051103	0.00017558
96	SEP88	482	5	7.1	28.7	345.9	0.88972	15.58	0.13862	0.19	0.00054929	0.00007614
97	OCT88	481	5	7.7	25.7	513.1	2.81815	.	.	0.30	0.00058468	.
98	OCT88	482	5	7.4	25.7	509.8	1.43256	.	.	0.30	0.00058847	.
99	NOV88	481	5	7.6	22.4	496.2	1.78887	36.75	0.65741	0.19	0.00038291	0.00025173
100	NOV88	482	5	7.7	22.4	485.4	2.24167	36.75	0.82381	0.19	0.00039143	0.00032246
101	NOV88	484	5	7.6	11.4	281.5	0.79434	36.75	0.29192	0.19	0.00067496	0.00019703
102	NOV88	485	5	7.7	11.4	274.9	0.99796	36.75	0.36675	0.19	0.00069116	0.00025348
103	DEC88	481	5	7.4	17.4	480.9	0.79081	17.60	0.13918	0.09	0.00018715	0.00002605
104	DEC88	482	5	7.4	17.4	466.5	0.79081	17.60	0.13918	0.09	0.00019293	0.00002685
105	DEC88	485	5	7.6	8.0	286.8	0.60931	17.60	0.10724	0.09	0.00031381	0.00003365

'.' denotes missing data.

TABLE 3-2 RESULTS OF ANALYSIS OF NPDES MONITORING DATA[a]

		Circ. Flow[b] (mgd)		48C Flow (mgd)		Dilution[c]		Total Ammonia-48C (mg/L)		% UIA		UIA (mg/L)[c]		Diluted UIA (mg/L)	
Individual Circulating Water Lines (481, 482, 484, 485)	MIN:	25.40	MAX:	2.55	MIN:	0.0055	MAX:	60.00	MAX:	4.69	MAX:	1.77	MAX:	0.0037
	95TH:	123.95	95TH:	1.07	95TH:	0.0028	95TH:	70.21	95TH:	4.93	95TH:	1.73	95TH:	0.0028
	GM:	338.60	GM:	0.29	GM:	0.0008	GM:	22.19	GM:	1.31	GM:	0.33	GM:	0.0003
	MAX:	513.10	MIN:	0.06	MAX:	0.0002	MIN:	4.30	MIN:	0.11	MIN:	0.02	MIN:	1.2×10^{-5}

(a) All values determined from monthly average monitoring data collected between January 1986 and December 1988, excluding September 1987. MIN = minimum value, MAX = maximum value, MIN = minimum value, 95th = upper 95th percentile (unless otherwise indicated), and GM = geometric mean. See text for discussions of calculation methods.

(b) 95th percentile is the lower percentile. Values were determined using entire NPDES monitoring database. Flows less than 266.4 mgd were included in this evaluation.

(c) Calculated from data presented in Table 3-1.

arithmetic statistics, were used due to the log-normal distribution of the data for each parameter (e.g., pH is the negative log of hydrogen ion concentration). These statistics were determined with the following equations (EPA, 1985b):

$$z_i = \ln \bar{x}_i$$

$$\bar{x}g = e^{1/n \, \underline{E} \, z_i}$$

$$sg = e^{\sqrt{1/n - 1 \, [\underline{E}z_i^2 - \underline{E}z_i)^2/n]}}$$

$$95L = \bar{x}g \, / \, sg^{1.96}$$

$$95U = \bar{x}g \, * \, sg^{1.96}$$

where:

xi = individual observation (data point)

zi = natural log-transformed observation

xg = geometric mean

sg = standard geometric deviation

95L = lower 95th percentile of observations

95H = upper 95th percentile of observations

Table 3-3 presents calculations of the total-diluted monthly average UIA concentrations in individual circulating water lines for combinations of the calculated parameter data used in UIA concentration calculations. In rows 1 through 12 of Table 3-3, UIA concentrations were estimated from the maximum, upper 95th percentile, and geometric mean (minimum, lower 95th percentile,

TABLE 3-3 ESTIMATED TOTAL DILUTED UN-IONIZED AMMONIA CONCENTRATIONS IN INDIVIDUAL CIRCULATING WATER LINES[a]

Circ. Flow[b] (mgd)	48C Flow (mgd)	Dilution	Total Ammonia-48C (mg/L)	% UIA	UIA (mg/L)	Diluted UIA (mg/L)	*< CRIT[c]
267.90 (MIN)	2.55 (MAX)	0.0095 (C)	60.00 (MAX)	4.69 (MAX)	2.81 (C)	0.0267 (C)	7.0
267.90 (MIN)	2.55 (MAX)	0.0095 (C)	--	--	1.77 (MAX)	0.0168 (C)	11.1
279.32 (95TH)	1.07 (95TH)	0.0038 (C)	70.21 (95TH)	4.93 (95TH)	3.46 (C)	0.0131 (C)	14.3
279.32 (95TH)	1.07 (95TH)	0.0038 (C)	--	--	1.73 (95TH)	0.0066 (C)	28.3
409.54 (GM)	0.29 (GM)	0.0007 (C)	22.19 (GM)	1.31 (GM)	0.29 (C)	0.0002 (C)	935
409.54 (GM)	0.29 (GM)	0.0007 (C)	--	--	0.33 (GM)	0.0002 (C)	935
--	--	0.0055 (MIN)	60.00 (MAX)	4.69 (MAX)	2.81 (C)	0.0155 (C)	12.1
--	--	0.0055 (MIN)	--	--	1.77 (MAX)	0.0097 (C)	19.3
--	--	0.0028 (95TH)	70.21 (95TH)	4.93 (95TH)	3.46 (C)	0.0097 (C)	18.3
--	--	0.0028 (95TH)	--	--	1.73 (95TH)	0.0048 (C)	39.0
--	--	0.0008 (GM)	22.19 (GM)	1.31 (GM)	0.29 (C)	0.0002 (C)	935
--	--	0.0008 (GM)	--	--	0.33 (GM)	0.0003 (C)	623.3
--	--	--	--	--	--	0.0037 (MAX)	50.5
--	--	--	--	--	--	0.0028 (95TH)	66.8
--	--	--	--	--	--	0.0003 (GM)	623.3

(a) Calculations based on NPDES data from January 1986 through December 1988, excluding September 1987, for circulating water lines 481, 482, 484, and 485. Values followed by abbreviations MIN, MAX, 95TH, and GM in parenthesis refer to minimum, maximum, 95th percentile, and geometric mean values presented in Table 3-1. Values followed by (C) were calculated from the data appearing on this table.

(b) 95th percentile values are for the lower percentile. Data presented are calculated excluding flows less than 266.4 mgd. Therefore, circulating flows are not directly comparable to data presented in Table 3-2.

(c) Indicates the "Times less than the CRIT"; the multiple by which the estimated total, diluted UIA is less than EPA's lowest acute water quality criterion for un-ionized ammonia (0.187 mg/L).

'--' indicates that the data were not necessary to determine diluted UIA concentrations.

and geometric mean in the case of circulating water flow) of parameter data. Total-diluted UIA concentrations were estimated by multiplying the total concentrations of UIA (either calculated from 48C total ammonia and percent UIA data or used directly) by the dilution factor (also either calculated from 48C and circulating water flows or used directly). Rows 13, 14, and 15 (at the bottom of Table 3-3) illustrate the UIA concentrations estimated directly from the monitoring data.

3.2 AMMONIA CONCENTRATIONS IN COMBINED CIRCULATING WATERS

Wastewater from 48C may be discharged to more than one of the circulating water lines 481, 482, 484, 485. Therefore, to assess the ecological significance of monthly average 48C ammonia concentrations, it is appropriate to estimate total-diluted UIA concentrations using the combined data from the four circulating water lines 481, 482, 484 and 485.

The approach used to estimate UIA for this scenario paralleled the previous individual circulating water line approach with two important exceptions. First, monthly average percent UIA was estimated by averaging the monthly mean pH and temperatures of the four circulating water lines. Total UIA concentrations were then estimated by multiplying the resulting percent UIA values by the corresponding average monthly total ammonia measured in the 48C wastestream (Table 3-4).

TABLE 3-4 SUMMARY OF NPDES DATA FOR COMBINED CIRCULATION WATERS

OBS	MON	CIRC PH	CIRC T	AVE SAL	AVE PKA	MONTHLY AVE % UIA	AVE TOT AMMONIA CONC 48C (mg/L)	MONTHLY AVE UIA CONC (mg/L)	MONTHLY AVE 48C FLOW (mgd)	MONTHLY AVE CIRC FLOW (mgd)	DILUTION FACTOR	DILUTED MON AVE UIA CONC (mg/L)
1	JAN86	7.80000	10.70	5	9.72018	1.18750	15.50	0.184062	0.41	1478.7	0.00027727	0.000051035
2	FEB86	7.67500	12.50	5	9.65960	1.02548	19.25	0.197404	0.43	1847.7	0.00023272	0.000045940
3	MAR86	7.45000	17.00	5	9.51143	0.86063	26.30	0.226346	0.30	1572.5	0.00019078	0.000043182
4	APR86	7.30000	21.20	5	9.37723	0.83014	15.17	0.125933	0.24	919.8	0.00026093	0.000032859
5	MAY86	7.36667	28.15	5	9.16337	1.57188	15.35	0.241283	0.33	1458.0	0.00022634	0.000054611
6	JUN86	7.30000	34.00	5	8.99086	1.99701	22.05	0.440342	0.38	1652.7	0.00022993	0.000101246
7	JUL86	7.30000	34.55	5	8.97498	2.06985	15.35	0.317723	0.43	1711.4	0.00025126	0.000079830
8	AUG86	7.35000	32.70	5	9.02862	2.05290	17.00	0.348993	0.53	1527.8	0.00034690	0.000121067
9	SEP86	7.52500	29.85	5	9.11255	2.51980	18.50	0.466163	0.41	1018.9	0.00040239	0.000187582
10	OCT86	7.55000	29.40	5	9.12595	2.58627	4.30	0.111210	0.33	703.3	0.00046922	0.000052181
11	NOV86	7.80000	23.80	5	9.29605	3.09249	31.00	0.958671	0.32	743.0	0.00043069	0.000412886
12	DEC86	7.37500	14.45	5	9.59482	0.59919	33.50	0.200730	0.34	1133.9	0.00029985	0.000060189
13	JAN87	7.40000	18.60	5	9.45985	0.86374	25.00	0.215935	0.39	939.9	0.00041494	0.000089600
14	FEB87	7.47500	15.50	5	9.56031	0.81497	35.50	0.289314	0.23	1452.0	0.00015840	0.000045828
15	MAR87	7.72500	15.10	5	9.57343	1.39785	60.00	0.838711	0.27	1464.8	0.00018433	0.000154596
16	APR87	7.50000	21.25	5	9.37565	1.31403	15.00	0.197104	0.29	1394.9	0.00020790	0.000040978
17	MAY87	7.30000	23.65	5	9.30069	0.98853	33.00	0.326216	0.24	1375.0	0.00017455	0.000056940
18	JUN87	7.15000	32.20	5	9.04323	1.26255	35.50	0.448204	0.29	1479.9	0.00019596	0.000087830
19	JUL87	7.40000	36.60	5	8.91628	2.95591	17.00	0.502504	0.40	1645.0	0.00024316	0.000122189
20	AUG87	7.26667	31.40	5	9.06671	1.56001	26.00	0.405602	0.34	1532.8	0.00022182	0.000089969
21	OCT87	6.95000	25.55	5	9.24221	0.50767	26.00	0.131994	0.22	274.1	0.00080263	0.000105942
22	NOV87	.	.	5	.	.	19.50	.	0.06	.	.	.
23	DEC87	7.25000	12.80	5	9.64957	0.39692	6.60	0.026196	0.15	563.9	0.00026600	0.000006968
24	JAN88	7.17500	7.40	5	9.83327	0.21917	.	.	0.17	1212.7	0.00014018	.
25	FEB88	7.05000	8.30	5	9.80216	0.17663	27.50	0.048574	0.22	1508.0	0.00014589	0.000007086
26	MAR88	7.55000	17.15	5	9.50657	1.09309	37.00	0.404444	0.20	1943.6	0.00010290	0.000041618
27	APR88	7.77500	19.20	5	9.44065	2.11383	6.75	0.142683	0.21	1594.3	0.00013172	0.000018794
28	MAY88	7.47500	27.25	5	9.19050	1.88892	52.00	0.982239	1.75	1996.9	0.00087636	0.000860794
29	JUN88	7.27500	32.50	5	9.03446	1.71020	31.25	0.534437	2.55	1908.8	0.00133592	0.000713964
30	JUL88	7.35000	36.30	5	8.92482	2.59281	37.75	0.978787	0.20	2017.9	0.00009911	0.000097010
31	AUG88	7.02500	37.30	5	8.89641	1.32674	52.13	0.691631	0.22	1983.0	0.00011094	0.000076732
32	SEP88	7.15000	24.95	5	9.26060	0.76922	15.58	0.119844	0.19	973.7	0.00019513	0.000023385
33	OCT88	7.40000	19.20	5	9.44065	0.90243	.	.	0.30	1237.4	0.00024244	.
34	NOV88	7.65000	16.90	5	9.51467	1.34722	36.75	0.495102	0.19	1538.0	0.00012354	0.000061163
35	DEC88	7.50000	12.70	5	9.65291	0.69830	17.60	0.122901	0.09	1447.6	0.00006217	0.000007641

'.' denotes missing data.

The second deviation from the methods described in the previous section was that dilution factors were determined by dividing monthly average 48C flows by the total average circulating water flows for the respective months. As noted in Section 2, 48C wastewaters are not discharged to individual circulating lines when flows in the circulating lines are less than 266.4 mgd. However, for several observations (e.g., October 1987), average flows were less than 266.4 mgd, but maximum flows were in excess of 266.4 mgd indicating that these circulating lines received 48C flows during the higher flow periods of that month. In these situations, average flows of less than 266.4 mgd were used to calculate total average circulating water flows when maximum flows were at or above 266.4 mgd. After calculating a dilution factor, total-diluted UIA concentrations were then estimated by multiplying these dilution factors by the monthly average total UIA concentrations calculated for the combined circulating waters. Monthly dilution factor and total-diluted UIA data are presented in Table 3-4 for the combined circulating water lines. Maximum, minimum, geometric mean, and 95th percentiles were also calculated for total-diluted UIA concentration data and the data for all parameters involved in its determination (Table 3-5).

Table 3-6 presents the various combinations of parameter statistics and estimates of total-diluted UIA. The organization and interpretation of this table is similar to that of Table 3-3.

TABLE 3-5 RESULTS OF ANALYSIS OF NPDES MONITORING DATA[a]

	Circ. Flow[b] (mgd)		48C Flow (mgd)		Dilution[c]		Total Ammonia-48C (mg/L)		% UIA		UIA (mg/L)[c]		Diluted UIA (mg/L)	
Combined Circulating Water Lines (481-486)	MIN:	274.10	MAX:	2.55	MIN:	0.0013	MAX:	60.00	MAX:	3.09	MAX:	0.98	MAX:	0.00086
	95TH:	578.00	95TH:	1.07	95TH:	0.0008	95TH:	70.21	95TH:	4.49	95TH:	1.43	95TH:	0.00058
	GM:	1,301.13	GM:	0.29	GM:	0.0002	GM:	22.19	GM:	1.13	GM:	0.27	GM:	6.4×10^{-5}
	MAX:	2,017.90	MIN:	0.06	MAX:	6.2×10^{-5}	MIN:	4.30	MIN:	0.18	MIN:	0.03	MIN:	7.0×10^{-6}

(a) All values determined from monthly average monitoring data collected between January 1986 and December 1988, excluding September 1987. MIN = minimum value, MAX = maximum value, MIN = minimum value, 95th = upper 95th percentile (unless otherwise indicated), and GM = geometric mean. See text for discussions of calculation methods.

(b) 95th percentile is the lower percentile. Values presented were determined using entire NPDES monitoring database. Flows less than 266.4 mgd were included in this evaluation only when maximun flows exceeded 266.4 mgd for a specific outfall.

(c) Calculated from data presented in Table 3-4.

TABLE 3-6 ESTIMATED TOTAL DILUTED UN-IONIZED AMMONIA CONCENTRATIONS IN COMBINED CIRCULATING WATERS[a]

Circ. Flow[b] (mgd)	48C Flow (mgd)	Dilution	Total Ammonia-48C (mg/L)	% UIA	UIA (mg/L)	Diluted UIA (mg/L)	*< CRIT [c]
274.10 (MIN)	2.55 (MAX)	0.0093 (C)	60.00 (MAX)	3.09 (MAX)	1.85 (C)	0.0172 (C)	10.9
274.10 (MIN)	2.55 (MAX)	0.0093 (C)	--	--	0.98 (MAX)	0.0091 (C)	20.5
578.00 (95TH)	1.07 (95TH)	0.0019 (C)	70.21 (95TH)	4.49 (95TH)	3.15 (C)	0.0060 (C)	31.2
578.00 (95TH)	1.07 (95TH)	0.0019 (C)	--	--	1.43 (95TH)	0.0027 (C)	69.3
1,301.13 (GM)	0.29 (GM)	0.0002 (C)	22.19 (GM)	1.13 (GM)	0.25 (C)	5.0×10^{-5} (C)	3,740
1,301.13 (GM)	0.29 (GM)	0.0002 (C)	--	--	0.27 (GM)	5.4×10^{-5} (C)	3,463
--	--	0.0013 (MIN)	60.00 (MAX)	3.09 (MAX)	1.85 (C)	0.0024 (C)	77.9
--	--	0.0013 (MIN)	--	--	0.98 (MAX)	0.0013 (C)	143.8
--	--	0.0008 (95TH)	70.21 (95TH)	4.49 (95TH)	3.15 (C)	0.0025 (C)	74.8
--	--	0.0008 (95TH)	--	--	1.43 (95TH)	0.0011 (C)	170.0
--	--	0.0002 (GM)	22.19 (GM)	1.13 (GM)	0.25 (C)	5.0×10^{-5} (C)	3,740
--	--	0.0002 (GM)	--	--	0.27 (GM)	5.4×10^{-5} (C)	3,463
--	--	--	--	--	--	0.00086 (MAX)	217.4
--	--	--	--	--	--	0.00058 (95TH)	322.4
--	--	--	--	--	--	6.4×10^{-5} (GM)	2,922

(a) Represent NPDES data collected from January 1986 through December 1988, excluding September 1987, for circulating water lines 481-482 and 484-485. Values followed by abbrevations MIN, MAX, 95TH, and GM in parenthesis are the minimum, maximum, 95th percentile, and geometric mean values presented in Table 3-1. Values followed by (C) were calculated from the data appearing on this table.

(b) 95th percentile value is the lower percentile. Data presented are calculated including average flows less than 266.4 mgd when maximum flows exceeded 266.4 mgd.

(c) Indicates "times less than the CRIT"; the multiple by which the estimated total, diluted UIA, is less than EPA's lowest acute criterion for un-ionized ammonia (0.187 mg/L).

'--' indicates that the data were not necessary to determine diluted UIA concentrations.

4. DISCUSSION

Monthly average estimates of total-diluted UIA concentrations in individual and/or combined circulating waters receiving 48C discharges are presented in Tables 3-3 and 3-6, respectively. For both discharge scenarios, these estimates are divided into three categories, worst-case, 95th percentile, and average estimates. Each estimate is also discussed in comparison to the lowest acute and chronic water quality criterion presented in U.S. EPA's ammonia criteria documents [U.S. EPA 1985a (freshwater), U.S. EPA 1989 (saltwater)].

In general, U.S. EPA's ambient water quality criteria documents provide the largest, critically-reviewed summaries of toxicity information available. Because the Delaware River at the Salem Generating Station averages only 5 parts per thousand salinity, both U.S. EPA's freshwater and saltwater database were evaluated. The objective of this evaluation was to identify the most restrictive (i.e., lowest) numerical criterion.

U.S. EPA's freshwater ammonia criterion is both species dependant and temperature and pH dependent. For the lower Delaware River, the most appropriate criterion is calculated based on the assumption that Salmonids and other coldwater species are absent. Further, because the freshwater criterion for ammonia is both temperature and pH dependent, the maximum, geometric mean and

95th percentile values were developed for both temperature and pH; and then the freshwater acute criterion was calculated for each scenario. However, calculation of U.S. EPA's acute water quality criterion for ammonia is limited to temperatures less than 30 C (U.S. EPA 1985a). Thus, the validity of a criterion calculated at temperatures above 30 C is questionable. Therefore, because maximum and 95th percentile estimates for temperatures exceeded 30 C, the acute freshwater water quality criterion for ammonia was only calculated at the geometric mean values for temperature (22 C) and pH (7.4) and this criterion is calculated to be 0.187 mg/L un-ionized ammonia. In contrast, U.S. EPA (1989) acute saltwater criterion (0.233 mg/L un-ionized ammonia) is not temperature or pH dependent. Thus, the lower of these two criteria [freshwater acute (coldwater species absent), 0.187 mg/L un-ionized ammonia] has been used for comparative purposes.

For chronic toxicity, the most restrictive freshwater criterion is 0.021 mg/L un-ionized ammonia (U.S. EPA 1985a) compared to the saltwater chronic criterion of 0.035 mg/L un-ionized ammonia (U.S. EPA 1989).

It is important to note that both of these criteria (U.S. EPA acute and chronic) are more restrictive than Delaware River Basin Commission's effluent ammonia criteria of 35 mg/L as N (42.6 mg/L as total ammonia or 0.472 mg/L un-ionized ammonia at 5 ppt

salinity, temperature of 22 C and pH of 7.4). Further, a numerical ammonia water quality criteria does not exist for New Jersey waters classified as SE, SC or Zone 5 of the Delaware River [Warren Huff (DRBC), Meredith Lavery (NJDEP), personal communication (attached)].

Section 4.1 below assumes that 48C is diluted by a single circulation water line. Section 4.2 addresses the more common condition when the flow from 48C is divided between several circulating water lines.

4.1 DISCHARGE TO INDIVIDUAL CIRCULATING WATERS

Worst-Case Estimates

The highest concentration of total-diluted UIA estimated for individual circulating waters is a monthly average of 0.0267 mg/L (Table 3-3; row 1). This estimate is judged to be worst-case because it is assumes maximum monthly average values for 48C flow, 48C total ammonia, percent UIA and the minimum monthly average value for circulating water flow. Recall that 48C wastewaters are not discharged to circulation lines with flows less than 266.4 mgd, therefore, only data for circulating lines with flow exceeding this value were used. Other estimates using maximum ammonia and minimum dilution parameter values (Table 3-3; rows 7 and 13) range from 0.0037 to 0.0155 mg/L UIA.

The estimated worst-case UIA concentration of 0.0267 mg/L in individual circulating water lines is approximately one seventh of the most restrictive U.S. EPA acute water quality criterion of 0.187 mg/L, indicating an appreciable margin of protection for aquatic organisms. Further, it should be recognized that it is unlikely that both the maximum chemical concentration (high UIA) and minimum flow volume (low dilution) conditions yielding this worst-case UIA estimation would occur simultaneously. The plant operating records support this. The maximum value of 60 mg/L total ammonia in the 48C wastewater (Table 3-1, March 1987), for instance, corresponded to an estimated total-diluted UIA concentration of only 0.0004 to 0.0008 mg/L (468 to 234 times less than the most restrictive U.S. EPA acute water quality criterion) in individual circulatory lines. In fact, the maximum total-diluted UIA concentration determined directly from monthly monitoring data (0.0037 mg/L; Table 3-1, May 1988) is 50.5 times less than the criterion (Table 3-3; row 13).

95th Percentile Estimates

To put the probability of the occurrence of total-diluted UIA concentration estimates in perspective, a 95th percentile was calculated for each data parameter. The 95th percentile is a value expected, based on the data, five times out of 100 on average. For this analysis, the 95th percentile corresponds to an average probability of 5 monthly values equaling or exceeding

the 95th percentile value per 8.3 years, or one monthly value equal to or exceeding the 95th percentile per 1.7 years. A 95th percentile UIA concentration of 0.0028 mg/L was calculated directly from the monitoring data (Table 3-3; row 14). This value estimates that 95 percent of the time, the monthly concentration of UIA carried by individual circulating water lines would be approximately 65 times less than EPA's lowest acute water quality criterion for ammonia. On a probability basis, therefore, these data indicate that existence of toxic conditions due to UIA in individual circulating waters due to 48C discharge would occur very rarely, if ever.

Estimates of monthly average, total-diluted UIA concentrations were also based on 95th percentile values for the parameters used in UIA concentration calculations (Table 3-3, rows 3, 4, 9 and 10). The estimated UIA concentrations range from 0.0131 to 0.0048 mg/L and are approximately 14 and 39 times less than the most restrictive U.S. EPA acute water quality criterion, respectively. It should be realized that the concentrations are estimated with the unlikely assumption that several 95th percentile parameter values occur simultaneously. If the value for each parameter used in UIA concentration calculation is independent of all other parameters (e.g., circulating water flow is not related to 48C flow, then the probability of a monthly average UIA concentration of 0.0139 mg/L (Table 3-3; row 3) estimated from four 95th percentile values (four water lines) is

1 / (0.05^4), or one occurrence in 160,000 months. Following the same logic, the probability for a UIA concentration of 0.0097 mg/L (Table 3-3, row 9) would be 1 occurrence in 8,000 months. These estimates, as well as the estimates discussed in the first paragraph of this section, suggest a wide margin of protection for aquatic organisms from UIA toxicity.

Mean Estimates

The means estimated for monthly average total-diluted UIA concentrations in individual circulating water lines ranged from 0.0002 to 0.0003 mg/L (Table 3-3, rows 11, 12 and 15). This corresponds to UIA concentrations 623 to 935 times less than EPA's most restrictive acute criterion. These results parallel those for maximum and 95th percentile UIA estimates by indicating that the health of aquatic organisms is not adversely affected by these concentrations of UIA.

4.2 DISCHARGE TO COMBINED CIRCULATING WATERS

Worst-Case Estimates

The worst-case estimates of monthly average total-diluted UIA concentrations in the combined circulating water ranged from 0.00086 to 0.0172 mg/L (Table 3-6). The peak concentration of 0.0172 mg/L (Table 3-6, row 1) was based on assuming simultaneous

maximum values for 48C flows, 48C ammonia, percent UIA and the minimum value for the combined circulating water flow. As illustrated earlier, it is extremely unlikely that the maximum and minimum conditions that generated this estimate would occur simultaneously. The plant operating records support this. The month at which the 60 mg/L maximum 48C total ammonia concentration occurred (Table 3-4, March 1987) corresponded to a total-diluted UIA concentration of 0.00015 mg/L in the combined waters. Nonetheless, even the worst-case UIA concentration of 0.0172 mg/L is approximately 11 times lower than the EPA criterion. This suggests that UIA concentrations of the circulatory waters discharged to the Delaware River, even under worst-case conditions, would still be well below an acutely toxic level.

95th Percentile Estimates

The 95th percentile estimates for monthly average total-diluted UIA concentrations in the combined circulating water lines ranged from 0.0060 to 0.00058 mg/L (Table 3-6, rows 3, 4, 9, 10 and 14). The UIA concentration calculated directly from the monitoring data estimates that five of 100 monthly UIA concentrations or one UIA concentration per 1.7 years would be discharged in excess of 0.00058 mg/L, a value which is 322 times less than the U.S. EPA's most restrictive acute criterion. The other UIA concentration estimates calculated from 95th percentile data would fall between

approximately 31 to 170 times less than U.S. EPA's acute criterion. These concentrations are far less probable than the estimate calculated directly (i.e., one occurrence per 8,000 to 160,000 months) because they incorporate several 95th percentile values in their estimation of UIA. Taken together these results indicate that the probability of simultaneous occurrence of conditions causing a UIA concentration even within an order of magnitude of a toxic level is extremely rare.

Mean Estimates

Geometric mean estimates of monthly average UIA concentrations of the combined circulating water lines were between 5.0×10^{-5} and 5.4×10^{-5} mg/L (Table 3-6, rows 5, 6, 11 and 12). These concentrations are approximately 3,463 to 3,740 times less than U.S. EPA's most restrictive acute criterion of 0.187 mg/L un-ionized ammonia. Thus, on average, the UIA concentrations discharged through the combined circulatory waters provide a substantial margin of protection to aquatic organism in the Delaware River.

4.3 COMPARISON TO U.S. EPA's CHRONIC CRITERION FOR AMMONIA

In order to assess the potential for chronic toxicity in the Delaware River due to the discharge of un-ionized ammonia, the estimated end-of-pipe un-ionized ammonia concentrations (Tables

3-3 and 3-6) were compared to the most restrictive chronic criterion of 0.021 mg/L un-ionized ammonia (U.S. EPA 1985a). The chronic criterion (criteria continuous concentration, CCC) is the "water quality criteria recommendation for the highest instream concentration of a toxicant or an effluent to which an organism can be exposed indefinitely without causing unacceptable effect" (U.S. EPA 1985b, emphasis added). Based on this definition, compliance with the chronic criterion should be judged after dilution of the effluent in the receiving water. Thus, comparison of estimated end-of-pipe un-ionized ammonia concentrations to the chronic criterion of 0.021 mg/L un-ionized ammonia is extremely conservative. However, this comparison reveals that only one discharge scenario (Table 3-3, row 1, diluted UIA $\doteq$ 0.0267 mg/L) exceeds this chronic, instream criterion. It is important to recognize that this estimate is judged to be worst-case because it is based on the unlikely occurrence of simultaneous maximum monthly values for 48C flow, 48C total ammonia, percent UIA and the minimum monthly average value for circulating water flow. Further, although the chronic criterion was exceeded by approximately 30 percent, this maximum effluent concentration is diluted by a factor of two within the initial plume rise to the surface (Weston, 1983). Thus, chronically toxic conditions are not expected to exist in the Delaware River outside of the effluent plume even under the worst-case scenario of discharge of the estimated maximum un-ionized ammonia concentration of 0.0267 mg/L.

5. DETERMINATION OF 48C TOTAL AMMONIA DISCHARGE LIMITATIONS

U.S. EPA's (1985b) Technical Support Document for Water Quality-Based Toxics Control provides a procedure for deriving permit limitations from the allowable discharge concentrations [referred to as wasteload allocations (WLAs)]. The objective of this section is to develop acceptable daily maximum and average monthly total ammonia permit limits for the 48C wastestream using U.S. EPA methodology. For this calculation, the allowable discharge concentrations are equivalent to U.S. EPA's acute and chronic (after allowing for dilution in the Delaware River) water quality criterion for un-ionized ammonia. These permit limitations (monthly average and daily maximum limits) are typically calculated so that they are applied at the point of discharge to the Delaware River. However, because the objective of this section is to calculate total ammonia discharge limitations for the 48C wastestream, the speciation of ammonia within the circulation lines as well as the dilution of the 48C wastestream into the circulating water must be considered.

5.1 Calculation of Allowable Un-ionized Ammonia Concentrations in the Circulating Water Discharge

The procedure developed by U.S. EPA for calculating permit limits is a statistical model which incorporates effluent variability, monitoring frequency, probability of exceeding the water quality

criterion and the probability of exceeding the permit limit. A detailed description of this model is presented in U.S. EPA (1985b, Chapters 6 and 8) and API (1987). The required input parameters into this model are presented in Table 5-1. Input values for the probability of exceeding the wasteload allocation (P1) and permit limits (P2) as well as the duration of the chronic criterion (N1) and monitoring frequency (N2) are all based on U.S. EPA guidance (1985b). The coefficient of variation (0.799) was derived directly from the un-ionized ammonia data. The acute wasteload allocation (WLAA) was set equal to U.S. EPA's acute water quality criterion for un-ionized ammonia. Although U.S. EPA's chronic criterion is 0.021 mg/L for un-ionized ammonia, the chronic wasteload allocation (WLAC) allows for a 10 fold dilution of circulating water in the Delaware River (Weston 1983). Thus, the chronic wasteload allocation (WLAC) was set equal to 0.21 mg/L un-ionized ammonia.

The model output is also presented in Table 5-1. Of the two wasteload allocations (WLAA and WLAC), the acute WLA resulted in the most restrictive long-term average, thus, Agency guidance requires that this value is used to calculate the daily maximum and average monthly end-of-pipe discharge concentrations. These concentrations ensure compliance with U.S. EPA's acute and chronic water quality criteria.

INPUT PARAMETERS	
Coefficient of Variation	CV = 0.799
Prob of Exceeding WLA (95=1.645, 99=2.326)	P1 = 2.326 (99th percentile)
Prob of Exceeding Permit (95=1.645, 99=2.326)	P2 = 1.645 (95th percentile)
Duration of Chronic	N1 = 7 days
Monitoring Frequency	N2 = 10 days
Acute Wasteload Allocation	WLAA = 0.187 mg/L un-ionized ammonia
Chronic Wasteload Allocation	WLAC = 0.210 mg/L un-ionized ammonia

PROGRAM OUTPUT

Lowest Long-term Average = 0.047 (based on acute WLA)

Daily Maximum Concentration = 0.116 mg/L un-ionized ammonia
Average Monthly Concentration = 0.068 mg/L un-ionized ammonia

Table 5-1. Derivation of end-of-pipe discharge concentrations for un-ionized ammonia.

5.2 Calculation of 48C Daily Maximum and Average Monthly Total Ammonia Concentrations

Given the allowable discharge concentrations established in Section 5.1 for un-ionized ammonia in the circulating waters, allowable concentrations of total ammonia in the 48C wastestream can be determined using the following equation:

(Dilution) * (Percent UIA) * (Total Ammonia) = Allowable Concentration

By solving for total ammonia, the concentration of total ammonia in the 48C wastestream can be calculated which would comply with the allowable discharge concentrations determined in Section 5.1. Discussed below are the input values used to calculate total ammonia.

Dilution

Minimum, lower 95th percentile and geometric mean dilution values for the 48C wastestream in the combined circulating water flow (481, 482, 484 and 485) are presented in Table 3-5 and are calculated directly from the data presented in Table 3-4. These data were calculated over a two year period and are considered to be representative of flow conditions. It should be noted that maximum 48C (2.55 mgd) and minimum circulating water flows (274.1

mgd) are not likely to occur simultaneously as evidenced by the plant operating records. However, the minimum observed dilution (0.0013) of 48C flow into circulatory waters was used to calculate the total allowable ammonia concentration in the 48C wastestream.

Percent Un-ionized Ammonia

Maximum, 95th percentile (upper) and geometric mean percent un-ionized ammonia values are presented in Table 3-5. These values, as discussed in Section 3.2, were derived from individual percent un-ionized ammonia estimations based on the pH and temperature measurements for each circulation line. For the calculation of total allowable ammonia in the 48C wastestream, the maximum observed percent un-ionized ammonia value was used (3.09%).

Allowable Concentrations

Average monthly (0.068 mg/L) and daily maximum (0.116 mg/L) un-ionized ammonia discharge concentrations for circulating waters receiving the 48C wastewaters are presented in Table 5-1 and were used to calculate total ammonia concentrations in the 48C wastewater.

Total Ammonia

Solving for total ammonia, daily maximum and average monthly permit limits for total ammonia in the 48C wastestream are calculated at 2,888 mg/L and 1,693 mg/L total ammonia, respectively. These limits for 48C will result in compliance with the acute water quality criterion at the point of discharge and will result in compliance with the chronic water quality criterion after allowance for some dilution of the circulating water in the Delaware River.

6. CONCLUSIONS

Concentrations of UIA estimated for individual circulating water lines were well below concentrations determined by U.S. EPA to be safe for aquatic life. However, aquatic organisms would rarely, if ever, be exposed to the discharge of a single line. Rather, 48C wastewaters are likely to be diluted by several circulating water lines prior to discharge creating the potential for even lower concentrations of UIA prior to discharge to the Delaware River. For this reason, the results of UIA estimates from the scenario which assumes the dilution of 48C by combined circulating water flows (Section 4.2) yield a more realistic view of actual exposures. The conclusion that discharged concentrations of UIA are between one to three orders of magnitude less than U.S. EPA's most restrictive acute criterion for ammonia suggests that no hazard is presented to the organisms by UIA concentrations in the 48C wastestream. Further, given the fact that discharge concentrations of UIA are below U.S. EPA's most restrictive chronic criteria for all scenarios except worst-case conditions and the effluent is quickly diluted by a factor of two within the initial plume rise to the surface, suggest that no chronic hazard is presented to aquatic organisms by UIA concentrations in the 48C wastestream.

Daily maximum and average monthly total ammonia permit limits for the 48C wastestream were calculated at 2,888 and 1,693 mg/L total

ammonia, respectively. These permit limits were calculated using the statistical procedure developed by U.S. EPA (1985b) which ensures compliance with the acute water quality criterion at the point of discharge to the Delaware River and ensures compliance with the chronic water quality criterion after allowance for dilution of the circulation water in the Delaware River.

7. LITERATURE CITED

American Petroleum Institute (API). 1987. User's Guide to the Technical Support Document for Water Quality-Based Toxics Control. Publication number 4463. Health and Environmental Affairs Department. Washington, D.C.

Public Service Electric and Gas Company (PSE&G). 1984. Salem Generating Station 316(b) Demonstration. NPDES Permit No. NJ0005622. Newark, New Jersey.

Roy F. Weston, Inc. 1983. Thermal Plume Survey in the Vicinity of the Salem Nuclear Generating Station - Delaware River Estuary - August/September 1982. Prepared for Public Service Electric and Gas Company, Newark, New Jersey.

U.S. Environmental Protection Agency (EPA). 1985a. Ambient Water Quality Criterion for Ammonia - 1984. Office of Water. Washington D.C. EPA/440/5-85-01.

U.S. Environmental Protection Agency (EPA). 1985b. Technical Support Document for Water Quality-Based Toxics Control. Office of Water. Washington D.C. EPA/440/4-85-032.

U.S. Environmental Protection Agency (EPA). 1989. Ambient Water Quality Criterion for Ammonia (Saltwater) - 1989. Office of Water. Washington D.C. EPA/440/5-88-004.

The permittee requests changes to the following Sections in Part IV - B/C.

1. ADDITIONAL REQUIREMENTS OF THIS PERMIT

A. Delete the requirement for "continual" supervision by an operator. The treatment system has been assigned an N-2 classification which does not require "continual" supervision. Since the sanitary wastewater treatment plant has been closed, delete the reference to the S2 license requirements.

D. To preclude modifications in the DRBC regulations from invalidating portions of the NJPDES permit, delete this requirement.

E.2.b. Change this section to read:

b. All radioactive wastes are required to be collected, removed, and disposed in accordance with 10 CFR and the requirements of the U.S. Nuclear Regulatory Commission.

K. Delete this section since the sewage treatment facilities have been closed in accordance with the closure plan. The FSOD allocation should be combined with the allocation at Hope Creek Generating Station (NJPDES permit number NJ0025411) since sanitary wastes from Salem Generating Station are being treated at the combined sewage treatment plant regulated under the Hope Creek Generating Station NJPDES permit.

L. Delete this section. The hazardous waste requirements are identified in Section E.1 and the sludge requirements are not found in NJAC 7:26.

3. ACUTE TOXICITY BIOMONITORING REQUIREMENTS

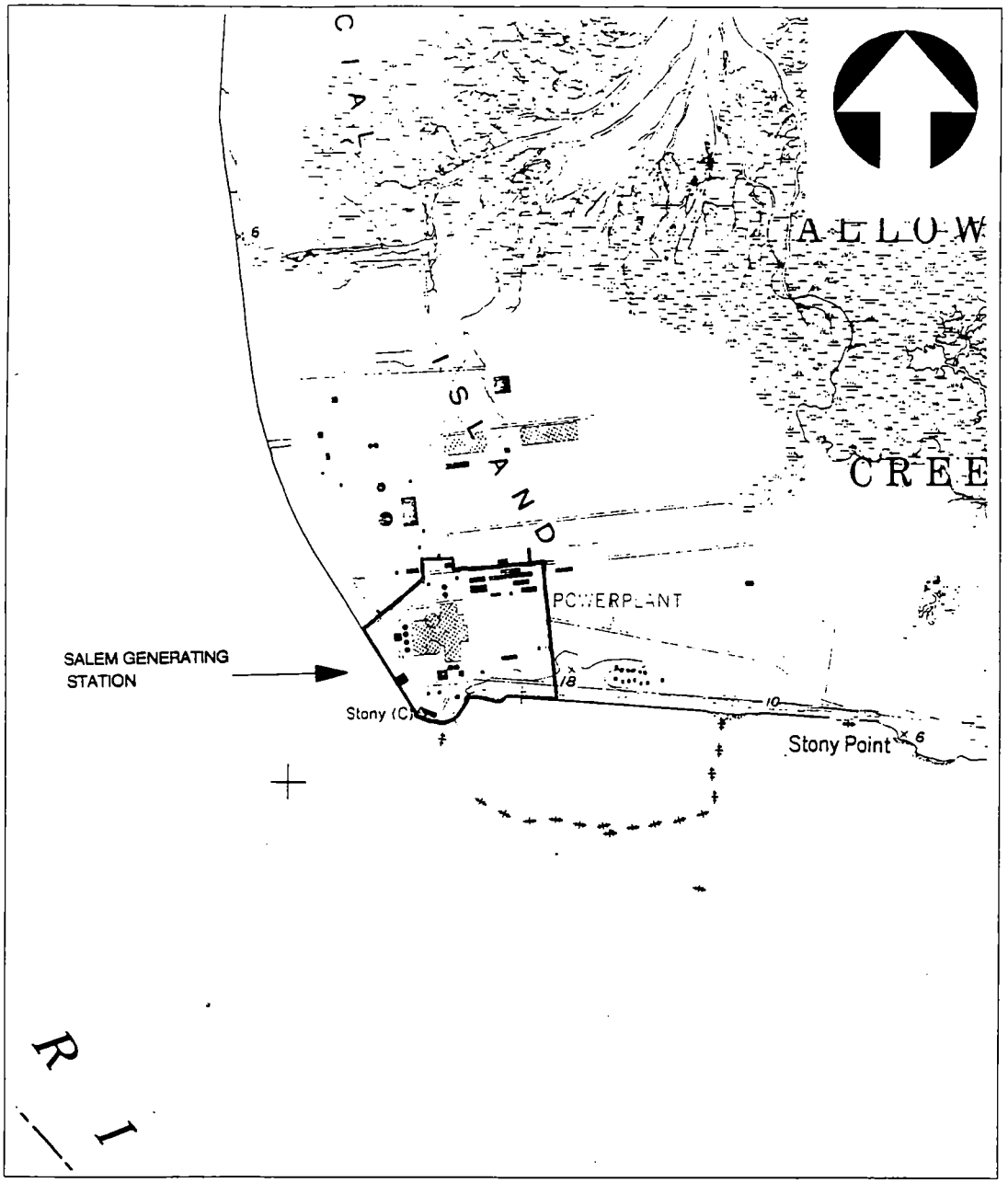
Delete this section since biomonitoring is not appropriate as currently required.

3. COMPLIANCE SCHEDULE

Delete this section.

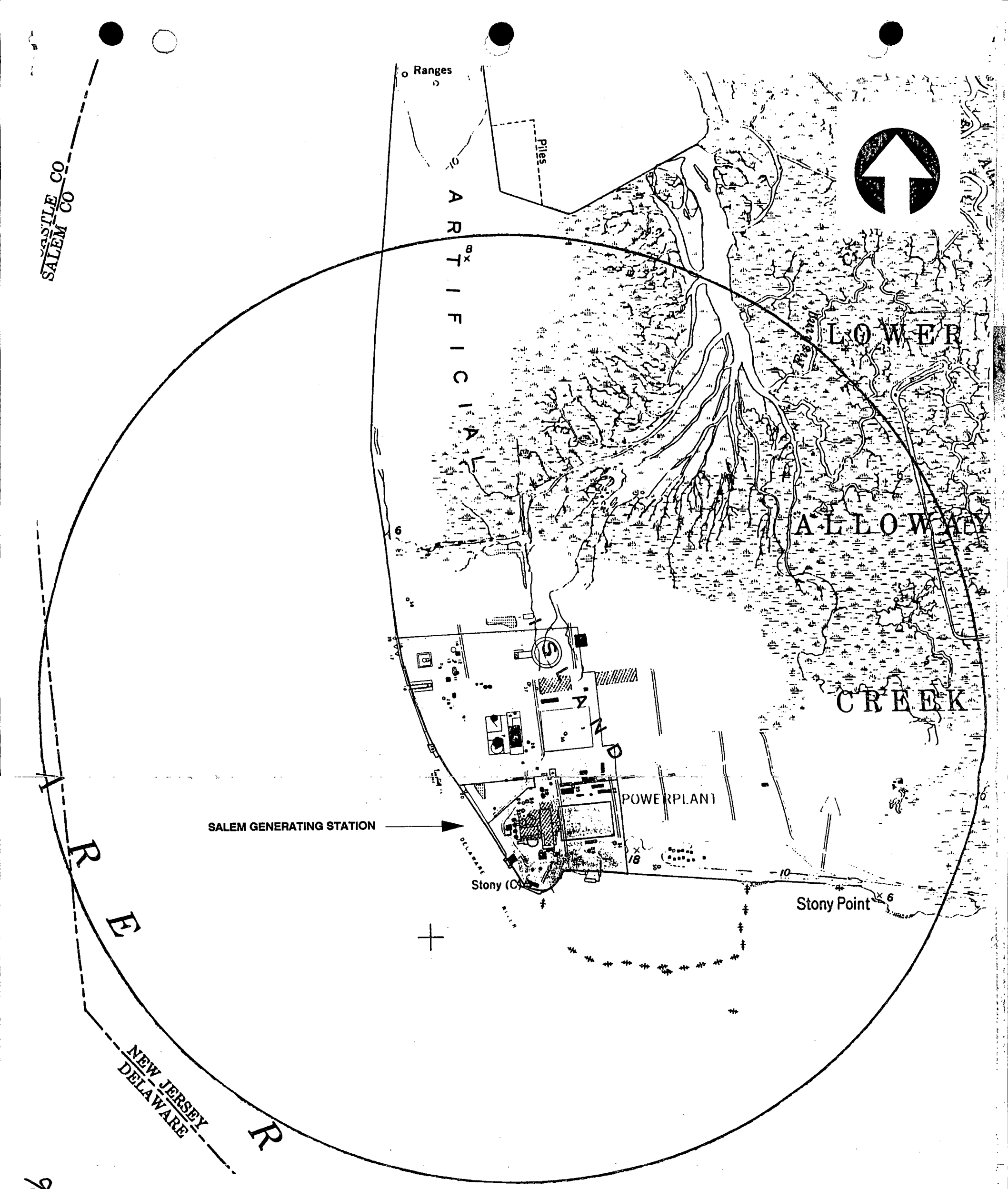
SALEM GENERATING STATION
MAPS, FIGURES, AND PHOTOGRAPHS

CONTENTS



U.S. GEOLOGICAL SURVEY
TOPOGRAPHIC MAP
"TAYLOR'S BRIDGE, DEL-NJ" QUADRANGLE
SCALE 1:24000

PUBLIC SERVICE ELECTRIC & GAS COMPANY
SALEM GENERATING STATION
SITE LOCATION MAP
NJPDES PERMIT NO. NJ0005622
MAY 1990



ONE-MILE RADIUS MAP
SALEM GENERATING STATION
NJPDES PERMIT NO. NJ0005622

SCALE

1 ½ 0 1 MILE

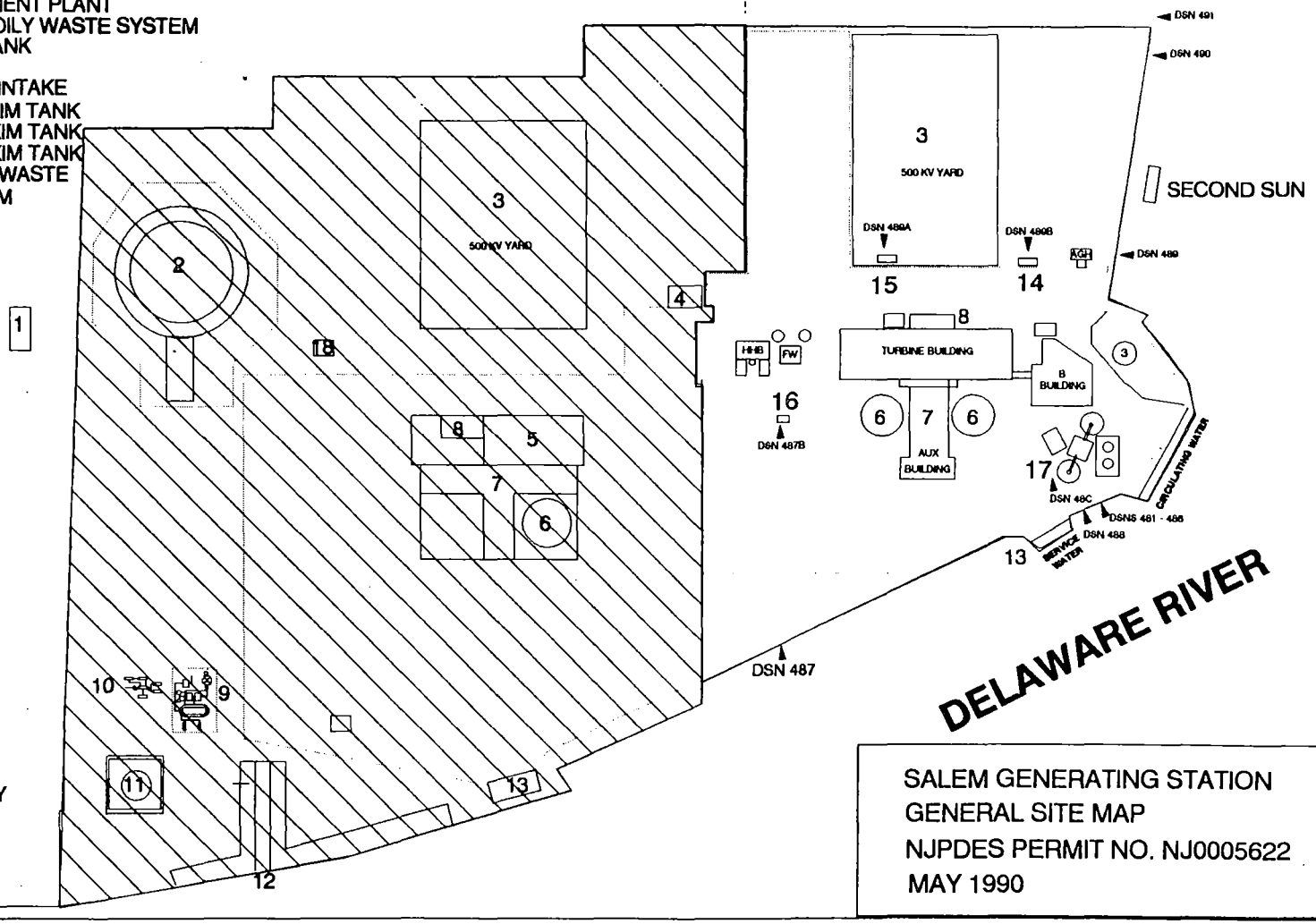
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

U.S. GEOLOGICAL SURVEY
TOPOGRAPHIC MAP
"TAYLOR'S BRIDGE, DEL-NJ" QUADRANGLE

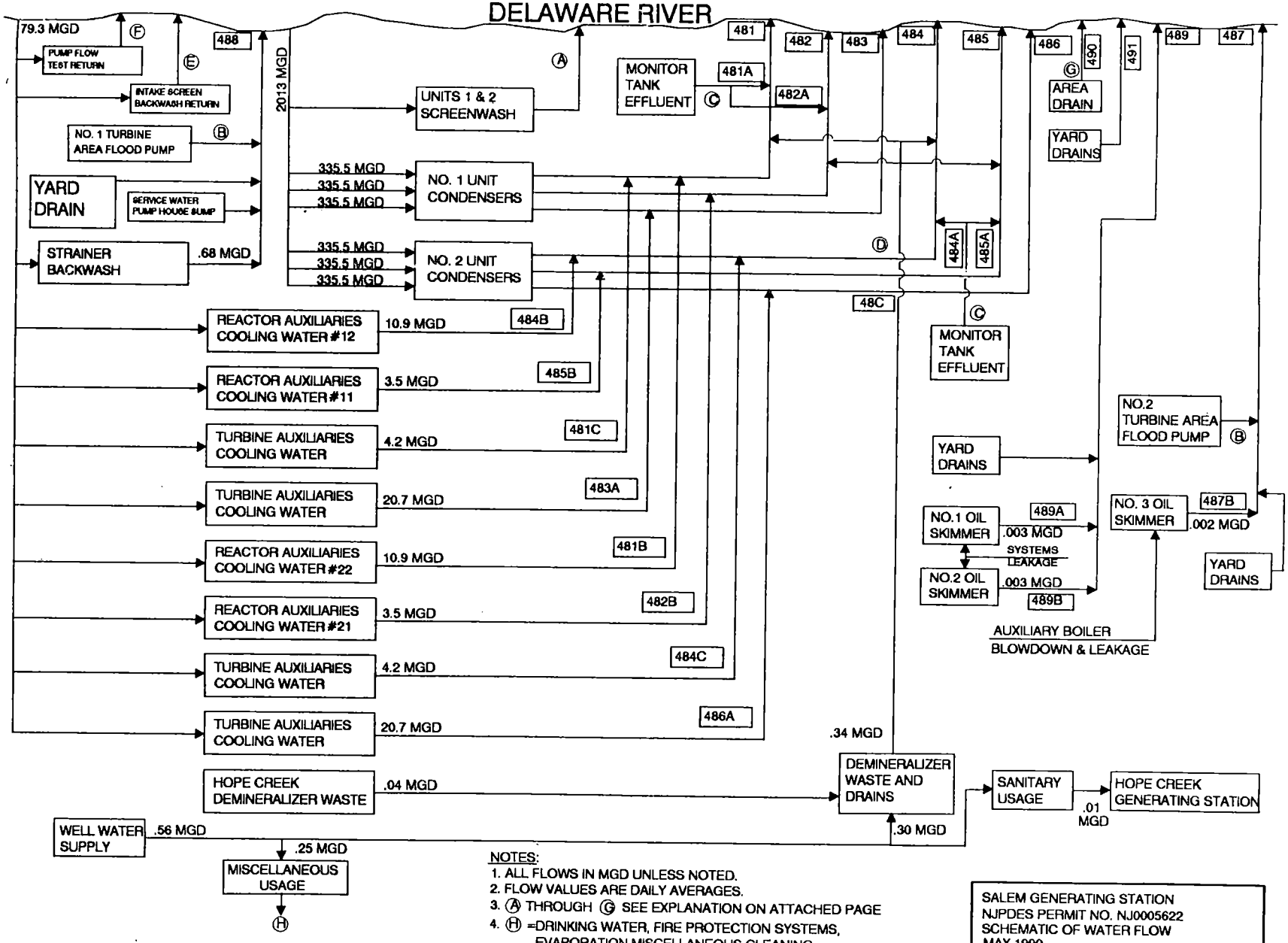
QUADRANGLE LOCATION

LEGEND

1 HAZARDOUS WASTE TRANSFER AREA
2 COOLING TOWER
3 SALEM FUEL OIL STORAGE TANK
4 GUARD HOUSE
5 TURBINE BUILDING
6 REACTOR BUILDING
7 AUXILIARY BUILDING
8 ADMIN FACILITY AND STOREROOM
9 SEWAGE TREATMENT PLANT
10 LOW VOLUME & OILY WASTE SYSTEM
11 MAIN FUEL OIL TANK
12 BARGE SLIP
13 SERVICE WATER INTAKE
14 #1 OIL/WATER SKIM TANK
15 #2 OIL/WATER SKIM TANK
16 #3 OIL/WATER SKIM TANK
17 NON-RAD LIQUID WASTE DISPOSAL SYSTEM



SALEM GENERATING STATION
GENERAL SITE MAP
NJPDES PERMIT NO. NJ0005622
MAY 1990


DELAWARE RIVER
79.3 MGD
Ⓕ
488
PUMP FLOW TEST RETURN
Ⓔ
INTAKE SCREEN BACKWASH RETURN
NO. 1 TURBINE AREA FLOOD PUMP
Ⓑ
YARD DRAIN
SERVICE WATER PUMP HOUSE SUMP
STRAINER BACKWASH
.68 MGD
2013 MGD
Ⓐ
UNITS 1 & 2 SCREENWASH
MONITOR TANK EFFLUENT
Ⓒ
481
481A
482
482A
483
484
485
486
Ⓖ
AREA DRAIN
490
491
YARD DRAINS
489
487
335.5 MGD
335.5 MGD
335.5 MGD
NO. 1 UNIT CONDENSERS
335.5 MGD
335.5 MGD
335.5 MGD
NO. 2 UNIT CONDENSERS
Ⓓ
484A
485A
48C
Ⓒ
MONITOR TANK EFFLUENT
REACTOR AUXILIARIES COOLING WATER #12
10.9 MGD
484B
REACTOR AUXILIARIES COOLING WATER #11
3.5 MGD
485B
TURBINE AUXILIARIES COOLING WATER
4.2 MGD
481C
TURBINE AUXILIARIES COOLING WATER
20.7 MGD
483A
REACTOR AUXILIARIES COOLING WATER #22
10.9 MGD
481B
REACTOR AUXILIARIES COOLING WATER #21
3.5 MGD
482B
TURBINE AUXILIARIES COOLING WATER
4.2 MGD
484C
TURBINE AUXILIARIES COOLING WATER
20.7 MGD
486A
.34 MGD
HOPE CREEK DEMINERALIZER WASTE
.04 MGD
DEMINERALIZER WASTE AND DRAINS
SANITARY USAGE
.01 MGD
HOPE CREEK GENERATING STATION
.30 MGD
WELL WATER SUPPLY
.56 MGD
.25 MGD
MISCELLANEOUS USAGE
Ⓗ
YARD DRAINS
NO.2 TURBINE AREA FLOOD PUMP
Ⓑ
NO.1 OIL SKIMMER
489A
.003 MGD
SYSTEMS LEAKAGE
NO.2 OIL SKIMMER
.003 MGD
489B
NO. 3 OIL SKIMMER
487B
.002 MGD
YARD DRAINS
AUXILIARY BOILER BLOWDOWN & LEAKAGE
NOTES:
1. ALL FLOWS IN MGD UNLESS NOTED.
2. FLOW VALUES ARE DAILY AVERAGES.
3. Ⓐ THROUGH Ⓖ SEE EXPLANATION ON ATTACHED PAGE
4. Ⓗ =DRINKING WATER, FIRE PROTECTION SYSTEMS, EVAPORATION,MISCELLANEOUS CLEANING, LEAKAGE, ETC.
SALEM GENERATING STATION
NJPDES PERMIT NO. NJ0005622
SCHEMATIC OF WATER FLOW
MAY 1990

SALEM GENERATING STATION
SCHEMATIC OF WATER FLOW
EXPLANATION OF NOTES

A The non-contact cooling water intake screens collect debris which enter past the trash racks. This material is washed from the intake screens with Delaware River water and returned to the Delaware River.

B The turbine building flood pumps are designed to remove excess water from the turbine building in the event of flooding. They are automatically energized when the level in the flood sump reaches the setpoint. This setpoint is above the operating level of the turbine building sump pumps which discharge through DSN 489A and 489B. The turbine building sump pumps are normally operated in a flooding emergency except for routine testing to verify operability.

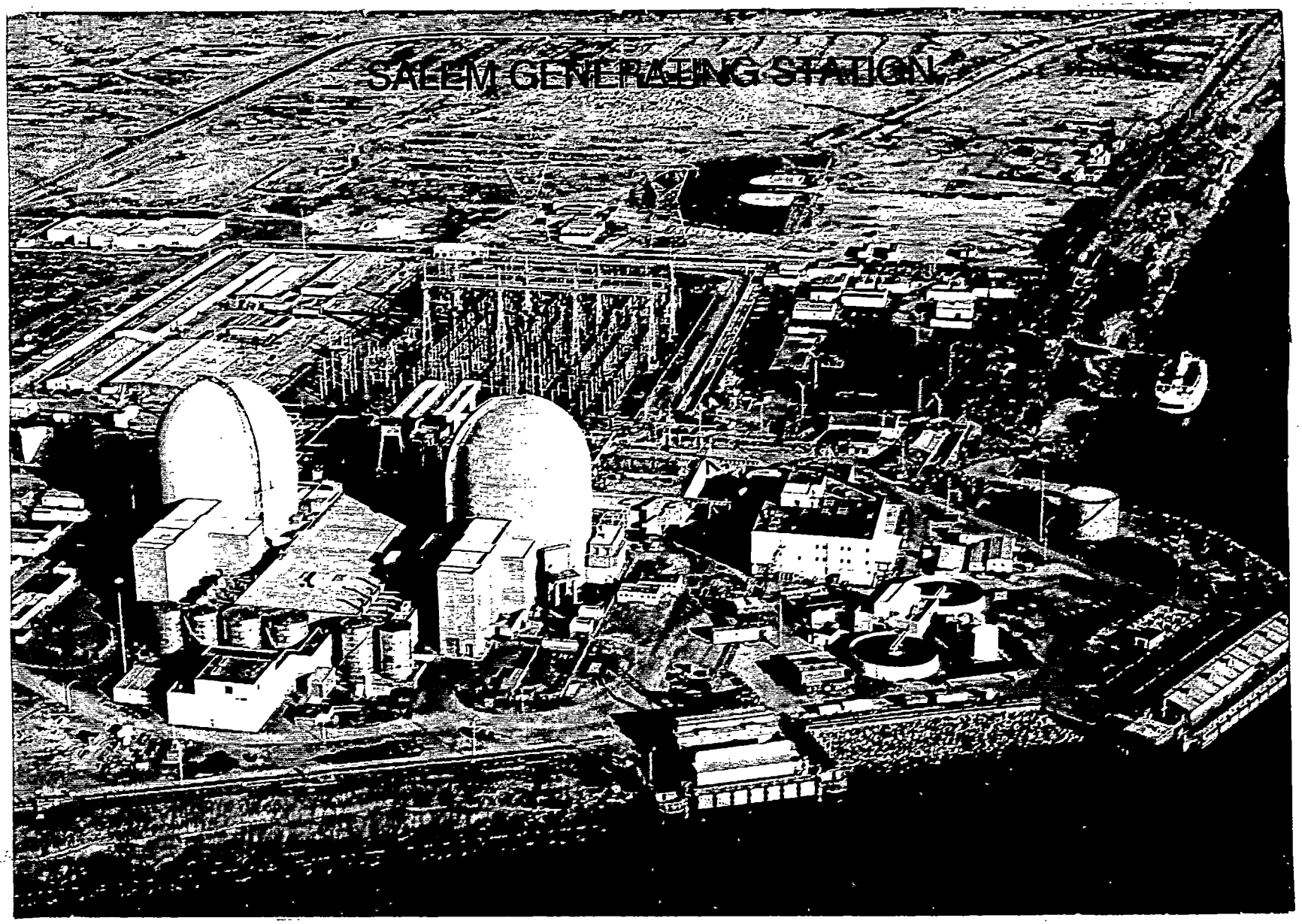
C Monitor Tank effluent is the discharge from the radioactive liquid waste system. The radioactive liquid waste system discharges through DSN 481, 482, 484, and/or 485. The radioactivity concentrations, quantities, and rate are regulated and limited by the US Nuclear Regulatory Commission.

D The Non-Radioactive Liquid Waste Disposal System (NRLWDS) treats chemical wastes from the facility and is explained in detail in this application as DSN 48C.

E The service water intake screens are cleaned by applying reverse flow service water and allowing the debris and service water to discharge directly back to the Delaware River.

F The flow bypass line allows the discharge of the service water pumps to be returned directly to the Delaware River for measurement of the flow from each pump. This evolution is conducted by diverting the flow from a service water pump, at a rate of approximately 12,000 gallons per minute, back to the Delaware River to allow a full flow measurement of the pump capacity. During this bypass operation, the addition of sodium hypochlorite will be terminated and the discharge to the Delaware River will be the intake water from the Delaware River.

G The outfall identified as DSN 490 consists only of a conduit penetrating the earthen embankment to allow precipitation runoff to flow toward the Delaware River.


SALEM GENERATING STATION