Pamela F. Faggert
Vice President and Chief Environmental Officer
5000 Dominion Boulevard, Glen Allen, VA 23060
Phone: 804-273-3467

Dominion

50-338/339

Certified Mail
Return Receipt Requested

June 28, 2005

Mr. Tom Faha
Virginia Department of Environmental Quality
Northern Regional Office
13901 Crown Court
Woodbridge, Va. 22193

Re: North Anna Power Station
Application for Reissuance of VPDES Permit No.VA0052451

Dear Mr. Faha:

Submittal Deadline
Enclosed is the original reissuance application and a copy of VPDES Permit No. VA0052451 submitted for your review prior to the regulatory deadline of July 11, 2005.

Request for Continued 316(a) Variance
There have been no substantial changes in the conditions described in our request for a variance under Section 316(a). We request that the 316(a) variance and the alternative effluent limitations referenced in the current permit (VA0052452), Part I.C.12 be continued in the reissued permit.

Waiver Requests
It is our understanding that waivers granted by the DEQ for the last VPDES permit reissuance continue to apply provided there have been no significant changes at the power station. In accordance with Forms 2C, 2E and 2F instructions, requests previously approved are formally restated in our April 28, 2004 submittal.

In addition, we make the following waiver requests. These items were discussed in a meeting on August 19, 2004 attended by Tom Faha, Christine Joyce, Arthur Cooke and Joyce Livingstone.

- Dominion requests a waiver for dioxin sampling and analysis for all North Anna VPDES outfalls.
- Dominion requests a waiver from conventional sampling and analysis for all storm water outfalls (Outfalls 022, 023, 024, 025, 026) because there is no industrial activity in the drainage areas associated with these outfalls. Elevated iron values are to be expected due to the iron-rich soil types around this area. The previous 2F application forms (2000) are submitted for these outfalls.

C001

Outfall 103 - Request for Oil & Grease Monitoring Removal – Clarifier:
Dominion requests that oil & grease monitoring be removed from internal Outfall 103 in the reissued permit because of the scarcity of laboratories set up to run the hexane method on samples with low levels of radioactivity. Our laboratory manager has advised us that EPA will mandate the hexane extraction method possibly as early as next year followed by a 4-month grace period. If DEQ would consider a substitute parameter, for example, Total Organic Carbon or Chemical Oxygen Demand, these are analyses that the current contract laboratory could perform. The current sampling frequency is quarterly, but we request this be reduced to an annual requirement.

The only possible source of oil in the clarifier would be from the mat sump pumps. The mat sumps direct groundwater from around the base of the containment building to the clarifier discharge. There is a small air driven pump in each mat sump with an attached oiler. The only synthetic oil used on site (EHC and snubber fluid) is heavier than water and not a component of the clarifier discharge. The remainder of the discharge is service water, steam generator blowdown and ion-exchange discharge which should not have any oil in it.

Outfall 105 - Bearing Cooling Tower – Representative Samples
The bearing cooling tower is a closed cycle cooling system. The permanent chemical addition should be completed by the end of August. By mid-September, equilibrium "cycles of concentration" will be established for the system to include bleach, phosphate, zinc and bromine. Dominion expects that representative samples from this system would be attainable in September, and analyses would be available in October.

Outfall 009 – Settling Pond – New Contributing Flow
Outfall 009 may in the future include bearing cooling tower effluent during periods of maintenance work. This was authorized on a case by case basis in the past, but going we request that the bearing cooling tower effluent be included as an intermittent component of the Outfall 009 effluent.

Outfall 111 – Sewage Treatment Plant
All the small package plants are closed. Dominion requests approval to submit existing discharge monitoring data and new data for fecal coliforms, ammonia, and oil and grease. Form 2A requests three fecal coliform samples, however Dominion requests a reduction in sampling from three samples to one sample.

Outfall 013 – Turbine Building Sump and Common Sump #2 & Storm Water Only
Outfall 013 is the discharge for turbine sumps #1 and #2 (unit 1 and common). This outfall is covered in the existing permit, but this description is being added for clarification.

Outfall 014 – Turbine Building Sump #2 & Storm Water Only
It has been determined from station drawings that Outfall 014 does not release effluent from the Unit 2 (sump #3) high capacity turbine sump. This effluent discharges from Outfall 104, and the current permit describes the contributing flows for this outfall as turbine sump discharges. This pathway (Unit 2 high capacity discharge) has not discharged in over 15 years. There is no industrial discharge for Outfall 014, and we request it be removed from the permit or redesignated as a storm water outfall.

Thank you for the assistance that you have provided to us during the development of this application. We look forward to working with you during the permit development process. Please feel free to contact Joyce Livingstone at (804) 273-2985 should you have any related questions or concerns.

Sincerely,

Pamela F. Faggert

Pamela F. Faggert

Attachments

cc:

Mrs. Christine Joyce
Virginia Department of Environmental Quality
Northern Regional Office (1 additional copy of complete application)
13901 Crown Court
Woodbridge, Va. 22193

U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

Mr. J. T. Reece
NRC Senior Resident Inspector
North Anna Power Station

List of Attachments:

1) *DEQ application notification letter – 12/17/04*
2) *Request for Waivers from Sampling and Testing Parameters, 4/28/04*
3) *VPDES Outfall Descriptions, Sampling Points, Photos*
4) *EPA Form 3510-1 – General Information*
5) *Topographic Map – required by EPA Form 3510-1, Section XI*
6) *Property Boundaries Map – required by EPA Form 3510-1, Section XI*
7) *VPDES Outfall Location Map – required by EPA Form 3510-1, Section XI*
8) *VPDES Permit Application Addendum*
9) *EPA Form 3510 –2A Application for Permit to Discharge Municipal Waste from POTWs*
10) *EPA Form 3510-2C Application for Permit to Discharge Industrial Process Wastewater*
11) *One Line Diagram – required by EPA Form 3510-2C, Section II.A*
12) *Detection Levels – for analyses on EPA Forms 3510-2A, 2C, 2E and 2F*
13) *Routinely Used Chemicals and Potential Pollutants to Surface Water - to support EPA Form 3510-2C, Section V*
14) *Bearing Cooling Tower System – to support EPA Form 3510-2C, Section V*
15) *Data Processing Description – to support EPA Form 3510-2C, Section V*
16) *Addendum - Additional Information – to support EPA Form 3510-2C*
17) *Material Safety Data Sheets*
18) *Outfall 001 Toxicity Data Summary – to support EPA Form 3510-2C, Section VII*
19) *EPA Form 3510-2E Application for Permit to Discharge Industrial Non-processs Wastewater*
20) *Treatment System Component Description (to support EPA Form 3510-2E, Section VI)*
21) *VPDES Sewage Sludge Permit Application Form*
22) *Topographic Map – required by Sewage Sludge Permit Application, Section A.5*
23) *Flow Diagram WWTP - required by Sewage Sludge Permit Application, Section A.6*
24) *Sludge Management Plan – Revised 10/23/97, Reviewed by Ed Stuart 12/04*
25) *O&M Manual, Revised 6/23/05*
26) *EPA Form 3510-2F Application for Permit to Discharge Storm Water - Industrial Activity*
27) *Storm Water Drainage Area Description - to support EPA Form 3510-2F, Section IV-B*
28) *Heat Rejection Derivation 4/14/05*

ebc: (without attachments)
Cathy C Taylor/IN/FH/VANCPOWER@VANCPOWER
Robert M Bisha/IN/FH/VANCPOWER@VANCPOWER
Alice Corey/IN/FH/VANCPOWER@VANCPOWER

Jack Davis/NUC/VANCPOWER@VANCPOWER,
Larry Lane/NUC/VANCPOWER@VANCPOWER,
Jerry Bischof/NUC/VANCPOWER@VANCPOWER,
JDebiec@odec.com

bc: (with attachments)
Arthur C Cooke – North Anna
Joyce Livingstone - Innsbrook

Power Records Management – IN/GW

File code: Water-Waste Files / North Anna/ ENV 55 / NPDES application
EES-Electronic Files: Water-Waste Files / North Anna / ENV 55 NPDES

Concurrence:

Mr. N.L. Lane_____

Mr. P.A. Kemp_____

Mr. A.C. Cooke_____

Dominion - North Anna Power Station
NPDES Permit No. VA0052451
Application for Reissuance

June 28, 2005

Table of Contents

1	DEQ application notification letter – 12/17/04
2	Request for Waivers from Sampling and Testing Parameters, 4/28/04
3	VPDES Outfall Descriptions, Sampling Points, Photos
4	EPA Form 3510-1 General Information
5	Topographic Map
6	Property Boundaries Map
7	VPDES Outfall Location Map
8	VPDES Permit Application Addendum
9	EPA Form 3510 –2A Application for Permit to Discharge Municipal Waste from POTWs
10	EPA Form 3510-2C Application for Permit to Discharge Industrial Process Wastewater
11	One Line Diagram
12	Detection Levels – for analyses on EPA Forms 3510-2A, 2C, 2E and 2F
13	Routinely Used Chemicals and Potential Pollutants to Surface Water
14	Bearing Cooling Tower System
15	Data Processing Description
16	Addendum - Additional Information - to support EPA Form 3510-2C
17	Material Safety Data Sheets
18	Outfall 001 Toxicity Data Summary
19	EPA Form 3510-2E Applicationfor Permit to Discharge Industrial Non-process Wastewater
20	Treatment System Component Description
21	VPDES Sewage Sludge Permit Application Form
22	Topographic Map
23	Flow Diagram WWTP
24	Sludge Management Plan – Revised 10/23/97, Reviewed by Ed Stuart 12/04
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26	EPA Form 3510-2F Application for Permit to Discharge Storm Water - Industrial Activity
27	Storm Water Drainage Area Description
28	Heat Rejection Derivation 4/14/05
29	
30	
31	

AVERY READY INDEX™ INDEXING SYSTEM

DEQ Application Notification Letter
12/17/05

Ken Koller ~~Cathy Taylor~~
cc: Carter Cooke
Joyce Livingstone

Received DEC 20 2004 EP&C

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Northern Virginia Regional Office
13901 Crown Court
Woodbridge, VA 22193-1453
(703) 583-3800 *fax* (703) 583-3801
www.deq.state.va.us

Robert G. Burnley
Director

Jeffery A. Steers
Regional Director

December 17, 2004

Ms. Pamela Faggert
Virginia Power
5000 Dominion Boulevard
Glen Allen, VA 23060

Re: Reissuance of VPDES Permit No. VA0052451, Virginia Power – North Anna

Dear Ms. Faggert:

This letter is to remind you that your VPDES permit will expire on **January 11, 2006.** You must reapply for this permit if you wish to continue coverage under the VPDES program. The State Water Control Board's VPDES Permit Regulation requires that we receive a complete application for the Virginia Power – North Anna at least 180 days before the existing permit expires or **July 11, 2005.** Early submissions are welcome and will better enable us to complete processing before permit expiration. The following is included in the application package:

- NPDES Form 1 - General Information
- NPDES Form 2A - Application For Permit To Discharge Municipal Waste From POTWs and Instructions
- VPDES Permit Application Addendum
- VPDES Sewage Sludge Permit Application Form and Instructions
- NPDES Form 2C - Application For Permit To Discharge Industrial Process Wastewater
- NPDES Form 2E - Application For Permit To Discharge Industrial Nonprocess Wastewater
- NPDES Form 2F - Application For Permit To Discharge Storm Water Associated With Industrial Activity
- Common Application Errors Sheet
- Public Notice Authorization Form
- Pollution Prevention Flyer

If you would like a waiver request from any of the sampling or testing requirements in the application forms, please submit a thorough justification for the request as part of your application submission. DEQ must approve these waiver requests at least 180 days before the existing permit expires. DEQ will review your waiver request and forward it to EPA if it is justifiable.

Upon completing the application, please return the signed original and a copy of the application to the Department of Environmental Quality Northern Regional Office (DEQ-NRO) at 13901 Crown Court, Woodbridge, VA 22193. DEQ may request that additional copies of the final application package be submitted later.

Feel free to contact me at (703) 583-3903 or chtrinh@deq.virginia.gov if you have questions regarding submittal of this permit application.

Sincerely,

Christine Joyce
Environmental Specialist II

Request for Waivers from Sampling and Testing Parameters

Original submitted 4/28/05
Revised 6/20/05

FILE COPY

Dominion

Pamela F. Faggert
Vice President and Chief Environmental Officer
5000 Dominion Boulevard, Glen Allen, VA 23060
Phone: 804-273-3467

6/20/05 Revisions/annotations to restate verbal agreements reached in 8/19/04 mtg (Carter Cooke, Tom Faha, Christine Joyce, Joyce Livingstone); to reflect actual sampling; to include new station information.

Certified Mail
Return Receipt Requested

April 28, 2004

~~Mr. Jeffrey Talbot~~ Mr. Tom Faha / Ms. Christine Joyce
Northern Regional Office
13901 Crown Court
Woodbridge, Va. 22193

Re: Sampling / Testing Plan and Requests for Waivers
Reissuance of VPDES Permit No. VA0052451
Dominion - North Anna Power Station

Dear ~~Mr. Talbot~~ Mr. Tom Faha / Ms. Christine Joyce,

The attached document identifies our sampling and testing plan for the above-mentioned VPDES permit reissuance application, and describe our requests for sampling and testing waivers. The permit is due to expire on January 11, 2006, and we are currently developing a sampling schedule to support the application, which will be submitted next summer (2005).

In accordance with the requirements as we understand them, we have developed the attached Sampling and Testing Plan detailing the upcoming work planned for this facility. We plan to report analytical data from 2002-2004 (three years) of discharge monitoring reports for those conventional pollutant parameters currently limited in the NPDES permit for each process wastewater outfall.

~~Please also find enclosed the NPDES form 3510-11, EPA's No Exposure Certification for Exclusion from NPDES Storm Water Permitting. This form identifies North Anna Power Station as a "no exposure" facility, which relieves the facility from storm water permitting under EPA's Storm Water Multi-Sector General permit.~~

Dominion and North Anna Power Station appreciate this opportunity to review these requirements and coordinate our sampling plan with your agency. If you have any questions, please contact Joyce Livingstone at (804) 273-2985.

Sincerely,

Pamela F. Faggert

Pamela F. Faggert
Attachment

ATTACHMENT

cc: (w/attach.)
U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

U. S. Nuclear Regulatory Commission
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RE: North Anna Units 1 and 2
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License Nos. NPF-4/NPF-7

Mr. M. T. Widmann
NRC Senior Resident Inspector
North Anna Power Station

ATTACHMENT

ebc: (w/attach.)
C. C. Taylor
J. W. White
J. B. Livingstone

bc: (w/attach.)
J. M. Davis
N. L. Lane
J. W. Crossman
K. N. Kappatos - ODEC
A. C. Cooke

Power Records Management – IN/GW

EES File Code North Anna/ENV 55/NPDES Application

Concurrence: see attached

For File Copy ~~only~~
~~ATTACHMENT~~ bc'd + ebcd

~~Mr. Jeffrey Talbot~~
February 24, 2004
Page 11 of 9

ebc: (w/attach.)
J. B. Livingstone

bc: (w/attach.)
J. M. Davis
N. L. Lane
J. W. Grossman
K. N. Kappatos - ODEC
A. C. Cooke

Power Records Management – IN/GW

EES File Code North Anna/ENV 55/NPDES Application

Concurrence:

Mr. J. M. Davis _____

Mr. N. L. Lane _____

Mr. A. C. Cooke _____

ATTACHMENT

SAMPLING / TESTING PLAN AND REQUESTS FOR WAIVERS
VPDES PERMIT NO. VA0052451 – NORTH ANNA POWER STATION
LIST OF VPDES OUTFALLS

EXTERNAL OUTFALLS

Outfall 001	Discharge of Condenser Cooling Water from WHTF at Dike 3
Outfall 009	Settling Pond
Outfall 013	Turbine Bldg Sump #1 and Common Sump #2 & Storm Water only
Outfall 014	~~Turbine Bldg Sump #2 &~~ Storm Water only
Outfall 016	Intake Screen Wash Water
Outfall 020	Reverse Osmosis Reject
Outfall 021	Reverse Osmosis Drain Line
Outfall 022	Drainage Area #2A (storm water only – no exposure)
Outfall 023	Drainage Area #2B (storm water only – no exposure)
Outfall 024	Drainage Area #3 (storm water only – no exposure)
Outfall 025	Drainage Area #18 (storm water only – no exposure)
Outfall 026	Drainage Area #25 (storm water only – no exposure)

INTERNAL OUTFALLS

Outfall 103	Process Waste Clarifier (Turbine Bldg Sumps 1, 2 & 3)
Outfall 104	Oil/Water Separator & Storm Water
Outfall 105	Bearing Cooling Tower Blowdown
Outfall 107	Bearing Cooling System Discharge - Lake to Lake Operation
Outfall 108	Service Water Overboard
Outfall 109	Hot Well Drain Unit 1
Outfall 110	Hot Well Drain Unit 2
Outfall 111	Main Sewage Treatment Plant
Outfall 112	Steam Generator Blowdown Unit 1
Outfall 113	Steam Generator Blowdown Unit 2
Outfall 114	Service Water Pipe Vault Drain
Outfall 115	Service Water System Blowdown

ATTACHMENT

Outfall 001 Discharge of Condenser Cooling Water from WHTF at Dike 3

This outfall continuously discharges condenser cooling water from the Waste Heat Treatment Facility (WHTF) to Lake Anna at Dike 3. The retention time in the WHTF > 24 hours.

BOD_5, COD and TOC, Total Suspended Solids, Ammonia, Temperature (summer only): We will submit data from a grab sample in accordance with Form 2C instructions (retention period > 24 hours). A waiver for the off-season winter temperature is requested because it is regularly submitted in quarterly reports to DEQ.

Flow, pH, Total Residual Chlorine: Existing DMR data for 2002-2004 will be submitted consistent with reporting required by the current permit.

Form 2C - Part V-B and V-C parameters: We will collect and analyze a single grab sample for all pollutants included in Form 2C, Parts V-B & C of the permit application (Tables II, III and IV believed to be present). We acknowledge that the steam electric industry is not required to analyze for base neutrals or organic pesticide compounds [40 CFR Part §122, Appendix D, Note 1(c)(5), 7/1/03 edition] in once through cooling water. Also, Bis (Chloromethyl) Ether, Dichlorodifluoromethane and Trichlorofluoromethane are delisted priority pollutants and we do not plan to test for these parameters. Samples were also collected and analyzed additional DEQ -WQS parameters (see Attachment 16).

Outfall 009 Settling Pond

This intermittent discharge is from ground water, backwash cleaning from ~~sand filters and~~ (essentially ultra purified lake water) reverse osmosis units with the majority of the discharge consisting of storm water runoff from an area with no industrial activity and no chemical additions. The retention time > 24 hours.

BOD_5, COD, TOC, Ammonia, Temperature (summer and winter): We will submit data from a single grab sample in accordance with Form 2C instructions.

Flow, TSS, pH: Existing DMR data for 2002-2004 will be submitted consistent with reporting required by the current permit.

Form 2C - Part V-B and V-C parameters: We will collect and analyze a single grab sample for all pollutants included in Form 2C, Parts V-B & C of the permit application (Tables II, III and IV believed to be present). We acknowledge that the steam electric industry is not required to analyze for organic pesticide compounds [40 CFR Part §122, Appendix D, Note 1(c)(5), 7/1/03 edition]. Also, Bis (Chloromethyl) Ether, Dichlorodifluoromethane and Trichlorofluoromethane are delisted priority pollutants and we do not plan to test for these parameters.
Samples were also collected and analyzed additional DEQ -WQS parameters (see Attachment 16).

Outfall 013 Turbine Bldg Sump #1 & Common Sump #2 & Storm Water only

This intermittent outfall is an alternate discharge route for the effluent making up the majority of the flow at Outfall 104. Outfall 104 will be submitted to represent Outfall 013. The storm water component is from an area with no industrial activity and no chemical additions.

ATTACHMENT

Outfall 014 Turbine Bldg Sump #2 & Storm Water only

This intermittent outfall is an alternate discharge route for the effluent making up the majority of the flow at Outfall 104. Outfall 104 data will be submitted to represent Outfall 014.

The storm water is from an area with no industrial activity and no chemical additions.

Outfall 016 Intake Screen Wash Water

This outfall is a low volume, non-process discharge that consists entirely of lake water. Intake data will be submitted to represent Outfall 016.

Outfall 020 Reverse Osmosis Reject

This outfall is designed to discharge continuously, but there are times, which are rare, normally during outages when no make-up water is needed and all tanks are full, when it does not discharge. It consists of reverse osmosis reject water that contains only a 3.3x concentration of constituents of lake water, and a potential residual of 0-1 ppm free chlorine from sodium hypochlorite used in the Ionics system. No process waste waters or pollutants from other sources are added. Also, this outfall discharges into the incoming cooling water flow just outside the intakes. The retention time < 24 hours.

BOD_5, COD, TOC, Ammonia, Temperature (summer & winter): We request a waiver from the 24-hour composite sample requirement to be substituted with results from a single grab sample.

Flow, pH, TSS, Total Residual Chlorine: Existing DMR data for 2002-2004 will be submitted consistent with sampling required by the current permit.

Form 2C - Part V-B and V-C parameters: We request a waiver from the 24-hour composite sample requirement to be substituted with results from a single grab sample. We will collect and analyze for all pollutants included in Form 2C, Parts V-B & C of the permit application (Tables II, III and IV believed to be present). We acknowledge that the steam electric industry is not required to analyze for organic pesticide compounds [40 CFR Part §122, Appendix D, Note 1(c)(5), 7/1/03 edition]. Also, Bis (Chloromethyl) Ether, Dichlorodifluoromethane and Trichlorofluoromethane are delisted priority pollutants and we do not plan to test for these parameters.

Samples were also collected and analyzed additional DEQ -WQS parameters (see Attachment 16).

Outfall 021 Reverse Osmosis Drain Line

This outfall is designed to discharge pure lake water from the reverse osmosis system. Outfall 021 has never been used and is in the permit for emergency use only in the case where the whole ionic system is down and the line needs to be drained. Intake data will be submitted to characterize Outfall 021.

Outfall 022 Drainage Area #2A (storm water only)

This is an area of approximately 52 acres, with approximately 7.1 acres of impervious area. Storm water collected in the higher portion to the south, contractor shops, parking lots and the switch yard flows into

ATTACHMENT

a drop grating to a culvert near the northeast corner of the switch yard and discharges into Lake Anna at Outfall 022. The lower, more level portion includes a vehicle maintenance shop, a paint shop and part of an outdoor equipment lay down area. Storm water runoff from the grassed portions of this area adjacent to the lakeshore is generally sheet flow.

The storm water is from an area with no industrial activity and no chemical additions.

~~This drainage area and storm water discharge is addressed in the attached No Exposure Certification.~~

Outfall 023 Drainage Area #2B (storm water only)

This is a small area of approximately 6 acres. The only impervious area is the 0.09 acre storage building which is used for hazardous waste accumulation, with other miscellaneous storage. This storage building is constructed with a curbed foundation to contain any spillage and to prevent any discharge outside the structure. Storm water collected in the higher portion to the south flows into a culvert under this storage building then discharges into Lake Anna at Outfall 023. Storm water runoff from the grassed portions of this area adjacent to the lake shore is generally sheet flow.

The storm water is from an area with no industrial activity and no chemical additions.

~~This drainage area and storm water discharge is addressed in the attached No Exposure Certification.~~

Outfall 024 Drainage Area #3 (storm water only)

A small drainage area of 9 acres with primarily sheet flow runoff of stormwater to Lake Anna. About 0.08 acre is paved and impervious. A portion of the laydown area, shared with Area 2A has runoff through a drop culvert under the roadway and into Lake Anna at Outfall 024.

The storm water is from an area with no industrial activity and no chemical additions.

~~This drainage area and storm water discharge is addressed in the attached No Exposure Certification.~~

Outfall 025 Drainage Area #18 (storm water only)

This 56 acre drainage area, with 4 acres of impervious area, includes a portion of the warehouse facilities, an outdoor laydown area and some small utility buildings. Storm water from the northern portion of this drainage area is conveyed under the paved roadway via two culverts. The culvert to the west carries the smaller amount of storm water flow which drains from open, grassed fields with no industrial activity. The culvert to the east was chosen as the sample point from Area 18 because it carries the collected drainage from the larger portion of the area, from the warehouse and laydown facilities. Outfall 025 discharges storm water from this drainage into the Waste Heat Treatment Facility.

The storm water is from an area with no industrial activity and no chemical additions.

~~This drainage area and storm water discharge is addressed in the attached No Exposure Certification.~~

Outfall 026 Drainage Area #25 (storm water only)

This 61 acre drainage area has no impervious surface area. In the northern portion of Area 25, there is a site used for temporary exposed storage of discarded miscellaneous material such as large concrete "dead weight" blocks for crane weight testing, small movable buildings, etc. This portion of the drainage area has runoff through a culvert under the roadway and into Lake Anna at Outfall 026. This culvert was selected as the sample point for Area 25; no industrial activities occur downstream. As with other lakeside areas, sections adjacent to the shoreline, north of the graveled roadway have sheet flow runoff of storm water.

The storm water is from an area with no industrial activity and no chemical additions.

ATTACHMENT

~~This drainage area and storm water discharge is addressed in the attached No Exposure Certification.~~

Outfall 103 Process Waste Clarifier

This intermittent discharge includes intermittent lower volumes of steam generator blowdown, also package boiler blowdown (not currently in use) and mat sump system discharge and ion exchanger waste, and intermittent blowdown of the Service Water Reservoir. The retention time is <24 hours.

BOD_5, COD, TOC, Ammonia, Temperature (summer only): We request a waiver from 4 single grab samples to 1 individual grab sample due to access and radiation exposure concerns, and a waiver for the off-season winter temperature is requested, because the temperature of this outfall is relatively constant year round.

Flow, pH, TSS, Oil & Grease: Existing DMR data for 2002-2004 will be submitted consistent with reporting required by the current permit.

Form 2C - Part V-B and V-C parameters: We request a waiver from 4 single grab samples to 1 individual grab sample. We propose to collect and analyze a single grab sample for all pollutants included in Form 2C, Parts V-B & C of the permit application (Tables II, III and IV believed to be present). We acknowledge that the steam electric industry is not required to analyze for organic pesticide compounds [40 CFR Part §122, Appendix D, Note 1(c)(5), 7/1/03 edition]. Also, Bis (Chloromethyl) Ether, Dichlorodifluoromethane and Trichlorofluoromethane are delisted priority pollutants and we do not plan to test for these parameters.

Outfall 104 Oil/Water Separator & Storm Water

This discharge was previously approved to represent Outfalls 013 and 014 (Turbine Building Sump #1, Common Sump and Turbine Building Sump #2). The flow is intermittent, and the retention time is < 24 hours. The storm water component is from an area with no industrial activity.

BOD_5, COD, TOC, Ammonia, Temperature (summer & winter): We request a waiver from the 4 hourly grab sample requirement to be substituted with results from a single grab sample.

Flow, TSS, pH, Oil and Grease: Existing DMR data for 2002-2004 will be submitted consistent with reporting required by the current permit.

Form 2C - Part V-B and V-C parameters: We request a waiver from the 4 hourly grab sampling requirement to be substituted with results from a single grab sample. We will collect and analyze for all pollutants included in Form 2C, Parts V-B & C of the permit application (Tables II, III and IV believed to be present). We acknowledge that the steam electric industry is not required to analyze for organic pesticide compounds [40 CFR Part §122, Appendix D, Note 1(c)(5), 7/1/03 edition]. Also, Bis (Chloromethyl) Ether, Dichlorodifluoromethane and Trichlorofluoromethane are delisted priority pollutants and we do not plan to test for these parameters.

Outfall 105 Bearing Cooling Tower Blowdown

This outfall is used to control the water chemistry in the system intermittently when either of the units is operating. The retention time is <24 hours. The sample will be collected from the Bearing Cooling Tower reservoir.

ATTACHMENT

BOD5, COD, TOC, Total Suspended Solids, Ammonia, Temperature (summer & winter): We request a waiver from the 24-hour composite sampling requirement and request approval to submit data from 1 individual grab sample.

pH: Existing data for 2002-2004 will be submitted consistent with sampling required by the current permit.

Form 2C - Part V-B and V-C parameters: We request a waiver from the 24-hour composite sampling requirement and request approval to submit data from 1 individual grab sample. We will collect and analyze for all pollutants included in Form 2C, Parts V-B & C of the permit application (Tables II, III and IV believed to be present). We acknowledge that the steam electric industry is not required to analyze for organic pesticide compounds [40 CFR Part §122, Appendix D, Note 1(c)(5), 7/1/03 edition]. Also, Bis (Chloromethyl) Ether, Dichlorodifluoromethane and Trichlorofluoromethane are delisted priority pollutants and we do not plan to test for these parameters.

Outfall 107 Bearing Cooling System Discharge - Lake to Lake Operation

This outfall is not currently in use. If a discharge were to occur, it would be temporary when the bearing cooling tower is valved off for maintenance work, and this is likely to occur within the next five years. Lake water would pass through the bearing cooling system, bypass the cooling tower and go straight to the WHTF. No treatment chemicals are used. There is no retention time. Intake data will be submitted to represent Outfall 107.

Outfall 108 Service Water Overboard

This outfall is manually operated with a valve, and is used intermittently to control the level of the Service Water Reservoir as necessary. The retention time of the service water reservoir is > 24 hours. A sample can be collected from the bank of the Service Water Reservoir near the intake structure. Outfall 108 is substantially identical to Outfalls 114 and Outfall 115.

BOD_5, COD, TOC, Total Suspended Solids, Ammonia, Temperature (summer & winter): We will submit data from a grab sample in accordance with Form 2C instructions.

Flow, pH: Existing data for 2002-2004 will be submitted consistent with sampling required by the current permit.

Form 2C - Part V-B and V-C parameters: We will collect and analyze a single grab for all pollutants included in Form 2C, Parts V-B & C of the permit application (Tables II, III and IV believed to be present). We acknowledge that the steam electric industry is not required to analyze for organic pesticide compounds [40 CFR Part §122, Appendix D, Note 1(c)(5), 7/1/03 edition]. Also, Bis (Chloromethyl) Ether, Dichlorodifluoromethane and Trichlorofluoromethane are delisted priority pollutants and we do not plan to test for these parameters.

Outfall 109 Hot Well Drain #1

This intermittent outfall was previously approved to represent Outfall 110 (Hot Well Drain #2), relatively high-purity condensate water, with small concentrations of corrosion chemicals. The drains

ATTACHMENT

are normally used once per 18 months, on alternating schedules, during maintenance shutdowns of the respective units. To obtain a representative sample, this must be sampled during use (maintenance shutdown). The retention time > 24 hours.

BOD_5, COD, TOC, Ammonia, Temperature (summer): We will submit data from a single grab sample in accordance with Form 2C instructions, and a waiver for the off-season winter temperature is requested because of the infrequent discharge.

Flow, TSS, pH, Oil & Grease: Existing DMR data for 2002-2004 will be submitted consistent with reporting required by the current permit.

Form 2C - Part V-B and V-C parameters: We will collect and analyze a single grab sample for all pollutants included in Form 2C, Parts V-B & C of the permit application (Tables II, III and IV believed to be present. We acknowledge that the steam electric industry is not required to analyze for organic pesticide compounds [40 CFR Part §122, Appendix D, Note 1(c)(5), 7/1/03 edition]. Also, Bis (Chloromethyl) Ether, Dichlorodifluoromethane and Trichlorofluoromethane are delisted priority pollutants and we do not plan to test for these parameters.

Outfall 110 Hot Well Drain #2

Outfall 110 is substantially identical to Outfall 109 and we will submit Outfall 109 data to represent Outfall 110.

Outfall 111 Main Sewage Treatment Plant

All domestic sewage is routed to the main sewage treatment plant. The plant is equipped with two equalization basins, each with a capacity of 18,700 gallons. During normal operation only one side is used but during periods of high demand (outages) both sides are used.

Form 2A instructions require 3 samples [we propose 1/hour]. No waivers are requested. We will submit available DMR data for flow and TRC. We propose to submit 3 grab samples, one per hour for BOD-5, fecal coliform, TSS, pH, summer and winter temperatures.

Outfall 112 Steam Generator Blowdown Unit 1

This outfall was previously approved to represent Outfall 113 (Steam Generator Blowdown Unit 2), and continuously discharges relatively high-purity condensate water from a closed system with small concentrations of corrosion chemicals while Unit 1 is operating. It is normally only shut off during outages (every 18 months) for maintenance. The retention time < 24 hours.

BOD_5, COD, TOC, Ammonia, Temperature (summer & winter): We request a waiver from the 24-hour composite sampling requirement and request approval to submit data from a single grab sample.

Flow, pH, TSS, Oil & Grease: Existing DMR data for 2002-2004 will be submitted consistent with reporting required by the current permit.

ATTACHMENT

Form 2C - Part V-B and V-C parameters: We will collect and analyze a single grab sample for all pollutants included in Form 2C, Parts V-B & C of the permit application (Tables II, III and IV believed to be present. We acknowledge that the steam electric industry is not required to analyze for organic pesticide compounds [40 CFR Part §122, Appendix D, Note 1(c)(5), 7/1/03 edition]. Also, Bis (Chloromethyl) Ether, Dichlorodifluoromethane and Trichlorofluoromethane are delisted priority pollutants and we do not plan to test for these parameters.

Outfall 113 Steam Generator Blowdown Unit 2

Outfall 113 is substantially identical to Outfall 112 and we will submit Outfall 112 data to represent Outfall 113.

Outfall 114 Service Water Pipe Vault Drain

This outfall is used when leakage accumulates in the Pipe Vault adjacent to the Service Water Reservoir. Outfall 108 is substantially identical to Outfalls 114 and we will submit Outfall 108 data to represent Outfall 114.

Outfall 115 Service Water System Blowdown

This outfall will be for emergency use only, to blowdown the service water reservoir when other pathways are not available for whatever reasons. Outfall 108 is substantially identical to Outfall 115 and we will submit Outfall 108 data to represent Outfall 115.

Intake Lake Anna - North Anna Power Station

Representing Outfalls 016, 021 and 107, lake water samples were collected on 9/8/04 at the North Anna Power Station Intake and analyzed for all Form 2C parameters except temperature. Samples were also collected for tributyl tin and guthion (DEQ-WQS). Data are included on Form 2C in Section 10 of this application.

Do Not Process - This application null and void.

NPDES FORM 3510-11

United States Environmental Protection Agency
Washington, DC 20460

Form Approved
OMB No. 2040-0211

NO EXPOSURE CERTIFICATION for Exclusion from NPDES Storm Water Permitting

Submission of this No Exposure Certification constitutes notice that the entity identified in Section A does not require permit authorization for its storm water discharges associated with industrial activity in the State identified in Section B under EPA's Storm Water Multi-Sector General Permit due to the existence of a condition of no exposure.

A condition of no exposure exists at an industrial facility when all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. A storm resistant shelter is not required for the following industrial materials and activities:

- drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak. "Sealed" means banded or otherwise secured and without operational taps or valves;
- adequately maintained vehicles used in material handling; and
- final products, other than products that would be mobilized in storm water discharges (e.g., rock salt).

A No Exposure Certification must be provided for each facility qualifying for the no exposure exclusion. In addition, the exclusion from NPDES permitting is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, the facility is not eligible for the no exposure exclusion.

By signing and submitting this No Exposure Certification form, the entity in Section A is certifying that a condition of no exposure exists at its facility or site, and is obligated to comply with the terms and conditions of 40 CFR 122.26(g).

ALL INFORMATION MUST BE PROVIDED ON THIS FORM.

Detailed instructions for completing this form and obtaining the no exposure exclusion are provided on pages 3 and 4.

A. Facility Operator Information

1. Name: Dominion Virginia Power 2. Phone: 804 771 3000

3. Mailing Address: a. Street: P. O. Box 26666

b. City: Richmond c. State: VA d. Zip Code: 23261

B. Facility/Site Location Information

1. Facility Name: North Anna Power Station

2. a. Street Address: 1022 Haley Avenue

b. City: Mineral c. County: Louisa

d. State: VA e. Zip Code: 23117

3. Is the facility located on Indian Lands? Yes ☐ No ☒

4. Is this a Federal facility? Yes ☐ No ☒

5. a. Latitude: 38 ° 03 ' 38 " b. Longitude: 77 ° 47 ' 26 "

6. a. Was the facility or site previously covered under an NPDES storm water permit? Yes ☒ No ☐

b. If yes, enter NPDES permit number: VA0052451

7. SIC/Activity Codes: Primary: 4911 Secondary (if applicable):

8. Total size of site associated with industrial activity: 1,043 acres

9. a. Have you paved or roofed over a formerly exposed, pervious area in order to qualify for the no exposure exclusion? Yes ☐ No ☒

b. If yes, please indicate approximately how much area was paved or roofed over. Completing this question does not disqualify you for the no exposure exclusion. However, your permitting authority may use this information in considering whether storm water discharges from your site are likely to have an adverse impact on water quality, in which case you could be required to obtain permit coverage.

Less than one acre ☐ One to five acres ☐ More than five acres ☐

Do Not Process - This application null and void.

NPDES FORM 3510-11

EPA

NO EXPOSURE CERTIFICATION for Exclusion from NPDES Storm Water Permitting

Form Approved OMB No. 2040-0211

C. Exposure Checklist

Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) If you answer "Yes" to any of these questions (1) through (11), you are not eligible for the no exposure exclusion.

	Yes	No
1. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water	☐	☒
2. Materials or residuals on the ground or in storm water inlets from spills/leaks	☐	☒
3. Materials or products from past industrial activity	☐	☒
4. Material handling equipment (except adequately maintained vehicles)	☐	☒
5. Materials or products during loading/unloading or transporting activities	☐	☒
6. Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to storm water does not result in the discharge of pollutants)	☐	☒
7. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	☐	☒
8. Materials or products handled/stored on roads or railways owned or maintained by the discharger	☐	☒
9. Waste material (except waste in covered, non-leaking containers [e.g., dumpsters])	☐	☒
10. Application or disposal of process wastewater (unless otherwise permitted)	☐	☒
11. Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the storm water outflow	☐	☒

Certification Statement

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from NPDES storm water permitting.

I certify under penalty of law that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility or site identified in this document (except as allowed under 40 CFR 122.26(g)(2)).

I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of storm water from the facility.

Additionally, 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 gathered and evaluated 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.

Print Name: Jack Michael Davis

Print Title: Site Vice President

Signature: Jack Michael Davis

Date: 03/1/004

VPDES Outfall Descriptions and Sampling Points

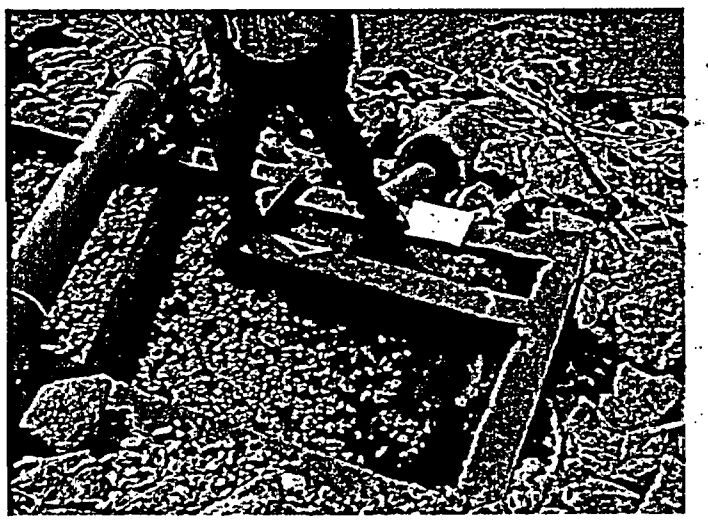
VPDES OUTFALL DESCRIPTIONS AND SAMPLING POINTS

NORTH ANNA POWER STATION

Outfall #	External Outfalls	Sample Point	Discharge To:
001	Discharge of Condenser Cooling Water from WHTF at Dike 3	Dike 3	Lake Anna
009	Settling Pond	End of pipe	Lake Anna
013	Turbine Bldg Sump #2 & Storm Water only	At overflow weir	Lake Anna
014	Storm Water only	At overflow weir	Lake Anna
016	Intake Screen Wash Water	Discharge into basket	Lake Anna
020	Reverse Osmosis Reject	End of small pipe, where it empties into larger pipe	Lake Anna
021	Reverse Osmosis Drain Line	Middle of pipe at valve	Lake Anna
022	Drainage Area #2A (storm water only)	End of pipe, deep gully	Lake Anna
023	Drainage Area #2B (storm water only)	End of culvert	Lake Anna
024	Drainage Area #3 (storm water only)	End of culvert, in rip rap	Lake Anna
025	Drainage Area #18 (storm water only)	End of culvert, down the hill	WHTF
026	Drainage Area #25 (storm water only)	End of culvert, weedy area	Lake Anna
Outfall #	**Internal Outfalls**		
103	Process Waste Clarifier	Clarifier building sink	Discharge Canal
104	Oil/Water Separator & Storm Water	At overflow weir	Discharge Canal
105	Bearing Cooling Tower Blowdown	Sample tap in Turbine Building Basement	Discharge Canal
107	Bearing Cooling System Discharge	Sample tap in Turbine Building Basement	Discharge Canal
108	Service Water Overboard	Sample tap in Turbine Building Basement	Discharge Canal
109	Hot Well Drain – Unit 1	Hotwell drain pipe valve; Turbine Building Basement.	Discharge Canal
110	Hot Well Drain – Unit 2	Hotwell drain pipe valve; Turbine Building Basement	Discharge Canal
111	Main Sewage Treatment Plant	At the weir	Discharge Canal
112	Steam Generator Blowdown - Unit 1	Unit 1 sample sink; Turbine Building Basement	Discharge Canal
113	Steam Generator Blowdown - Unit 2	Unit 2 sample sink; Turbine Building Basement	Discharge Canal
114	Service Water Tie-In Vault Drain	End of pipe on walkway	Discharge Canal
115	Service Water System Blowdown	End of concrete drainage ditch adjacent to the Warehouse 5 fire pump house, midway down the discharge canal.	Discharge Canal

NORTH ANNA POWER STATION
VPDES OUTFALLS - 2005

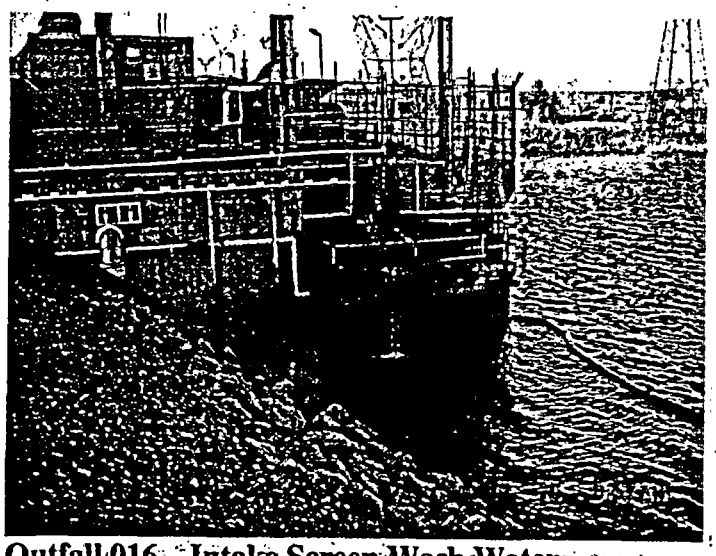
Outfall 009 - Settling Pond



Outfall 013 - Turbine Bldg Sump #1 & Common Sump #2 & Storm Water only

Outfall 014 - Storm Water Only

NORTH ANNA POWER STATION
VPDES OUTFALLS - 2005

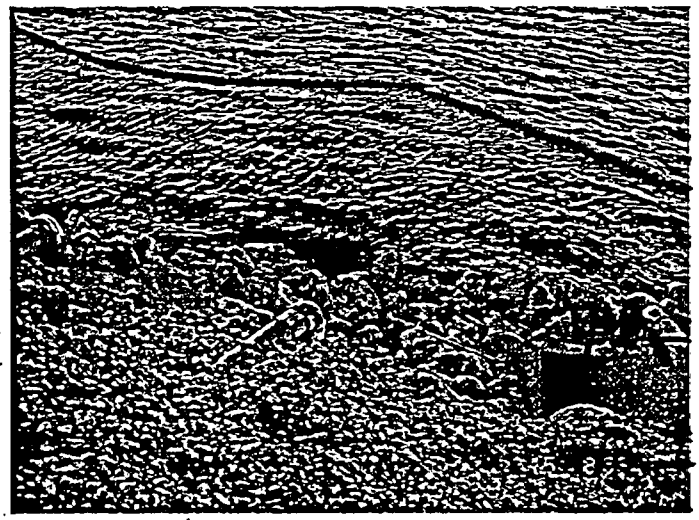


Outfall 016 – Intake Screen Wash Water

Outfall 103 - Process Waste Clarifier

Outfall 115 – Service Water System Blowdown

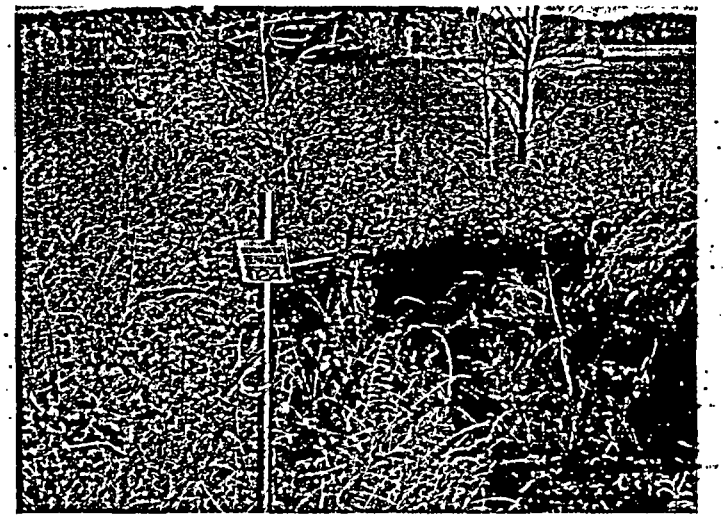
Outfall 020 - Reverse Osmosis Reject



Outfall 021 - Reverse Osmosis Drain Line

Outfall 022 - Drainage Area #2A (storm water only)

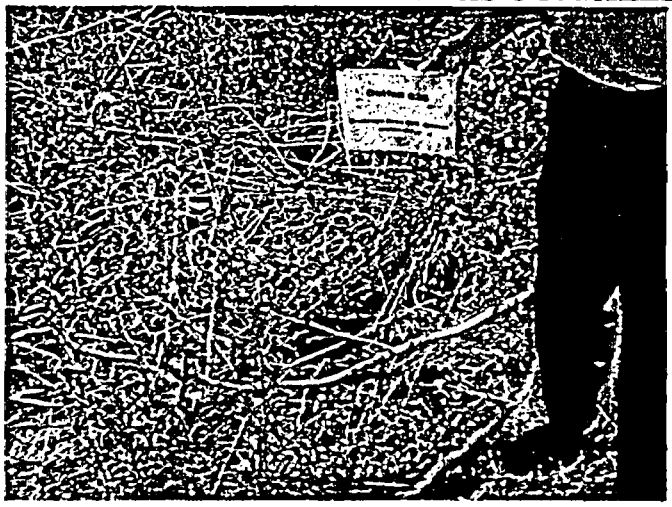
Outfall 023 - Drainage Area #2B (storm water only)



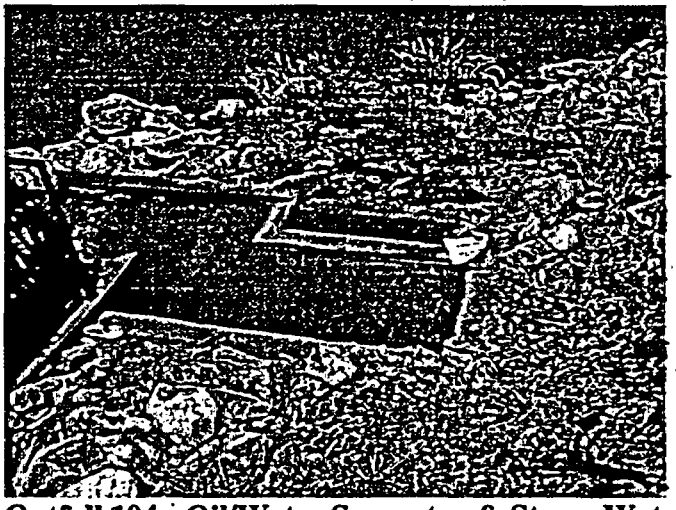
Outfall 024 - Drainage Area #3 (storm water only)

Outfall 025 - Drainage Area #18 (storm water only)

NORTH ANNA POWER STATION
VPDES OUTFALLS - 2005

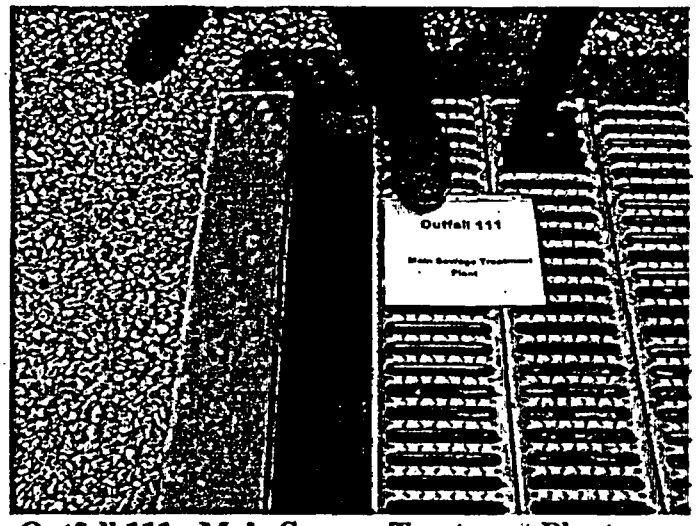


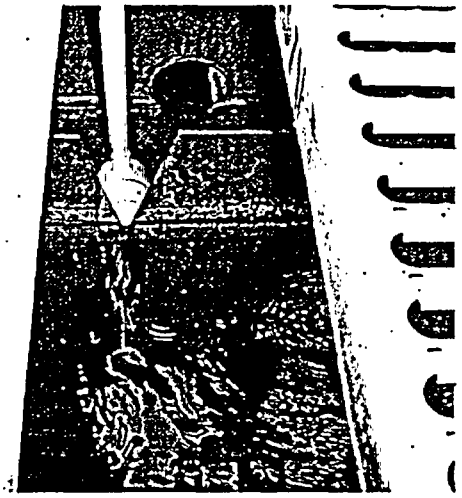
Outfall 026 - Drainage Area #25 (storm water only)



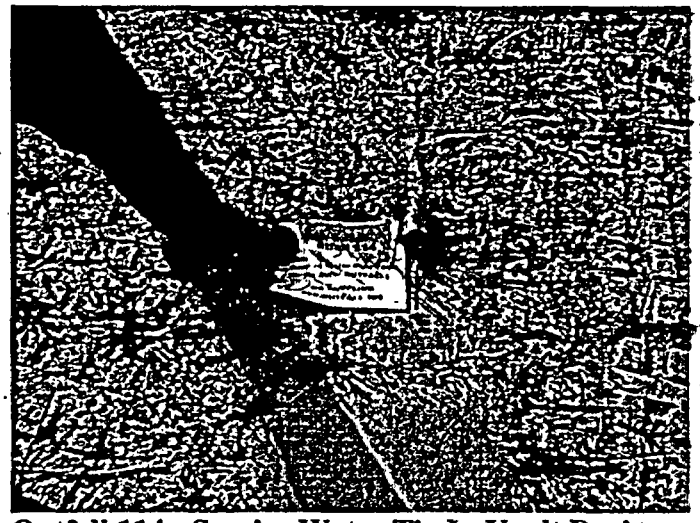
Outfall 104 - Oil/Water Separator & Storm Water sampling point

Outfall 108 - Service Water Overboard

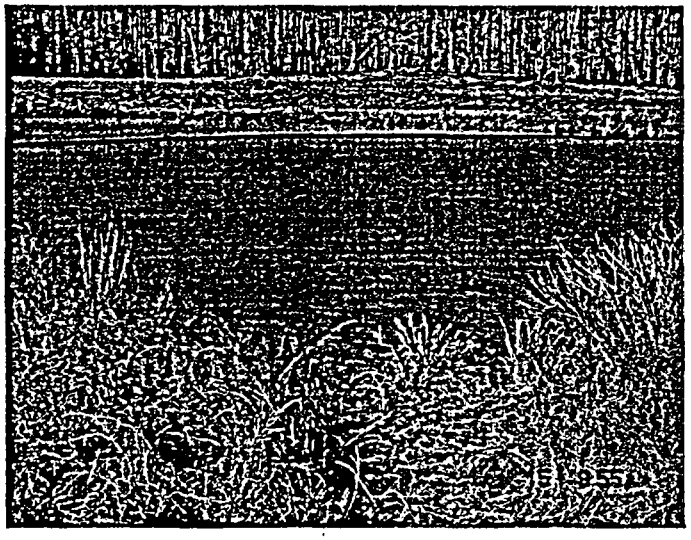




Outfall 111 - Main Sewage Treatment Plant



Outfall 114 - Service Water Tie-In Vault Drain



Final Outfall for :

Outfall 105 - Bearing Cooling Tower Blowdown

Outfall 107 - Bearing Cooling System Discharge

Outfall 109 - Hot Well Drain – Unit 1

Outfall 110 - Hot Well Drain – Unit 2

Outfall 112 - Steam Generator Blowdown - Unit 1

Outfall 113 - Steam Generator Blowdown - Unit 2

EPA Form 3510-1
General Information

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved. OMB No. 2040-0086. Approval expires 5-31-92.

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
GENERAL INFORMATION
Consolidated Permits Program
(Read the "General Instructions" before starting)

1. EPA I.D NUMBER: S F VAD065376279 T/A C D (1 2 - 13 14 15)

LABEL ITEMS
- I. EPA I.D. NUMBER
- III. FACILITY NAME
- V. FACILITY MAILING ADDRESS
- VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms.**

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge to waters of the U.S.?** (FORM 2A) (16)		X (17)	(18)	B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge to waters of the U.S.?** (FORM 2B) (19)		X (20)	(21)
C. Is this a facility which currently results in **discharges to waters of the U.S.** other than those described in A or B above? (FORM 2C) (22)	X (23)		X (24)	D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge to waters of the U.S.?** (FORM 2D) (25)		X (26)	(27)
E. Does or will this facility treat, store, or dispose of **hazardous wastes?** (FORM 3) (28)		X (29)	(30)	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4) (31)		X (32)	(33)
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4) (34)		X (35)	(36)	H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4) (37)		X (38)	(39)
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area?** (FORM 5) (40)		X (41)	(42)	J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area?** (FORM 5) (43)		X (44)	(45)

III. NAME OF FACILITY

C 1 SKIP **DOMINION - NORTH ANNA POWER STATION** (15 16 - 29 30 - 69)

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*		
C 2 FAGGERT, PAMELA - VICE PRESIDENT & CHIEF ENVIRONMENTAL OFFICER (15 16 - 45)	804 (46 - 48)	273 (49 - 51)	3467 (52 - 55)

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

C 3 **5000 DOMINION BLVD** (15 16 - 45)

B. CITY OR TOWN	C. STATE	D. ZIP CODE
C 4 GLEN ALLEN (15 16 - 40)	VA (41 42)	23060 (47 - 51)

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

C 5 **1022 HALEY DRIVE** (15 16 - 45)

B. COUNTY NAME

LOUISA (46 - 70)

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
C 6 MINERAL (15 16 - 40)	VA (41 42)	23117 (47 - 51)	(52 - 54)

CONTINUE ON REVERSE

STF EN/564F.1

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
7 4911 (specify) Electric Power	7 (specify)
C. THIRD	**D. FOURTH**
7 (specify)	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: 8 Virginia Electric & Power Co.

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box. If "Other", specify.)
F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

P (specify)

D. PHONE (area code & no.): A 804 273 3467

E. STREET OR P.O. BOX: 5000 Dominion Blvd

F. CITY OR TOWN: 8 Glen Allen

G. STATE: VA

H. ZIP CODE: 23060

IX. INDIAN LAND
Is the facility located on Indian land? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): 9 N VA0052451	D. PSD (Air Emissions from Proposed Sources): 9 P
B. UIC (Underground Injection of Fluids): 9 U	E. OTHER (specify): 9 Stationary Source Permit to Operate Approved 7/1/02
C. RCRA (Hazardous Wastes): 9	F. OTHER (specify): 9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements. See Attachment 1-XI.

XII. NATURE OF BUSINESS (provide a brief description)

Generation of electricity with steam produced by the fission of nuclear materials.

XIII. CERTIFICATION (see instructions)

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

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Jack Michael Davis Site Vice President		6/28/05

COMMENTS FOR OFFICIAL USE ONLY

C

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
7 4911 (specify) Electric Power	7 (specify)
C. THIRD	**D. FOURTH**
7 (specify)	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: 8 Virginia Electric & Power Co.

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC (other than federal or state), O = OTHER (specify)
P (specify)

D. PHONE (area code & no.): A 804 273 3467

E. STREET OR P.O. BOX: 5000 Dominion Blvd.

F. CITY OR TOWN: B Glen Allen

G. STATE: VA

H. ZIP CODE: 23060

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): 9 N VA0052451	D. PSD (Air Emissions from Proposed Sources): 9 P
B. UIC (Underground Injection of Fluids): 9 U	E. OTHER (specify): 9 Stationary Source Permit to Operate Approved 7/1/02
C. RCRA (Hazardous Wastes): 9	E. OTHER (specify): 9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements. See Attachment 1-XI.

XII. NATURE OF BUSINESS (provide a brief description)

Generation of electricity with steam produced by the fission of nuclear materials.

XIII. CERTIFICATION (see instructions)

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

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Jack Michael Davis Site Vice President	[signature]	6/20/03

COMMENTS FOR OFFICIAL USE ONLY

C

Topographic Map
(required by EPA Form 3510-1, Section XI)

THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE

THAT CAN BE VIEWED AT THE RECORD TITLED:

"TOPOGRAPHIC MAP"

WITHIN THIS PACKAGE.....

D-01

Property Boundaries Map
(required by EPA Form 3510-1, Section XI)

THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE

THAT CAN BE VIEWED AT THE RECORD TITLED:

"PROPERTY BOUNDARIES MAP"

WITHIN THIS PACKAGE.....

D-02

VPDES Outfall Location Map
(required by EPA Form 3510-1, Section XI)

WITHIN THIS PACK THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE

THAT CAN BE VIEWED AT THE RECORD TITLED:

"VPDES OUT FALL LOCATION MAP"

WITHIN THIS PACKAGE.....

D-03

VPDES Permit Application Addendum

June 2005

VPDES Permit Application Addendum

1. **Entity to whom the permit is to be issued:** Dominion - North Anna Power Station
Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be a facility or property owner.

2. **Is this facility located within city or town boundaries?** NO
Include a topographic map identifying the location of the facility, the property boundaries, and the discharge point. Topographic map is included as Attachment 6

3. **What is the tax map parcel number for the land where this facility is located?** Unknown

4. **For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities?** none

5. **ALL FACILITIES: What is the design average flow of this facility?** 30,000 gpd MGD
Industrial facilities: What is the max. 30-day avg. production level (include units)? 32,678 GPD

In addition to the above design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels? NO

If Yes, **please specify the other flow tiers (in MGD) or production levels:**

Please consider: Is your facility's design flow considerably greater than your current flow? Do you plan to expand operations during the next five years? NO

6. **Nature of operations generating wastewater:**
Generation of electricity with steam produced by the fission of nuclear materials.

0 % of flow from domestic connections/sources
Number of private residences to be served by the wastewater treatment facilities: X 0 __ 1-49 __ 50 or more

100 % of flow from non-domestic connections/sources

7. **Mode of discharge:** X Continuous __ Intermittent __ Seasonal
Describe frequency and duration of intermittent or seasonal discharges:

8. **Identify the characteristics of the receiving stream at the point just above the facility's discharge point:**
__ Permanent stream, never dry
__ Intermittent stream, usually flowing, sometimes dry
__ Ephemeral stream, wet-weather flow, often dry
__ Effluent-dependent stream, usually or always dry
X Lake or pond at or below the discharge point
__ Other:

9. **Approval Date(s):**
O & M Manual December 2004 **Sludge/Solids Management Plan** December 2004

Have there been any changes in your operations or procedures since the above approval dates? NO

(01)

EPA Form 3510-2A
Application for Permit to Discharge Municipal Waste from POTWs

FACILITY NAME AND PERMIT NUMBER:
Dominion - North Anna Power Station
VA0052451

Form Approved 1/14/99
OMB Number 2040-0086

FORM 2A NPDES

NPDES FORM 2A APPLICATION OVERVIEW

APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

A. **Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.

B. **Additional Application Information for Applicants with a Design Flow ≥ 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6. Not applicable at this facility

C. **Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

D. **Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data): Not applicable at this facility

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to provide the information.

E. **Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data): Not applicable at this facility

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to submit results of toxicity testing.

F. **Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as: Not applicable at this facility

1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
2. Any other industrial user that:
   a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
   b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
   c. Is designated as an SIU by the control authority.

G. **Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems). Not applicable at this facility

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

FACILITY NAME AND PERMIT NUMBER:
Dominion - North Anna Power Station
VA0052451

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

A.1. Facility Information.

Facility name: Dominion - North Anna Power Station

Mailing Address: 1022 Haley Drive
Louisa, Virginia 23117

Contact person: Arthur C. Cooke

Title: Environmental Compliance Coordinator

Telephone number: 540-894-2856

Facility Address (not P.O. Box): 1022 Haley Drive
Louisa, Virginia 23117

A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant name: Virginia Electric & Power Company

Mailing Address: 5000 Dominion Boulevard
Glen Allen, Virginia 23060

Contact person: Pamela F. Faggert

Title: Vice President and Chief Environmental Officer

Telephone number: 804-273-3467

Is the applicant the owner or operator (or both) of the treatment works?

X owner X operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

X facility X applicant

A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES VA0052451 PSD
UIC Other
RCRA Other

A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
North Anna Power Station	950	Separate	Dominion - VEPCo

Total population served 950

FACILITY NAME AND PERMIT NUMBER:
Dominion - North Anna Power Station
VA0052451

Form Approved 1/14/99
OMB Number 2040-0086

A.5. Indian Country.

a. Is the treatment works located in Indian Country?

____ Yes X No

b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

____ Yes X No

A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

Outfall 111 is an internal outfall and monitored daily for flow.

a. Design flow rate **30,000 gpd** d

	Two Years Ago 2002	Last Year 2003	This Year May 2004 - April 2005	
b. Annual average daily flow rate	0.008	0.009	0.006	mgd
c. Maximum daily flow rate	0.023	0.033	0.026	mgd

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

X Separate sanitary sewer 100 %

____ Combined storm and sanitary sewer ____ %

A.8. Discharges and Other Disposal Methods.

a. Does the treatment works discharge effluent to waters of the U.S.? (indirect) X Yes ____ No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent 1

ii. Discharges of untreated or partially treated effluent ____

iii. Combined sewer overflow points ____

iv. Constructed emergency overflows (prior to the headworks) ____

v. Other ____ ____

b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.? ____ Yes X No

If yes, provide the following for each surface impoundment:

Location: ____

Annual average daily volume discharged to surface impoundment(s) ____ mgd

Is discharge ____ continuous or ____ intermittent?

c. Does the treatment works land-apply treated wastewater? ____ Yes X No

If yes, provide the following for each land application site:

Location: ____

Number of acres: ____

Annual average daily volume applied to site: ____ Mgd

Is land application ____ continuous or ____ intermittent?

d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works? ____ Yes X No

If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

N/A

If transport is by a party other than the applicant, provide: N/A

Transporter name: _____

Mailing Address: _____

Contact person: _____

Title: _____

Telephone number: _____

For each treatment works that receives this discharge, provide the following: N/A

Name: _____

Mailing Address: _____

Contact person: _____

Title: _____

Telephone number: _____

If known, provide the NPDES permit number of the treatment works that receives this discharge. _____

Provide the average daily flow rate from the treatment works into the receiving facility. _____ mgd

e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? _____ Yes _____ No

If yes, provide the following for each disposal method: N/A

Description of method (including location and size of site(s) if applicable):

Annual daily volume disposed of by this method: _____

Is disposal through this method _____ continuous or _____ intermittent?

FACILITY NAME AND PERMIT NUMBER:
Dominion - North Anna Power Station
VA0052451

Form Approved 1/14/99
OMB Number 2040-0086

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

a. Outfall number: 111

b. Location: Louisa County, Virginia 23117
(City or town, if applicable) (Zip Code)
(County) (State)
38-03-47 (Latitude) 77-47-56-25 (Longitude)

c. Distance from shore (if applicable): 0 ft.

d. Depth below surface (if applicable): 0 ft.

e. Average daily flow rate: 8,000 gpd mgd

f. Does this outfall have either an intermittent or a periodic discharge? ____ Yes X No (go to A.9.g.)

If yes, provide the following information:

Number of times per year discharge occurs: ____

Average duration of each discharge: ____

Average flow per discharge: ____ mgd

Months in which discharge occurs: ____

g. Is outfall equipped with a diffuser? ____ Yes X No

A.10. Description of Receiving Waters.

a. Name of receiving water: Discharge Canal, Lake Anna

b. Name of watershed (if known): North Anna River

United States Soil Conservation Service 14-digit watershed code (if known): Not known

c. Name of State Management/River Basin (if known): York River Basin

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): Not known

d. Critical low flow of receiving stream (if applicable):
acute N/A cfs chronic N/A cfs

e. Total hardness of receiving stream at critical low flow (if applicable): Not known mg/l of $CaCO_3$

FACILITY NAME AND PERMIT NUMBER:
Dominion - North Anna Power Station
VA0052451

Form Approved 1/14/99
OMB Number 2040-0086

A.11. Description of Treatment.

a. What levels of treatment are provided? Check all that apply.

X Primary _____ Secondary

_____ Advanced _____ Other. Describe: Chlorination Only

b. Indicate the following removal rates (as applicable): N/A

Design BOD_5 removal or Design $CBOD_5$ removal _____ %

Design SS removal _____ %

Design P removal _____ %

Design N removal _____ %

Other _____ _____ %

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

Chlorination

If disinfection is by chlorination, is dechlorination used for this outfall? _____ Yes X No

d. Does the treatment plant have post aeration? _____ Yes X No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 111

At least 3 samples, no more than 4 1/2 years

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.43	s.u.			
pH (Maximum)	7.63	s.u.			
Flow Rate	0.26	mgd	0.03	mgd	36
Temperature (Winter)	22.2	deg C	22.2	deg C	1
Temperature (Summer)	26.3	deg C	26.3	deg C	1

* For pH please report a minimum and a maximum daily value

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
		Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.								
BIOCHEMICAL OXYGEN	BOD-5	12	ppm	7.8	ppm	7	SM5210B	NA
DEMAND (Report one)	XXXX	NA	NA	NA	NA	NA	NA	NA
FECAL COLIFORM		<2	N/100ml	NA	NA	1	SM9221E(A-1)	NA
TOTAL SUSPENDED SOLIDS (TSS)		26.1	ppm	12.2	ppm	13	SM2540D	NA

END OF PART A.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

_____gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

_____

_____

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

a. The area surrounding the treatment plant, including all unit processes.

b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.

c. Each well where wastewater from the treatment plant is injected underground.

d. Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.

e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.

f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, includingdisinfection (e.g. chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ____Yes ____No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: _____

Mailing Address: _____

_____

Telephone Number: _____

Responsibilities of Contractor: _____

B.5. Scheduled Improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

_____

b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

____Yes ____No

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99
OMB Number 2040-0086

c If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

_____

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule MM / DD / YYYY	Actual Completion MM / DD / YYYY
-Begin construction	__/__/____	__/__/____
-End construction	__/__/____	__/__/____
-Begin discharge	__/__/____	__/__/____
-Attain operational level	__/__/____	__/__/____

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ___Yes ___No

Describe briefly: _____

_____

B.6. EFFLUENT TESTING DATA (GREATER THAN 0.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods foranalytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number:_____

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)							
CHLORINE (TOTAL RESIDUAL, TRC)							
DISSOLVED OXYGEN							
TOTAL KJELDAHL NITROGEN (TKN)							
NITRATE PLUS NITRITE NITROGEN							
OIL and GREASE							
PHOSPHORUS (Total)							
TOTAL DISSOLVED SOLIDS (TDS)							
OTHER							

END OF PART B.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER: Dominion - North Anna Power Station
VA0052451

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

X Basic Application Information packet

Supplemental Application Information packet:

_____ Part D (Expanded Effluent Testing Data)

_____ Part E (Toxicity Testing: Biomonitoring Data)

_____ Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

_____ Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING 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 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.

Name and official title: Jack Michael Davis, Site Vice President

Signature: [signature]

Telephone number: 540-894-2101

Date signed: 6-28-05

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing : 1.0 mgd and Pretreatment Treatment Works. If the treatment works has a design flow greater than or equal to 1.0mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.											
ANTIMONY											
ARSENIC											
BERYLLIUM											
CADMIUM											
CHROMIUM											
COPPER											
LEAD											
MERCURY											
NICKEL											
SELENIUM											
SILVER											
THALLIUM											
ZINC											
CYANIDE											
TOTAL PHENOLIC COMPOUNDS											
HARDNESS (AS $CaCO_3$)											
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN											
ACRYLONITRILE											
BENZENE											
BROMOFORM											
CARBON TETRACHLORIDE											
CLOROBENZENE											
CHLORODIBROMO-METHANE											
CHLOROETHANE											
2-CHLORO-ETHYLVINYL ETHER											
CHLOROFORM											
DICHLOROBROMO-METHANE											
1,1-DICHLOROETHANE											
1,2-DICHLOROETHANE											
TRANS-1,2-DICHLORO-ETHYLENE											
1,1-DICHLOROETHYLENE											
1,2-DICHLOROPROPANE											
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE											
1,1,2,2-TETRACHLORO-ETHANE											
TETRACHLORO-ETHYLENE											
TOLUENE											

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,1,1-TRICHLOROETHANE											
1,1,2-TRICHLOROETHANE											
TRICHLORETHYLENE											
VINYL CHLORIDE											
Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL											
2-CHLOROPHENOL											
2,4-DICHLOROPHENOL											
2,4-DIMETHYLPHENOL											
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL											
2-NITROPHENOL											
4-NITROPHENOL											
PENTACHLOROPHENOL											
PHENOL											
2,4,6-TRICHLOROPHENOL											
Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.											
BASE-NEUTRAL COMPOUNDS.											
ACENAPHTHENE											
ACENAPHTHYLENE											
ANTHRACENE											
BENZIDINE											
BENZO(A)ANTHRACENE											

BENZO(A)PYRENE											

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE											
BENZO(GHI)PERYLENE											
BENZO(K)FLUORANTHENE											
BIS (2-CHLOROETHOXY) METHANE											
BIS (2-CHLOROETHYL)-ETHER											
BIS (2-CHLOROISO-PROPYL) ETHER											
BIS (2-ETHYLHEXYL) PHTHALATE											
4-BROMOPHENYL PHENYL ETHER											
BUTYL BENZYL PHTHALATE											
2-CHLORONAPHTHALENE											
4-CHLORPHENYL PHENYL ETHER											
CHRYSENE											
DI-N-BUTYL PHTHALATE											
DI-N-OCTYL PHTHALATE											
DIBENZO(A,H) ANTHRACENE											
1,2-DICHLOROBENZENE											
1,3-DICHLOROBENZENE											
1,4-DICHLOROBENZENE											
3,3-DICHLOROBENZIDINE											
DIETHYL PHTHALATE											
DIMETHYL PHTHALATE											
2,4-DINITROTOLUENE											
2,6-DINITROTOLUENE											

1,2-DIPHENYLHYDRAZINE											

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE											
FLUORENE											
HEXACHLOROBENZENE											
HEXACHLOROBUTADIENE											
HEXACHLOROCYCLO-PENTADIENE											
HEXACHLOROETHANE											
INDENO(1,2,3-CD)PYRENE											
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE											
N-NITROSODI-N-PROPYLAMINE											
N-NITROSODI- METHYLAMINE											
N-NITROSODI-PHENYLAMINE											
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLOROBENZENE											
Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.											
Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.											

END OF PART D.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART E. TOXICITY TESTING DATA

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. Required Tests.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

____chronic ____acute

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number:_____	Test number:_____	Test number:_____
a. Test information.			
Test species & test method number			
Age at initiation of test			
Outfall number			
Dates sample collected			
Date test started			
Duration			
b. Give toxicity test methods followed.			
Manual title			
Edition number and year of publication			
Page number(s)			
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite			
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			

FACILITY NAME AND PERMIT NUMBER:			*Form Approved 1/14/99* *OMB Number 2040-0086*
	Test number:_____	Test number:_____	Test number:_____
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:			
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity			
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water			
Receiving water			
i. Type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH			
Salinity			
Temperature			
Ammonia			
Dissolved oxygen			
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			

FACILITY NAME AND PERMIT NUMBER:			Form Approved 1/14/99 OMB Number 2040-0086
Chronic:			
NOEC	%	%	%
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe)			
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?			
Was reference toxicant test within acceptable bounds?			
What date was reference toxicant test run (MM/DD/YYYY)?			
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

____Yes ____No If yes, describe: _____

_____

_____

E.4. Summary of Submitte d Biomonitoring Test Information. If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date submitted: _____ (MM/DD/YYYY)

Summary of results: (see instructions)

_____

_____

END OF PART E.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

____Yes ____No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. _____

b. Number of CIUs. _____

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: _____

Mailing Address: _____

_____

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

_____

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): _____

Raw material(s): _____

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_____ gpd (_____continuous or _____intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_____ gpd (_____continuous or _____intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ____Yes ____No

b. Categorical pretreatment standards ____Yes ____No

If subject to categorical pretreatment standards, which category and subcategory?

_____

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99
OMB Number 2040-0086

F.8. Problems at the Treatment Works Attributed to Waste Discha rged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

____Yes ____No If yes, describe each episode.

_____

_____

RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:

F.9. RCRA Waste. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail, or dedicated pipe?
____Yes ___No (go to F.12.)

F.10. Waste Transport. Method by which RCRA waste is received (check all that apply):

_____Truck _____Rail _____Dedicated Pipe

F.11. Waste Description. Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA Hazardous Waste Number	Amount	Units

CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:

F.12. Remediation Waste. Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

____Yes (complete F.13 through F.15.) ____No

Provide a list of sites and the requested information (F.13 - F.15.) for each current and future site.

F.13. Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

_____

_____

_____

F.14. Pollutants. List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary).

_____

_____

F.15. Waste Treatment.

a. Is this waste treated (or will it be treated) prior to entering the treatment works?

____Yes ____No

If yes, describe the treatment (provide information about the removal efficiency):

_____

_____

b. Is the discharge (or will the discharge be) continuous or intermittent?

____Continuous ____Intermittent If intermittent, describe discharge schedule.

_____

END OF PART F.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART G. COMBINED SEWER SYSTEMS

If the treatment works has a combined sewer system, complete Part G.

G.1. System Map. Provide a map indicating the following: (may be included with Basic Application Information)

a. All CSO discharge points.

b. Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding natural resource waters).

c. Waters that support threatened and endangered species potentially affected by CSOs.

G.2. System Diagram. Provide a diagram, either in the map provided in G.1. or on a separate drawing, of the combined sewer collection system that includes the following information:

a. Locations of major sewer trunk lines, both combined and separate sanitary.

b. Locations of points where separate sanitary sewers feed into the combined sewer system.

c. Locations of in-line and off-line storage structures.

d. Locations of flow-regulating devices.

e. Locations of pump stations.

CSO OUTFALLS:

Complete questions G.3 through G.6 once for each CSO discharge point.

G.3. Description of Outfall.

a. Outfall number _____

b. Location _____
(City or town, if applicable) (Zip Code)

_____
(County) (State)

_____
(Latitude) (Longitude)

c. Distance from shore (if applicable) _____ft.

d. Depth below surface (if applicable) _____ft.

e. Which of the following were monitored during the last year for this CSO?

____Rainfall ____CSO pollutant concentrations ____CSO frequency

____CSO flow volume ____Receiving water quality

f. How many storm events were monitored during the last year? _____

G.4. CSO Events.

a. Give the number of CSO events in the last year.

_____ events (___ actual or ___ approx.)

b. Give the average duration per CSO event.

_____ hours (____ actual or ____ approx.)

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99
OMB Number 2040-0086

c. Give the average volume per CSO event.

_____ million gallons (_____ actual or _____ approx.)

d. Give the minimum rainfall that caused a CSO event in the last year.

_____ inches of rainfall

G.5. Description of Receiving Waters.

a. Name of receiving water: _____

b. Name of watershed/river/stream system: _____

United States Soil Conservation Service 14-digit watershed code (if known): _____

c. Name of State Management/River Basin: _____

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): _____

G.6. CSO Operations.

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shell fish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable State water quality standard).

_____

_____

END OF PART G.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

EPA Form 3510-2C
Application for Permit to Discharge Industrial Process Wastewater

North Anna Power Station - VPDES VA0052451

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EPA I.D. NUMBER *(copy from Item 1 of Form 1)*
VAD065376279

Form Approved
OMB No. 2040-0086
Approval expires 5-31-92

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.	
103	38	03	47	77	47	56	DISCHARGE CANAL
104	38	03	47	77	47	56	DISCHARGE CANAL
105	38	03	47	77	47	56	DISCHARGE CANAL
107	38	03	47	77	47	56	DISCHARGE CANAL
108	38	03	47	77	47	56	DISCHARGE CANAL

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. **AVERAGE FLOW DATA FOR 2002-2004, UNLESS OTHERWISE NOTED.**

1. OUTFALLING *(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	
103	Process Waste Clarifier	0.366 MGD	Ion Exchange, Discharge to discharge canal.	2-J	1-O
	Steam Generator Blowdown,	0.52 mgd			
	Package Boiler Blowdown,				
	Mat Sump System,				
	Ion Exchange Waste,				
	Service Water System Blowdown (intermittent))				
104	Oil/Water Separator	0.248 MGD	Flotation	1-H	
	Storm Water, Turbine Building Sumps,		Discharge to discharge canal.	1-O	
	Service Water Reservoir Line Drains				
105	Bearing Cooling Tower Blowdown	0.14 MGD	Discharge to discharge canal.	1-O	
	Continuous Blowdown	0.30 mgd			
	Lake to Lake Operation for BCS (intermittent)	17.3 mgd			
107	Bearing Cooling System Discharge	2.5 MGD	Discharge to discharge canal.	1-O	
	Lake to Lake Operation for BCS (intermittent)	17.3 mgd			
	Continuous Blowdown	0.30 mgd			
	Strainer Blowdown	unknown (insignificant)			
108	Service Water Overboard Overflow	0.671 MGD	Discharge to discharge canal	1-O	
	Batch Blowdown (intermittent)	13 mgd			
	Straight-through cooling water (intermit.)	14.1 mgd	emergency only		
	Header maintenance	0.15 mgd			

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)*
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
109	38	03	47	77	47	56	DISCHARGE CANAL
110	38	03	47	77	47	56	DISCHARGE CANAL
111	38	03	47	77	47	56	DISCHARGE CANAL
112	38	03	47	77	47	56	DISCHARGE CANAL
113	38	03	47	77	47	56	DISCHARGE CANAL
114	38	03	47	77	47	56	DISCHARGE CANAL

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. **AVERAGE FLOW DATA FOR 2002-2004, UNLESS OTHERWISE NOTED.**

1. OUTFALLING *(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	
109	Hot Well Drain - Unit 1	0.098 MGD	Discharge to discharge canal.	1-O	
	Secondary System Condensate	Intermittent.			
110	Hot Well Drain - Unit 2	0.011 MGD	Discharge to discharge canal.	1-O	
	Secondary System Condensate	Intermittent			
111	Main Sewage Treatment Plant	0.03 MGD	Activated sludge, Disinfection	1-T	1-L
	30,000 gpd Design.	See Form 2E	Discharge to discharge canal.	3-A	5-A
				2-F	1-O
112	Steam Generator Blowdown - Unit 1	0.193 MGD	Discharge to discharge canal.	1-O	
		Intermittent.			
113	Steam Generator Blowdown - Unit 2	0.147 MGD	Discharge to discharge canal.	1-O	
		Intermittent.			
114	Service Water Tie-In Vault Drain	0.0 MGD	Discharge to discharge canal.	1-O	
	—		—		
		Intermittent			

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)*
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
115	38	03	47	77	47	56	DISCHARGE CANAL
001	38	03	47	77	47	56	LAKE ANNA
009	38	03	47	77	47	56	LAKE ANNA
013	38	03	47	77	47	56	LAKE ANNA
014	38	03	47	77	47	56	LAKE ANNA

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. AVERAGE FLOW DATA FOR 2002-2004, UNLESS OTHERWISE NOTED.

1. OUT-FALLING *(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	
115	Service Water System Blowdown	0.0 MGD	Discharge to discharge canal.	1-O	
	Intermittent Blowdown	0.72 mgd			
001	Discharge of Condenser Cooling	2057 MGD	Discharge to Lake Anna	4-A	
	Water from WHTF at Dike 3				
009	Settling Pond	0.176 MGD	Discharge to Lake Anna	4-A	
	Ground Water, Storm Water and	Intermittent			
	Backwash from Sand Filters and	0.204 mgd			
	Reverse Osmosis Units & Bearing Cooling	Tower Water during Maintenance Activities			
	Ionics Emergency shower wash after				
	neutralization in holding tank				
013	Turbine Building Sump #1 & Sump #2	0.0 MGD	Discharge to Lake Anna	4-A	
	Stormwater - emergency only				
014	Storm Water Only	0.0 MGD	Discharge to Lake Anna	4-A	
	Storm Water - emergency only.	—		—	

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

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 1. DEG.	2. MIN.	3. SEC.	C. LONGITUDE 1. DEG.	2. MIN.	3. SEC.	D. RECEIVING WATER *(name)*
016	38	03	47	77	47	56	LAKE ANNA
020	38	03	47	77	47	56	LAKE ANNA
021	38	03	47	77	47	56	LAKE ANNA
022	38	03	47	77	47	56	LAKE ANNA
023	38	03	47	77	47	56	LAKE ANNA

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. AVERAGE FLOW DATA FOR 2002-2004, UNLESS OTHERWISE NOTED.

1. OUTFALLING *(list)*	2. OPERATION(S) CONTRIBUTING FLOW a. OPERATION *(list)*	b. AVERAGE FLOW *(include units)*	3. TREATMENT a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
016	Intake Screen Wash Water	0.19 mgd	Discharge to Lake Anna	4-A	
020	Reverse Osmosis Reject	0.38 mgd	Discharge to Lake Anna	4-A	
		Intermittent.			
021	Reverse Osmosis Drain Line	0 mgd	Discharge to Lake Anna	4-A	
		Intermittent			
		(has never discharged)			
022	Drainage Area #2A	See Form 2F	Discharge to Lake Anna	4-A	
	(storm water only)				
023	Drainage Area #2B	See Form 2F	Discharge to Lake Anna	4-A	
	(storm water only)				

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

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*
VAD065376279

Form Approved
OMB No. 2040-0086
Approval expires 5-31-92

Please print or type in the unshaded areas only.

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.	
024	38	03	47	77	47	56	LAKE ANNA
025	38	03	47	77	47	56	WASTE HEAT TREATMENT FACILITY (WHTF)
026	38	03	47	77	47	56	Lake Anna

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. **AVERAGE FLOW DATA FOR 2002-2004, UNLESS OTHERWISE NOTED.**

1. OUTFALLING *(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	
024	Discharge Area #3	See Form 2F	Discharge to Lake Anna	4-A	
	(storm water only)				
025	Discharge Area #18	See Form 2F	Discharge to WHTF	4-A	
	(storm water only)				
026	Discharge Area #25	See Form 2F	Discharge to Lake Anna	4-A	
	(storm water only)				

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

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

[X] 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 c. DURATION *(in days)*
105	Bearing Cooling Tower Blowdown	varies	varies	0.14 mgd	17.3 mgd			approx 30
107	Bearing Cooling System Discharge	varies	varies	2.5 mgd	17.3 mgd			approx 30
108	Service Water Overboard	varies	varies	0.671 mgd	14.1 mgd			1
109	Hot Well Drains-Unit 1	once/outage	1/18 mos	0.098 mgd	0.25 mgd			1
009	GW, SW, Backwash (SF and RO)	5	12	0.176 mgd	0.216 mgd			varies
013	Turbine Bldg Sump #1 #2 & SW	varies	varies	emergency only				—
014	Turbine Bldg Sump #2 & Storm Water Only	varies	varies	emergency only				—
021	Reverse Osmosis Drain Line		Infrequent	0 mgd				1
110	Hot Well Drains - Unit 2	once/outage	1/18/mos	0.011 mgd	0.25 mgd			1

III. PRODUCTION

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

[X] 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)* [X] 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	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*	2. AFFECTED OUTFALLS *(list outfall numbers)*
N/A	N/A	N/A	N/A

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions. [ ] YES *(complete the following table)* [X] 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 I.D. NUMBER *(copy from Item 1 of Form 1)*
VAD065376279

North Anna Power Station - VPDES VA0052451

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
	NO 2C-3 POLLUTANTS. SEE ADDENDUM AND ATTACHMENTS FOR IDENTIFICATION OF OTHER POTENTIAL POLLUTANTS.		

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)*

NONE WITH THE POSSIBLE EXCEPTION OF RADIOACTIVE SPECIES. RADIOACTIVE RELEASES ARE REGULATED BY THE NUCLEAR REGULATORY COMMISSION AT THIS FACILITY AND ARE THEREFORE NOT LISTED HERE.

SEE ADDENDUM AND ATTACHMENTS FOR IDENTIFICATION OF OTHER POTENTIAL POLLUTANTS.

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?

[X] YES *(identify the test(s) and describe their purposes below)* [ ] NO *(go to Section VIII)*

TESTING AND REPORTING HAVE BEEN CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOXICS MANAGEMENT PROGRAM CONTAINED IN THE CURRENT VPDES PERMIT FOR OUTFALL 001. A SUMMARY IS ATTACHED.

VIII. CONTRACT ANALYSIS INFORMATION

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

[X] 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)
Florida Radiochemistry Services, Inc.	5456 Hoffner Ave,Suite 201 Orlando Florida	(407)382-7744	Gross Alpha, Beta, Sr90, H3
Controls for Environmental Pollution, Inc.	P. O. Box 5351, SANTA FE, NM 87502	(800)545-2188	Radium
BWXT Nuclear Environmental Services, Inc.	2016 Mt. Athos Rd., Lunchburg, Va 24506	(434)522-6000	All Outfall 103 Parameters
Primary Laboratories	2087 DABNEY ROAD RICHMOND, VA 23230	(804)213-0831	Fecal Coliform Pesticides (Method 608) PCBs (Method 608) Malathion, Parathion Tributyltin, Guthion Hydrogen Sulfide, Demeton Chlorpyrifos

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.)*
JACK MICHAEL DAVIS SITE VICE PRESIDENT	(540) 894-2101
C. SIGNATURE	D. DATE SIGNED
Larry Cone for	6/28/05

Representative Outfalls

OUTFALLS SAMPLED – Results included in Form 2C – Part V

Intake	**Represents Outfalls 016, 021, 107**
Outfall 001	**Discharge of Condenser Cooling Water from WHTF at Dike 3**
Outfall 009	**Settling Pond**
Outfall 020	**Reverse Osmosis Reject**
Outfall 103	**Process Waste Clarifier**
Outfall 104	**Oil/Water Separator & Storm Water (Represents Outfalls 013, *~~014~~)**
Outfall 105	**Bearing Cooling Tower Blowdown**
Outfall 108	**Service Water Overboard (Represents Outfalls 114, 115)**
Outfall 109	**Hot Well Drain Unit 1 (Represents Outfall 110)**
Outfall 111	**Main Sewage Treatment Plant (Data shown on Form 2E – Attachment 19)**
Outfall 112	**Steam Generator Blowdown Unit 1 (Represents Outfall 113)**

Outfalls Represented by those listed above (NOT SAMPLES)

Outfall 013	Turbine Bldg Sump #1 and Common Sump #2 & Storm Water only
Outfall 014	*~~Turbine Bldg Sump #2 &~~ Storm Water only
Outfall 016	Intake Screen Wash Water
Outfall 021	Reverse Osmosis Drain Line
Outfall 107	Bearing Cooling System Discharge - Lake to Lake Operation
Outfall 110	Hot Well Drain Unit 2
Outfall 113	Steam Generator Blowdown Unit 2
Outfall 114	Service Water Pipe Vault Drain
Outfall 115	Service Water System Blowdown

*Revised for 2005 Application

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.

NORTH ANNA POWER STATION (sample date 9/8/04)

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: VAD065376279

Representing Outfalls 016, 021, 107

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)* — ***SEE ADDENDUM FOR MORE INFO.*** — OUTFALL NO. INTAKE

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) 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	3. UNITS *(specify if blank)* a. CONCENTRATION	b. MASS	4. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	NA	NA	NA	NA	NA	NA	NA	ppm	kg/d	ND	NA	1
b. Chemical Oxygen Demand *(COD)*	NA	NA	NA	NA	NA	NA	NA	ppm	kg/d	ND	NA	1
c. Total Organic Carbon *(TOC)*	NA	NA	NA	NA	NA	NA	NA	ppm	kg/d	7.4	NA	1
d. Total Suspended Solids *(TSS)*	NA	NA	NA	NA	NA	NA	NA	ppm	kg/d	1.8	NA	1
e. Ammonia *(as N)*	NA	NA	NA	NA	NA	NA	NA	ppm	kg/d	0.09	NA	1
f. Flow	VALUE NA		VALUE NA		VALUE NA		NA	MGD	NA	VALUE NA		NA
g. Temperature *(winter)*	VALUE NA		VALUE NA		VALUE NA		NA	°C		VALUE NA		NA
h. Temperature *(summer)*	VALUE NA		VALUE NA		VALUE NA		NA	°C		VALUE NA		NA
i. pH	MINIMUM NA	MAXIMUM NA	MINIMUM NA	MAXIMUM NA			NA	STANDARD UNITS		~~pH = 8.3 (1 analysis)~~		

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	b. 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
a. Bromide (24959-67-9)		x	NA	NA	NA	NA	NA	NA	NA	ppm	kg/d	ND	NA	1
b. Chlorine, Total Residual		x	NA	NA	NA	NA	NA	NA	NA	ppm	kg/d	ND	NA	1
c. Color		x	NA	NA	NA	NA	NA	NA	NA	color units	NA	20	NA	1
d. Fecal Coliform		x	NA	NA	NA	NA	NA	NA	NA	col/100ml	NA	8	NA	1
e. Fluoride (16984-48-8)		x	NA	NA	NA	NA	NA	NA	NA	ppm	kg/d	0.015	NA	1
f. Nitrate—Nitrite *(as N)*		x	NA	NA	NA	NA	NA	NA	NA	ppm	kg/d	ND	NA	1

STF ENV441F.5

ITEM V-B CONTI[illegible] FROM FRONT VAD065376279 NORTH ANNA PO[illegible]R STATION INTAKE Representing Outfalls 016[illegible]1, 107

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. 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
g. Nitrogen, Total Organic (as N)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
h. Oil and Grease		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
i. Phosphorus (as P), Total (7723-14-0)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	0.01	NA	1
j. Radioactivity														
(1) Alpha, Total		x	NA	NA	NA	NA	NA	NA	1	pCi/L	NA	ND	NA	1
(2) Beta, Total		x	NA	NA	NA	NA	NA	NA	1	pCi/L	NA	3.6	NA	1
(3) Radium, Total		x	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(4) Radium 226, Total		x	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
k. Sulfate (as SO_4) (14808-79-8)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	5.95	NA	1
l. Sulfide (as S)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
m. Sulfite (as SO_3) (14265-45-3)		x	NA	NA	NA	NA	NA	NA	NA	ppm	kg/d	NA	NA	NA
n. Surfactants		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
o. Aluminum, Total (7429-90-5)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
p. Barium, Total (7440-39-3)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	0.028	NA	1
q. Boron, Total (7440-42-8)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	0.04	NA	1
r. Cobalt, Total (7440-48-4)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
s. Iron, Total (7439-89-6)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	0.08	NA	1
t. Magnesium, Total (7439-95-4)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	2.32	NA	1
u. Molybdenum, Total (7439-98-7)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	0.015	NA	1
v. Manganese, Total (7439-96-5)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	0.06	NA	1
w. Tin, Total (7440-31-5)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
x. Titanium, Total (7440-32-6)		x	NA	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1

CONTINUE ON PAGE V-3

NORTH ANNA POWER STATION

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
VAD065376279	INTAKE

CONTINUED FROM PAGE 3 OF FORM 2-C

Representing Outfalls 016, 021, 107

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		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	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
2M. Arsenic, Total (7440-38-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
3M. Beryllium, Total, 7440-41-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
4M. Cadmium, Total (7440-43-9)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
5M. Chromium, Total (7440-47-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
6M. Copper, Total (7440-50-8)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	0.002	NA	1
7M. Lead, Total (7439-92-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
8M. Mercury, Total (7439-97-6)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
9M. Nickel, Total (7440-02-0)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
10M. Selenium, Total (7782-49-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
11M. Silver, Total (7440-22-4)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
12M. Thallium, Total (7440-28-0)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
13M. Zinc, Total (7440-66-6)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	0.043	NA	1
14M. Cyanide, Total (57-12-5)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
15M. Phenols, Total			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	0.04	NA	1
DIOXIN															
2,3,7,8 Tetrachlorodibenzo-P-Dioxin (1764-01-6)			x	DESCRIBE RESULTS NA											

VAD065376279 NORTH ANNA POWER STATION INTAKE Representing Outfalls 016, 021, 107

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	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
2V. Acrylonitrile (107-13-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
3V. Benzene (71-43-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
4V. Bis (Chloromethyl) Ether (542-88-1)			NA	not	required	not	required	not	required	NA	NA	NA	NA	NA	NA
5V. Bromoform (75-25-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
6V. Carbon Tetrachloride (56-23-5)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
7V. Chlorobenzene (108-90-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
8V. Chlorodibromomethane (124-48-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
9V. Chloroethane (75-00-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
10V. 2-Chloroethylvinyl Ether (110-75-8)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
11V. Chloroform (67-66-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
12V. Dichlorobromomethane (75-27-4)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
13V. Dichlorodifluoromethane (75-71-8)			NA	not	required	not	required	not	required	NA	NA	NA	NA	NA	NA
14V. 1,1-Dichloroethane (75-34-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
15V. 1,2-Dichloroethane (107-06-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
16V. 1,1-Dichloroethylene (75-35-4)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
17V. 1,2-Dichloropropane (78-87-5)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
18V. 1,3-Dichloropropylene (542-75-6)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
19V. Ethylbenzene (100-41-4)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
20V. Methyl Bromide (74-83-9)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
21V. Methyl Chloride (74-87-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1

CONTINUE ON PAGE V-5

NORTH ANNA POWER STATION

EPA I.D. NUMBER (copy from Item 1 of Form 1): VAD065376279

OUTFALL NUMBER: INTAKE

CONTINUED FROM PAGE V-4

Representing Outfalls 016, 021, 107

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 — VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
24V. Tetrachloroethylene (127-18-4)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
25V. Toluene (108-88-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
27V. 1,1,1-Trichloroethane (71-55-6)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
28V. 1,1,2-Trichloroethane (79-00-5)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
29V. Trichloroethylene (79-01-6)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
30V. Trichlorofluoromethane (75-69-4)			NA	not	required	not	required	not	required	NA	NA	NA	NA	NA	NA
31V. Vinyl Chloride (75-01-4)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
GC/MS FRACTION — ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
2A. 2,4-Dichlorophenol (120-83-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
3A. 2,4-Dimethylphenol (105-67-9)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
4A. 4,6-Dinitro-O-Cresol (534-52-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
5A. 2,4-Dinitrophenol (51-28-5)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
6A. 2-Nitrophenol (88-75-5)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
7A. 4-Nitrophenol (100-02-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
8A. P-Chloro-M-Cresol (59-50-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
9A. Pentachlorophenol (87-86-5)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
10A. Phenol (108-95-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	0.0027	NA	1
11A. 2,4,6-Trichlorophenol (88-06-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1

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	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
2B. Acenaphtylene (208-96-8)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
3B. Anthracene (120-12-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
4B. Benzidine (92-87-5)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
5B. Benzo *(a)* Anthracene (56-55-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
6B. Benzo *(a)* Pyrene (50-32-8)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
7B. 3,4-Benzo-fluoranthene (205-99-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
8B. Benzo *(ghi)* Perylene (191-24-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
9B. Benzo *(k)* Fluoranthene (207-08-9)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
10B. Bis *(2-Chloro-ethoxy)* Methane (111-91-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
11B. Bis *(2-Chloro-ethyl)* Ether (111-44-4)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
12B. Bis *(2-Chloroiso-propyl)* Ether (102-60-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
13B. Bis *(2-Ethyl-hexyl)* Phthalate (117-81-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
15B. Butyl Benzyl Phthalate (85-68-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
16B. 2-Chloro-naphthalene (91-58-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
18B. Chrysene (218-01-9)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
19B. Dibenzo *(a, h)* Anthracene (53-70-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
20B. 1,2-Dichloro-benzene (95-50-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
21B. 1,3-Dichloro-benzene (541-73-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1

NORTH ANNA POWER STATION

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
VAD065376279	INTAKE

CONTINUED FROM PAGE V-6

Representing Outfalls 016, 021, 107

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 (continued)															
22B. 1,4-Dichlorobenzene (106-46-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
23B. 3,3'-Dichlorobenzidine (91-94-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
24B. Diethyl Phthalate (84-66-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
25B. Dimethyl Phthalate (131-11-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
26B. Di-N-Butyl Phthalate (84-74-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
27B. 2,4-Dinitrotoluene (121-14-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
28B. 2,6-Dinitrotoluene (606-20-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
29B. Di-N-Octyl Phthalate (117-84-0)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
31B. Fluoranthene (206-44-0)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
32B. Fluorene (86-73-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
33B. Hexachlorobenzene (118-74-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
34B. Hexachlorobutadiene (87-68-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
35B. Hexachlorocyclopentadiene (77-47-4)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
36B. Hexachloroethane (67-72-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
38B. Isophorone (78-59-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
39B. Naphthalene (91-20-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
40B. Nitrobenzene (98-95-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
41B. N-Nitrosodimethylamine (62-75-9)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
42B. N-Nitrosodi-N-Propylamine (621-64-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1

CONTINUE ON REVERSE

STF ENV441F.11

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	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
44B. Phenanthrene (85-01-8)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
45B. Pyrene (129-00-0)			x	ND	NA	NA	NA	NA	NA	1	PPM	kg/d	ND	NA	1
46B. 1,2,4-Trichlorobenzene (120-82-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
GC/MS FRACTION — PESTICIDES															
1P. Aldrin (309-00-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
2P. α-BHC (319-84-6)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
3P. β-BHC (319-85-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
4P. γ-BHC (58-89-9)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
5P. δ-BHC (319-86-8)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
6P. Chlordane (57-74-9)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
7P. 4,4'-DDT (50-29-3)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
8P. 4,4'-DDE (72-55-9)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
9P. 4,4'-DDD (72-54-8)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
10P. Dieldrin (60-57-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
11P. α-Endosulfan (115-29-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
12P. β-Endosulfan (115-29-7)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
13P. Endosulfan Sulfate (1031-07-8)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
14P. Endrin (72-20-8)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
15P. Endrin Aldehyde (7421-93-4)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
16P. Heptachlor (76-44-8)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1

CONTINUE ON PAGE V-9

NORTH ANNA POWER STATION

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
VAD065376279	INTAKE

CONTINUED FROM PAGE V-8

Representing Outfalls 016, 0[illegible], 107

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	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
18P. PCB-1242 (53469-21-9)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
19P. PCB-1254 (11097-69-1)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
20P. PCB-1221 (11104-28-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
21P. PCB-1232 (11141-16-5)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
22P. PCB-1248 (12672-29-6)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
23P. PCB-1260 (11096-82-5)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
24P. PCB-1016 (12674-11-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1
25P. Toxaphene (8001-35-2)			x	ND	NA	NA	NA	NA	NA	1	ppm	kg/d	ND	NA	1

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451

V. INTAKE AND EFFLUENT CHARACTERISTICS (CONTINUED FROM PAGE 3 OF FORM 2C) OUTFALL 001

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

	2. EFFLUENT A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE			3. UNITS	
POLLUTANT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BIOCHEMICAL OXYGEN DEMAND	<2	<45196.52	.	.	.	.	1	PPM	LB/DAY
CHEMICAL OXYGEN DEMAND	6.85	154798.081	.	.	.	.	1	PPM	LB/DAY
TOTAL ORGANIC CARBON	4.2	94912.692	.	.	.	.	1	PPM	LB/DAY
TOTAL SUSPENDED SOLIDS	2.5	56495.65	.	.	.	.	1	PPM	LB/DAY
AMMONIA,TOTAL	0.08	1807.8608	.	.	.	.	1	PPM	LB/DAY
FLOW	2708	.	2708	.	2057.083	.	36	MGD	.
TEMPERATURE (WINTER)	14.5	.	.	.	.	.	1	DEGREES C	.
TEMPERATURE (SUMMER)	30.3	.	.	.	.	.	1	DEGREES C	.
PH	.	.	6.65 (MIN)	6.8 (MAX)	N/A	N/A	3	STD. UNITS	.

PART B.

	MARK X BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE			3. UNITS	
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BROMIDE,TOTAL (24959-67-6)	X		<0.2	<4519.652	.	.	.	.	1	PPM	LB/DAY
CHLORINE, TOTAL RESIDUAL	X		<0.1	<2259.826	0.1	2259.826	<0.1	<1716.636	36	PPM	LB/DAY
COLOR	X		10	.	.	.	.	.	1	NTU	.
FECAL COLIFORM	X		<2	.	.	.	.	.	1	COL/100ML	.
FLUORIDE (16984-48-8)	X		0.054	1220.30604	.	.	.	.	1	PPM	LB/DAY
NITRATE + NITRITE	X		<0.05	<1129.913	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451. OUTFALL 001

1. POLLUTANT	MARK X BELIEVED PRESENT	MARK X BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	A. MAXIMUM DAILY VALUE MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	B. MAXIMUM 30 DAY VALUE MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	C. LONG TERM AVRG. VALUE MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	3. UNITS MASS
POLLUTANT											
NITROGEN, TOTAL ORG. AS N	X		0.32	7231.4432	.	.	.	.	1	PPM	LB/DAY
OIL & GREASE	X		<5	<112991.3	.	.	.	.	1	PPM	LB/DAY
PHOSPHORUS (AS P), TOTAL (07723-14-0)	X		0.03	677.9478	.	.	.	.	1	PPM	LB/DAY
J. RADIOACTIVITY **********											
ALPHA, TOTAL	X		0.8	.	.	.	.	.	1	PCI/LITER	.
BETA, TOTAL	X		4	.	.	.	.	.	1	PCI/LITER	.
RADIUM,TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
RADIUM 226 , TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
SULFATE (AS SO4) (14808-79-8)	X		6.19	139883.2294	.	.	.	.	1	PPM	LB/DAY
SULFIDE (AS S)	X		<0.01	<225.9826	.	.	.	.	1	PPM	LB/DAY
SULFITE (AS SO3) (14265-45-3)		X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
SURFACTANTS	X		<0.025	<564.9565	.	.	.	.	1	PPM	LB/DAY
ALUMINUM,TOTAL (07429-90-5)	X		<0.09	<2033.8434	.	.	.	.	1	PPM	LB/DAY
BARIUM,TOTAL (07440-39-3)	X		0.03	677.9478	.	.	.	.	1	PPM	LB/DAY
BORON,TOTAL (07440-42-8)	X		0.03	677.9478	.	.	.	.	1	PPM	LB/DAY
COBALT,TOTAL (07440-48-4)	X		<0.003	<67.79478	.	.	.	.	1	PPM	LB/DAY
IRON,TOTAL (07439-89-6)	X		0.12	2711.7912	.	.	.	.	1	PPM	LB/DAY
MAGNESIUM,TOTAL (07439-95-4)	X		2.33	52653.9458	.	.	.	.	1	PPM	LB/DAY
MOLYBDENUM,TOTAL (07439-98-7)	X		0.017	384.17042	.	.	.	.	1	PPM	LB/DAY
MANGANESE,TOTAL (07439-96-5)	X		0.05	1129.913	.	.	.	.	1	PPM	LB/DAY
TIN,TOTAL (07440-31-5)	X		<0.005	<112.9913	.	.	.	.	1	PPM	LB/DAY
TITANIUM,TOTAL (07440-32-6)	X		0.007	158.18782	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 001

1. POLLUTANT	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
METALS, CYANIDE, AND TOTAL PHENOLS												
POLLUTANT												
ANTIMONY,TOTAL (07440-36-0)	X	X		<0.001	<22.59826	.	.	.	.	1	PPM	LB/DAY
ARSENIC,TOTAL (07440-38-2)	X	X		<0.003	<67.79478	.	.	.	.	1	PPM	LB/DAY
BERYLLIUM,TOTAL (07440-41-7)	X	X		<0.0002	<4.519652	.	.	.	.	1	PPM	LB/DAY
CADMIUM,TOTAL (07440-43-9)	X	X		<0.0003	<6.779478	.	.	.	.	1	PPM	LB/DAY
CHROMIUM,TOTAL (07440-47-3)	X	X		<0.001	<22.59826	.	.	.	.	1	PPM	LB/DAY
COPPER,TOTAL (07440-50-8)	X	X		0.002	45.19652	.	.	.	.	1	PPM	LB/DAY
LEAD,TOTAL (07439-92-1)	X	X		<0.001	<22.59826	.	.	.	.	1	PPM	LB/DAY
MERCURY,TOTAL (07439-97-6)	X	X		<0.0002	<4.519652	.	.	.	.	1	PPM	LB/DAY
NICKEL,TOTAL (07440-02-0)	X	X		<0.005	<112.9913	.	.	.	.	1	PPM	LB/DAY
SELENIUM,TOTAL (07782-49-2)	X	X		<0.003	<67.79478	.	.	.	.	1	PPM	LB/DAY
SILVER,TOTAL (07440-22-4)	X	X		<0.0001	<2.259826	.	.	.	.	1	PPM	LB/DAY
THALLIUM,TOTAL (07440-28-0)	X	X		<0.002	<45.19652	.	.	.	.	1	PPM	LB/DAY
ZINC,TOTAL (07440-66-6)	X	X		<0.01	<225.9826	.	.	.	.	1	PPM	LB/DAY
CYANIDE , TOTAL (00057-12-5)	X	X		<0.01	<225.9826	.	.	.	.	1	PPM	LB/DAY
TOTAL PHENOLS	X	X		0.01	225.9826	.	.	.	.	1	PPM	LB/DAY
DIOXIN												
DIOXIN SCREEN			X	NO SAMPLE	.	.	.	.	.	.	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 001

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - VOLATILE COMPOUNDS												
ACROLEIN (00107-02-8)	X	X		<0.0408	<922.009008	.	.	.	.	1	PPM	LB/DAY
ACRYLONITRILE (00107-13-1)	X	X		<0.0015	<33.89739	.	.	.	.	1	PPM	LB/DAY
BENZENE (00071-43-2)	X	X		<0.0044	<99.432344	.	.	.	.	1	PPM	LB/DAY
BIS (CHLOROMETHYL) ETHER (542-88-1)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
BROMOFORM (00075-25-2)	X	X		<0.0047	<106.211822	.	.	.	.	1	PPM	LB/DAY
CARBON TETRACHLORIDE (00056-23-5)	X	X		<0.0028	<63.275128	.	.	.	.	1	PPM	LB/DAY
CHLOROBENZENE (00108-90-7)	X	X		<0.006	<135.58956	.	.	.	.	1	PPM	LB/DAY
CHLORODIBROMOMETHANE (00124-48-1)	X	X		<0.0031	<70.054606	.	.	.	.	1	PPM	LB/DAY
CHLOROETHANE (00075-00-3)	X	X		<0.0011	<24.858086	.	.	.	.	1	PPM	LB/DAY
2-CHLOROETHYLVINYL ETHER (00110-75-8)	X	X		<0.0012	<27.117912	.	.	.	.	1	PPM	LB/DAY
CHLOROFORM (00067-66-3)	X	X		<0.0016	<36.157216	.	.	.	.	1	PPM	LB/DAY
DICHLOROBROMOMETHANE (00075-27-4)	X	X		<0.0022	<49.716172	.	.	.	.	1	PPM	LB/DAY
DICHLORODIFLUORMETHANE (75-71-8)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
1,1-DICHLOROETHANE (00075-34-3)	X	X		<0.0047	<106.211822	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROETHANE (00107-06-2)	X	X		<0.0028	<63.275128	.	.	.	.	1	PPM	LB/DAY
1,1-DICHLOROETHYLENE (00075-35-4)	X	X		<0.0028	<63.275128	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROPROPANE (00078-87-5)	X	X		<0.006	<135.58956	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROPROPYLENE (10061-02-6)	X	X		<0.0009	<20.338434	.	.	.	.	1	PPM	LB/DAY
ETHYL BENZENE (00100-41-4)	X	X		<0.0072	<162.707472	.	.	.	.	1	PPM	LB/DAY
METHYL BROMIDE (00074-83-9)	X	X		<0.0014	<31.637564	.	.	.	.	1	PPM	LB/DAY
METHYL CHLORIDE (00074-87-3)	X	X		<0.0011	<24.858086	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 001

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
METHYLENE CHLORIDE (00075-09-2)	X	X		<0.0028	<63.275128	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-TETRACHLOROETHANE (00079-34-5)	X	X		<0.0069	<155.927994	.	.	.	.	1	PPM	LB/DAY
TETRACHLOROETHYLENE (00127-18-4)	X	X		<0.0041	<92.652866	.	.	.	.	1	PPM	LB/DAY
TOLUENE (00108-88-3)	X	X		<0.006	<135.58956	.	.	.	.	1	PPM	LB/DAY
1,2-TRANS-DICHLOROETHYLENE (00156-60-5)	X	X		<0.0016	<36.157216	.	.	.	.	1	PPM	LB/DAY
1,1,1-TRICHLOROETHANE (00071-55-6)	X	X		<0.0038	<85.873388	.	.	.	.	1	PPM	LB/DAY
1,1,2-TRICHLOROETHANE (00079-00-5)	X	X		<0.005	<112.9913	.	.	.	.	1	PPM	LB/DAY
TRICHLOROETHYLENE (00079-01-6)	X	X		<0.0019	<42.936694	.	.	.	.	1	PPM	LB/DAY
TRICHLOROFLUOROMETHANE (75-69-4)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
VINYL CHLORIDE (00075-01-4)	X	X		<0.0018	<40.676868	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-CHLOROPHENOL (00095-57-8)	X	X		<0.0033	<74.574258	.	.	.	.	1	PPM	LB/DAY
2,4-DICHLOROPHENOL (00120-83-2)	X	X		<0.0056	<126.550256	.	.	.	.	1	PPM	LB/DAY
2,4-DIMETHYLPHENOL (00105-67-9)	X	X		<0.0052	<117.510952	.	.	.	.	1	PPM	LB/DAY
4,6-DINOTRO-O-CRESOL (00534-52-1)	X	X		<0.024	<542.35824	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROPHENOL (00051-28-5)	X	X		<0.042	<949.12692	.	.	.	.	1	PPM	LB/DAY
2-NITROPHENOL (00088-75-5)	X	X		<0.0036	<81.353736	.	.	.	.	1	PPM	LB/DAY
4-NITROPHENOL (00100-02-7)	X	X		<0.0024	<54.235824	.	.	.	.	1	PPM	LB/DAY
P-CHLORO-M-CRESOL (00059-50-7)	X	X		<0.0075	<169.48695	.	.	.	.	1	PPM	LB/DAY
PENTACHLOROPHENOL (00087-86-5)	X	X		<0.0036	<81.353736	.	.	.	.	1	PPM	LB/DAY
PHENOL (00108-95-2)	X	X		<0.0027	<61.015302	.	.	.	.	1	PPM	LB/DAY
2,4,6-TRICHLOROPHENOL (00088-06-2)	X	X		<0.0027	<61.015302	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 001

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
ACENAPHTHENE (00083-32-9)	X	X		<0.003	<67.79478	.	.	.	.	1	PPM	LB/DAY
ACENAPHTHYLENE (00208-96-8)	X	X		<0.0035	<79.09391	.	.	.	.	1	PPM	LB/DAY
ANTHRACENE (00120-12-7)	X	X		<0.0019	<42.936694	.	.	.	.	1	PPM	LB/DAY
BENZIDINE (00092-87-5)	X	X		<0.063	<1423.69038	.	.	.	.	1	PPM	LB/DAY
BENZO (A) ANTHRACENE (00056-55-3)	X	X		<0.0078	<176.266428	.	.	.	.	1	PPM	LB/DAY
BENZO (A) PYRENE (00050-32-8)	X	X		<0.0025	<56.49565	.	.	.	.	1	PPM	LB/DAY
3,4-BENZOFLUORANTHENE (00205-99-2)	X	X		<0.0048	<108.471648	.	.	.	.	1	PPM	LB/DAY
BENZO (G H I) PERYLENE (00191-24-2)	X	X		<0.0041	<92.652866	.	.	.	.	1	PPM	LB/DAY
BENZO (K) FLUORANTHENE (00207-08-9)	X	X		<0.0025	<56.49565	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROETHOXY) METHANE (00111-91-1)	X	X		<0.0053	<119.770778	.	.	.	.	1	PPM	LB/DAY
BIS(-2-CHLOROETHYL) ETHER (00111-44-4)	X	X		<0.0057	<128.810082	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROISOPROPYL) ETHER (00108-60-1)	X	X		<0.0057	<128.810082	.	.	.	.	1	PPM	LB/DAY
BIS(2-ETHYLHEXYL) PHTHALATE (00117-81-7)	X	X		<0.0025	<56.49565	.	.	.	.	1	PPM	LB/DAY
4-BROMOPHENYL-PHENYLETHER (00101-55-3)	X	X		<0.003	<67.79478	.	.	.	.	1	PPM	LB/DAY
BUTYLBENZYLPHTHALATE (00085-68-7)	X	X		<0.0025	<56.49565	.	.	.	.	1	PPM	LB/DAY
2-CHLORONAPHTHALENE (00091-58-7)	X	X		<0.0046	<103.951996	.	.	.	.	1	PPM	LB/DAY
4-CHLOROPHENYL-PHENYLETHER (07005-72-3)	X	X		<0.0042	<94.912692	.	.	.	.	1	PPM	LB/DAY
CHRYSENE (00218-01-9)	X	X		<0.0025	<56.49565	.	.	.	.	1	PPM	LB/DAY
DIBENZO (A H) ANTHRACENE (00053-70-3)	X	X		<0.0025	<56.49565	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROBENZENE (00095-50-1)	X	X		<0.004	<90.39304	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROBENZENE (00541-73-1)	X	X		<0.0031	<70.054606	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 001

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-DICHLOROBENZENE (00106-46-7)	X	X		<0.0044	<99.432344	.	.	.	.	1	PPM	LB/DAY
3,3'-DICHLOROBENZIDINE (00091-94-1)	X	X		<0.0165	<372.87129	.	.	.	.	1	PPM	LB/DAY
DIETHYLPHTHALATE (00084-66-2)	X	X		<0.0074	<167.227124	.	.	.	.	1	PPM	LB/DAY
DIMETHYL PHTHALATE (00131-11-3)	X	X		<0.0075	<169.48695	.	.	.	.	1	PPM	LB/DAY
DI-N-BUTYLPHTHALATE (00084-74-2)	X	X		<0.0064	<144.628864	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROTOLUENE (00121-14-2)	X	X		<0.0057	<128.810082	.	.	.	.	1	PPM	LB/DAY
2,6-DINITROTOLUENE (00606-20-2)	X	X		<0.0034	<76.834084	.	.	.	.	1	PPM	LB/DAY
DI-N-OCTYL PHTHALATE (00117-84-0)	X	X		<0.0025	<56.49565	.	.	.	.	1	PPM	LB/DAY
1,2-DIPHENYLHYDRAZINE (00122-66-7)	X	X		<0.0088	<198.864688	.	.	.	.	1	PPM	LB/DAY
FLUORANTHENE (00206-44-0)	X	X		<0.0022	<49.716172	.	.	.	.	1	PPM	LB/DAY
FLUORENE (00086-73-7)	X	X		<0.0022	<49.716172	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBENZENE (00118-74-1)	X	X		<0.0031	<70.054606	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBUTADIENE (00087-68-3)	X	X		<0.0018	<40.676868	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROCYCLOPENTADIENE (00077-47-4)	X	X		<0.02	<451.9652	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROETHANE (00067-72-1)	X	X		<0.0024	<54.235824	.	.	.	.	1	PPM	LB/DAY
INDENO (1,2,3-CD) PYRENE (00193-39-5)	X	X		<0.0037	<83.613562	.	.	.	.	1	PPM	LB/DAY
ISOPHORONE (00078-59-1)	X	X		<0.0051	<115.251126	.	.	.	.	1	PPM	LB/DAY
NAPHTHALENE (00091-20-3)	X	X		<0.0038	<85.873388	.	.	.	.	1	PPM	LB/DAY
NITROBENZENE (00098-95-3)	X	X		<0.0042	<94.912692	.	.	.	.	1	PPM	LB/DAY
N-NITROSODIMETHYLAMINE (00062-75-9)	X	X		<0.0062	<140.109212	.	.	.	.	1	PPM	LB/DAY
N-NITROSO-DI-N-PROPYLAMINE (00621-64-7)	X	X		<0.0036	<81.353736	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 001

2. EFFLUENT

3. UNITS

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-NITROSODIPHENYLAMINE (00086-30-6)	X	X		<0.0027	<61.015302	.	.	.	.	1	PPM	LB/DAY
PHENANTHRENE (00085-01-8)	X	X		<0.0054	<122.030604	.	.	.	.	1	PPM	LB/DAY
PYRENE (00129-00-0)	X	X		<0.0038	<85.873388	.	.	.	.	1	PPM	LB/DAY
1,2,4-TRICHLOROBENZENE (00120-82-1)	X	X		<0.0079	<178.526254	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
ALDRIN (00309-00-2)	X	X		<0.0019	<42.936694	.	.	.	.	1	PPM	LB/DAY
ALPHA BHC (00319-84-6)	X	X		<0.0031	<70.054606	.	.	.	.	1	PPM	LB/DAY
BETA BHC (00319-85-7)	X	X		<0.0042	<94.912692	.	.	.	.	1	PPM	LB/DAY
GAMMA BHC (00058-89-9)	X	X		<0.0022	<49.716172	.	.	.	.	1	PPM	LB/DAY
DELTA BHC (00319-86-8)	X	X		<0.0052	<117.510952	.	.	.	.	1	PPM	LB/DAY
CHLORDANE (00057-74-9)	X	X		<0.01	<225.9826	.	.	.	.	1	PPM	LB/DAY
4,4'-DDT (00050-29-3)	X	X		<0.0051	<115.251126	.	.	.	.	1	PPM	LB/DAY
4,4'-DDE (00072-55-9)	X	X		<0.0056	<126.550256	.	.	.	.	1	PPM	LB/DAY
4,4'-DDD (00072-54-8)	X	X		<0.0041	<92.652866	.	.	.	.	1	PPM	LB/DAY
DIELDRIN (00060-57-1)	X	X		<0.0044	<99.432344	.	.	.	.	1	PPM	LB/DAY
ALPHA-ENDOSULFAN (00115-29-7)	X	X		<0.0617	<1394.312642	.	.	.	.	1	PPM	LB/DAY
BETA-ENDOSULFAN (00115-29-7)	X	X		<0.0803	<1814.640278	.	.	.	.	1	PPM	LB/DAY
ENDOSULFAN SULFATE (01031-07-8)	X	X		<0.0056	<126.550256	.	.	.	.	1	PPM	LB/DAY
ENDRIN (00072-20-8)	X	X		<0.0056	<126.550256	.	.	.	.	1	PPM	LB/DAY
ENDRIN ALDEHYDE (07421-93-4)	X	X		<0.065	<1468.8869	.	.	.	.	1	PPM	LB/DAY
HEPTACHLOR (00076-44-8)	X	X		<0.0043	<97.172518	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 001

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - PESTICIDES (CONTINUED)												
HEPTACHLOR EPOXIDE (01024-57-3)	X	X		<0.0022	<49.716172	.	.	.	.	1	PPM	LB/DAY
PCB 1242 (53469-21-9)	X	X		<0.05	<1129.913	.	.	.	.	1	PPM	LB/DAY
PCB 1254 (11097-69-1)	X	X		<0.036	<813.53736	.	.	.	.	1	PPM	LB/DAY
PCB 1221 (11104-28-2)	X	X		<0.03	<677.9478	.	.	.	.	1	PPM	LB/DAY
PCB 1232 (11141-16-5)	X	X		<0.05	<1129.913	.	.	.	.	1	PPM	LB/DAY
PCB 1248 (12672-29-6)	X	X		<0.05	<1129.913	.	.	.	.	1	PPM	LB/DAY
PCB 1260 (11096-82-5)	X	X		<0.05	<1129.913	.	.	.	.	1	PPM	LB/DAY
PCB 1016 (12674-11-2)	X	X		<0.05	<1129.913	.	.	.	.	1	PPM	LB/DAY
TOXAPHENE (08001-35-2)	X	X		<0.05	<1129.913	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451

V. INTAKE AND EFFLUENT CHARACTERISTICS (CONTINUED FROM PAGE 3 OF FORM 2C) OUTFALL 009

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

	2. EFFLUENT							3. UNITS	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
POLLUTANT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BIOCHEMICAL OXYGEN DEMAND	<2	<3.60504	.	.	.	.	1	PPM	LB/DAY
CHEMICAL OXYGEN DEMAND	5.21	9.3911292	.	.	.	.	1	PPM	LB/DAY
TOTAL ORGANIC CARBON	4.5	8.11134	.	.	.	.	1	PPM	LB/DAY
TOTAL SUSPENDED SOLIDS	7	9.0126	7	9.0126	<2.6417	<3.7878	12	PPM	LB/DAY
AMMONIA,TOTAL	0.08	0.1442016	.	.	.	.	1	PPM	LB/DAY
FLOW	0.252	.	0.216	.	0.176	.	36	MGD	.
TEMPERATURE (WINTER)	7.2	.	.	.	.	.	1	DEGREES C	.
TEMPERATURE (SUMMER)	23.6	.	.	.	.	.	1	DEGREES C	.
PH	.	.	6.25 (MIN)	8.02 (MAX)	N/A	N/A	72	STD. UNITS	.

PART B.

	MARK X		2. EFFLUENT							3. UNITS	
			A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
	BELIEVED PRESENT	BELIEVED ABSENT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BROMIDE,TOTAL (24959-67-6)	X		0.35	0.630882	.	.	.	.	1	PPM	LB/DAY
CHLORINE, TOTAL RESIDUAL	X		<0.1	<0.180252	.	.	.	.	1	PPM	LB/DAY
COLOR	X		30	.	.	.	.	.	1	NTU	.
FECAL COLIFORM	X		4	.	.	.	.	.	1	COL/100ML	.
FLUORIDE (16984-48-8)	X		0.09	0.1622268	.	.	.	.	1	PPM	LB/DAY
NITRATE + NITRITE	X		<0.05	<0.090126	.	.	.	.	1	PPM	LB/DAY

ITEM V-B CONTINUED
PART C.

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 009

1. POLLUTANT	MARK X BELIEVED PRESENT	MARK X BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	A. MAXIMUM DAILY VALUE MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	B. MAXIMUM 30 DAY VALUE MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	C. LONG TERM AVRG. VALUE MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	3. UNITS MASS
POLLUTANT											
NITROGEN, TOTAL ORG. AS N	X		<0.3	<0.540756	.	.	.	.	1	PPM	LB/DAY
OIL & GREASE	X		<5	<9.0126	.	.	.	.	1	PPM	LB/DAY
PHOSPHORUS (AS P), TOTAL (07723-14-0)	X		0.08	0.1442016	.	.	.	.	1	PPM	LB/DAY
J. RADIOACTIVITY **********											
ALPHA, TOTAL	X		<1	.	.	.	.	.	1	PCI/LITER	.
BETA, TOTAL	X		4.3	.	.	.	.	.	1	PCI/LITER	.
RADIUM,TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
RADIUM 226 , TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
SULFATE (AS SO4) (14808-79-8)	X		4.6	8.291592	.	.	.	.	1	PPM	LB/DAY
SULFIDE (AS S)	X		0.06	0.1081512	.	.	.	.	1	PPM	LB/DAY
SULFITE (AS SO3) (14265-45-3)		X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
SURFACTANTS	X		<0.025	<0.045063	.	.	.	.	1	PPM	LB/DAY
ALUMINUM,TOTAL (07429-90-5)	X		<0.09	<0.1622268	.	.	.	.	1	PPM	LB/DAY
BARIUM,TOTAL (07440-39-3)	X		0.117	0.21089484	.	.	.	.	1	PPM	LB/DAY
BORON,TOTAL (07440-42-8)	X		0.03	0.0540756	.	.	.	.	1	PPM	LB/DAY
COBALT,TOTAL (07440-48-4)	X		<0.003	<0.00540756	.	.	.	.	1	PPM	LB/DAY
IRON,TOTAL (07439-89-6)	X		1.44	2.5956288	.	.	.	.	1	PPM	LB/DAY
MAGNESIUM,TOTAL (07439-95-4)	X		4.4	7.931088	.	.	.	.	1	PPM	LB/DAY
MOLYBDENUM,TOTAL (07439-98-7)	X		0.024	0.04326048	.	.	.	.	1	PPM	LB/DAY
MANGANESE,TOTAL (07439-96-5)	X		0.34	0.6128568	.	.	.	.	1	PPM	LB/DAY
TIN,TOTAL (07440-31-5)	X		<0.005	<0.0090126	.	.	.	.	1	PPM	LB/DAY
TITANIUM,TOTAL (07440-32-6)	X		<0.002	<0.00360504	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 009

1. POLLUTANT	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
METALS, CYANIDE, AND TOTAL PHENOLS												
POLLUTANT												
ANTIMONY, TOTAL (07440-36-0)	X	X		<0.001	<0.00180252	.	.	.	.	1	PPM	LB/DAY
ARSENIC, TOTAL (07440-38-2)	X	X		<0.003	<0.00540756	.	.	.	.	1	PPM	LB/DAY
BERYLLIUM, TOTAL (07440-41-7)	X	X		<0.0002	<0.000360504	.	.	.	.	1	PPM	LB/DAY
CADMIUM, TOTAL (07440-43-9)	X	X		<0.0003	<0.000540756	.	.	.	.	1	PPM	LB/DAY
CHROMIUM, TOTAL (07440-47-3)	X	X		<0.001	<0.00180252	.	.	.	.	1	PPM	LB/DAY
COPPER, TOTAL (07440-50-8)	X	X		0.001	0.00180252	.	.	.	.	1	PPM	LB/DAY
LEAD, TOTAL (07439-92-1)	X	X		<0.001	<0.00180252	.	.	.	.	1	PPM	LB/DAY
MERCURY, TOTAL (07439-97-6)	X	X		<0.0002	<0.000360504	.	.	.	.	1	PPM	LB/DAY
NICKEL, TOTAL (07440-02-0)	X	X		0.009	0.01622268	.	.	.	.	1	PPM	LB/DAY
SELENIUM, TOTAL (07782-49-2)	X	X		<0.003	<0.00540756	.	.	.	.	1	PPM	LB/DAY
SILVER, TOTAL (07440-22-4)	X	X		<0.0001	<0.000180252	.	.	.	.	1	PPM	LB/DAY
THALLIUM, TOTAL (07440-28-0)	X	X		<0.002	<0.00360504	.	.	.	.	1	PPM	LB/DAY
ZINC, TOTAL (07440-66-6)	X	X		0.01	0.0180252	.	.	.	.	1	PPM	LB/DAY
CYANIDE , TOTAL (00057-12-5)	X	X		<0.01	<0.0180252	.	.	.	.	1	PPM	LB/DAY
TOTAL PHENOLS	X	X		0.02	0.0360504	.	.	.	.	1	PPM	LB/DAY
DIOXIN												
DIOXIN SCREEN			X	NO SAMPLE	.	.	.	.	.	.	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES 'ER = VA0052451 OUTFALL 009

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - VOLATILE COMPOUNDS												
ACROLEIN (00107-02-8)	X	X		<0.0408	<0.073542816	.	.	.	.	1	PPM	LB/DAY
ACRYLONITRILE (00107-13-1)	X	X		<0.0015	<0.00270378	.	.	.	.	1	PPM	LB/DAY
BENZENE (00071-43-2)	X	X		<0.0044	<0.007931088	.	.	.	.	1	PPM	LB/DAY
BIS (CHLOROMETHYL) ETHER (542-88-1)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
BROMOFORM (00075-25-2)	X	X		<0.0047	<0.008471844	.	.	.	.	1	PPM	LB/DAY
CARBON TETRACHLORIDE (00056-23-5)	X	X		<0.0028	<0.005047056	.	.	.	.	1	PPM	LB/DAY
CHLOROBENZENE (00108-90-7)	X	X		<0.006	<0.01081512	.	.	.	.	1	PPM	LB/DAY
CHLORODIBROMOMETHANE (00124-48-1)	X	X		<0.0031	<0.005587812	.	.	.	.	1	PPM	LB/DAY
CHLOROETHANE (00075-00-3)	X	X		<0.0011	<0.001982772	.	.	.	.	1	PPM	LB/DAY
2-CHLOROETHYLVINYL ETHER (00110-75-8)	X	X		<0.0012	<0.002163024	.	.	.	.	1	PPM	LB/DAY
CHLOROFORM (00067-66-3)	X	X		<0.0016	<0.002884032	.	.	.	.	1	PPM	LB/DAY
DICHLOROBROMOMETHANE (00075-27-4)	X	X		<0.0022	<0.003965544	.	.	.	.	1	PPM	LB/DAY
DICHLORODIFLUORMETHANE (75-71-8)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
1,1-DICHLOROETHANE (00075-34-3)	X	X		<0.0047	<0.008471844	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROETHANE (00107-06-2)	X	X		<0.0028	<0.005047056	.	.	.	.	1	PPM	LB/DAY
1,1-DICHLOROETHYLENE (00075-35-4)	X	X		<0.0028	<0.005047056	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROPROPANE (00078-87-5)	X	X		<0.006	<0.01081512	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROPROPYLENE (10061-02-6)	X	X		<0.0009	<0.001622268	.	.	.	.	1	PPM	LB/DAY
ETHYL BENZENE (00100-41-4)	X	X		<0.0072	<0.012978144	.	.	.	.	1	PPM	LB/DAY
METHYL BROMIDE (00074-83-9)	X	X		<0.0014	<0.002523528	.	.	.	.	1	PPM	LB/DAY
METHYL CHLORIDE (00074-87-3)	X	X		<0.0011	<0.001982772	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPD ᴹBER = VA0052451 OUTFALL 009

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNI CONCENTRATION	MASS
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
METHYLENE CHLORIDE (00075-09-2)	X	X		<0.0028	<0.005047056	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-TETRACHLOROETHANE (00079-34-5)	X	X		<0.0069	<0.012437388	.	.	.	.	1	PPM	LB/DAY
TETRACHLOROETHYLENE (00127-18-4)	X	X		<0.0041	<0.007390332	.	.	.	.	1	PPM	LB/DAY
TOLUENE (00108-88-3)	X	X		<0.006	<0.01081512	.	.	.	.	1	PPM	LB/DAY
1,2-TRANS-DICHLOROETHYLENE (00156-60-5)	X	X		<0.0016	<0.002884032	.	.	.	.	1	PPM	LB/DAY
1,1,1-TRICHLOROETHANE (00071-55-6)	X	X		<0.0038	<0.006849576	.	.	.	.	1	PPM	LB/DAY
1,1,2-TRICHLOROETHANE (00079-00-5)	X	X		<0.005	<0.0090126	.	.	.	.	1	PPM	LB/DAY
TRICHLOROETHYLENE (00079-01-6)	X	X		<0.0019	<0.003424788	.	.	.	.	1	PPM	LB/DAY
TRICHLOROFLUOROMETHANE (75-69-4)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
VINYL CHLORIDE (00075-01-4)	X	X		<0.0018	<0.003244536	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-CHLOROPHENOL (00095-57-8)	X	X		<0.0033	<0.005948316	.	.	.	.	1	PPM	LB/DAY
2,4-DICHLOROPHENOL (00120-83-2)	X	X		<0.0056	<0.010094112	.	.	.	.	1	PPM	LB/DAY
2,4-DIMETHYLPHENOL (00105-67-9)	X	X		<0.0052	<0.009373104	.	.	.	.	1	PPM	LB/DAY
4,6-DINOTRO-O-CRESOL (00534-52-1)	X	X		<0.024	<0.04326048	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROPHENOL (00051-28-5)	X	X		<0.042	<0.07570584	.	.	.	.	1	PPM	LB/DAY
2-NITROPHENOL (00088-75-5)	X	X		<0.0036	<0.006489072	.	.	.	.	1	PPM	LB/DAY
4-NITROPHENOL (00100-02-7)	X	X		<0.0024	<0.004326048	.	.	.	.	1	PPM	LB/DAY
P-CHLORO-M-CRESOL (00059-50-7)	X	X		<0.0075	<0.0135189	.	.	.	.	1	PPM	LB/DAY
PENTACHLOROPHENOL (00087-86-5)	X	X		<0.0036	<0.006489072	.	.	.	.	1	PPM	LB/DAY
PHENOL (00108-95-2)	X	X		<0.0027	<0.004866804	.	.	.	.	1	PPM	LB/DAY
2,4,6-TRICHLOROPHENOL (00088-06-2)	X	X		<0.0027	<0.004866804	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 009

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
ACENAPHTHENE (00083-32-9)	X	X		<0.003	<0.00540756	.	.	.	.	1	PPM	LB/DAY
ACENAPHTHYLENE (00208-96-8)	X	X		<0.0035	<0.00630882	.	.	.	.	1	PPM	LB/DAY
ANTHRACENE (00120-12-7)	X	X		<0.0019	<0.003424788	.	.	.	.	1	PPM	LB/DAY
BENZIDINE (00092-87-5)	X	X		<0.063	<0.11355876	.	.	.	.	1	PPM	LB/DAY
BENZO (A) ANTHRACENE (00056-55-3)	X	X		<0.0078	<0.014059656	.	.	.	.	1	PPM	LB/DAY
BENZO (A) PYRENE (00050-32-8)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
3,4-BENZOFLUORANTHENE (00205-99-2)	X	X		<0.0048	<0.008652096	.	.	.	.	1	PPM	LB/DAY
BENZO (G H I) PERYLENE (00191-24-2)	X	X		<0.0041	<0.007390332	.	.	.	.	1	PPM	LB/DAY
BENZO (K) FLUORANTHENE (00207-08-9)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROETHOXY) METHANE (00111-91-1)	X	X		<0.0053	<0.009553356	.	.	.	.	1	PPM	LB/DAY
BIS(-2-CHLOROETHYL) ETHER (00111-44-4)	X	X		<0.0057	<0.010274364	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROISOPROPYL) ETHER (00108-60-1)	X	X		<0.0057	<0.010274364	.	.	.	.	1	PPM	LB/DAY
BIS(2-ETHYLHEXYL) PHTHALATE (00117-81-7)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
4-BROMOPHENYL-PHENYLETHER (00101-55-3)	X	X		<0.003	<0.00540756	.	.	.	.	1	PPM	LB/DAY
BUTYLBENZYLPHTHALATE (00085-68-7)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
2-CHLORONAPHTHALENE (00091-58-7)	X	X		<0.0046	<0.008291592	.	.	.	.	1	PPM	LB/DAY
4-CHLOROPHENYL-PHENYLETHER (07005-72-3)	X	X		<0.0042	<0.007570584	.	.	.	.	1	PPM	LB/DAY
CHRYSENE (00218-01-9)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
DIBENZO (A H) ANTHRACENE (00053-70-3)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROBENZENE (00095-50-1)	X	X		<0.004	<0.00721008	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROBENZENE (00541-73-1)	X	X		<0.0031	<0.005587812	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 009

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-DICHLOROBENZENE (00106-46-7)	X	X		<0.0044	<0.007931088	.	.	.	.	1	PPM	LB/DAY
3,3'-DICHLOROBENZIDINE (00091-94-1)	X	X		<0.0165	<0.02974158	.	.	.	.	1	PPM	LB/DAY
DIETHYLPHTHALATE (00084-66-2)	X	X		<0.0074	<0.013338648	.	.	.	.	1	PPM	LB/DAY
DIMETHYL PHTHALATE (00131-11-3)	X	X		<0.0075	<0.0135189	.	.	.	.	1	PPM	LB/DAY
DI-N-BUTYLPHTHALATE (00084-74-2)	X	X		<0.0064	<0.011536128	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROTOLUENE (00121-14-2)	X	X		<0.0057	<0.010274364	.	.	.	.	1	PPM	LB/DAY
2,6-DINITROTOLUENE (00606-20-2)	X	X		<0.0034	<0.006128568	.	.	.	.	1	PPM	LB/DAY
DI-N-OCTYL PHTHALATE (00117-84-0)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
1,2-DIPHENYLHYDRAZINE (00122-66-7)	X	X		<0.0088	<0.015862176	.	.	.	.	1	PPM	LB/DAY
FLUORANTHENE (00206-44-0)	X	X		<0.0022	<0.003965544	.	.	.	.	1	PPM	LB/DAY
FLUORENE (00086-73-7)	X	X		<0.0022	<0.003965544	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBENZENE (00118-74-1)	X	X		<0.0031	<0.005587812	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBUTADIENE (00087-68-3)	X	X		<0.0018	<0.003244536	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROCYCLOPENTADIENE (00077-47-4)	X	X		<0.02	<0.0360504	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROETHANE (00067-72-1)	X	X		<0.0024	<0.004326048	.	.	.	.	1	PPM	LB/DAY
INDENO (1,2,3-CD) PYRENE (00193-39-5)	X	X		<0.0037	<0.006669324	.	.	.	.	1	PPM	LB/DAY
ISOPHORONE (00078-59-1)	X	X		<0.0051	<0.009192852	.	.	.	.	1	PPM	LB/DAY
NAPHTHALENE (00091-20-3)	X	X		<0.0038	<0.006849576	.	.	.	.	1	PPM	LB/DAY
NITROBENZENE (00098-95-3)	X	X		<0.0042	<0.007570584	.	.	.	.	1	PPM	LB/DAY
N-NITROSODIMETHYLAMINE (00062-75-9)	X	X		<0.0062	<0.011175624	.	.	.	.	1	PPM	LB/DAY
N-NITROSO-DI-N-PROPYLAMINE (00621-64-7)	X	X		<0.0036	<0.006489072	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 009

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-NITROSODIPHENYLAMINE (00086-30-6)	X	X		<0.0027	<0.004866804	.	.	.	.	1	PPM	LB/DAY
PHENANTHRENE (00085-01-8)	X	X		<0.0054	<0.009733608	.	.	.	.	1	PPM	LB/DAY
PYRENE (00129-00-0)	X	X		<0.0038	<0.006849576	.	.	.	.	1	PPM	LB/DAY
1,2,4-TRICHLOROBENZENE (00120-82-1)	X	X		<0.0079	<0.014239908	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
ALDRIN (00309-00-2)	X	X		<0.0019	<0.003424788	.	.	.	.	1	PPM	LB/DAY
ALPHA BHC (00319-84-6)	X	X		<0.0031	<0.005587812	.	.	.	.	1	PPM	LB/DAY
BETA BHC (00319-85-7)	X	X		<0.0042	<0.007570584	.	.	.	.	1	PPM	LB/DAY
GAMMA BHC (00058-89-9)	X	X		<0.0022	<0.003965544	.	.	.	.	1	PPM	LB/DAY
DELTA BHC (00319-86-8)	X	X		<0.0052	<0.009373104	.	.	.	.	1	PPM	LB/DAY
CHLORDANE (00057-74-9)	X	X		<0.01	<0.0180252	.	.	.	.	1	PPM	LB/DAY
4,4'-DDT (00050-29-3)	X	X		<0.0051	<0.009192852	.	.	.	.	1	PPM	LB/DAY
4,4'-DDE (00072-55-9)	X	X		<0.0056	<0.010094112	.	.	.	.	1	PPM	LB/DAY
4,4'-DDD (00072-54-8)	X	X		<0.0041	<0.007390332	.	.	.	.	1	PPM	LB/DAY
DIELDRIN (00060-57-1)	X	X		<0.0044	<0.007931088	.	.	.	.	1	PPM	LB/DAY
ALPHA-ENDOSULFAN (00115-29-7)	X	X		<0.0617	<0.111215484	.	.	.	.	1	PPM	LB/DAY
BETA-ENDOSULFAN (00115-29-7)	X	X		<0.0803	<0.144742356	.	.	.	.	1	PPM	LB/DAY
ENDOSULFAN SULFATE (01031-07-8)	X	X		<0.0056	<0.010094112	.	.	.	.	1	PPM	LB/DAY
ENDRIN (00072-20-8)	X	X		<0.0056	<0.010094112	.	.	.	.	1	PPM	LB/DAY
ENDRIN ALDEHYDE (07421-93-4)	X	X		<0.065	<0.1171638	.	.	.	.	1	PPM	LB/DAY
HEPTACHLOR (00076-44-8)	X	X		<0.0043	<0.007750836	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 009

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - PESTICIDES (CONTINUED)												
HEPTACHLOR EPOXIDE (01024-57-3)	X	X		<0.0022	<0.003965544	.	.	.	.	1	PPM	LB/DAY
PCB 1242 (53469-21-9)	X	X		<0.05	<0.090126	.	.	.	.	1	PPM	LB/DAY
PCB 1254 (11097-69-1)	X	X		<0.036	<0.06489072	.	.	.	.	1	PPM	LB/DAY
PCB 1221 (11104-28-2)	X	X		<0.03	<0.0540756	.	.	.	.	1	PPM	LB/DAY
PCB 1232 (11141-16-5)	X	X		<0.05	<0.090126	.	.	.	.	1	PPM	LB/DAY
PCB 1248 (12672-29-6)	X	X		<0.05	<0.090126	.	.	.	.	1	PPM	LB/DAY
PCB 1260 (11096-82-5)	X	X		<0.05	<0.090126	.	.	.	.	1	PPM	LB/DAY
PCB 1016 (12674-11-2)	X	X		<0.05	<0.090126	.	.	.	.	1	PPM	LB/DAY
TOXAPHENE (08001-35-2)	X	X		<0.05	<0.090126	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451

V. INTAKE EFFLUENT CHARACTERISTICS (CONTINUED FROM PAGE 3 OF FORM 2C) OUTFALL 020

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

	2. EFFLUENT							3. UNITS	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
POLLUTANT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BIOCHEMICAL OXYGEN DEMAND	<2	<3.124368	.	.	.	.	1	PPM	LB/DAY
CHEMICAL OXYGEN DEMAND	22.29	34.82108136	.	.	.	.	1	PPM	LB/DAY
TOTAL ORGANIC CARBON	7.4	11.5601616	.	.	.	.	1	PPM	LB/DAY
TOTAL SUSPENDED SOLIDS	1.1	4.686552	1.1	3.9639	<1.0083	<3.081	12	PPM	LB/DAY
AMMONIA,TOTAL	0.08	0.12497472	.	.	.	.	1	PPM	LB/DAY
FLOW	0.864	.	0.648	.	0.38	.	36	MGD	.
TEMPERATURE (WINTER)	9.8	.	.	.	.	.	1	DEGREES C	.
TEMPERATURE (SUMMER)	29	.	.	.	.	.	1	DEGREES C	.
PH	.	.	6.46 (MIN)	7.54 (MAX)	N/A	N/A	71	STD. UNITS	.

PART B.

	MARK X		2. EFFLUENT						3. UNITS	
			A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE			
	BELIEVED PRESENT	BELIEVED ABSENT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BROMIDE,TOTAL (24959-67-6)	X		0.21	0.32805864	.	.	.	.	1	PPM	LB/DAY
CHLORINE, TOTAL RESIDUAL	X		0.4	1.442016	0.4	1.2618	<0.1503	<0.4434	36	PPM	LB/DAY
COLOR	X		20	.	.	.	.	.	1	NTU	.
FECAL COLIFORM	X		<2	.	.	.	.	.	1	COL/100ML	.
FLUORIDE (16984-48-8)	X		0.1	0.1562184	.	.	.	.	1	PPM	LB/DAY
NITRATE + NITRITE	X		0.2	0.3124368	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 020

1. POLLUTANT	MARK X BELIEVED PRESENT	MARK X BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	A. MAXIMUM DAILY VALUE MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	B. MAXIMUM 30 DAY VALUE MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	C. LONG TERM AVRG. VALUE MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	3. UNITS MASS
POLLUTANT											
NITROGEN, TOTAL ORG. AS N	X		0.31	0.48427704	.	.	.	.	1	PPM	LB/DAY
OIL & GREASE	X		<5	<7.81092	.	.	.	.	1	PPM	LB/DAY
PHOSPHORUS (AS P), TOTAL (07723-14-0)	X		0.02	0.03124368	.	.	.	.	1	PPM	LB/DAY
J. RADIOACTIVITY **********											
ALPHA, TOTAL	X		<1	.	.	.	.	.	1	PCI/LITER	.
BETA, TOTAL	X		4.6	.	.	.	.	.	1	PCI/LITER	.
RADIUM,TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
RADIUM 226 , TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
SULFATE (AS SO4) (14808-79-8)	X		17.22	26.90080848	.	.	.	.	1	PPM	LB/DAY
SULFIDE (AS S)	X		<0.01	<0.01562184	.	.	.	.	1	PPM	LB/DAY
SULFITE (AS SO3) (14265-45-3)		X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
SURFACTANTS	X		<0.025	<0.0390546	.	.	.	.	1	PPM	LB/DAY
ALUMINUM,TOTAL (07429-90-5)	X		<0.09	<0.14059656	.	.	.	.	1	PPM	LB/DAY
BARIUM,TOTAL (07440-39-3)	X		0.05	0.0781092	.	.	.	.	1	PPM	LB/DAY
BORON,TOTAL (07440-42-8)	X		0.06	0.09373104	.	.	.	.	1	PPM	LB/DAY
COBALT,TOTAL (07440-48-4)	X		<0.003	<0.004686552	.	.	.	.	1	PPM	LB/DAY
IRON,TOTAL (07439-89-6)	X		<0.05	<0.0781092	.	.	.	.	1	PPM	LB/DAY
MAGNESIUM,TOTAL (07439-95-4)	X		5.05	7.8890292	.	.	.	.	1	PPM	LB/DAY
MOLYBDENUM,TOTAL (07439-98-7)	X		0.049	0.076547016	.	.	.	.	1	PPM	LB/DAY
MANGANESE,TOTAL (07439-96-5)	X		0.03	0.04686552	.	.	.	.	1	PPM	LB/DAY
TIN,TOTAL (07440-31-5)	X		<0.005	<0.00781092	.	.	.	.	1	PPM	LB/DAY
TITANIUM,TOTAL (07440-32-6)	X		<0.002	<0.003124368	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 020

1. POLLUTANT	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
METALS, CYANIDE, AND TOTAL PHENOLS												
POLLUTANT												
ANTIMONY,TOTAL (07440-36-0)	X	X		0.001	0.001562184	.	.	.	.	1	PPM	LB/DAY
ARSENIC,TOTAL (07440-38-2)	X	X		<0.003	<0.004686552	.	.	.	.	1	PPM	LB/DAY
BERYLLIUM,TOTAL (07440-41-7)	X	X		<0.0002	<0.0003124368	.	.	.	.	1	PPM	LB/DAY
CADMIUM,TOTAL (07440-43-9)	X	X		<0.0003	<0.0004686552	.	.	.	.	1	PPM	LB/DAY
CHROMIUM,TOTAL (07440-47-3)	X	X		<0.001	<0.001562184	.	.	.	.	1	PPM	LB/DAY
COPPER,TOTAL (07440-50-8)	X	X		0.004	0.006248736	.	.	.	.	1	PPM	LB/DAY
LEAD,TOTAL (07439-92-1)	X	X		<0.001	<0.001562184	.	.	.	.	1	PPM	LB/DAY
MERCURY,TOTAL (07439-97-6)	X	X		<0.0002	<0.0003124368	.	.	.	.	1	PPM	LB/DAY
NICKEL,TOTAL (07440-02-0)	X	X		0.009	0.014059656	.	.	.	.	1	PPM	LB/DAY
SELENIUM,TOTAL (07782-49-2)	X	X		<0.003	<0.004686552	.	.	.	.	1	PPM	LB/DAY
SILVER,TOTAL (07440-22-4)	X	X		<0.0001	<0.0001562184	.	.	.	.	1	PPM	LB/DAY
THALLIUM,TOTAL (07440-28-0)	X	X		<0.002	<0.003124368	.	.	.	.	1	PPM	LB/DAY
ZINC,TOTAL (07440-66-6)	X	X		0.01	0.01562184	.	.	.	.	1	PPM	LB/DAY
CYANIDE , TOTAL (00057-12-5)	X	X		<0.01	<0.01562184	.	.	.	.	1	PPM	LB/DAY
TOTAL PHENOLS	X	X		0.04	0.06248736	.	.	.	.	1	PPM	LB/DAY
DIOXIN												
DIOXIN SCREEN			X	NO SAMPLE	.	.	.	.	.	.	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 020

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION - VOLATILE COMPOUNDS												
ACROLEIN (00107-02-8)	X	X		<0.0408	<0.0637371072	.	.	.	.	1	PPM	LB/DAY
ACRYLONITRILE (00107-13-1)	X	X		<0.0015	<0.002343276	.	.	.	.	1	PPM	LB/DAY
BENZENE (00071-43-2)	X	X		<0.0044	<0.0068736096	.	.	.	.	1	PPM	LB/DAY
BIS (CHLOROMETHYL) ETHER (542-88-1)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
BROMOFORM (00075-25-2)	X	X		<0.0047	<0.0073422648	.	.	.	.	1	PPM	LB/DAY
CARBON TETRACHLORIDE (00056-23-5)	X	X		<0.0028	<0.0043741152	.	.	.	.	1	PPM	LB/DAY
CHLOROBENZENE (00108-90-7)	X	X		<0.006	<0.009373104	.	.	.	.	1	PPM	LB/DAY
CHLORODIBROMOMETHANE (00124-48-1)	X	X		<0.0031	<0.0048427704	.	.	.	.	1	PPM	LB/DAY
CHLOROETHANE (00075-00-3)	X	X		<0.0011	<0.0017184024	.	.	.	.	1	PPM	LB/DAY
2-CHLOROETHYLVINYL ETHER (00110-75-8)	X	X		<0.0012	<0.0018746208	.	.	.	.	1	PPM	LB/DAY
CHLOROFORM (00067-66-3)	X	X		<0.0016	<0.0024994944	.	.	.	.	1	PPM	LB/DAY
DICHLOROBROMOMETHANE (00075-27-4)	X	X		<0.0022	<0.0034368048	.	.	.	.	1	PPM	LB/DAY
DICHLORODIFLUORMETHANE (75-71-8)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
1,1-DICHLOROETHANE (00075-34-3)	X	X		<0.0047	<0.0073422648	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROETHANE (00107-06-2)	X	X		<0.0028	<0.0043741152	.	.	.	.	1	PPM	LB/DAY
1,1-DICHLOROETHYLENE (00075-35-4)	X	X		<0.0028	<0.0043741152	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROPROPANE (00078-87-5)	X	X		<0.006	<0.009373104	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROPROPYLENE (10061-02-6)	X	X		<0.0009	<0.0014059656	.	.	.	.	1	PPM	LB/DAY
ETHYL BENZENE (00100-41-4)	X	X		<0.0072	<0.0112477248	.	.	.	.	1	PPM	LB/DAY
METHYL BROMIDE (00074-83-9)	X	X		<0.0014	<0.0021870576	.	.	.	.	1	PPM	LB/DAY
METHYL CHLORIDE (00074-87-3)	X	X		<0.0011	<0.0017184024	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 020

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
METHYLENE CHLORIDE (00075-09-2)	X	X		<0.0028	<0.0043741152	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-TETRACHLOROETHANE (00079-34-5)	X	X		<0.0069	<0.0107790696	.	.	.	.	1	PPM	LB/DAY
TETRACHLOROETHYLENE (00127-18-4)	X	X		<0.0041	<0.0064049544	.	.	.	.	1	PPM	LB/DAY
TOLUENE (00108-88-3)	X	X		<0.006	<0.009373104	.	.	.	.	1	PPM	LB/DAY
1,2-TRANS-DICHLOROETHYLENE (00156-60-5)	X	X		<0.0016	<0.0024994944	.	.	.	.	1	PPM	LB/DAY
1,1,1-TRICHLOROETHANE (00071-55-6)	X	X		<0.0038	<0.0059362992	.	.	.	.	1	PPM	LB/DAY
1,1,2-TRICHLOROETHANE (00079-00-5)	X	X		<0.005	<0.00781092	.	.	.	.	1	PPM	LB/DAY
TRICHLOROETHYLENE (00079-01-6)	X	X		<0.0019	<0.0029681496	.	.	.	.	1	PPM	LB/DAY
TRICHLOROFLUOROMETHANE (75-69-4)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
VINYL CHLORIDE (00075-01-4)	X	X		<0.0018	<0.0028119312	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-CHLOROPHENOL (00095-57-8)	X	X		<0.0033	<0.0051552072	.	.	.	.	1	PPM	LB/DAY
2,4-DICHLOROPHENOL (00120-83-2)	X	X		<0.0056	<0.0087482304	.	.	.	.	1	PPM	LB/DAY
2,4-DIMETHYLPHENOL (00105-67-9)	X	X		<0.0052	<0.0081233568	.	.	.	.	1	PPM	LB/DAY
4,6-DINOTRO-O-CRESOL (00534-52-1)	X	X		<0.024	<0.037492416	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROPHENOL (00051-28-5)	X	X		<0.042	<0.065611728	.	.	.	.	1	PPM	LB/DAY
2-NITROPHENOL (00088-75-5)	X	X		<0.0036	<0.0056238624	.	.	.	.	1	PPM	LB/DAY
4-NITROPHENOL (00100-02-7)	X	X		<0.0042	<0.0065611728	.	.	.	.	1	PPM	LB/DAY
P-CHLORO-M-CRESOL (00059-50-7)	X	X		<0.0075	<0.01171638	.	.	.	.	1	PPM	LB/DAY
PENTACHLOROPHENOL (00087-86-5)	X	X		<0.0036	<0.0056238624	.	.	.	.	1	PPM	LB/DAY
PHENOL (00108-95-2)	X	X		<0.0027	<0.0042178968	.	.	.	.	1	PPM	LB/DAY
2,4,6-TRICHLOROPHENOL (00088-06-2)	X	X		<0.0027	<0.0042178968	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 020

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
ACENAPHTHENE (00083-32-9)	X	X		<0.003	<0.004686552	.	.	.	.	1	PPM	LB/DAY
ACENAPHTHYLENE (00208-96-8)	X	X		<0.0035	<0.005467644	.	.	.	.	1	PPM	LB/DAY
ANTHRACENE (00120-12-7)	X	X		<0.0019	<0.0029681496	.	.	.	.	1	PPM	LB/DAY
BENZIDINE (00092-87-5)	X	X		<0.063	<0.098417592	.	.	.	.	1	PPM	LB/DAY
BENZO (A) ANTHRACENE (00056-55-3)	X	X		<0.0078	<0.0121850352	.	.	.	.	1	PPM	LB/DAY
BENZO (A) PYRENE (00050-32-8)	X	X		<0.0025	<0.00390546	.	.	.	.	1	PPM	LB/DAY
3,4-BENZOFLUORANTHENE (00205-99-2)	X	X		<0.0048	<0.0074984832	.	.	.	.	1	PPM	LB/DAY
BENZO (G H I) PERYLENE (00191-24-2)	X	X		<0.0041	<0.0064049544	.	.	.	.	1	PPM	LB/DAY
BENZO (K) FLUORANTHENE (00207-08-9)	X	X		<0.0025	<0.00390546	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROETHOXY) METHANE (00111-91-1)	X	X		<0.0053	<0.0082795752	.	.	.	.	1	PPM	LB/DAY
BIS(-2-CHLOROETHYL) ETHER (00111-44-4)	X	X		<0.0057	<0.0089044488	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROISOPROPYL) ETHER (00108-60-1)	X	X		<0.0057	<0.0089044488	.	.	.	.	1	PPM	LB/DAY
BIS(2-ETHYLHEXYL) PHTHALATE (00117-81-7)	X	X		<0.0025	<0.00390546	.	.	.	.	1	PPM	LB/DAY
4-BROMOPHENYL-PHENYLETHER (00101-55-3)	X	X		<0.003	<0.004686552	.	.	.	.	1	PPM	LB/DAY
BUTYLBENZYLPHTHALATE (00085-68-7)	X	X		<0.0025	<0.00390546	.	.	.	.	1	PPM	LB/DAY
2-CHLORONAPHTHALENE (00091-58-7)	X	X		<0.0046	<0.0071860464	.	.	.	.	1	PPM	LB/DAY
4-CHLOROPHENYL-PHENYLETHER (07005-72-3)	X	X		<0.0042	<0.0065611728	.	.	.	.	1	PPM	LB/DAY
CHRYSENE (00218-01-9)	X	X		<0.0025	<0.00390546	.	.	.	.	1	PPM	LB/DAY
DIBENZO (A H) ANTHRACENE (00053-70-3)	X	X		<0.0025	<0.00390546	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROBENZENE (00095-50-1)	X	X		<0.004	<0.006248736	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROBENZENE (00541-73-1)	X	X		<0.0031	<0.0048427704	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 020

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-DICHLOROBENZENE (00106-46-7)	X	X		<0.0044	<0.0068736096	.	.	.	.	1	PPM	LB/DAY
3,3'-DICHLOROBENZIDINE (00091-94-1)	X	X		<0.0165	<0.025776036	.	.	.	.	1	PPM	LB/DAY
DIETHYLPHTHALATE (00084-66-2)	X	X		<0.0074	<0.0115601616	.	.	.	.	1	PPM	LB/DAY
DIMETHYL PHTHALATE (00131-11-3)	X	X		<0.0075	<0.01171638	.	.	.	.	1	PPM	LB/DAY
DI-N-BUTYLPHTHALATE (00084-74-2)	X	X		<0.0064	<0.0099979776	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROTOLUENE (00121-14-2)	X	X		<0.0057	<0.0089044488	.	.	.	.	1	PPM	LB/DAY
2,6-DINITROTOLUENE (00606-20-2)	X	X		<0.0034	<0.0053114256	.	.	.	.	1	PPM	LB/DAY
DI-N-OCTYL PHTHALATE (00117-84-0)	X	X		<0.0025	<0.00390546	.	.	.	.	1	PPM	LB/DAY
1,2-DIPHENYLHYDRAZINE (00122-66-7)	X	X		<0.0088	<0.0137472192	.	.	.	.	1	PPM	LB/DAY
FLUORANTHENE (00206-44-0)	X	X		<0.0022	<0.0034368048	.	.	.	.	1	PPM	LB/DAY
FLUORENE (00086-73-7)	X	X		<0.0022	<0.0034368048	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBENZENE (00118-74-1)	X	X		<0.0031	<0.0048427704	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBUTADIENE (00087-68-3)	X	X		<0.0018	<0.0028119312	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROCYCLOPENTADIENE (00077-47-4)	X	X		<0.02	<0.03124368	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROETHANE (00067-72-1)	X	X		<0.0024	<0.0037492416	.	.	.	.	1	PPM	LB/DAY
INDENO (1,2,3-CD) PYRENE (00193-39-5)	X	X		<0.0037	<0.0057800808	.	.	.	.	1	PPM	LB/DAY
ISOPHORONE (00078-59-1)	X	X		<0.0051	<0.0079671384	.	.	.	.	1	PPM	LB/DAY
NAPHTHALENE (00091-20-3)	X	X		<0.0038	<0.0059362992	.	.	.	.	1	PPM	LB/DAY
NITROBENZENE (00098-95-3)	X	X		<0.0042	<0.0065611728	.	.	.	.	1	PPM	LB/DAY
N-NITROSODIMETHYLAMINE (00062-75-9)	X	X		<0.0062	<0.0096855408	.	.	.	.	1	PPM	LB/DAY
N-NITROSO-DI-N-PROPYLAMINE (00621-64-7)	X	X		<0.0036	<0.0056238624	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 020

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-NITROSODIPHENYLAMINE (00086-30-6)	X	X		<0.0027	<0.0042178968	.	.	.	.	1	PPM	LB/DAY
PHENANTHRENE (00085-01-8)	X	X		<0.0054	<0.0084357936	.	.	.	.	1	PPM	LB/DAY
PYRENE (00129-00-0)	X	X		<0.0038	<0.0059362992	.	.	.	.	1	PPM	LB/DAY
1,2,4-TRICHLOROBENZENE (00120-82-1)	X	X		<0.0079	<0.0123412536	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
ALDRIN (00309-00-2)	X	X		<0.0019	<0.0029681496	.	.	.	.	1	PPM	LB/DAY
ALPHA BHC (00319-84-6)	X	X		<0.0031	<0.0048427704	.	.	.	.	1	PPM	LB/DAY
BETA BHC (00319-85-7)	X	X		<0.0042	<0.0065611728	.	.	.	.	1	PPM	LB/DAY
GAMMA BHC (00058-89-9)	X	X		<0.0022	<0.0034368048	.	.	.	.	1	PPM	LB/DAY
DELTA BHC (00319-86-8)	X	X		<0.0052	<0.0081233568	.	.	.	.	1	PPM	LB/DAY
CHLORDANE (00057-74-9)	X	X		<0.01	<0.01562184	.	.	.	.	1	PPM	LB/DAY
4,4'-DDT (00050-29-3)	X	X		<0.0051	<0.0079671384	.	.	.	.	1	PPM	LB/DAY
4,4'-DDE (00072-55-9)	X	X		<0.0056	<0.0087482304	.	.	.	.	1	PPM	LB/DAY
4,4'-DDD (00072-54-8)	X	X		<0.0041	<0.0064049544	.	.	.	.	1	PPM	LB/DAY
DIELDRIN (00060-57-1)	X	X		<0.0044	<0.0068736096	.	.	.	.	1	PPM	LB/DAY
ALPHA-ENDOSULFAN (00115-29-7)	X	X		<0.0617	<0.0963867528	.	.	.	.	1	PPM	LB/DAY
BETA-ENDOSULFAN (00115-29-7)	X	X		<0.0803	<0.1254433752	.	.	.	.	1	PPM	LB/DAY
ENDOSULFAN SULFATE (01031-07-8)	X	X		<0.0056	<0.0087482304	.	.	.	.	1	PPM	LB/DAY
ENDRIN (00072-20-8)	X	X		<0.0056	<0.0087482304	.	.	.	.	1	PPM	LB/DAY
ENDRIN ALDEHYDE (07421-93-4)	X	X		<0.065	<0.10154196	.	.	.	.	1	PPM	LB/DAY
HEPTACHLOR (00076-44-8)	X	X		<0.0043	<0.0067173912	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDE MBER = VA0052451 OUTFALL 020

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION - PESTICIDES (CONTINUED)												
HEPTACHLOR EPOXIDE (01024-57-3)	X	X		<0.0022	<0.0034368048	.	.	.	.	1	PPM	LB/DAY
PCB 1242 (53469-21-9)	X	X		<0.05	<0.0781092	.	.	.	.	1	PPM	LB/DAY
PCB 1254 (11097-69-1)	X	X		<0.036	<0.056238624	.	.	.	.	1	PPM	LB/DAY
PCB 1221 (11104-28-2)	X	X		<0.03	<0.04686552	.	.	.	.	1	PPM	LB/DAY
PCB 1232 (11141-16-5)	X	X		<0.05	<0.0781092	.	.	.	.	1	PPM	LB/DAY
PCB 1248 (12672-29-6)	X	X		<0.05	<0.0781092	.	.	.	.	1	PPM	LB/DAY
PCB 1260 (11096-82-5)	X	X		<0.05	<0.0781092	.	.	.	.	1	PPM	LB/DAY
PCB 1016 (12674-11-2)	X	X		<0.05	<0.0781092	.	.	.	.	1	PPM	LB/DAY
TOXAPHENE (08001-35-2)	X	X		<0.05	<0.0781092	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451

V. INTAKE AND EFFLUENT CHARACTERISTICS (CONTINUED FROM PAGE 3 OF FORM 2C) OUTFALL 103

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

	2. EFFLUENT							3. UNITS	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
POLLUTANT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BIOCHEMICAL OXYGEN DEMAND	<5	<15.021	.	.	.	.	1	PPM	LB/DAY
CHEMICAL OXYGEN DEMAND	24	72.1008	.	.	.	.	1	PPM	LB/DAY
TOTAL ORGANIC CARBON	7.5	22.5315	.	.	.	.	1	PPM	LB/DAY
TOTAL SUSPENDED SOLIDS	24.4	77.7006288	24.4	77.7006	7.6154	23.3646	13	PPM	LB/DAY
AMMONIA,TOTAL	0.832	2.4994944	.	.	.	.	1	PPM	LB/DAY
FLOW	0.4032	.	0.3924	.	0.366	.	38	MGD	.
TEMPERATURE (WINTER)	21.2	.	.	.	.	.	1	DEGREES C	.
TEMPERATURE (SUMMER)	NO SAMPLE	.	.	.	.	.	0	DEGREES C	.
PH	.	.	6.2 (MIN)	7.3 (MAX)	N/A	N/A	74	STD. UNITS	.

PART B.

	MARK X		2. EFFLUENT						3. UNITS	
	BELIEVED PRESENT	BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE			
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BROMIDE,TOTAL (24959-67-6)	X		<0.25	<0.75105	.	.	.	.	1	PPM	LB/DAY
CHLORINE, TOTAL RESIDUAL	X		<0.1	<0.3064284	.	.	.	.	1	PPM	LB/DAY
COLOR	X		27	.	.	.	.	.	1	NTU	.
FECAL COLIFORM		X	NO SAMPLE	.	.	.	.	.	0	COL/100ML	.
FLUORIDE (16984-48-8)	X		<0.25	<0.75105	.	.	.	.	1	PPM	LB/DAY
NITRATE + NITRITE	X		1.2	3.60504	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 103

1. POLLUTANT	MARK X BELIEVED PRESENT	MARK X BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	A. MAXIMUM DAILY VALUE MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	B. MAXIMUM 30 DAY VALUE MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	C. LONG TERM AVRG. VALUE MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	3. UNITS MASS
POLLUTANT											
NITROGEN, TOTAL ORG. AS N	X		<5	<15.021	.	.	.	.	1	PPM	LB/DAY
OIL & GREASE	X		<5	<16.82352	5	16.3729	<5	<15.1475	13	PPM	LB/DAY
PHOSPHORUS (AS P), TOTAL (07723-14-0)	X		1.83	5.71759344	.	.	.	.	1	PPM	LB/DAY
J. RADIOACTIVITY **********											
ALPHA, TOTAL	X		2.1	.	.	.	.	.	1	PCI/LITER	.
BETA, TOTAL	X		102	.	.	.	.	.	1	PCI/LITER	.
RADIUM,TOTAL	X		0.255	0.79671384	.	.	.	.	1	PCI/LITER	.
RADIUM 226 , TOTAL	X		0.466	1.455955488	.	.	.	.	1	PCI/LITER	.
SULFATE (AS SO4) (14808-79-8)	X		12.3	36.95166	.	.	.	.	1	PPM	LB/DAY
SULFIDE (AS S)	X		3.81	11.446002	.	.	.	.	1	PPM	LB/DAY
SULFITE (AS SO3) (14265-45-3)		X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
SURFACTANTS	X		<0.025	<0.075105	.	.	.	.	1	PPM	LB/DAY
ALUMINUM,TOTAL (07429-90-5)	X		0.106	0.331183008	.	.	.	.	1	PPM	LB/DAY
BARIUM,TOTAL (07440-39-3)	X		0.0269	0.0840454992	.	.	.	.	1	PPM	LB/DAY
BORON,TOTAL (07440-42-8)	X		5.67	17.71516656	.	.	.	.	1	PPM	LB/DAY
COBALT,TOTAL (07440-48-4)	X		0.00201	0.00627997968	.	.	.	.	1	PPM	LB/DAY
IRON,TOTAL (07439-89-6)	X		1.62	5.06147616	.	.	.	.	1	PPM	LB/DAY
MAGNESIUM,TOTAL (07439-95-4)	X		5.06	15.80930208	.	.	.	.	1	PPM	LB/DAY
MOLYBDENUM,TOTAL (07439-98-7)	X		60.9	190.2740112	.	.	.	.	1	PPM	LB/DAY
MANGANESE,TOTAL (07439-96-5)	X		0.0827	0.2583852336	.	.	.	.	1	PPM	LB/DAY
TIN,TOTAL (07440-31-5)	X		0.000439	0.00137159755	.	.	.	.	1	PPM	LB/DAY
TITANIUM,TOTAL (07440-32-6)	X		0.00583	0.01821506544	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 103

1. POLLUTANT	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
METALS, CYANIDE, AND TOTAL PHENOLS												
POLLUTANT												
ANTIMONY,TOTAL (07440-36-0)	X	X		0.000544	0.00169965619	.	.	.	.	1	PPM	LB/DAY
ARSENIC,TOTAL (07440-38-2)	X	X		0.00143	0.00446784624	.	.	.	.	1	PPM	LB/DAY
BERYLLIUM,TOTAL (07440-41-7)	X	X		<0.000156	<0.0004874014	.	.	.	.	1	PPM	LB/DAY
CADMIUM,TOTAL (07440-43-9)	X	X		0.0263	0.0821708784	.	.	.	.	1	PPM	LB/DAY
CHROMIUM,TOTAL (07440-47-3)	X	X		0.00933	0.02915035344	.	.	.	.	1	PPM	LB/DAY
COPPER,TOTAL (07440-50-8)	X	X		0.0424	0.1324732032	.	.	.	.	1	PPM	LB/DAY
LEAD,TOTAL (07439-92-1)	X	X		0.00787	0.02458877616	.	.	.	.	1	PPM	LB/DAY
MERCURY,TOTAL (07439-97-6)	X	X		0.00076	0.00237451968	.	.	.	.	1	PPM	LB/DAY
NICKEL,TOTAL (07440-02-0)	X	X		0.019	0.059362992	.	.	.	.	1	PPM	LB/DAY
SELENIUM,TOTAL (07782-49-2)	X	X		0.000933	0.00291503534	.	.	.	.	1	PPM	LB/DAY
SILVER,TOTAL (07440-22-4)	X	X		0.00213	0.00665490384	.	.	.	.	1	PPM	LB/DAY
THALLIUM,TOTAL (07440-28-0)	X	X		0.000411	0.00128411525	.	.	.	.	1	PPM	LB/DAY
ZINC,TOTAL (07440-66-6)	X	X		0.303	0.946683504	.	.	.	.	1	PPM	LB/DAY
CYANIDE , TOTAL (00057-12-5)	X	X		<0.005	<0.015021	.	.	.	.	1	PPM	LB/DAY
TOTAL PHENOLS	X	X		.	.	.	.	.	.	0	PPM	LB/DAY
DIOXIN												
DIOXIN SCREEN			X	NO SAMPLE	.	.	.	.	.	.	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDE BER = VA0052451 OUTFALL 103

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION - VOLATILE COMPOUNDS												
ACROLEIN (00107-02-8)	___	___	X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
ACRYLONITRILE (00107-13-1)	___	___	X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
BENZENE (00071-43-2)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
BIS (CHLOROMETHYL) ETHER (542-88-1)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
BROMOFORM (00075-25-2)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
CARBON TETRACHLORIDE (00056-23-5)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
CHLOROBENZENE (00108-90-7)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
CHLORODIBROMOMETHANE (00124-48-1)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
CHLOROETHANE (00075-00-3)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
2-CHLOROETHYLVINYL ETHER (00110-75-8)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
CHLOROFORM (00067-66-3)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
DICHLOROBROMOMETHANE (00075-27-4)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
DICHLORODIFLUORMETHANE (75-71-8)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
1,1-DICHLOROETHANE (00075-34-3)	___	___	X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
1,2-DICHLOROETHANE (00107-06-2)	___	___	X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
1,1-DICHLOROETHYLENE (00075-35-4)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROPROPANE (00078-87-5)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROPROPYLENE (10061-02-6)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
ETHYL BENZENE (00100-41-4)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
METHYL BROMIDE (00074-83-9)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
METHYL CHLORIDE (00074-87-3)	X	X	___	<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 103

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
METHYLENE CHLORIDE (00075-09-2)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-TETRACHLOROETHANE (00079-34-5)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
TETRACHLOROETHYLENE (00127-18-4)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
TOLUENE (00108-88-3)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
1 2-TRANS-DICHLOROETHYLENE (00156-60-5)			X	NO SAMPLE .		.	.	.	.	0	PPM	LB/DAY
1,1,1-TRICHLOROETHANE (00071-55-6)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
1,1,2-TRICHLOROETHANE (00079-00-5)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
TRICHLOROETHYLENE (00079-01-6)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
TRICHLOROFLUOROMETHANE (75-69-4)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
VINYL CHLORIDE (00075-01-4)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-CHLOROPHENOL (00095-57-8)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
2,4-DICHLOROPHENOL (00120-83-2)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
2,4-DIMETHYLPHENOL (00105-67-9)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
4,6-DINOTRO-O-CRESOL (00534-52-1)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROPHENOL (00051-28-5)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
2-NITROPHENOL (00088-75-5)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
4-NITROPHENOL (00100-02-7)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
P-CHLORO-M-CRESOL (00059-50-7)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
PENTACHLOROPHENOL (00087-86-5)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
PHENOL (00108-95-2)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
2,4,6-TRICHLOROPHENOL (00088-06-2)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPD[illegible]MBER = VA0052451 OUTFALL 103

2. EFFLUENT

3. UNI[illegible]

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	A. MAXIMUM DAILY VALUE CONCENTRATION	A. MAXIMUM DAILY VALUE MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	B. MAXIMUM 30 DAY VALUE MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	C. LONG TERM AVRG. VALUE MASS	NO. OF ANALYSES	CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
ACENAPHTHENE (00083-32-9)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
ACENAPHTHYLENE (00208-96-8)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
ANTHRACENE (00120-12-7)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
BENZIDINE (00092-87-5)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
BENZO (A) ANTHRACENE (00056-55-3)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
BENZO (A) PYRENE (00050-32-8)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
3,4-BENZOFLUORANTHENE (00205-99-2)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
BENZO (G H I) PERYLENE (00191-24-2)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
BENZO (K) FLUORANTHENE (00207-08-9)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROETHOXY) METHANE (00111-91-1)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
BIS(-2-CHLOROETHYL) ETHER (00111-44-4)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROISOPROPYL) ETHER (00108-60-1)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
BIS(2-ETHYLHEXYL) PHTHALATE (00117-81-7)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
4-BROMOPHENYL-PHENYLETHER (00101-55-3)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
BUTYLBENZYLPHTHALATE (00085-68-7)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
2-CHLORONAPHTHALENE (00091-58-7)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
4-CHLOROPHENYL-PHENYLETHER (07005-72-3)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
CHRYSENE (00218-01-9)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
DIBENZO (A H) ANTHRACENE (00053-70-3)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROBENZENE (00095-50-1)	X	X		<0.01	<0.030042	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROBENZENE (00541-73-1)	X	X		<0.01	<0.030042	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 103

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-DICHLOROBENZENE (00106-46-7)	X	X		<0.01	<0.030042	.	.	.	.	1	PPM	LB/DAY
3,3'-DICHLOROBENZIDINE (00091-94-1)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
DIETHYLPHTHALATE (00084-66-2)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
DIMETHYL PHTHALATE (00131-11-3)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
DI-N-BUTYLPHTHALATE (00084-74-2)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROTOLUENE (00121-14-2)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
2,6-DINITROTOLUENE (00606-20-2)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
DI-N-OCTYL PHTHALATE (00117-84-0)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
1,2-DIPHENYLHYDRAZINE (00122-66-7)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
FLUORANTHENE (00206-44-0)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
FLUORENE (00086-73-7)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBENZENE (00118-74-1)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBUTADIENE (00087-68-3)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROCYCLOPENTADIENE (00077-47-4)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROETHANE (00067-72-1)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
INDENO (1,2,3-CD) PYRENE (00193-39-5)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
ISOPHORONE (00078-59-1)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
NAPHTHALENE (00091-20-3)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
NITROBENZENE (00098-95-3)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
N-NITROSODIMETHYLAMINE (00062-75-9)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
N-NITROSO-DI-N-PROPYLAMINE (00621-64-7)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 103

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-NITROSODIPHENYLAMINE (00086-30-6)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
PHENANTHRENE (00085-01-8)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
PYRENE (00129-00-0)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
1,2,4-TRICHLOROBENZENE (00120-82-1)	X	X		<0.024	<0.0721008	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
ALDRIN (00309-00-2)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
ALPHA BHC (00319-84-6)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
BETA BHC (00319-85-7)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
GAMMA BHC (00058-89-9)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
DELTA BHC (00319-86-8)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
CHLORDANE (00057-74-9)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
4,4'-DDT (00050-29-3)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
4,4'-DDE (00072-55-9)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
4,4'-DDD (00072-54-8)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
DIELDRIN (00060-57-1)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
ALPHA-ENDOSULFAN (00115-29-7)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
BETA-ENDOSULFAN (00115-29-7)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
ENDOSULFAN SULFATE (01031-07-8)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
ENDRIN (00072-20-8)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
ENDRIN ALDEHYDE (07421-93-4)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
HEPTACHLOR (00076-44-8)			X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 103

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - PESTICIDES (CONTINUED)												
HEPTACHLOR EPOXIDE (01024-57-3)	___	___	X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
PCB 1242 (53469-21-9)	___	___	X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
PCB 1254 (11097-69-1)	___	___	X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
PCB 1221 (11104-28-2)	___	___	X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
PCB 1232 (11141-16-5)	___	___	X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
PCB 1248 (12672-29-6)	___	___	X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
PCB 1260 (11096-82-5)	___	___	X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
PCB 1016 (12674-11-2)	___	___	X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
TOXAPHENE (08001-35-2)	___	___	X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451

V. INTAKE AND EFFLUENT CHARACTERISTICS (CONTINUED FROM PAGE 3 OF FORM 2C) OUTFALL 104

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

	2. EFFLUENT							3. UNITS	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
POLLUTANT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BIOCHEMICAL OXYGEN DEMAND	14.59	35.0650224	.	.	.	.	1	PPM	LB/DAY
CHEMICAL OXYGEN DEMAND	26.89	64.6263504	.	.	.	.	1	PPM	LB/DAY
TOTAL ORGANIC CARBON	8.2	19.707552	.	.	.	.	1	PPM	LB/DAY
TOTAL SUSPENDED SOLIDS	10.9	26.196624	10.9	26.1966	<2.8167	<7.0599	12	PPM	LB/DAY
AMMONIA,TOTAL	19.2	46.144512	.	.	.	.	1	PPM	LB/DAY
FLOW	0.432	.	0.36	.	0.284	.	36	MGD	.
TEMPERATURE (WINTER)	29.2	.	.	.	.	.	1	DEGREES C	.
TEMPERATURE (SUMMER)	34.3	.	.	.	.	.	1	DEGREES C	.
PH	.	.	6.2 (MIN)	7.07 (MAX)	N/A	N/A	68	STD. UNITS	.

PART B.

	MARK X		2. EFFLUENT						3. UNITS	
			A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE			
	BELIEVED PRESENT	BELIEVED ABSENT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BROMIDE,TOTAL (24959-67-6)	X		14.4	34.608384	.	.	.	.	1	PPM	LB/DAY
CHLORINE, TOTAL RESIDUAL	X		<0.1	<0.240336	.	.	.	.	1	PPM	LB/DAY
COLOR	X		20	.	.	.	.	.	1	NTU	.
FECAL COLIFORM	X		<2	.	.	.	.	.	1	COL/100ML	.
FLUORIDE (16984-48-8)	X		0.149	0.35810064	.	.	.	.	1	PPM	LB/DAY
NITRATE + NITRITE	X		1.08	2.5956288	.	.	.	.	1	PPM	LB/DAY

ITEM V-[illegible] TINUED
PART C.

EPA I.D. NUMBER= VAD065376279, VPD[illegible]MBER = VA0052451 OUTFALL 104

1. POLLUTANT	MARK X BELIEVED PRESENT	MARK X BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	A. MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	B. MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	C. MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
POLLUTANT											
NITROGEN, TOTAL ORG. AS N	X		19.18	46.0964448	.	.	.	.	1	PPM	LB/DAY
OIL & GREASE	X		<5	<18.0252	5	15.021	<5	<12.7679	12	PPM	LB/DAY
PHOSPHORUS (AS P), TOTAL (07723-14-0)	X		1.25	3.0042	.	.	.	.	1	PPM	LB/DAY
J. RADIOACTIVITY											
ALPHA, TOTAL	X		<1.2	.	.	.	.	.	1	PCI/LITER	.
BETA, TOTAL	X		5	.	.	.	.	.	1	PCI/LITER	.
RADIUM,TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
RADIUM 226 , TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
SULFATE (AS SO4) (14808-79-8)	X		10.47	25.1631792	.	.	.	.	1	PPM	LB/DAY
SULFIDE (AS S)	X		0.01	0.0240336	.	.	.	.	1	PPM	LB/DAY
SULFITE (AS SO3) (14265-45-3)		X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
SURFACTANTS	X		<0.025	<0.060084	.	.	.	.	1	PPM	LB/DAY
ALUMINUM,TOTAL (07429-90-5)	X		<0.09	<0.2163024	.	.	.	.	1	PPM	LB/DAY
BARIUM,TOTAL (07440-39-3)	X		0.045	0.1081512	.	.	.	.	1	PPM	LB/DAY
BORON,TOTAL (07440-42-8)	X		0.08	0.1922688	.	.	.	.	1	PPM	LB/DAY
COBALT,TOTAL (07440-48-4)	X		<0.003	<0.00721008	.	.	.	.	1	PPM	LB/DAY
IRON,TOTAL (07439-89-6)	X		0.15	0.360504	.	.	.	.	1	PPM	LB/DAY
MAGNESIUM,TOTAL (07439-95-4)	X		3.32	7.9791552	.	.	.	.	1	PPM	LB/DAY
MOLYBDENUM,TOTAL (07439-98-7)	X		0.072	0.17304192	.	.	.	.	1	PPM	LB/DAY
MANGANESE,TOTAL (07439-96-5)	X		0.07	0.1682352	.	.	.	.	1	PPM	LB/DAY
TIN,TOTAL (07440-31-5)	X		<0.005	<0.0120168	.	.	.	.	1	PPM	LB/DAY
TITANIUM,TOTAL (07440-32-6)	X		<0.002	<0.00480672	.	.	.	.	1	PPM	LB/DAY

CONTINU[illegible]M PAGE V2 EPA I.D. NUMBER= VAD065376279, VPD[illegible]MBER = VA0052451 OUTFALL 104

1. POLL[illegible] 2. EFFLUENT 3. UNIT[illegible]

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
METALS, CYANIDE, AND TOTAL PHENOLS												
POLLUTANT												
ANTIMONY,TOTAL (07440-36-0)	X	X		<0.001	<0.00240336	.	.	.	.	1	PPM	LB/DAY
ARSENIC,TOTAL (07440-38-2)	X	X		0.006	0.01442016	.	.	.	.	1	PPM	LB/DAY
BERYLLIUM,TOTAL (07440-41-7)	X	X		<0.0002	<0.000480672	.	.	.	.	1	PPM	LB/DAY
CADMIUM,TOTAL (07440-43-9)	X	X		<0.0003	<0.000721008	.	.	.	.	1	PPM	LB/DAY
CHROMIUM,TOTAL (07440-47-3)	X	X		<0.001	<0.00240336	.	.	.	.	1	PPM	LB/DAY
COPPER,TOTAL (07440-50-8)	X	X		0.025	0.060084	.	.	.	.	1	PPM	LB/DAY
LEAD,TOTAL (07439-92-1)	X	X		<0.001	<0.00240336	.	.	.	.	1	PPM	LB/DAY
MERCURY,TOTAL (07439-97-6)	X	X		<0.0002	<0.000480672	.	.	.	.	1	PPM	LB/DAY
NICKEL,TOTAL (07440-02-0)	X	X		0.009	0.02163024	.	.	.	.	1	PPM	LB/DAY
SELENIUM,TOTAL (07782-49-2)	X	X		<0.003	<0.00721008	.	.	.	.	1	PPM	LB/DAY
SILVER,TOTAL (07440-22-4)	X	X		<0.0001	<0.000240336	.	.	.	.	1	PPM	LB/DAY
THALLIUM,TOTAL (07440-28-0)	X	X		<0.002	<0.00480672	.	.	.	.	1	PPM	LB/DAY
ZINC,TOTAL (07440-66-6)	X	X		0.412	0.99018432	.	.	.	.	1	PPM	LB/DAY
CYANIDE , TOTAL (00057-12-5)	X	X		<0.01	<0.0240336	.	.	.	.	1	PPM	LB/DAY
TOTAL PHENOLS	X	X		<0.01	<0.0240336	.	.	.	.	1	PPM	LB/DAY
DIOXIN												
DIOXIN SCREEN			X	NO SAMPLE	.	.	.	.	.	.	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 104

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - VOLATILE COMPOUNDS												
ACROLEIN (00107-02-8)	X	X		<0.0408	<0.098057088	.	.	.	.	1	PPM	LB/DAY
ACRYLONITRILE (00107-13-1)	X	X		<0.0015	<0.00360504	.	.	.	.	1	PPM	LB/DAY
BENZENE (00071-43-2)	X	X		<0.0044	<0.010574784	.	.	.	.	1	PPM	LB/DAY
BIS (CHLOROMETHYL) ETHER (542-88-1)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
BROMOFORM (00075-25-2)	X	X		<0.0047	<0.011295792	.	.	.	.	1	PPM	LB/DAY
CARBON TETRACHLORIDE (00056-23-5)	X	X		<0.0028	<0.006729408	.	.	.	.	1	PPM	LB/DAY
CHLOROBENZENE (00108-90-7)	X	X		<0.006	<0.01442016	.	.	.	.	1	PPM	LB/DAY
CHLORODIBROMOMETHANE (00124-48-1)	X	X		<0.0031	<0.007450416	.	.	.	.	1	PPM	LB/DAY
CHLOROETHANE (00075-00-3)	X	X		<0.0011	<0.002643696	.	.	.	.	1	PPM	LB/DAY
2-CHLOROETHYLVINYL ETHER (00110-75-8)	X	X		<0.0012	<0.002884032	.	.	.	.	1	PPM	LB/DAY
CHLOROFORM (00067-66-3)	X	X		<0.0016	<0.003845376	.	.	.	.	1	PPM	LB/DAY
DICHLOROBROMOMETHANE (00075-27-4)	X	X		<0.0022	<0.005287392	.	.	.	.	1	PPM	LB/DAY
DICHLORODIFLUORMETHANE (75-71-8)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
1,1-DICHLOROETHANE (00075-34-3)	X	X		<0.0047	<0.011295792	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROETHANE (00107-06-2)	X	X		<0.0028	<0.006729408	.	.	.	.	1	PPM	LB/DAY
1,1-DICHLOROETHYLENE (00075-35-4)	X	X		<0.0028	<0.006729408	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROPROPANE (00078-87-5)	X	X		<0.006	<0.01442016	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROPROPYLENE (10061-02-6)	X	X		<0.0009	<0.002163024	.	.	.	.	1	PPM	LB/DAY
ETHYL BENZENE (00100-41-4)	X	X		<0.0072	<0.017304192	.	.	.	.	1	PPM	LB/DAY
METHYL BROMIDE (00074-83-9)	X	X		<0.0014	<0.003364704	.	.	.	.	1	PPM	LB/DAY
METHYL CHLORIDE (00074-87-3)	X	X		<0.0011	<0.002643696	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 104

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
METHYLENE CHLORIDE (00075-09-2)	X	X		<0.0028	<0.006729408	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-TETRACHLOROETHANE (00079-34-5)	X	X		<0.0069	<0.016583184	.	.	.	.	1	PPM	LB/DAY
TETRACHLOROETHYLENE (00127-18-4)	X	X		<0.0041	<0.009853776	.	.	.	.	1	PPM	LB/DAY
TOLUENE (00108-88-3)	X	X		<0.006	<0.01442016	.	.	.	.	1	PPM	LB/DAY
1,2-TRANS-DICHLOROETHYLENE (00156-60-5)	X	X		<0.0016	<0.003845376	.	.	.	.	1	PPM	LB/DAY
1,1,1-TRICHLOROETHANE (00071-55-6)	X	X		<0.0038	<0.009132768	.	.	.	.	1	PPM	LB/DAY
1,1,2-TRICHLOROETHANE (00079-00-5)	X	X		<0.005	<0.0120168	.	.	.	.	1	PPM	LB/DAY
TRICHLOROETHYLENE (00079-01-6)	X	X		<0.0019	<0.004566384	.	.	.	.	1	PPM	LB/DAY
TRICHLOROFLUOROMETHANE (75-69-4)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
VINYL CHLORIDE (00075-01-4)	X	X		<0.0018	<0.004326048	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-CHLOROPHENOL (00095-57-8)	X	X		<0.0033	<0.007931088	.	.	.	.	1	PPM	LB/DAY
2,4-DICHLOROPHENOL (00120-83-2)	X	X		<0.0056	<0.013458816	.	.	.	.	1	PPM	LB/DAY
2,4-DIMETHYLPHENOL (00105-67-9)	X	X		<0.0052	<0.012497472	.	.	.	.	1	PPM	LB/DAY
4,6-DINOTRO-O-CRESOL (00534-52-1)	X	X		<0.024	<0.05768064	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROPHENOL (00051-28-5)	X	X		<0.042	<0.10094112	.	.	.	.	1	PPM	LB/DAY
2-NITROPHENOL (00088-75-5)	X	X		<0.0036	<0.008652096	.	.	.	.	1	PPM	LB/DAY
4-NITROPHENOL (00100-02-7)	X	X		<0.0024	<0.005768064	.	.	.	.	1	PPM	LB/DAY
P-CHLORO-M-CRESOL (00059-50-7)	X	X		<0.0075	<0.0180252	.	.	.	.	1	PPM	LB/DAY
PENTACHLOROPHENOL (00087-86-5)	X	X		<0.0036	<0.008652096	.	.	.	.	1	PPM	LB/DAY
PHENOL (00108-95-2)	X	X		<0.0027	<0.006489072	.	.	.	.	1	PPM	LB/DAY
2,4,6-TRICHLOROPHENOL (00088-06-2)	X	X		<0.0027	<0.006489072	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 104

2. EFFLUENT

3. UNIT

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	A. MAXIMUM DAILY VALUE CONCENTRATION	A. MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	B. MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	C. MASS	NO. OF ANALYSES	CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
ACENAPHTHENE (00083-32-9)	X	X		<0.003	<0.00721008	.	.	.	.	1	PPM	LB/DAY
ACENAPHTHYLENE (00208-96-8)	X	X		<0.0035	<0.00841176	.	.	.	.	1	PPM	LB/DAY
ANTHRACENE (00120-12-7)	X	X		<0.0019	<0.004566384	.	.	.	.	1	PPM	LB/DAY
BENZIDINE (00092-87-5)	X	X		<0.063	<0.15141168	.	.	.	.	1	PPM	LB/DAY
BENZO (A) ANTHRACENE (00056-55-3)	X	X		<0.0078	<0.018746208	.	.	.	.	1	PPM	LB/DAY
BENZO (A) PYRENE (00050-32-8)	X	X		<0.0025	<0.0060084	.	.	.	.	1	PPM	LB/DAY
3,4-BENZOFLUORANTHENE (00205-99-2)	X	X		<0.0048	<0.011536128	.	.	.	.	1	PPM	LB/DAY
BENZO (G H I) PERYLENE (00191-24-2)	X	X		<0.0041	<0.009853776	.	.	.	.	1	PPM	LB/DAY
BENZO (K) FLUORANTHENE (00207-08-9)	X	X		<0.0025	<0.0060084	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROETHOXY) METHANE (00111-91-1)	X	X		<0.0053	<0.012737808	.	.	.	.	1	PPM	LB/DAY
BIS(-2-CHLOROETHYL) ETHER (00111-44-4)	X	X		<0.0057	<0.013699152	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROISOPROPYL) ETHER (00108-60-1)	X	X		<0.0057	<0.013699152	.	.	.	.	1	PPM	LB/DAY
BIS(2-ETHYLHEXYL) PHTHALATE (00117-81-7)	X	X		0.0027	0.006489072	.	.	.	.	1	PPM	LB/DAY
4-BROMOPHENYL-PHENYLETHER (00101-55-3)	X	X		<0.003	<0.00721008	.	.	.	.	1	PPM	LB/DAY
BUTYLBENZYLPHTHALATE (00085-68-7)	X	X		<0.0025	<0.0060084	.	.	.	.	1	PPM	LB/DAY
2-CHLORONAPHTHALENE (00091-58-7)	X	X		<0.0046	<0.011055456	.	.	.	.	1	PPM	LB/DAY
4-CHLOROPHENYL-PHENYLETHER (07005-72-3)	X	X		<0.0042	<0.010094112	.	.	.	.	1	PPM	LB/DAY
CHRYSENE (00218-01-9)	X	X		<0.0025	<0.0060084	.	.	.	.	1	PPM	LB/DAY
DIBENZO (A H) ANTHRACENE (00053-70-3)	X	X		<0.0025	<0.0060084	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROBENZENE (00095-50-1)	X	X		<0.004	<0.00961344	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROBENZENE (00541-73-1)	X	X		<0.0031	<0.007450416	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPD UMBER = VA0052451 OUTFALL 104

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UN CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-DICHLOROBENZENE (00106-46-7)	X	X		<0.0044	<0.010574784	.	.	.	.	1	PPM	LB/DAY
3,3'-DICHLOROBENZIDINE (00091-94-1)	X	X		<0.0165	<0.03965544	.	.	.	.	1	PPM	LB/DAY
DIETHYLPHTHALATE (00084-66-2)	X	X		<0.0074	<0.017784864	.	.	.	.	1	PPM	LB/DAY
DIMETHYL PHTHALATE (00131-11-3)	X	X		<0.0075	<0.0180252	.	.	.	.	1	PPM	LB/DAY
DI-N-BUTYLPHTHALATE (00084-74-2)	X	X		<0.0064	<0.015381504	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROTOLUENE (00121-14-2)	X	X		<0.0057	<0.013699152	.	.	.	.	1	PPM	LB/DAY
2,6-DINITROTOLUENE (00606-20-2)	X	X		<0.0034	<0.008171424	.	.	.	.	1	PPM	LB/DAY
DI-N-OCTYL PHTHALATE (00117-84-0)	X	X		<0.0025	<0.0060084	.	.	.	.	1	PPM	LB/DAY
1,2-DIPHENYLHYDRAZINE (00122-66-7)	X	X		<0.0088	<0.021149568	.	.	.	.	1	PPM	LB/DAY
FLUORANTHENE (00206-44-0)	X	X		<0.0022	<0.005287392	.	.	.	.	1	PPM	LB/DAY
FLUORENE (00086-73-7)	X	X		<0.0022	<0.005287392	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBENZENE (00118-74-1)	X	X		<0.0031	<0.007450416	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBUTADIENE (00087-68-3)	X	X		<0.0018	<0.004326048	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROCYCLOPENTADIENE (00077-47-4)	X	X		<0.02	<0.0480672	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROETHANE (00067-72-1)	X	X		<0.0024	<0.005768064	.	.	.	.	1	PPM	LB/DAY
INDENO (1,2,3-CD) PYRENE (00193-39-5)	X	X		<0.0037	<0.008892432	.	.	.	.	1	PPM	LB/DAY
ISOPHORONE (00078-59-1)	X	X		<0.0051	<0.012257136	.	.	.	.	1	PPM	LB/DAY
NAPHTHALENE (00091-20-3)	X	X		<0.0038	<0.009132768	.	.	.	.	1	PPM	LB/DAY
NITROBENZENE (00098-95-3)	X	X		<0.0042	<0.010094112	.	.	.	.	1	PPM	LB/DAY
N-NITROSODIMETHYLAMINE (00062-75-9)	X	X		<0.0062	<0.014900832	.	.	.	.	1	PPM	LB/DAY
N-NITROSO-DI-N-PROPYLAMINE (00621-64-7)	X	X		<0.0036	<0.008652096	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPD UMBER = VA0052451 OUTFALL 104

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UN CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-NITROSODIPHENYLAMINE (00086-30-6)	X	X		<0.0027	<0.006489072	.	.	.	.	1	PPM	LB/DAY
PHENANTHRENE (00085-01-8)	X	X		<0.0054	<0.012978144	.	.	.	.	1	PPM	LB/DAY
PYRENE (00129-00-0)	X	X		<0.0038	<0.009132768	.	.	.	.	1	PPM	LB/DAY
1,2,4-TRICHLOROBENZENE (00120-82-1)	X	X		<0.0079	<0.018986544	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
ALDRIN (00309-00-2)	X	X		<0.0019	<0.004566384	.	.	.	.	1	PPM	LB/DAY
ALPHA BHC (00319-84-6)	X	X		<0.0031	<0.007450416	.	.	.	.	1	PPM	LB/DAY
BETA BHC (00319-85-7)	X	X		<0.0042	<0.010094112	.	.	.	.	1	PPM	LB/DAY
GAMMA BHC (00058-89-9)	X	X		<0.0022	<0.005287392	.	.	.	.	1	PPM	LB/DAY
DELTA BHC (00319-86-8)	X	X		<0.0052	<0.012497472	.	.	.	.	1	PPM	LB/DAY
CHLORDANE (00057-74-9)	X	X		<0.01	<0.0240336	.	.	.	.	1	PPM	LB/DAY
4,4'-DDT (00050-29-3)	X	X		<0.0051	<0.012257136	.	.	.	.	1	PPM	LB/DAY
4,4'-DDE (00072-55-9)	X	X		<0.0056	<0.013458816	.	.	.	.	1	PPM	LB/DAY
4,4'-DDD (00072-54-8)	X	X		<0.0041	<0.009853776	.	.	.	.	1	PPM	LB/DAY
DIELDRIN (00060-57-1)	X	X		<0.0044	<0.010574784	.	.	.	.	1	PPM	LB/DAY
ALPHA-ENDOSULFAN (00115-29-7)	X	X		<0.0617	<0.148287312	.	.	.	.	1	PPM	LB/DAY
BETA-ENDOSULFAN (00115-29-7)	X	X		<0.0803	<0.192989808	.	.	.	.	1	PPM	LB/DAY
ENDOSULFAN SULFATE (01031-07-8)	X	X		<0.0056	<0.013458816	.	.	.	.	1	PPM	LB/DAY
ENDRIN (00072-20-8)	X	X		<0.0056	<0.013458816	.	.	.	.	1	PPM	LB/DAY
ENDRIN ALDEHYDE (07421-93-4)	X	X		<0.065	<0.1562184	.	.	.	.	1	PPM	LB/DAY
HEPTACHLOR (00076-44-8)	X	X		<0.0043	<0.010334448	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPD[illegible]MBER = VA0052451 OUTFALL 104

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNI[illegible] CONCENTRATION	MASS
GCMS FRACTION - PESTICIDES (CONTINUED)												
HEPTACHLOR EPOXIDE (01024-57-3)	X	X		<0.0022	<0.005287392	.	.	.	.	1	PPM	LB/DAY
PCB 1242 (53469-21-9)	X	X		<0.05	<0.120168	.	.	.	.	1	PPM	LB/DAY
PCB 1254 (11097-69-1)	X	X		<0.036	<0.08652096	.	.	.	.	1	PPM	LB/DAY
PCB 1221 (11104-28-2)	X	X		<0.03	<0.0721008	.	.	.	.	1	PPM	LB/DAY
PCB 1232 (11141-16-5)	X	X		<0.05	<0.120168	.	.	.	.	1	PPM	LB/DAY
PCB 1248 (12672-29-6)	X	X		<0.05	<0.120168	.	.	.	.	1	PPM	LB/DAY
PCB 1260 (11096-82-5)	X	X		<0.05	<0.120168	.	.	.	.	1	PPM	LB/DAY
PCB 1016 (12674-11-2)	X	X		<0.05	<0.120168	.	.	.	.	1	PPM	LB/DAY
TOXAPHENE (08001-35-2)	X	X		<0.05	<0.120168	.	.	.	.	1	PPM	LB/DAY

V. INTAKE EFFLUENT CHARACTERISTICS (CONTINUED FROM PAGE 3 OF FORM 2C) OUTFALL 105

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

	2. EFFLUENT							3. UNITS	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
POLLUTANT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BIOCHEMICAL OXYGEN DEMAND	<2	<3.60504	.	.	.	.	1	PPM	LB/DAY
CHEMICAL OXYGEN DEMAND	44.96	81.0412992	.	.	.	.	1	PPM	LB/DAY
TOTAL ORGANIC CARBON	18.4	33.166368	.	.	.	.	1	PPM	LB/DAY
TOTAL SUSPENDED SOLIDS	5	9.0126	.	.	.	.	1	PPM	LB/DAY
AMMONIA,TOTAL	0.09	0.1622268	.	.	.	.	1	PPM	LB/DAY
FLOW	0.3989	.	0.3989	.	0.14	.	18	MGD	.
TEMPERATURE (WINTER)	NO SAMPLE	.	.	.	.	.	0	DEGREES C	.
TEMPERATURE (SUMMER)	28.3	.	.	.	.	.	1	DEGREES C	.
PH	.	.	6.2 (MIN)	6.94 (MAX)	N/A	N/A	36	STD. UNITS	.

PART B.

	MARK X		2. EFFLUENT						3. UNITS	
	BELIEVED PRESENT	BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE			
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BROMIDE,TOTAL (24959-67-6)	X		46	82.91592	.	.	.	.	1	PPM	LB/DAY
CHLORINE, TOTAL RESIDUAL	X		0.16	0.2884032	.	.	.	.	1	PPM	LB/DAY
COLOR	X		40	.	.	.	.	.	1	NTU	.
FECAL COLIFORM		X	NO SAMPLE	.	.	.	.	.	0	COL/100ML	.
FLUORIDE (16984-48-8)	X		0.359	0.64710468	.	.	.	.	1	PPM	LB/DAY
NITRATE + NITRITE	X		0.65	1.171638	.	.	.	.	1	PPM	LB/DAY

ITEM V- TINUED
PART C

EPA I.D. NUMBER= VAD065376279, VPD MBER = VA0052451 OUTFALL 105

1. POLLUTANT	MARK X BELIEVED PRESENT	MARK X BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	A. MAXIMUM DAILY VALUE MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	B. MAXIMUM 30 DAY VALUE MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	C. LONG TERM AVRG. VALUE MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	3. UNITS MASS
POLLUTANT											
NITROGEN, TOTAL ORG. AS N	X		1.22	2.1990744	.	.	.	.	1	PPM	LB/DAY
OIL & GREASE	X		<5	<9.0126	.	.	.	.	1	PPM	LB/DAY
PHOSPHORUS (AS P), TOTAL (07723-14-0)	X		3.2	5.768064	.	.	.	.	1	PPM	LB/DAY
J. RADIOACTIVITY **********											
ALPHA, TOTAL	X		<1.8	.	.	.	.	.	1	PCI/LITER	.
BETA, TOTAL	X		14	.	.	.	.	.	1	PCI/LITER	.
RADIUM,TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
RADIUM 226 , TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
SULFATE (AS SO4) (14808-79-8)	X		30.32	54.6524064	.	.	.	.	1	PPM	LB/DAY
SULFIDE (AS S)	X		<0.01	<0.0180252	.	.	.	.	1	PPM	LB/DAY
SULFITE (AS SO3) (14265-45-3)		X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
SURFACTANTS	X		<0.025	<0.045063	.	.	.	.	1	PPM	LB/DAY
ALUMINUM,TOTAL (07429-90-5)	X		<0.09	<0.1622268	.	.	.	.	1	PPM	LB/DAY
BARIUM,TOTAL (07440-39-3)	X		0.125	0.225315	.	.	.	.	1	PPM	LB/DAY
BORON,TOTAL (07440-42-8)	X		0.12	0.2163024	.	.	.	.	1	PPM	LB/DAY
COBALT,TOTAL (07440-48-4)	X		<0.003	<0.00540756	.	.	.	.	1	PPM	LB/DAY
IRON,TOTAL (07439-89-6)	X		0.31	0.5587812	.	.	.	.	1	PPM	LB/DAY
MAGNESIUM,TOTAL (07439-95-4)	X		10.47	18.8723844	.	.	.	.	1	PPM	LB/DAY
MOLYBDENUM,TOTAL (07439-98-7)	X		0.109	0.19647468	.	.	.	.	1	PPM	LB/DAY
MANGANESE,TOTAL (07439-96-5)	X		0.24	0.4326048	.	.	.	.	1	PPM	LB/DAY
TIN,TOTAL (07440-31-5)	X		<0.005	<0.0090126	.	.	.	.	1	PPM	LB/DAY
TITANIUM,TOTAL (07440-32-6)	X		<0.002	<0.00360504	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDE BER = VA0052451 OUTFALL 105

1. POLLU 2. EFFLUENT 3. UNIT

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
METALS, CYANIDE, AND TOTAL PHENOLS												
POLLUTANT												
ANTIMONY,TOTAL (07440-36-0)	X	X		<0.001	<0.00180252	.	.	.	.	1	PPM	LB/DAY
ARSENIC,TOTAL (07440-38-2)	X	X		0.017	0.03064284	.	.	.	.	1	PPM	LB/DAY
BERYLLIUM,TOTAL (07440-41-7)	X	X		<0.0002	<0.000360504	.	.	.	.	1	PPM	LB/DAY
CADMIUM,TOTAL (07440-43-9)	X	X		<0.0003	<0.000540756	.	.	.	.	1	PPM	LB/DAY
CHROMIUM,TOTAL (07440-47-3)	X	X		0.006	0.0090126	0.006	0.009	<0.0047	<0.0053	9	PPM	LB/DAY
COPPER,TOTAL (07440-50-8)	X	X		0.062	0.11175624	.	.	.	.	1	PPM	LB/DAY
LEAD,TOTAL (07439-92-1)	X	X		<0.001	<0.00180252	.	.	.	.	1	PPM	LB/DAY
MERCURY,TOTAL (07439-97-6)	X	X		<0.0002	<0.000360504	.	.	.	.	1	PPM	LB/DAY
NICKEL,TOTAL (07440-02-0)	X	X		0.027	0.04866804	.	.	.	.	1	PPM	LB/DAY
SELENIUM,TOTAL (07782-49-2)	X	X		<0.003	<0.00540756	.	.	.	.	1	PPM	LB/DAY
SILVER,TOTAL (07440-22-4)	X	X		<0.0001	<0.000180252	.	.	.	.	1	PPM	LB/DAY
THALLIUM,TOTAL (07440-28-0)	X	X		<0.002	<0.00360504	.	.	.	.	1	PPM	LB/DAY
ZINC,TOTAL (07440-66-6)	X	X		0.974	1.75565448	0.974	1.7557	<0.686	<0.8571	9	PPM	LB/DAY
CYANIDE , TOTAL (00057-12-5)	X	X		<0.01	<0.0180252	.	.	.	.	1	PPM	LB/DAY
TOTAL PHENOLS	X	X		0.02	0.0360504	.	.	.	.	1	PPM	LB/DAY
DIOXIN												
DIOXIN SCREEN			X	NO SAMPLE	.	.	.	.	.	.	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 105

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - VOLATILE COMPOUNDS												
ACROLEIN (00107-02-8)	X	X		<0.0408	<0.073542816	.	.	.	.	1	PPM	LB/DAY
ACRYLONITRILE (00107-13-1)	X	X		<0.0015	<0.00270378	.	.	.	.	1	PPM	LB/DAY
BENZENE (00071-43-2)	X	X		<0.0044	<0.007931088	.	.	.	.	1	PPM	LB/DAY
BIS (CHLOROMETHYL) ETHER (542-88-1)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
BROMOFORM (00075-25-2)	X	X		<0.0047	<0.008471844	.	.	.	.	1	PPM	LB/DAY
CARBON TETRACHLORIDE (00056-23-5)	X	X		<0.0028	<0.005047056	.	.	.	.	1	PPM	LB/DAY
CHLOROBENZENE (00108-90-7)	X	X		<0.006	<0.01081512	.	.	.	.	1	PPM	LB/DAY
CHLORODIBROMOMETHANE (00124-48-1)	X	X		<0.0031	<0.005587812	.	.	.	.	1	PPM	LB/DAY
CHLOROETHANE (00075-00-3)	X	X		<0.0011	<0.001982772	.	.	.	.	1	PPM	LB/DAY
2-CHLOROETHYLVINYL ETHER (00110-75-8)	X	X		<0.0012	<0.002163024	.	.	.	.	1	PPM	LB/DAY
CHLOROFORM (00067-66-3)	X	X		<0.0016	<0.002884032	.	.	.	.	1	PPM	LB/DAY
DICHLOROBROMOMETHANE (00075-27-4)	X	X		<0.0022	<0.003965544	.	.	.	.	1	PPM	LB/DAY
DICHLORODIFLUORMETHANE (75-71-8)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
1,1-DICHLOROETHANE (00075-34-3)	X	X		<0.0047	<0.008471844	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROETHANE (00107-06-2)	X	X		<0.0028	<0.005047056	.	.	.	.	1	PPM	LB/DAY
1,1-DICHLOROETHYLENE (00075-35-4)	X	X		<0.0028	<0.005047056	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROPROPANE (00078-87-5)	X	X		<0.006	<0.01081512	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROPROPYLENE (10061-02-6)	X	X		<0.0009	<0.001622268	.	.	.	.	1	PPM	LB/DAY
ETHYL BENZENE (00100-41-4)	X	X		<0.0072	<0.012978144	.	.	.	.	1	PPM	LB/DAY
METHYL BROMIDE (00074-83-9)	X	X		<0.0014	<0.002523528	.	.	.	.	1	PPM	LB/DAY
METHYL CHLORIDE (00074-87-3)	X	X		<0.0011	<0.001982772	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 105

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
METHYLENE CHLORIDE (00075-09-2)	X	X		<0.0028	<0.005047056	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-TETRACHLOROETHANE (00079-34-5)	X	X		<0.0069	<0.012437388	.	.	.	.	1	PPM	LB/DAY
TETRACHLOROETHYLENE (00127-18-4)	X	X		<0.0041	<0.007390332	.	.	.	.	1	PPM	LB/DAY
TOLUENE (00108-88-3)	X	X		<0.006	<0.01081512	.	.	.	.	1	PPM	LB/DAY
1,2-TRANS-DICHLOROETHYLENE (00156-60-5)	X	X		<0.0016	<0.002884032	.	.	.	.	1	PPM	LB/DAY
1,1,1-TRICHLOROETHANE (00071-55-6)	X	X		<0.0038	<0.006849576	.	.	.	.	1	PPM	LB/DAY
1,1,2-TRICHLOROETHANE (00079-00-5)	X	X		<0.005	<0.0090126	.	.	.	.	1	PPM	LB/DAY
TRICHLOROETHYLENE (00079-01-6)	X	X		<0.0019	<0.003424788	.	.	.	.	1	PPM	LB/DAY
TRICHLOROFLUOROMETHANE (75-69-4)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
VINYL CHLORIDE (00075-01-4)	X	X		<0.0018	<0.003244536	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-CHLOROPHENOL (00095-57-8)	X	X		<0.0033	<0.005948316	.	.	.	.	1	PPM	LB/DAY
2,4-DICHLOROPHENOL (00120-83-2)	X	X		<0.0056	<0.010094112	.	.	.	.	1	PPM	LB/DAY
2,4-DIMETHYLPHENOL (00105-67-9)	X	X		<0.0052	<0.009373104	.	.	.	.	1	PPM	LB/DAY
4,6-DINOTRO-O-CRESOL (00534-52-1)	X	X		<0.024	<0.04326048	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROPHENOL (00051-28-5)	X	X		<0.042	<0.07570584	.	.	.	.	1	PPM	LB/DAY
2-NITROPHENOL (00088-75-5)	X	X		<0.0036	<0.006489072	.	.	.	.	1	PPM	LB/DAY
4-NITROPHENOL (00100-02-7)	X	X		<0.0024	<0.004326048	.	.	.	.	1	PPM	LB/DAY
P-CHLORO-M-CRESOL (00059-50-7)	X	X		<0.0075	<0.0135189	.	.	.	.	1	PPM	LB/DAY
PENTACHLOROPHENOL (00087-86-5)	X	X		<0.0036	<0.006489072	.	.	.	.	1	PPM	LB/DAY
PHENOL (00108-95-2)	X	X		<0.0027	<0.004866804	.	.	.	.	1	PPM	LB/DAY
2,4,6-TRICHLOROPHENOL (00088-06-2)	X	X		<0.0027	<0.004866804	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 105

2. EFFLUENT

3. UNITS

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	A. MAXIMUM DAILY VALUE CONCENTRATION	A. MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	B. MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	C. MASS	NO. OF ANALYSES	CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
ACENAPHTHENE (00083-32-9)	X	X		<0.003	<0.00540756	.	.	.	.	1	PPM	LB/DAY
ACENAPHTHYLENE (00208-96-8)	X	X		<0.0035	<0.00630882	.	.	.	.	1	PPM	LB/DAY
ANTHRACENE (00120-12-7)	X	X		<0.0019	<0.003424788	.	.	.	.	1	PPM	LB/DAY
BENZIDINE (00092-87-5)	X	X		<0.063	<0.11355876	.	.	.	.	1	PPM	LB/DAY
BENZO (A) ANTHRACENE (00056-55-3)	X	X		<0.0078	<0.014059656	.	.	.	.	1	PPM	LB/DAY
BENZO (A) PYRENE (00050-32-8)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
3,4-BENZOFLUORANTHENE (00205-99-2)	X	X		<0.0048	<0.008652096	.	.	.	.	1	PPM	LB/DAY
BENZO (G H I) PERYLENE (00191-24-2)	X	X		<0.0041	<0.007390332	.	.	.	.	1	PPM	LB/DAY
BENZO (K) FLUORANTHENE (00207-08-9)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROETHOXY) METHANE (00111-91-1)	X	X		<0.0053	<0.009553356	.	.	.	.	1	PPM	LB/DAY
BIS(-2-CHLOROETHYL) ETHER (00111-44-4)	X	X		<0.0057	<0.010274364	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROISOPROPYL) ETHER (00108-60-1)	X	X		<0.0057	<0.010274364	.	.	.	.	1	PPM	LB/DAY
BIS(2-ETHYLHEXYL) PHTHALATE (00117-81-7)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
4-BROMOPHENYL-PHENYLETHER (00101-55-3)	X	X		<0.003	<0.00540756	.	.	.	.	1	PPM	LB/DAY
BUTYLBENZYLPHTHALATE (00085-68-7)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
2-CHLORONAPHTHALENE (00091-58-7)	X	X		<0.0046	<0.008291592	.	.	.	.	1	PPM	LB/DAY
4-CHLOROPHENYL-PHENYLETHER (07005-72-3)	X	X		<0.0042	<0.007570584	.	.	.	.	1	PPM	LB/DAY
CHRYSENE (00218-01-9)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
DIBENZO (A H) ANTHRACENE (00053-70-3)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROBENZENE (00095-50-1)	X	X		<0.004	<0.00721008	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROBENZENE (00541-73-1)	X	X		<0.0031	<0.005587812	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 105

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-DICHLOROBENZENE (00106-46-7)	X	X		<0.0044	<0.007931088	.	.	.	.	1	PPM	LB/DAY
3,3'-DICHLOROBENZIDINE (00091-94-1)	X	X		<0.0165	<0.02974158	.	.	.	.	1	PPM	LB/DAY
DIETHYLPHTHALATE (00084-66-2)	X	X		<0.0074	<0.013338648	.	.	.	.	1	PPM	LB/DAY
DIMETHYL PHTHALATE (00131-11-3)	X	X		<0.0075	<0.0135189	.	.	.	.	1	PPM	LB/DAY
DI-N-BUTYLPHTHALATE (00084-74-2)	X	X		<0.0064	<0.011536128	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROTOLUENE (00121-14-2)	X	X		<0.0057	<0.010274364	.	.	.	.	1	PPM	LB/DAY
2,6-DINITROTOLUENE (00606-20-2)	X	X		<0.0034	<0.006128568	.	.	.	.	1	PPM	LB/DAY
DI-N-OCTYL PHTHALATE (00117-84-0)	X	X		<0.0025	<0.0045063	.	.	.	.	1	PPM	LB/DAY
1,2-DIPHENYLHYDRAZINE (00122-66-7)	X	X		<0.0088	<0.015862176	.	.	.	.	1	PPM	LB/DAY
FLUORANTHENE (00206-44-0)	X	X		<0.0022	<0.003965544	.	.	.	.	1	PPM	LB/DAY
FLUORENE (00086-73-7)	X	X		<0.0022	<0.003965544	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBENZENE (00118-74-1)	X	X		<0.0031	<0.005587812	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBUTADIENE (00087-68-3)	X	X		<0.0018	<0.003244536	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROCYCLOPENTADIENE (00077-47-4)	X	X		<0.02	<0.0360504	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROETHANE (00067-72-1)	X	X		<0.0024	<0.004326048	.	.	.	.	1	PPM	LB/DAY
INDENO (1,2,3-CD) PYRENE (00193-39-5)	X	X		<0.0037	<0.006669324	.	.	.	.	1	PPM	LB/DAY
ISOPHORONE (00078-59-1)	X	X		<0.0051	<0.009192852	.	.	.	.	1	PPM	LB/DAY
NAPHTHALENE (00091-20-3)	X	X		<0.0038	<0.006849576	.	.	.	.	1	PPM	LB/DAY
NITROBENZENE (00098-95-3)	X	X		<0.0042	<0.007570584	.	.	.	.	1	PPM	LB/DAY
N-NITROSODIMETHYLAMINE (00062-75-9)	X	X		<0.0062	<0.011175624	.	.	.	.	1	PPM	LB/DAY
N-NITROSO-DI-N-PROPYLAMINE (00621-64-7)	X	X		<0.0036	<0.006489072	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 105

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-NITROSODIPHENYLAMINE (00086-30-6)	X	X		<0.0027	<0.004866804	.	.	.	.	1	PPM	LB/DAY
PHENANTHRENE (00085-01-8)	X	X		<0.0054	<0.009733608	.	.	.	.	1	PPM	LB/DAY
PYRENE (00129-00-0)	X	X		<0.0038	<0.006849576	.	.	.	.	1	PPM	LB/DAY
1,2,4-TRICHLOROBENZENE (00120-82-1)	X	X		<0.0079	<0.014239908	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
ALDRIN (00309-00-2)	X	X		<0.0019	<0.003424788	.	.	.	.	1	PPM	LB/DAY
ALPHA BHC (00319-84-6)	X	X		<0.0031	<0.005587812	.	.	.	.	1	PPM	LB/DAY
BETA BHC (00319-85-7)	X	X		<0.0042	<0.007570584	.	.	.	.	1	PPM	LB/DAY
GAMMA BHC (00058-89-9)	X	X		<0.0022	<0.003965544	.	.	.	.	1	PPM	LB/DAY
DELTA BHC (00319-86-8)	X	X		<0.0052	<0.009373104	.	.	.	.	1	PPM	LB/DAY
CHLORDANE (00057-74-9)	X	X		<0.01	<0.0180252	.	.	.	.	1	PPM	LB/DAY
4,4'-DDT (00050-29-3)	X	X		<0.0051	<0.009192852	.	.	.	.	1	PPM	LB/DAY
4,4'-DDE (00072-55-9)	X	X		<0.0056	<0.010094112	.	.	.	.	1	PPM	LB/DAY
4,4'-DDD (00072-54-8)	X	X		<0.0041	<0.007390332	.	.	.	.	1	PPM	LB/DAY
DIELDRIN (00060-57-1)	X	X		<0.0044	<0.007931088	.	.	.	.	1	PPM	LB/DAY
ALPHA-ENDOSULFAN (00115-29-7)	X	X		<0.0617	<0.111215484	.	.	.	.	1	PPM	LB/DAY
BETA-ENDOSULFAN (00115-29-7)	X	X		<0.0803	<0.144742356	.	.	.	.	1	PPM	LB/DAY
ENDOSULFAN SULFATE (01031-07-8)	X	X		<0.0056	<0.010094112	.	.	.	.	1	PPM	LB/DAY
ENDRIN (00072-20-8)	X	X		<0.0056	<0.010094112	.	.	.	.	1	PPM	LB/DAY
ENDRIN ALDEHYDE (07421-93-4)	X	X		<0.065	<0.1171638	.	.	.	.	1	PPM	LB/DAY
HEPTACHLOR (00076-44-8)	X	X		<0.0043	<0.007750836	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDE MBER = VA0052451 OUTFALL 105

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION - PESTICIDES (CONTINUED)												
HEPTACHLOR EPOXIDE (01024-57-3)	X	X		<0.0022	<0.003965544	.	.	.	.	1	PPM	LB/DAY
PCB 1242 (53469-21-9)	X	X		<0.05	<0.090126	.	.	.	.	1	PPM	LB/DAY
PCB 1254 (11097-69-1)	X	X		<0.036	<0.06489072	.	.	.	.	1	PPM	LB/DAY
PCB 1221 (11104-28-2)	X	X		<0.03	<0.0540756	.	.	.	.	1	PPM	LB/DAY
PCB 1232 (11141-16-5)	X	X		<0.05	<0.090126	.	.	.	.	1	PPM	LB/DAY
PCB 1248 (12672-29-6)	X	X		<0.05	<0.090126	.	.	.	.	1	PPM	LB/DAY
PCB 1260 (11096-82-5)	X	X		<0.05	<0.090126	.	.	.	.	1	PPM	LB/DAY
PCB 1016 (12674-11-2)	X	X		<0.05	<0.090126	.	.	.	.	1	PPM	LB/DAY
TOXAPHENE (08001-35-2)	X	X		<0.05	<0.090126	.	.	.	.	1	PPM	LB/DAY

V. INTAKE EFFLUENT CHARACTERISTICS (CONTINUED FROM PAGE 3 OF FORM 2C) OUTFALL 108

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

	2. EFFLUENT							3. UNITS	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
POLLUTANT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BIOCHEMICAL OXYGEN DEMAND	<2	<2.5035	.	.	.	.	1	PPM	LB/DAY
CHEMICAL OXYGEN DEMAND	19.33	24.1963275	.	.	.	.	1	PPM	LB/DAY
TOTAL ORGANIC CARBON	10.5	13.143375	.	.	.	.	1	PPM	LB/DAY
TOTAL SUSPENDED SOLIDS	2.7	3.379725	.	.	.	.	1	PPM	LB/DAY
AMMONIA,TOTAL	0.14	0.175245	.	.	.	.	1	PPM	LB/DAY
FLOW	5.5	.	5.5	.	0.671	.	12	MGD	.
TEMPERATURE (WINTER)	NO SAMPLE	.	.	.	.	.	0	DEGREES C	.
TEMPERATURE (SUMMER)	26.3	.	.	.	.	.	1	DEGREES C	.
PH	.	.	6.33 (MIN)	7.07 (MAX)	N/A	N/A	23	STD. UNITS	.

PART B.

	MARK X		2. EFFLUENT						3. UNITS	
			A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE			
	BELIEVED PRESENT	BELIEVED ABSENT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BROMIDE,TOTAL (24959-67-6)	X		30	37.5525	.	.	.	.	1	PPM	LB/DAY
CHLORINE, TOTAL RESIDUAL	X		<0.1	<0.125175	.	.	.	.	1	PPM	LB/DAY
COLOR	X		20	.	.	.	.	.	1	NTU	.
FECAL COLIFORM	X		<2	.	.	.	.	.	1	COL/100ML	.
FLUORIDE (16984-48-8)	X		0.261	0.32670675	.	.	.	.	1	PPM	LB/DAY
NITRATE + NITRITE	X		0.07	0.0876225	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 108

1. POLLUTANT	MARK X BELIEVED PRESENT	MARK X BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	A. MAXIMUM DAILY VALUE MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	B. MAXIMUM 30 DAY VALUE MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	C. LONG TERM AVRG. VALUE MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	3. UNITS MASS
POLLUTANT											
NITROGEN, TOTAL ORG. AS N	X		0.79	0.9888825	.	.	.	.	1	PPM	LB/DAY
OIL & GREASE	X		<5	<6.25875	.	.	.	.	1	PPM	LB/DAY
PHOSPHORUS (AS P), TOTAL (07723-14-0)	X		1	1.25175	.	.	.	.	1	PPM	LB/DAY
J. RADIOACTIVITY **********											
ALPHA, TOTAL	X		<1.3	.	.	.	.	.	1	PCI/LITER	.
BETA, TOTAL	X		7.3	.	.	.	.	.	1	PCI/LITER	.
RADIUM,TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
RADIUM 226 , TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
SULFATE (AS SO4) (14808-79-8)	X		9	11.26575	.	.	.	.	1	PPM	LB/DAY
SULFIDE (AS S)	X		<0.01	<0.0125175	.	.	.	.	1	PPM	LB/DAY
SULFITE (AS SO3) (14265-45-3)		X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
SURFACTANTS	X		<0.025	<0.03129375	.	.	.	.	1	PPM	LB/DAY
ALUMINUM,TOTAL (07429-90-5)	X		<0.09	<0.1126575	.	.	.	.	1	PPM	LB/DAY
BARIUM,TOTAL (07440-39-3)	X		0.022	0.0275385	.	.	.	.	1	PPM	LB/DAY
BORON,TOTAL (07440-42-8)	X		1.97	2.4659475	.	.	.	.	1	PPM	LB/DAY
COBALT,TOTAL (07440-48-4)	X		<0.003	<0.00375525	.	.	.	.	1	PPM	LB/DAY
IRON,TOTAL (07439-89-6)	X		0.2	0.25035	.	.	.	.	1	PPM	LB/DAY
MAGNESIUM,TOTAL (07439-95-4)	X		5.42	6.784485	.	.	.	.	1	PPM	LB/DAY
MOLYBDENUM,TOTAL (07439-98-7)	X		89.89	112.5198075	.	.	.	.	1	PPM	LB/DAY
MANGANESE,TOTAL (07439-96-5)	X		0.04	0.05007	.	.	.	.	1	PPM	LB/DAY
TIN,TOTAL (07440-31-5)	X		<0.005	<0.00625875	.	.	.	.	1	PPM	LB/DAY
TITANIUM,TOTAL (07440-32-6)	X		<0.002	<0.0025035	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDE[illegible]BER = VA0052451 OUTFALL 108

1. POLLU[illegible]	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT[illegible] CONCENTRATION	MASS
METALS, CYANIDE, AND TOTAL PHENOLS												
POLLUTANT												
ANTIMONY, TOTAL (07440-36-0)	X	X		<0.001	<0.00125175	.	.	.	.	1	PPM	LB/DAY
ARSENIC, TOTAL (07440-38-2)	X	X		<0.003	<0.00375525	.	.	.	.	1	PPM	LB/DAY
BERYLLIUM, TOTAL (07440-41-7)	X	X		<0.0002	<0.00025035	.	.	.	.	1	PPM	LB/DAY
CADMIUM, TOTAL (07440-43-9)	X	X		<0.0003	<0.000375525	.	.	.	.	1	PPM	LB/DAY
CHROMIUM, TOTAL (07440-47-3)	X	X		<0.001	<0.00125175	.	.	.	.	1	PPM	LB/DAY
COPPER, TOTAL (07440-50-8)	X	X		0.004	0.005007	.	.	.	.	1	PPM	LB/DAY
LEAD, TOTAL (07439-92-1)	X	X		<0.001	<0.00125175	.	.	.	.	1	PPM	LB/DAY
MERCURY, TOTAL (07439-97-6)	X	X		<0.0002	<0.00025035	.	.	.	.	1	PPM	LB/DAY
NICKEL, TOTAL (07440-02-0)	X	X		<0.005	<0.00625875	.	.	.	.	1	PPM	LB/DAY
SELENIUM, TOTAL (07782-49-2)	X	X		<0.003	<0.00375525	.	.	.	.	1	PPM	LB/DAY
SILVER, TOTAL (07440-22-4)	X	X		<0.0001	<0.000125175	.	.	.	.	1	PPM	LB/DAY
THALLIUM, TOTAL (07440-28-0)	X	X		<0.002	<0.0025035	.	.	.	.	1	PPM	LB/DAY
ZINC, TOTAL (07440-66-6)	X	X		0.043	0.05382525	.	.	.	.	1	PPM	LB/DAY
CYANIDE , TOTAL (00057-12-5)	X	X		<0.01	<0.0125175	.	.	.	.	1	PPM	LB/DAY
TOTAL PHENOLS	X	X		0.24	0.30042	.	.	.	.	1	PPM	LB/DAY
DIOXIN												
DIOXIN SCREEN			X	NO SAMPLE .		.	.	.	.	.	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 108

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - VOLATILE COMPOUNDS												
ACROLEIN (00107-02-8)	X	X		<0.0408	<0.0510714	.	.	.	.	1	PPM	LB/DAY
ACRYLONITRILE (00107-13-1)	X	X		<0.0015	<0.001877625	.	.	.	.	1	PPM	LB/DAY
BENZENE (00071-43-2)	X	X		<0.0044	<0.0055077	.	.	.	.	1	PPM	LB/DAY
BIS (CHLOROMETHYL) ETHER (542-88-1)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
BROMOFORM (00075-25-2)	X	X		<0.0047	<0.005883225	.	.	.	.	1	PPM	LB/DAY
CARBON TETRACHLORIDE (00056-23-5)	X	X		<0.0028	<0.0035049	.	.	.	.	1	PPM	LB/DAY
CHLOROBENZENE (00108-90-7)	X	X		<0.006	<0.0075105	.	.	.	.	1	PPM	LB/DAY
CHLORODIBROMOMETHANE (00124-48-1)	X	X		<0.0031	<0.003880425	.	.	.	.	1	PPM	LB/DAY
CHLOROETHANE (00075-00-3)	X	X		<0.0011	<0.001376925	.	.	.	.	1	PPM	LB/DAY
2-CHLOROETHYLVINYL ETHER (00110-75-8)	X	X		<0.0012	<0.0015021	.	.	.	.	1	PPM	LB/DAY
CHLOROFORM (00067-66-3)	X	X		<0.0016	<0.0020028	.	.	.	.	1	PPM	LB/DAY
DICHLOROBROMOMETHANE (00075-27-4)	X	X		<0.0022	<0.00275385	.	.	.	.	1	PPM	LB/DAY
DICHLORODIFLUORMETHANE (75-71-8)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
1,1-DICHLOROETHANE (00075-34-3)	X	X		<0.0047	<0.005883225	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROETHANE (00107-06-2)	X	X		<0.0028	<0.0035049	.	.	.	.	1	PPM	LB/DAY
1,1-DICHLOROETHYLENE (00075-35-4)	X	X		<0.0028	<0.0035049	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROPROPANE (00078-87-5)	X	X		<0.006	<0.0075105	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROPROPYLENE (10061-02-6)	X	X		<0.0009	<0.001126575	.	.	.	.	1	PPM	LB/DAY
ETHYL BENZENE (00100-41-4)	X	X		<0.0072	<0.0090126	.	.	.	.	1	PPM	LB/DAY
METHYL BROMIDE (00074-83-9)	X	X		<0.0014	<0.00175245	.	.	.	.	1	PPM	LB/DAY
METHYL CHLORIDE (00074-87-3)	X	X		<0.0011	<0.001376925	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 108

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
METHYLENE CHLORIDE (00075-09-2)	X	X		<0.0028	<0.0035049	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-TETRACHLOROETHANE (00079-34-5)	X	X		<0.0069	<0.008637075	.	.	.	.	1	PPM	LB/DAY
TETRACHLOROETHYLENE (00127-18-4)	X	X		<0.0041	<0.005132175	.	.	.	.	1	PPM	LB/DAY
TOLUENE (00108-88-3)	X	X		<0.006	<0.0075105	.	.	.	.	1	PPM	LB/DAY
1,2-TRANS-DICHLOROETHYLENE (00156-60-5)	X	X		<0.0016	<0.0020028	.	.	.	.	1	PPM	LB/DAY
1,1,1-TRICHLOROETHANE (00071-55-6)	X	X		<0.0038	<0.00475665	.	.	.	.	1	PPM	LB/DAY
1,1,2-TRICHLOROETHANE (00079-00-5)	X	X		<0.005	<0.00625875	.	.	.	.	1	PPM	LB/DAY
TRICHLOROETHYLENE (00079-01-6)	X	X		<0.0019	<0.002378325	.	.	.	.	1	PPM	LB/DAY
TRICHLOROFLUOROMETHANE (75-69-4)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
VINYL CHLORIDE (00075-01-4)	X	X		<0.0018	<0.00225315	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-CHLOROPHENOL (00095-57-8)	X	X		<0.0033	<0.004130775	.	.	.	.	1	PPM	LB/DAY
2,4-DICHLOROPHENOL (00120-83-2)	X	X		<0.0056	<0.0070098	.	.	.	.	1	PPM	LB/DAY
2,4-DIMETHYLPHENOL (00105-67-9)	X	X		<0.0052	<0.0065091	.	.	.	.	1	PPM	LB/DAY
4,6-DINOTRO-O-CRESOL (00534-52-1)	X	X		<0.024	<0.030042	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROPHENOL (00051-28-5)	X	X		<0.042	<0.0525735	.	.	.	.	1	PPM	LB/DAY
2-NITROPHENOL (00088-75-5)	X	X		<0.0036	<0.0045063	.	.	.	.	1	PPM	LB/DAY
4-NITROPHENOL (00100-02-7)	X	X		<0.0024	<0.0030042	.	.	.	.	1	PPM	LB/DAY
P-CHLORO-M-CRESOL (00059-50-7)	X	X		<0.0075	<0.009388125	.	.	.	.	1	PPM	LB/DAY
PENTACHLOROPHENOL (00087-86-5)	X	X		<0.0036	<0.0045063	.	.	.	.	1	PPM	LB/DAY
PHENOL (00108-95-2)	X	X		<0.0027	<0.003379725	.	.	.	.	1	PPM	LB/DAY
2,4,6-TRICHLOROPHENOL (00088-06-2)	X	X		<0.0027	<0.003379725	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 108

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
ACENAPHTHENE (00083-32-9)	X	X		<0.003	<0.00375525	.	.	.	.	1	PPM	LB/DAY
ACENAPHTHYLENE (00208-96-8)	X	X		<0.0035	<0.004381125	.	.	.	.	1	PPM	LB/DAY
ANTHRACENE (00120-12-7)	X	X		<0.0019	<0.002378325	.	.	.	.	1	PPM	LB/DAY
BENZIDINE (00092-87-5)	X	X		<0.063	<0.07886025	.	.	.	.	1	PPM	LB/DAY
BENZO (A) ANTHRACENE (00056-55-3)	X	X		<0.0078	<0.00976365	.	.	.	.	1	PPM	LB/DAY
BENZO (A) PYRENE (00050-32-8)	X	X		<0.0025	<0.003129375	.	.	.	.	1	PPM	LB/DAY
3,4-BENZOFLUORANTHENE (00205-99-2)	X	X		<0.0048	<0.0060084	.	.	.	.	1	PPM	LB/DAY
BENZO (G H I) PERYLENE (00191-24-2)	X	X		<0.0041	<0.005132175	.	.	.	.	1	PPM	LB/DAY
BENZO (K) FLUORANTHENE (00207-08-9)	X	X		<0.0025	<0.003129375	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROETHOXY) METHANE (00111-91-1)	X	X		<0.0053	<0.006634275	.	.	.	.	1	PPM	LB/DAY
BIS(-2-CHLOROETHYL) ETHER (00111-44-4)	X	X		<0.0057	<0.007134975	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROISOPROPYL) ETHER (00108-60-1)	X	X		<0.0057	<0.007134975	.	.	.	.	1	PPM	LB/DAY
BIS(2-ETHYLHEXYL) PHTHALATE (00117-81-7)	X	X		<0.0025	<0.003129375	.	.	.	.	1	PPM	LB/DAY
4-BROMOPHENYL-PHENYLETHER (00101-55-3)	X	X		<0.003	<0.00375525	.	.	.	.	1	PPM	LB/DAY
BUTYLBENZYLPHTHALATE (00085-68-7)	X	X		<0.0025	<0.003129375	.	.	.	.	1	PPM	LB/DAY
2-CHLORONAPHTHALENE (00091-58-7)	X	X		<0.0046	<0.00575805	.	.	.	.	1	PPM	LB/DAY
4-CHLOROPHENYL-PHENYLETHER (07005-72-3)	X	X		<0.0042	<0.00525735	.	.	.	.	1	PPM	LB/DAY
CHRYSENE (00218-01-9)	X	X		<0.0025	<0.003129375	.	.	.	.	1	PPM	LB/DAY
DIBENZO (A H) ANTHRACENE (00053-70-3)	X	X		<0.0025	<0.003129375	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROBENZENE (00095-50-1)	X	X		<0.004	<0.005007	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROBENZENE (00541-73-1)	X	X		<0.0031	<0.003880425	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 108

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-DICHLOROBENZENE (00106-46-7)	X	X		<0.0044	<0.0055077	.	.	.	.	1	PPM	LB/DAY
3,3'-DICHLOROBENZIDINE (00091-94-1)	X	X		<0.0165	<0.020653875	.	.	.	.	1	PPM	LB/DAY
DIETHYLPHTHALATE (00084-66-2)	X	X		<0.0074	<0.00926295	.	.	.	.	1	PPM	LB/DAY
DIMETHYL PHTHALATE (00131-11-3)	X	X		<0.0075	<0.009388125	.	.	.	.	1	PPM	LB/DAY
DI-N-BUTYLPHTHALATE (00084-74-2)	X	X		<0.0064	<0.0080112	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROTOLUENE (00121-14-2)	X	X		<0.0057	<0.007134975	.	.	.	.	1	PPM	LB/DAY
2,6-DINITROTOLUENE (00606-20-2)	X	X		<0.0034	<0.00425595	.	.	.	.	1	PPM	LB/DAY
DI-N-OCTYL PHTHALATE (00117-84-0)	X	X		<0.0025	<0.003129375	.	.	.	.	1	PPM	LB/DAY
1,2-DIPHENYLHYDRAZINE (00122-66-7)	X	X		<0.0088	<0.0110154	.	.	.	.	1	PPM	LB/DAY
FLUORANTHENE (00206-44-0)	X	X		<0.0022	<0.00275385	.	.	.	.	1	PPM	LB/DAY
FLUORENE (00086-73-7)	X	X		<0.0022	<0.00275385	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBENZENE (00118-74-1)	X	X		<0.0031	<0.003880425	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBUTADIENE (00087-68-3)	X	X		<0.0018	<0.00225315	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROCYCLOPENTADIENE (00077-47-4)	X	X		<0.02	<0.025035	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROETHANE (00067-72-1)	X	X		<0.0024	<0.0030042	.	.	.	.	1	PPM	LB/DAY
INDENO (1,2,3-CD) PYRENE (00193-39-5)	X	X		<0.0037	<0.004631475	.	.	.	.	1	PPM	LB/DAY
ISOPHORONE (00078-59-1)	X	X		<0.0051	<0.006383925	.	.	.	.	1	PPM	LB/DAY
NAPHTHALENE (00091-20-3)	X	X		<0.0038	<0.00475665	.	.	.	.	1	PPM	LB/DAY
NITROBENZENE (00098-95-3)	X	X		<0.0042	<0.00525735	.	.	.	.	1	PPM	LB/DAY
N-NITROSODIMETHYLAMINE (00062-75-9)	X	X		<0.0062	<0.00776085	.	.	.	.	1	PPM	LB/DAY
N-NITROSO-DI-N-PROPYLAMINE (00621-64-7)	X	X		<0.0036	<0.0045063	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 108

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-NITROSODIPHENYLAMINE (00086-30-6)	X	X		<0.0027	<0.003379725	.	.	.	.	1	PPM	LB/DAY
PHENANTHRENE (00085-01-8)	X	X		<0.0054	<0.00675945	.	.	.	.	1	PPM	LB/DAY
PYRENE (00129-00-0)	X	X		<0.0038	<0.00475665	.	.	.	.	1	PPM	LB/DAY
1,2,4-TRICHLOROBENZENE (00120-82-1)	X	X		<0.0079	<0.009888825	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
ALDRIN (00309-00-2)	X	X		<0.0019	<0.002378325	.	.	.	.	1	PPM	LB/DAY
ALPHA BHC (00319-84-6)	X	X		<0.0031	<0.003880425	.	.	.	.	1	PPM	LB/DAY
BETA BHC (00319-85-7)	X	X		<0.0042	<0.00525735	.	.	.	.	1	PPM	LB/DAY
GAMMA BHC (00058-89-9)	X	X		<0.0022	<0.00275385	.	.	.	.	1	PPM	LB/DAY
DELTA BHC (00319-86-8)	X	X		<0.0052	<0.0065091	.	.	.	.	1	PPM	LB/DAY
CHLORDANE (00057-74-9)	X	X		<0.01	<0.0125175	.	.	.	.	1	PPM	LB/DAY
4,4'-DDT (00050-29-3)	X	X		<0.0051	<0.006383925	.	.	.	.	1	PPM	LB/DAY
4,4'-DDE (00072-55-9)	X	X		<0.0056	<0.0070098	.	.	.	.	1	PPM	LB/DAY
4,4'-DDD (00072-54-8)	X	X		<0.0041	<0.005132175	.	.	.	.	1	PPM	LB/DAY
DIELDRIN (00060-57-1)	X	X		<0.0044	<0.0055077	.	.	.	.	1	PPM	LB/DAY
ALPHA-ENDOSULFAN (00115-29-7)	X	X		<0.0617	<0.077232975	.	.	.	.	1	PPM	LB/DAY
BETA-ENDOSULFAN (00115-29-7)	X	X		<0.0803	<0.100515525	.	.	.	.	1	PPM	LB/DAY
ENDOSULFAN SULFATE (01031-07-8)	X	X		<0.0056	<0.0070098	.	.	.	.	1	PPM	LB/DAY
ENDRIN (00072-20-8)	X	X		<0.0056	<0.0070098	.	.	.	.	1	PPM	LB/DAY
ENDRIN ALDEHYDE (07421-93-4)	X	X		<0.065	<0.08136375	.	.	.	.	1	PPM	LB/DAY
HEPTACHLOR (00076-44-8)	X	X		<0.0043	<0.005382525	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 108

2. EFFLUENT

3. UNITS

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
GCMS FRACTION - PESTICIDES (CONTINUED)												
HEPTACHLOR EPOXIDE (01024-57-3)	X	X		<0.0022	<0.00275385	.	.	.	.	1	PPM	LB/DAY
PCB 1242 (53469-21-9)	X	X		<0.05	<0.0625875	.	.	.	.	1	PPM	LB/DAY
PCB 1254 (11097-69-1)	X	X		<0.036	<0.045063	.	.	.	.	1	PPM	LB/DAY
PCB 1221 (11104-28-2)	X	X		<0.03	<0.0375525	.	.	.	.	1	PPM	LB/DAY
PCB 1232 (11141-16-5)	X	X		<0.05	<0.0625875	.	.	.	.	1	PPM	LB/DAY
PCB 1248 (12672-29-6)	X	X		<0.05	<0.0625875	.	.	.	.	1	PPM	LB/DAY
PCB 1260 (11096-82-5)	X	X		<0.05	<0.0625875	.	.	.	.	1	PPM	LB/DAY
PCB 1016 (12674-11-2)	X	X		<0.05	<0.0625875	.	.	.	.	1	PPM	LB/DAY
TOXAPHENE (08001-35-2)	X	X		<0.05	<0.0625875	.	.	.	.	1	PPM	LB/DAY

V. INTAKE EFFLUENT CHARACTERISTICS (CONTINUED FROM PAGE 3 OF FORM 2C) OUTFALL 109

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

	2. EFFLUENT							3. UNITS	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
POLLUTANT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BIOCHEMICAL OXYGEN DEMAND	<2	<1.63562	.	.	.	.	1	PPM	LB/DAY
CHEMICAL OXYGEN DEMAND	6.77	5.5365737	.	.	.	.	1	PPM	LB/DAY
TOTAL ORGANIC CARBON	1.8	1.472058	.	.	.	.	1	PPM	LB/DAY
TOTAL SUSPENDED SOLIDS	1.8	3.75525	1.8	3.7553	<1.1333	<1.0932	6	PPM	LB/DAY
AMMONIA,TOTAL	4.49	3.6719669	.	.	.	.	1	PPM	LB/DAY
FLOW	0.25	.	0.25	.	0.098	.	6	MGD	.
TEMPERATURE (WINTER)	25	.	25	.	23.25	.	2	DEGREES C	.
TEMPERATURE (SUMMER)	NO SAMPLE	.	.	.	.	.	0	DEGREES C	.
PH	.	.	6.26 (MIN)	7.07 (MAX)	N/A	N/A	12	STD. UNITS	.

PART B.

	MARK X		2. EFFLUENT						3. UNITS	
			A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE			
	BELIEVED PRESENT	BELIEVED ABSENT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BROMIDE,TOTAL (24959-67-6)	X		<0.2	<0.163562	.	.	.	.	1	PPM	LB/DAY
CHLORINE, TOTAL RESIDUAL	X		<0.1	<0.081781	.	.	.	.	1	PPM	LB/DAY
COLOR	X		10	.	.	.	.	.	1	NTU	.
FECAL COLIFORM	X		<2	.	.	.	.	.	1	COL/100ML	.
FLUORIDE (16984-48-8)	X		<0.023	<0.01880963	.	.	.	.	1	PPM	LB/DAY
NITRATE + NITRITE	X		<0.01	<0.0081781	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 109

1. POLLUTANT	MARK X BELIEVED PRESENT	MARK X BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	A. MAXIMUM DAILY VALUE MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	B. MAXIMUM 30 DAY VALUE MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	C. LONG TERM AVRG. VALUE MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	3. UNITS MASS
POLLUTANT											
NITROGEN, TOTAL ORG. AS N	X		12.06	9.8627886	.	.	.	.	1	PPM	LB/DAY
OIL & GREASE	X		<5	<10.43125	5	10.4313	<5	<4.0751	6	PPM	LB/DAY
PHOSPHORUS (AS P), TOTAL (07723-14-0)	X		0.01	0.0081781	.	.	.	.	1	PPM	LB/DAY
J. RADIOACTIVITY **********											
ALPHA, TOTAL	X		0.9	.	.	.	.	.	1	PCI/LITER	.
BETA, TOTAL	X		<1.4	.	.	.	.	.	1	PCI/LITER	.
RADIUM,TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
RADIUM 226 , TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
SULFATE (AS SO4) (14808-79-8)	X		0.09	0.0736029	.	.	.	.	1	PPM	LB/DAY
SULFIDE (AS S)	X		<0.01	<0.0081781	.	.	.	.	1	PPM	LB/DAY
SULFITE (AS SO3) (14265-45-3)		X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
SURFACTANTS	X		<0.025	<0.02044525	.	.	.	.	1	PPM	LB/DAY
ALUMINUM,TOTAL (07429-90-5)	X		<0.09	<0.0736029	.	.	.	.	1	PPM	LB/DAY
BARIUM,TOTAL (07440-39-3)	X		<0.003	<0.00245343	.	.	.	.	1	PPM	LB/DAY
BORON,TOTAL (07440-42-8)	X		<0.02	<0.0163562	.	.	.	.	1	PPM	LB/DAY
COBALT,TOTAL (07440-48-4)	X		<0.003	<0.00245343	.	.	.	.	1	PPM	LB/DAY
IRON,TOTAL (07439-89-6)	X		<0.05	<0.0408905	.	.	.	.	1	PPM	LB/DAY
MAGNESIUM,TOTAL (07439-95-4)	X		<0.01	<0.0081781	.	.	.	.	1	PPM	LB/DAY
MOLYBDENUM,TOTAL (07439-98-7)	X		<0.001	<0.00081781	.	.	.	.	1	PPM	LB/DAY
MANGANESE,TOTAL (07439-96-5)	X		<0.02	<0.0163562	.	.	.	.	1	PPM	LB/DAY
TIN,TOTAL (07440-31-5)	X		<0.005	<0.00408905	.	.	.	.	1	PPM	LB/DAY
TITANIUM,TOTAL (07440-32-6)	X		<0.002	<0.00163562	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES PERMIT = VA0052451 OUTFALL 109

1. POLLUTANT	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
METALS, CYANIDE, AND TOTAL PHENOLS												
POLLUTANT												
ANTIMONY,TOTAL (07440-36-0)	X	X		<0.001	<0.00081781	.	.	.	.	1	PPM	LB/DAY
ARSENIC,TOTAL (07440-38-2)	X	X		<0.003	<0.00245343	.	.	.	.	1	PPM	LB/DAY
BERYLLIUM,TOTAL (07440-41-7)	X	X		<0.0002	<0.000163562	.	.	.	.	1	PPM	LB/DAY
CADMIUM,TOTAL (07440-43-9)	X	X		<0.0003	<0.000245343	.	.	.	.	1	PPM	LB/DAY
CHROMIUM,TOTAL (07440-47-3)	X	X		<0.001	<0.00081781	.	.	.	.	1	PPM	LB/DAY
COPPER,TOTAL (07440-50-8)	X	X		<0.001	<0.00081781	.	.	.	.	1	PPM	LB/DAY
LEAD,TOTAL (07439-92-1)	X	X		0.001	0.00081781	.	.	.	.	1	PPM	LB/DAY
MERCURY,TOTAL (07439-97-6)	X	X		<0.0002	<0.000163562	.	.	.	.	1	PPM	LB/DAY
NICKEL,TOTAL (07440-02-0)	X	X		<0.005	<0.00408905	.	.	.	.	1	PPM	LB/DAY
SELENIUM,TOTAL (07782-49-2)	X	X		<0.003	<0.00245343	.	.	.	.	1	PPM	LB/DAY
SILVER,TOTAL (07440-22-4)	X	X		<0.0001	<0.000081781	.	.	.	.	1	PPM	LB/DAY
THALLIUM,TOTAL (07440-28-0)	X	X		<0.002	<0.00163562	.	.	.	.	1	PPM	LB/DAY
ZINC,TOTAL (07440-66-6)	X	X		<0.01	<0.0081781	.	.	.	.	1	PPM	LB/DAY
CYANIDE , TOTAL (00057-12-5)	X	X		<0.01	<0.0081781	0.01	0.0082	<0.01	<0.0082	2	PPM	LB/DAY
TOTAL PHENOLS	X	X		<0.01	<0.0081781	.	.	.	.	1	PPM	LB/DAY
DIOXIN												
DIOXIN SCREEN			X	NO SAMPLE	.	.	.	.	.	.	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 109

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - VOLATILE COMPOUNDS												
ACROLEIN (00107-02-8)	X	X		<0.0408	<0.033366648	.	.	.	.	1	PPM	LB/DAY
ACRYLONITRILE (00107-13-1)	X	X		<0.0015	<0.001226715	.	.	.	.	1	PPM	LB/DAY
BENZENE (00071-43-2)	X	X		<0.0044	<0.003598364	.	.	.	.	1	PPM	LB/DAY
BIS (CHLOROMETHYL) ETHER (542-88-1)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
BROMOFORM (00075-25-2)	X	X		<0.0047	<0.003843707	.	.	.	.	1	PPM	LB/DAY
CARBON TETRACHLORIDE (00056-23-5)	X	X		<0.0028	<0.002289868	.	.	.	.	1	PPM	LB/DAY
CHLOROBENZENE (00108-90-7)	X	X		<0.006	<0.00490686	.	.	.	.	1	PPM	LB/DAY
CHLORODIBROMOMETHANE (00124-48-1)	X	X		<0.0031	<0.002535211	.	.	.	.	1	PPM	LB/DAY
CHLOROETHANE (00075-00-3)	X	X		<0.0011	<0.000899591	.	.	.	.	1	PPM	LB/DAY
2-CHLOROETHYLVINYL ETHER (00110-75-8)	X	X		<0.0012	<0.000981372	.	.	.	.	1	PPM	LB/DAY
CHLOROFORM (00067-66-3)	X	X		<0.0016	<0.001308496	.	.	.	.	1	PPM	LB/DAY
DICHLOROBROMOMETHANE (00075-27-4)	X	X		<0.0022	<0.001799182	.	.	.	.	1	PPM	LB/DAY
DICHLORODIFLUORMETHANE (75-71-8)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
1,1-DICHLOROETHANE (00075-34-3)	X	X		<0.0047	<0.003843707	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROETHANE (00107-06-2)	X	X		<0.0028	<0.002289868	.	.	.	.	1	PPM	LB/DAY
1,1-DICHLOROETHYLENE (00075-35-4)	X	X		<0.0028	<0.002289868	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROPROPANE (00078-87-5)	X	X		<0.006	<0.00490686	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROPROPYLENE (10061-02-6)	X	X		<0.0009	<0.000736029	.	.	.	.	1	PPM	LB/DAY
ETHYL BENZENE (00100-41-4)	X	X		<0.0072	<0.005888232	.	.	.	.	1	PPM	LB/DAY
METHYL BROMIDE (00074-83-9)	X	X		<0.0014	<0.001144934	.	.	.	.	1	PPM	LB/DAY
METHYL CHLORIDE (00074-87-3)	X	X		<0.0011	<0.000899591	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 109

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
METHYLENE CHLORIDE (00075-09-2)	X	X		<0.0028	<0.002289868	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-TETRACHLOROETHANE (00079-34-5)	X	X		<0.0069	<0.005642889	.	.	.	.	1	PPM	LB/DAY
TETRACHLOROETHYLENE (00127-18-4)	X	X		<0.0041	<0.003353021	.	.	.	.	1	PPM	LB/DAY
TOLUENE (00108-88-3)	X	X		<0.006	<0.00490686	.	.	.	.	1	PPM	LB/DAY
1,2-TRANS-DICHLOROETHYLENE (00156-60-5)	X	X		<0.0016	<0.001308496	.	.	.	.	1	PPM	LB/DAY
1,1,1-TRICHLOROETHANE (00071-55-6)	X	X		<0.0038	<0.003107678	.	.	.	.	1	PPM	LB/DAY
1,1,2-TRICHLOROETHANE (00079-00-5)	X	X		<0.005	<0.00408905	.	.	.	.	1	PPM	LB/DAY
TRICHLOROETHYLENE (00079-01-6)	X	X		<0.0019	<0.001553839	.	.	.	.	1	PPM	LB/DAY
TRICHLOROFLUOROMETHANE (75-69-4)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
VINYL CHLORIDE (00075-01-4)	X	X		<0.0018	<0.001472058	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-CHLOROPHENOL (00095-57-8)	X	X		<0.0033	<0.002698773	.	.	.	.	1	PPM	LB/DAY
2,4-DICHLOROPHENOL (00120-83-2)	X	X		<0.0056	<0.004579736	.	.	.	.	1	PPM	LB/DAY
2,4-DIMETHYLPHENOL (00105-67-9)	X	X		<0.0052	<0.004252612	.	.	.	.	1	PPM	LB/DAY
4,6-DINOTRO-O-CRESOL (00534-52-1)	X	X		<0.024	<0.01962744	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROPHENOL (00051-28-5)	X	X		<0.042	<0.03434802	.	.	.	.	1	PPM	LB/DAY
2-NITROPHENOL (00088-75-5)	X	X		<0.0036	<0.002944116	.	.	.	.	1	PPM	LB/DAY
4-NITROPHENOL (00100-02-7)	X	X		<0.0024	<0.001962744	.	.	.	.	1	PPM	LB/DAY
P-CHLORO-M-CRESOL (00059-50-7)	X	X		<0.0075	<0.006133575	.	.	.	.	1	PPM	LB/DAY
PENTACHLOROPHENOL (00087-86-5)	X	X		<0.0036	<0.002944116	.	.	.	.	1	PPM	LB/DAY
PHENOL (00108-95-2)	X	X		<0.0027	<0.002208087	.	.	.	.	1	PPM	LB/DAY
2,4,6-TRICHLOROPHENOL (00088-06-2)	X	X		<0.0027	<0.002208087	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 109

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
ACENAPHTHENE (00083-32-9)	X	X		<0.003	<0.00245343	.	.	.	.	1	PPM	LB/DAY
ACENAPHTHYLENE (00208-96-8)	X	X		<0.0035	<0.002862335	.	.	.	.	1	PPM	LB/DAY
ANTHRACENE (00120-12-7)	X	X		<0.0019	<0.001553839	.	.	.	.	1	PPM	LB/DAY
BENZIDINE (00092-87-5)	X	X		<0.063	<0.05152203	.	.	.	.	1	PPM	LB/DAY
BENZO (A) ANTHRACENE (00056-55-3)	X	X		<0.0078	<0.006378918	.	.	.	.	1	PPM	LB/DAY
BENZO (A) PYRENE (00050-32-8)	X	X		<0.0025	<0.002044525	.	.	.	.	1	PPM	LB/DAY
3,4-BENZOFLUORANTHENE (00205-99-2)	X	X		<0.0048	<0.003925488	.	.	.	.	1	PPM	LB/DAY
BENZO (G H I) PERYLENE (00191-24-2)	X	X		<0.0041	<0.003353021	.	.	.	.	1	PPM	LB/DAY
BENZO (K) FLUORANTHENE (00207-08-9)	X	X		<0.0025	<0.002044525	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROETHOXY) METHANE (00111-91-1)	X	X		<0.0053	<0.004334393	.	.	.	.	1	PPM	LB/DAY
BIS(-2-CHLOROETHYL) ETHER (00111-44-4)	X	X		<0.0057	<0.004661517	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROISOPROPYL) ETHER (00108-60-1)	X	X		<0.0057	<0.004661517	.	.	.	.	1	PPM	LB/DAY
BIS(2-ETHYLHEXYL) PHTHALATE (00117-81-7)	X	X		<0.0025	<0.002044525	.	.	.	.	1	PPM	LB/DAY
4-BROMOPHENYL-PHENYLETHER (00101-55-3)	X	X		<0.003	<0.00245343	.	.	.	.	1	PPM	LB/DAY
BUTYLBENZYLPHTHALATE (00085-68-7)	X	X		<0.0025	<0.002044525	.	.	.	.	1	PPM	LB/DAY
2-CHLORONAPHTHALENE (00091-58-7)	X	X		<0.0046	<0.003761926	.	.	.	.	1	PPM	LB/DAY
4-CHLOROPHENYL-PHENYLETHER (07005-72-3)	X	X		<0.0042	<0.003434802	.	.	.	.	1	PPM	LB/DAY
CHRYSENE (00218-01-9)	X	X		<0.0025	<0.002044525	.	.	.	.	1	PPM	LB/DAY
DIBENZO (A H) ANTHRACENE (00053-70-3)	X	X		<0.0025	<0.002044525	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROBENZENE (00095-50-1)	X	X		<0.004	<0.00327124	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROBENZENE (00541-73-1)	X	X		<0.0031	<0.002535211	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 109

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-DICHLOROBENZENE (00106-46-7)	X	X		<0.0044	<0.003598364	.	.	.	.	1	PPM	LB/DAY
3,3'-DICHLOROBENZIDINE (00091-94-1)	X	X		<0.0165	<0.013493865	.	.	.	.	1	PPM	LB/DAY
DIETHYLPHTHALATE (00084-66-2)	X	X		<0.0074	<0.006051794	.	.	.	.	1	PPM	LB/DAY
DIMETHYL PHTHALATE (00131-11-3)	X	X		<0.0075	<0.006133575	.	.	.	.	1	PPM	LB/DAY
DI-N-BUTYLPHTHALATE (00084-74-2)	X	X		<0.0064	<0.005233984	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROTOLUENE (00121-14-2)	X	X		<0.0057	<0.004661517	.	.	.	.	1	PPM	LB/DAY
2,6-DINITROTOLUENE (00606-20-2)	X	X		<0.0034	<0.002780554	.	.	.	.	1	PPM	LB/DAY
DI-N-OCTYL PHTHALATE (00117-84-0)	X	X		<0.0025	<0.002044525	.	.	.	.	1	PPM	LB/DAY
1,2-DIPHENYLHYDRAZINE (00122-66-7)	X	X		<0.0088	<0.007196728	.	.	.	.	1	PPM	LB/DAY
FLUORANTHENE (00206-44-0)	X	X		<0.0022	<0.001799182	.	.	.	.	1	PPM	LB/DAY
FLUORENE (00086-73-7)	X	X		<0.0022	<0.001799182	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBENZENE (00118-74-1)	X	X		<0.0031	<0.002535211	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBUTADIENE (00087-68-3)	X	X		<0.0018	<0.001472058	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROCYCLOPENTADIENE (00077-47-4)	X	X		<0.02	<0.0163562	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROETHANE (00067-72-1)	X	X		<0.0024	<0.001962744	.	.	.	.	1	PPM	LB/DAY
INDENO (1,2,3-CD) PYRENE (00193-39-5)	X	X		<0.0037	<0.003025897	.	.	.	.	1	PPM	LB/DAY
ISOPHORONE (00078-59-1)	X	X		<0.0051	<0.004170831	.	.	.	.	1	PPM	LB/DAY
NAPHTHALENE (00091-20-3)	X	X		<0.0038	<0.003107678	.	.	.	.	1	PPM	LB/DAY
NITROBENZENE (00098-95-3)	X	X		<0.0042	<0.003434802	.	.	.	.	1	PPM	LB/DAY
N-NITROSODIMETHYLAMINE (00062-75-9)	X	X		<0.0062	<0.005070422	.	.	.	.	1	PPM	LB/DAY
N-NITROSO-DI-N-PROPYLAMINE (00621-64-7)	X	X		<0.0036	<0.002944116	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 109

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNIT CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-NITROSODIPHENYLAMINE (00086-30-6)	X	X		<0.0027	<0.002208087	.	.	.	.	1	PPM	LB/DAY
PHENANTHRENE (00085-01-8)	X	X		<0.0054	<0.004416174	.	.	.	.	1	PPM	LB/DAY
PYRENE (00129-00-0)	X	X		<0.0038	<0.003107678	.	.	.	.	1	PPM	LB/DAY
1,2,4-TRICHLOROBENZENE (00120-82-1)	X	X		<0.0079	<0.006460699	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
ALDRIN (00309-00-2)	X	X		<0.0019	<0.001553839	.	.	.	.	1	PPM	LB/DAY
ALPHA BHC (00319-84-6)	X	X		<0.0031	<0.002535211	.	.	.	.	1	PPM	LB/DAY
BETA BHC (00319-85-7)	X	X		<0.0042	<0.003434802	.	.	.	.	1	PPM	LB/DAY
GAMMA BHC (00058-89-9)	X	X		<0.0022	<0.001799182	.	.	.	.	1	PPM	LB/DAY
DELTA BHC (00319-86-8)	X	X		<0.0052	<0.004252612	.	.	.	.	1	PPM	LB/DAY
CHLORDANE (00057-74-9)	X	X		<0.01	<0.0081781	.	.	.	.	1	PPM	LB/DAY
4,4'-DDT (00050-29-3)	X	X		<0.0051	<0.004170831	.	.	.	.	1	PPM	LB/DAY
4,4'-DDE (00072-55-9)	X	X		<0.0056	<0.004579736	.	.	.	.	1	PPM	LB/DAY
4,4'-DDD (00072-54-8)	X	X		<0.0041	<0.003353021	.	.	.	.	1	PPM	LB/DAY
DIELDRIN (00060-57-1)	X	X		<0.0044	<0.003598364	.	.	.	.	1	PPM	LB/DAY
ALPHA-ENDOSULFAN (00115-29-7)	X	X		<0.0617	<0.050458877	.	.	.	.	1	PPM	LB/DAY
BETA-ENDOSULFAN (00115-29-7)	X	X		<0.0803	<0.065670143	.	.	.	.	1	PPM	LB/DAY
ENDOSULFAN SULFATE (01031-07-8)	X	X		<0.0056	<0.004579736	.	.	.	.	1	PPM	LB/DAY
ENDRIN (00072-20-8)	X	X		<0.0056	<0.004579736	.	.	.	.	1	PPM	LB/DAY
ENDRIN ALDEHYDE (07421-93-4)	X	X		<0.065	<0.05315765	.	.	.	.	1	PPM	LB/DAY
HEPTACHLOR (00076-44-8)	X	X		<0.0043	<0.003516583	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 109

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - PESTICIDES (CONTINUED)												
HEPTACHLOR EPOXIDE (01024-57-3)	X	X		<0.0022	<0.001799182	.	.	.	.	1	PPM	LB/DAY
PCB 1242 (53469-21-9)	X	X		<0.05	<0.0408905	.	.	.	.	1	PPM	LB/DAY
PCB 1254 (11097-69-1)	X	X		<0.036	<0.02944116	.	.	.	.	1	PPM	LB/DAY
PCB 1221 (11104-28-2)	X	X		<0.03	<0.0245343	.	.	.	.	1	PPM	LB/DAY
PCB 1232 (11141-16-5)	X	X		<0.05	<0.0408905	.	.	.	.	1	PPM	LB/DAY
PCB 1248 (12672-29-6)	X	X		<0.05	<0.0408905	.	.	.	.	1	PPM	LB/DAY
PCB 1260 (11096-82-5)	X	X		<0.05	<0.0408905	.	.	.	.	1	PPM	LB/DAY
PCB 1016 (12674-11-2)	X	X		<0.05	<0.0408905	.	.	.	.	1	PPM	LB/DAY
TOXAPHENE (08001-35-2)	X	X		<0.05	<0.0408905	.	.	.	.	1	PPM	LB/DAY

V. INTAKE AND EFFLUENT CHARACTERISTICS (CONTINUED FROM PAGE 3 OF FORM 2C) OUTFALL 112

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

	2. EFFLUENT							3. UNITS	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE				
POLLUTANT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BIOCHEMICAL OXYGEN DEMAND	<2	<3.484872	.	.	.	.	1	PPM	LB/DAY
CHEMICAL OXYGEN DEMAND	5.21	9.07809156	.	.	.	.	1	PPM	LB/DAY
TOTAL ORGANIC CARBON	6.3	10.9773468	.	.	.	.	1	PPM	LB/DAY
TOTAL SUSPENDED SOLIDS	10.1	16.9917552	10.1	16.9918	<2.6	<4.339	6	PPM	LB/DAY
AMMONIA,TOTAL	0.36	0.62727696	.	.	.	.	1	PPM	LB/DAY
FLOW	0.3024	.	0.3024	.	0.193	.	34	MGD	.
TEMPERATURE (WINTER)	25	.	.	.	.	.	1	DEGREES C	.
TEMPERATURE (SUMMER)	36	.	.	.	.	.	1	DEGREES C	.
PH	.	.	6.2 (MIN)	7.07 (MAX)	N/A	N/A	68	STD. UNITS	.

PART B.

	MARK X		2. EFFLUENT						3. UNITS	
			A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE			
	BELIEVED PRESENT	BELIEVED ABSENT	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS	NO. OF ANALYSES	CONCENTRATION	MASS
BROMIDE,TOTAL (24959-67-6)	X		0.25	0.435609	.	.	.	.	1	PPM	LB/DAY
CHLORINE, TOTAL RESIDUAL	X		<0.1	<0.1742436	.	.	.	.	1	PPM	LB/DAY
COLOR	X		0	.	.	.	.	.	0	NTU	.
FECAL COLIFORM	X		<2	.	.	.	.	.	1	COL/100ML	.
FLUORIDE (16984-48-8)	X		<0.023	<0.040076028	.	.	.	.	1	PPM	LB/DAY
NITRATE + NITRITE	X		<0.05	<0.0871218	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 112

1. POLLUTANT	MARK X BELIEVED PRESENT	MARK X BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	A. MAXIMUM DAILY VALUE MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	B. MAXIMUM 30 DAY VALUE MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	C. LONG TERM AVRG. VALUE MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	3. UNITS MASS
POLLUTANT											
NITROGEN, TOTAL ORG. AS N	X		2.93	5.10533748	.	.	.	.	1	PPM	LB/DAY
OIL & GREASE	X		<5	<8.5911775	5	8.5912	<5	<8.2212	6	PPM	LB/DAY
PHOSPHORUS (AS P), TOTAL (07723-14-0)	X		0.01	0.01742436	.	.	.	.	1	PPM	LB/DAY
J. RADIOACTIVITY **********											
ALPHA, TOTAL	X		<0.7	.	.	.	.	.	1	PCI/LITER	.
BETA, TOTAL	X		<1.6	.	.	.	.	.	1	PCI/LITER	.
RADIUM,TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
RADIUM 226 , TOTAL		X	NO SAMPLE	.	.	.	.	.	0	PCI/LITER	.
SULFATE (AS SO4) (14808-79-8)	X		<0.06	<0.10454616	.	.	.	.	1	PPM	LB/DAY
SULFIDE (AS S)	X		<0.01	<0.01742436	.	.	.	.	1	PPM	LB/DAY
SULFITE (AS SO3) (14265-45-3)		X	NO SAMPLE	.	.	.	.	.	0	PPM	LB/DAY
SURFACTANTS	X		<0.025	<0.0435609	.	.	.	.	1	PPM	LB/DAY
ALUMINUM,TOTAL (07429-90-5)	X		<0.09	<0.15681924	.	.	.	.	1	PPM	LB/DAY
BARIUM,TOTAL (07440-39-3)	X		0.006	0.010454616	.	.	.	.	1	PPM	LB/DAY
BORON,TOTAL (07440-42-8)	X		0.02	0.03484872	.	.	.	.	1	PPM	LB/DAY
COBALT,TOTAL (07440-48-4)	X		<0.003	<0.005227308	.	.	.	.	1	PPM	LB/DAY
IRON,TOTAL (07439-89-6)	X		0.09	0.15681924	.	.	.	.	1	PPM	LB/DAY
MAGNESIUM,TOTAL (07439-95-4)	X		<0.01	<0.01742436	.	.	.	.	1	PPM	LB/DAY
MOLYBDENUM,TOTAL (07439-98-7)	X		<0.001	<0.001742436	.	.	.	.	1	PPM	LB/DAY
MANGANESE,TOTAL (07439-96-5)	X		<0.02	<0.03484872	.	.	.	.	1	PPM	LB/DAY
TIN,TOTAL (07440-31-5)	X		<0.005	<0.00871218	.	.	.	.	1	PPM	LB/DAY
TITANIUM,TOTAL (07440-32-6)	X		<0.002	<0.003484872	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES 'ER = VA0052451 OUTFALL 112

1. POLLUT	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
METALS, CYANIDE, AND TOTAL PHENOLS												
POLLUTANT												
ANTIMONY,TOTAL (07440-36-0)	X	X		0.002	0.003484872	.	.	.	.	1	PPM	LB/DAY
ARSENIC,TOTAL (07440-38-2)	X	X		<0.003	<0.005227308	.	.	.	.	1	PPM	LB/DAY
BERYLLIUM,TOTAL (07440-41-7)	X	X		<0.0002	<0.0003484872	.	.	.	.	1	PPM	LB/DAY
CADMIUM,TOTAL (07440-43-9)	X	X		<0.0003	<0.0005227308	.	.	.	.	1	PPM	LB/DAY
CHROMIUM,TOTAL (07440-47-3)	X	X		<0.001	<0.001742436	.	.	.	.	1	PPM	LB/DAY
COPPER,TOTAL (07440-50-8)	X	X		0.007	0.012197052	.	.	.	.	1	PPM	LB/DAY
LEAD,TOTAL (07439-92-1)	X	X		<0.001	<0.001742436	.	.	.	.	1	PPM	LB/DAY
MERCURY,TOTAL (07439-97-6)	X	X		<0.0002	<0.0003484872	.	.	.	.	1	PPM	LB/DAY
NICKEL,TOTAL (07440-02-0)	X	X		<0.005	<0.00871218	.	.	.	.	1	PPM	LB/DAY
SELENIUM,TOTAL (07782-49-2)	X	X		<0.003	<0.005227308	.	.	.	.	1	PPM	LB/DAY
SILVER,TOTAL (07440-22-4)	X	X		<0.0001	<0.0001742436	.	.	.	.	1	PPM	LB/DAY
THALLIUM,TOTAL (07440-28-0)	X	X		<0.002	<0.003484872	.	.	.	.	1	PPM	LB/DAY
ZINC,TOTAL (07440-66-6)	X	X		<0.01	<0.01742436	.	.	.	.	1	PPM	LB/DAY
CYANIDE , TOTAL (00057-12-5)	X	X		<0.01	<0.01742436	.	.	.	.	1	PPM	LB/DAY
TOTAL PHENOLS	X	X		<0.01	<0.01742436	.	.	.	.	1	PPM	LB/DAY
DIOXIN												
DIOXIN SCREEN			X	NO SAMPLE	.	.	.	.	.	.	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES ER = VA0052451 OUTFALL 112

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - VOLATILE COMPOUNDS												
ACROLEIN (00107-02-8)	X	X		<0.0408	<0.0710913888	.	.	.	.	1	PPM	LB/DAY
ACRYLONITRILE (00107-13-1)	X	X		<0.0015	<0.002613654	.	.	.	.	1	PPM	LB/DAY
BENZENE (00071-43-2)	X	X		<0.0044	<0.0076667184	.	.	.	.	1	PPM	LB/DAY
BIS (CHLOROMETHYL) ETHER (542-88-1)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
BROMOFORM (00075-25-2)	X	X		<0.0047	<0.0081894492	.	.	.	.	1	PPM	LB/DAY
CARBON TETRACHLORIDE (00056-23-5)	X	X		<0.0028	<0.0048788208	.	.	.	.	1	PPM	LB/DAY
CHLOROBENZENE (00108-90-7)	X	X		<0.006	<0.010454616	.	.	.	.	1	PPM	LB/DAY
CHLORODIBROMOMETHANE (00124-48-1)	X	X		<0.0031	<0.0054015516	.	.	.	.	1	PPM	LB/DAY
CHLOROETHANE (00075-00-3)	X	X		<0.0011	<0.0019166796	.	.	.	.	1	PPM	LB/DAY
2-CHLOROETHYLVINYL ETHER (00110-75-8)	X	X		<0.0012	<0.0020909232	.	.	.	.	1	PPM	LB/DAY
CHLOROFORM (00067-66-3)	X	X		<0.0016	<0.0027878976	.	.	.	.	1	PPM	LB/DAY
DICHLOROBROMOMETHANE (00075-27-4)	X	X		<0.0022	<0.0038333592	.	.	.	.	1	PPM	LB/DAY
DICHLORODIFLUORMETHANE (75-71-8)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
1,1-DICHLOROETHANE (00075-34-3)	X	X		<0.0047	<0.0081894492	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROETHANE (00107-06-2)	X	X		<0.0028	<0.0048788208	.	.	.	.	1	PPM	LB/DAY
1,1-DICHLOROETHYLENE (00075-35-4)	X	X		<0.0028	<0.0048788208	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROPROPANE (00078-87-5)	X	X		<0.006	<0.010454616	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROPROPYLENE (10061-02-6)	X	X		<0.0009	<0.0015681924	.	.	.	.	1	PPM	LB/DAY
ETHYL BENZENE (00100-41-4)	X	X		<0.0072	<0.0125455392	.	.	.	.	1	PPM	LB/DAY
METHYL BROMIDE (00074-83-9)	X	X		<0.0014	<0.0024394104	.	.	.	.	1	PPM	LB/DAY
METHYL CHLORIDE (00074-87-3)	X	X		<0.0011	<0.0019166796	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 112

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION-VOLATILE COMPOUNDS (CONT.)												
METHYLENE CHLORIDE (00075-09-2)	X	X		<0.0028	<0.0048788208	.	.	.	.	1	PPM	LB/DAY
1,1,2,2-TETRACHLOROETHANE (00079-34-5)	X	X		<0.0069	<0.0120228084	.	.	.	.	1	PPM	LB/DAY
TETRACHLOROETHYLENE (00127-18-4)	X	X		<0.0041	<0.0071439876	.	.	.	.	1	PPM	LB/DAY
TOLUENE (00108-88-3)	X	X		<0.006	<0.010454616	.	.	.	.	1	PPM	LB/DAY
1,2-TRANS-DICHLOROETHYLENE (00156-60-5)	X	X		<0.0016	<0.0027878976	.	.	.	.	1	PPM	LB/DAY
1,1,1-TRICHLOROETHANE (00071-55-6)	X	X		<0.0038	<0.0066212568	.	.	.	.	1	PPM	LB/DAY
1,1,2-TRICHLOROETHANE (00079-00-5)	X	X		<0.005	<0.00871218	.	.	.	.	1	PPM	LB/DAY
TRICHLOROETHYLENE (00079-01-6)	X	X		<0.0019	<0.0033106284	.	.	.	.	1	PPM	LB/DAY
TRICHLOROFLUOROMETHANE (75-69-4)				NOT REQUIRED		NOT REQUIRED		NOT REQUIRED				
VINYL CHLORIDE (00075-01-4)	X	X		<0.0018	<0.0031363848	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - ACID COMPOUNDS												
2-CHLOROPHENOL (00095-57-8)	X	X		<0.0033	<0.0057500388	.	.	.	.	1	PPM	LB/DAY
2,4-DICHLOROPHENOL (00120-83-2)	X	X		<0.0056	<0.0097576416	.	.	.	.	1	PPM	LB/DAY
2,4-DIMETHYLPHENOL (00105-67-9)	X	X		<0.0052	<0.0090606672	.	.	.	.	1	PPM	LB/DAY
4,6-DINOTRO-O-CRESOL (00534-52-1)	X	X		<0.024	<0.041818464	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROPHENOL (00051-28-5)	X	X		<0.042	<0.073182312	.	.	.	.	1	PPM	LB/DAY
2-NITROPHENOL (00088-75-5)	X	X		<0.0036	<0.0062727696	.	.	.	.	1	PPM	LB/DAY
4-NITROPHENOL (00100-02-7)	X	X		<0.0024	<0.0041818464	.	.	.	.	1	PPM	LB/DAY
P-CHLORO-M-CRESOL (00059-50-7)	X	X		<0.0075	<0.01306827	.	.	.	.	1	PPM	LB/DAY
PENTACHLOROPHENOL (00087-86-5)	X	X		<0.0036	<0.0062727696	.	.	.	.	1	PPM	LB/DAY
PHENOL (00108-95-2)	X	X		<0.0027	<0.0047045772	.	.	.	.	1	PPM	LB/DAY
2,4,6-TRICHLOROPHENOL (00088-06-2)	X	X		<0.0027	<0.0047045772	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES ER = VA0052451 OUTFALL 112

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMPOUNDS												
ACENAPHTHENE (00083-32-9)	X	X		<0.003	<0.005227308	.	.	.	.	1	PPM	LB/DAY
ACENAPHTHYLENE (00208-96-8)	X	X		<0.0035	<0.006098526	.	.	.	.	1	PPM	LB/DAY
ANTHRACENE (00120-12-7)	X	X		<0.0019	<0.0033106284	.	.	.	.	1	PPM	LB/DAY
BENZIDINE (00092-87-5)	X	X		<0.063	<0.109773468	.	.	.	.	1	PPM	LB/DAY
BENZO (A) ANTHRACENE (00056-55-3)	X	X		<0.0078	<0.0135910008	.	.	.	.	1	PPM	LB/DAY
BENZO (A) PYRENE (00050-32-8)	X	X		<0.0025	<0.00435609	.	.	.	.	1	PPM	LB/DAY
3,4-BENZOFLUORANTHENE (00205-99-2)	X	X		<0.0048	<0.0083636928	.	.	.	.	1	PPM	LB/DAY
BENZO (G H I) PERYLENE (00191-24-2)	X	X		<0.0041	<0.0071439876	.	.	.	.	1	PPM	LB/DAY
BENZO (K) FLUORANTHENE (00207-08-9)	X	X		<0.0025	<0.00435609	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROETHOXY) METHANE (00111-91-1)	X	X		<0.0053	<0.0092349108	.	.	.	.	1	PPM	LB/DAY
BIS(-2-CHLOROETHYL) ETHER (00111-44-4)	X	X		<0.0057	<0.0099318852	.	.	.	.	1	PPM	LB/DAY
BIS(2-CHLOROISOPROPYL) ETHER (00108-60-1)	X	X		<0.0057	<0.0099318852	.	.	.	.	1	PPM	LB/DAY
BIS(2-ETHYLHEXYL) PHTHALATE (00117-81-7)	X	X		0.01444	0.02516077584	.	.	.	.	1	PPM	LB/DAY
4-BROMOPHENYL-PHENYLETHER (00101-55-3)	X	X		<0.003	<0.005227308	.	.	.	.	1	PPM	LB/DAY
BUTYLBENZYLPHTHALATE (00085-68-7)	X	X		<0.0025	<0.00435609	.	.	.	.	1	PPM	LB/DAY
2-CHLORONAPHTHALENE (00091-58-7)	X	X		<0.0046	<0.0080152056	.	.	.	.	1	PPM	LB/DAY
4-CHLOROPHENYL-PHENYLETHER (07005-72-3)	X	X		<0.0042	<0.0073182312	.	.	.	.	1	PPM	LB/DAY
CHRYSENE (00218-01-9)	X	X		<0.0025	<0.00435609	.	.	.	.	1	PPM	LB/DAY
DIBENZO (A H) ANTHRACENE (00053-70-3)	X	X		<0.0025	<0.00435609	.	.	.	.	1	PPM	LB/DAY
1,2-DICHLOROBENZENE (00095-50-1)	X	X		<0.004	<0.006969744	.	.	.	.	1	PPM	LB/DAY
1,3-DICHLOROBENZENE (00541-73-1)	X	X		<0.0031	<0.0054015516	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES ER = VA0052451 OUTFALL 112

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP.(CONT)												
1,4-DICHLOROBENZENE (00106-46-7)	X	X		<0.0044	<0.0076667184	.	.	.	.	1	PPM	LB/DAY
3,3'-DICHLOROBENZIDINE (00091-94-1)	X	X		<0.0165	<0.028750194	.	.	.	.	1	PPM	LB/DAY
DIETHYLPHTHALATE (00084-66-2)	X	X		<0.0074	<0.0128940264	.	.	.	.	1	PPM	LB/DAY
DIMETHYL PHTHALATE (00131-11-3)	X	X		<0.0075	<0.01306827	.	.	.	.	1	PPM	LB/DAY
DI-N-BUTYLPHTHALATE (00084-74-2)	X	X		<0.0064	<0.0111515904	.	.	.	.	1	PPM	LB/DAY
2,4-DINITROTOLUENE (00121-14-2)	X	X		<0.0057	<0.0099318852	.	.	.	.	1	PPM	LB/DAY
2,6-DINITROTOLUENE (00606-20-2)	X	X		<0.0034	<0.0059242824	.	.	.	.	1	PPM	LB/DAY
DI-N-OCTYL PHTHALATE (00117-84-0)	X	X		<0.0025	<0.00435609	.	.	.	.	1	PPM	LB/DAY
1,2-DIPHENYLHYDRAZINE (00122-66-7)	X	X		<0.0088	<0.0153334368	.	.	.	.	1	PPM	LB/DAY
FLUORANTHENE (00206-44-0)	X	X		<0.0022	<0.0038333592	.	.	.	.	1	PPM	LB/DAY
FLUORENE (00086-73-7)	X	X		<0.0022	<0.0038333592	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBENZENE (00118-74-1)	X	X		<0.0031	<0.0054015516	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROBUTADIENE (00087-68-3)	X	X		<0.0018	<0.0031363848	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROCYCLOPENTADIENE (00077-47-4)	X	X		<0.02	<0.03484872	.	.	.	.	1	PPM	LB/DAY
HEXACHLOROETHANE (00067-72-1)	X	X		<0.0024	<0.0041818464	.	.	.	.	1	PPM	LB/DAY
INDENO (1,2,3-CD) PYRENE (00193-39-5)	X	X		<0.0037	<0.0064470132	.	.	.	.	1	PPM	LB/DAY
ISOPHORONE (00078-59-1)	X	X		<0.0051	<0.0088864236	.	.	.	.	1	PPM	LB/DAY
NAPHTHALENE (00091-20-3)	X	X		<0.0038	<0.0066212568	.	.	.	.	1	PPM	LB/DAY
NITROBENZENE (00098-95-3)	X	X		<0.0042	<0.0073182312	.	.	.	.	1	PPM	LB/DAY
N-NITROSODIMETHYLAMINE (00062-75-9)	X	X		<0.0062	<0.0108031032	.	.	.	.	1	PPM	LB/DAY
N-NITROSO-DI-N-PROPYLAMINE (00621-64-7)	X	X		<0.0036	<0.0062727696	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES NUMBER = VA0052451 OUTFALL 112

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	B. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - BASE/NEUTRAL COMP (CONT)												
N-NITROSODIPHENYLAMINE (00086-30-6)	X	X		<0.0027	<0.0047045772	.	.	.	.	1	PPM	LB/DAY
PHENANTHRENE (00085-01-8)	X	X		<0.0054	<0.0094091544	.	.	.	.	1	PPM	LB/DAY
PYRENE (00129-00-0)	X	X		<0.0038	<0.0066212568	.	.	.	.	1	PPM	LB/DAY
1,2,4-TRICHLOROBENZENE (00120-82-1)	X	X		<0.0079	<0.0137652444	.	.	.	.	1	PPM	LB/DAY
GCMS FRACTION - PESTICIDES												
ALDRIN (00309-00-2)	X	X		<0.0019	<0.0033106284	.	.	.	.	1	PPM	LB/DAY
ALPHA BHC (00319-84-6)	X	X		<0.0031	<0.0054015516	.	.	.	.	1	PPM	LB/DAY
BETA BHC (00319-85-7)	X	X		<0.0042	<0.0073182312	.	.	.	.	1	PPM	LB/DAY
GAMMA BHC (00058-89-9)	X	X		<0.0022	<0.0038333592	.	.	.	.	1	PPM	LB/DAY
DELTA BHC (00319-86-8)	X	X		<0.0052	<0.0090606672	.	.	.	.	1	PPM	LB/DAY
CHLORDANE (00057-74-9)	X	X		<0.01	<0.01742436	.	.	.	.	1	PPM	LB/DAY
4,4'-DDT (00050-29-3)	X	X		<0.0051	<0.0088864236	.	.	.	.	1	PPM	LB/DAY
4,4'-DDE (00072-55-9)	X	X		<0.0056	<0.0097576416	.	.	.	.	1	PPM	LB/DAY
4,4'-DDD (00072-54-8)	X	X		<0.0041	<0.0071439876	.	.	.	.	1	PPM	LB/DAY
DIELDRIN (00060-57-1)	X	X		<0.0044	<0.0076667184	.	.	.	.	1	PPM	LB/DAY
ALPHA-ENDOSULFAN (00115-29-7)	X	X		<0.0617	<0.1075083012	.	.	.	.	1	PPM	LB/DAY
BETA-ENDOSULFAN (00115-29-7)	X	X		<0.0803	<0.1399176108	.	.	.	.	1	PPM	LB/DAY
ENDOSULFAN SULFATE (01031-07-8)	X	X		<0.0056	<0.0097576416	.	.	.	.	1	PPM	LB/DAY
ENDRIN (00072-20-8)	X	X		<0.0056	<0.0097576416	.	.	.	.	1	PPM	LB/DAY
ENDRIN ALDEHYDE (07421-93-4)	X	X		<0.065	<0.11325834	.	.	.	.	1	PPM	LB/DAY
HEPTACHLOR (00076-44-8)	X	X		<0.0043	<0.0074924748	.	.	.	.	1	PPM	LB/DAY

EPA I.D. NUMBER= VAD065376279, VPDES 'ER = VA0052451 OUTFALL 112

	MARK X TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	2. EFFLUENT A. MAXIMUM DAILY VALUE CONCENTRATION	MASS	. MAXIMUM 30 DAY VALUE CONCENTRATION	MASS	C. LONG TERM AVRG. VALUE CONCENTRATION	MASS	NO. OF ANALYSES	3. UNITS CONCENTRATION	MASS
GCMS FRACTION - PESTICIDES (CONTINUED)												
HEPTACHLOR EPOXIDE (01024-57-3)	X	X		<0.0022	<0.0038333592	.	.	.	.	1	PPM	LB/DAY
PCB 1242 (53469-21-9)	X	X		<0.05	<0.0871218	.	.	.	.	1	PPM	LB/DAY
PCB 1254 (11097-69-1)	X	X		<0.036	<0.062727696	.	.	.	.	1	PPM	LB/DAY
PCB 1221 (11104-28-2)	X	X		<0.03	<0.05227308	.	.	.	.	1	PPM	LB/DAY
PCB 1232 (11141-16-5)	X	X		<0.05	<0.0871218	.	.	.	.	1	PPM	LB/DAY
PCB 1248 (12672-29-6)	X	X		<0.05	<0.0871218	.	.	.	.	1	PPM	LB/DAY
PCB 1260 (11096-82-5)	X	X		<0.05	<0.0871218	.	.	.	.	1	PPM	LB/DAY
PCB 1016 (12674-11-2)	X	X		<0.05	<0.0871218	.	.	.	.	1	PPM	LB/DAY
TOXAPHENE (08001-35-2)	X	X		<0.05	<0.0871218	.	.	.	.	1	PPM	LB/DAY

One Line Diagram
(required by EPA Form 3510-2C, Section II.A)

WITHIN THIS PACK THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE

THAT CAN BE VIEWED AT THE RECORD TITLED:

"ONE LINE DIAGRAM"

WITHIN THIS PACKAGE.....

D-04 χ

Detection Levels
(for analyses included on EPA Forms 3510-2A, 2C, 2E & 2F)

OBS	PARAMTR	VALUE	CAS
1	BIOCHEMICAL OXYGEN DEMAND	<2	55
2	CHEMICAL OXYGEN DEMAND	<5	52
3	TOTAL ORGANIC CARBON	<2	18
4	TOTAL SUSPENDED SOLIDS	<1	16
5	AMMONIA,TOTAL	<0.17	5
6	BROMIDE,TOTAL	<0.2	56
7	CHLORINE, TOTAL RESIDUAL	<0.02	129
8	FECAL COLIFORM	<0.2	67
9	FECAL COLIFORM	<2	130
10	FLUORIDE	<0.023	10
11	NITRATE + NITRITE	<0.01	128
12	NITROGEN, TOTAL ORG. AS N	<0.52	64
13	OIL & GREASE	<8.23	12
14	PHOSPHORUS (AS P), TOTAL	<0.01	14
15	ALPHA, TOTAL	<11.1	109
16	BETA, TOTAL	<8.6	104
17	RADIUM 226 , TOTAL	<0.3	105
18	SULFATE (AS SO4)	<0.06	11
19	SULFIDE (AS S)	<0.01	21
20	SURFACTANTS	<0.04	97
21	ALUMINUM,TOTAL	<0.09	26
22	BARIUM,TOTAL	<0.003	28
23	BORON,TOTAL	<0.02	29
24	COBALT,TOTAL	<0.003	60
25	IRON,TOTAL	<0.05	34
26	MAGNESIUM,TOTAL	<0.01	36
27	MOLYBDENUM,TOTAL	<0.001	47
28	MANGANESE,TOTAL	<0.02	37
29	TIN,TOTAL	<0.005	62
30	TITANIUM,TOTAL	<0.01	61
31	ANTIMONY,TOTAL	<0.002	57
32	ARSENIC,TOTAL	<0.003	27
33	BERYLLIUM,TOTAL	<0.0002	59
34	CADMIUM,TOTAL	<0.0003	30
35	CHROMIUM,TOTAL	<0.001	32
36	COPPER,TOTAL	<0.001	33
37	LEAD,TOTAL	<0.001	35
38	MERCURY,TOTAL	<0.0002	45
39	NICKEL,TOTAL	<0.005	38
40	SELENIUM,TOTAL	<0.003	40
41	SILVER,TOTAL	<0.0001	46

OBS	PARAMTR	VALUE	CAS
42	THALLIUM,TOTAL	<0.002	53
43	ZINC,TOTAL	<0.01	44
44	CYANIDE , TOTAL	<0.01	95
45	TOTAL PHENOLS	<0.0027	13
46	ACROLEIN	<0.0408	107028
47	ACRYLONITRILE	<0.0015	107131
48	BENZENE	<0.0044	71432
49	BROMOFORM	<0.0047	75252
50	CARBON TETRACHLORIDE	<0.0028	56235
51	CHLOROBENZENE	<0.006	108907
52	CHLORODIBROMOMETHANE	<0.0031	124481
53	CHLOROETHANE	<0.0011	75003
54	2-CHLOROETHYLVINYL ETHER	<0.0012	110758
55	CHLOROFORM	<0.0016	67663
56	DICHLOROBROMOMETHANE	<0.0022	75274
57	1,1-DICHLOROETHANE	<0.0047	75343
58	1,2-DICHLOROETHANE	<0.0028	107062
59	1,1-DICHLOROETHYLENE	<0.0028	75354
60	1,2-DICHLOROPROPANE	<0.006	78875
61	1,3-DICHLOROPROPYLENE	<0.0009	10061026
62	METHYLENE CHLORIDE	<0.0028	75092
63	1,1,2,2-TETRACHLOROETHANE	<0.0069	79345
64	TETRACHLOROETHYLENE	<0.0041	127184
65	TOLUENE	<0.006	108883
66	1 2-TRANS-DICHLOROETHYLENE	<0.0016	156605
67	1,1,1-TRICHLOROETHANE	<0.0038	71556
68	1,1,2-TRICHLOROETHANE	<0.005	79005
69	TRICHLOROETHYLENE	<0.0019	79016
70	VINYL CHLORIDE	<0.0018	75014
71	2-CHLOROPHENOL	<0.0033	95578
72	2,4-DICHLOROPHENOL	<0.0056	120832
73	2,4-DIMETHYLPHENOL	<0.0052	105679
74	4,6-DINOTRO-O-CRESOL	<0.024	534521
75	2,4-DINITROPHENOL	<0.042	51285
76	2-NITROPHENOL	<0.0036	88755
77	4-NITROPHENOL	<0.0024	100027
78	P-CHLORO-M-CRESOL	<0.0075	59507
79	PENTACHLOROPHENOL	<0.0036	87865
80	2,4,6-TRICHLOROPHENOL	<0.0027	88062
81	ACENAPHTHENE	<0.003	83329
82	ACENAPHTHYLENE	<0.0035	208968

OBS	PARAMTR	VALUE	CAS
83	ANTHRACENE	<0.0019	120127
84	BENZIDINE	<0.063	92875
85	BENZO (A) ANTHRACENE	<0.0078	56553
86	BENZO (A) PYRENE	<0.0025	50328
87	3,4-BENZOFLUORANTHENE	<0.0048	205992
88	BENZO (G H I) PERYLENE	<0.0041	191242
89	BENZO (K) FLUORANTHENE	<0.0025	207089
90	BIS(2-CHLOROETHOXY) METHANE	<0.0053	111911
91	BIS(-2-CHLOROETHYL) ETHER	<0.0057	111444
92	BIS(2-CHLOROISOPROPYL) ETHER	<0.0057	108601
93	BIS(2-ETHYLHEXYL) PHTHALATE	<0.0025	117817
94	4-BROMOPHENYL-PHENYLETHER	<0.003	101553
95	BUTYLBENZYLPHTHALATE	<0.0025	85687
96	2-CHLORONAPHTHALENE	<0.0046	91587
97	4-CHLOROPHENYL-PHENYLETHER	<0.0042	7005723
98	CHRYSENE	<0.0025	218019
99	DIBENZO (A H) ANTHRACENE	<0.0025	53703
100	1,2-DICHLOROBENZENE	<0.004	95501
101	1,3-DICHLOROBENZENE	<0.0031	541731
102	1,4-DICHLOROBENZENE	<0.0044	106467
103	3,3'-DICHLOROBENZIDINE	<0.0165	91941
104	DIETHYLPHTHALATE	<0.0074	84662
105	DIMETHYL PHTHALATE	<0.0075	131113
106	DI-N-BUTYLPHTHALATE	<0.0064	84742
107	2,4-DINITROTOLUENE	<0.0057	121142
108	2,6-DINITROTOLUENE	<0.0034	606202
109	DI-N-OCTYL PHTHALATE	<0.0025	117840
110	1,2-DIPHENYLHYDRAZINE	<0.0088	122667
111	FLUORANTHENE	<0.0022	206440
112	FLUORENE	<0.0022	86737
113	HEXACHLOROBENZENE	<0.0031	118741
114	HEXACHLOROBUTADIENE	<0.0018	87683
115	HEXACHLOROCYCLOPENTADIENE	<0.02	77474
116	HEXACHLOROETHANE	<0.0024	67721
117	INDENO (1,2,3-CD) PYRENE	<0.0037	193395
118	ISOPHORONE	<0.0051	78591
119	NAPHTHALENE	<0.0038	91203
120	NITROBENZENE	<0.0042	98953
121	N-NITROSODIMETHYLAMINE	<0.0062	62759
122	N-NITROSO-DI-N-PROPYLAMINE	<0.0036	621647
123	N-NITROSODIPHENYLAMINE	<0.0027	86306

OBS	PARAMTR	VALUE	CAS
124	PHENANTHRENE	<0.0054	85018
125	PYRENE	<0.0038	129000
126	1,2,4-TRICHLOROBENZENE	<0.0079	120821
127	ALDRIN	<0.0019	309002
128	GAMMA BHC	<0.00005	58899
129	CHLORDANE	<0.01	57749
130	4,4'-DDT	<0.0051	50293
131	DIELDRIN	<0.0044	60571
132	ALPHA-ENDOSULFAN	<0.0617	115297
133	BETA-ENDOSULFAN	<0.0803	115297
134	ENDOSULFAN SULFATE	<0.0056	1031078
135	ENDRIN	<0.0056	72208
136	HEPTACHLOR	<0.0043	76448
137	PCB 1242	<0.05	53469219
138	PCB 1254	<0.036	11097691
139	PCB 1221	<0.03	11104282
140	PCB 1232	<0.05	11141165
141	PCB 1248	<0.05	12672296
142	PCB 1260	<0.05	11096825
143	PCB 1016	<0.05	12674112
144	TOXAPHENE	<0.05	8001352

Primary Laboratories, Inc.

2087 Dabney Road • Richmond, VA 23230 • Telephone (804) 213-0831 • Fax (804) 213-0842

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FS

ANALYTICAL LABORATORY REPORT

Virginia Power
Attn: Glen Bishop
P.O. Box 26666
Richmond, Virginia 23261-6666

28-Sep-04

Date Received:	08-Sep-04
Date Sampled:	08-Sep-04
Units of Measure:	ug/L
EPA Test Method:	608
Date Analyzed:	14-Sep-04
Time Analyzed:	13:13
Technician:	DK
Work Order No:	0409045-01
Client ID:	North Anna Power Station Outfall 001

SL# 316 824

Test Description	Final Result	Reporting Limit
Pesticides		
Gamma-BHC (Lindane)	<0.05	0.05
Kepone	<0.10	0.10
Methoxychlor	<0.10	0.10
Mirex	<0.10	0.10
PCB 1016	<1.0	1.0
PCB 1221	<1.0	1.0
PCB 1232	<1.0	1.0
PCB 1242	<1.0	1.0
PCB 1248	<1.0	1.0
PCB 1254	<1.0	1.0
PCB 1260	<1.0	1.0

Primary Laboratories, Inc.
Results

28-Sep-04

Date Sampled: 08-Sep-04
Units of Measure: ug/L
EPA Test Method: 622
Date Analyzed: 22-Sep-04
Time Analyzed: 3:53
Technician: SC*
Work Order No: 0409045-01
Client ID: North Anna Power Station Outfall 001

Test Description	Final Result	Reporting Limit
Organophosphorus Compounds		
Chlorpyrifos	<0.04	0.04
Demeton	<0.2	0.2
Guthion	<0.2	0.2
Malathion	<0.2	0.2
Paration	<0.2	0.2

* Analysis sub-contracted.

Primary Laboratories, Inc.
Results

28-Sep-04

Date Sampled: 08-Sep-04
Work Order No: 0409045-01
Client ID: North Anna Power Station Outfall 001

Test Description	Final Result	Reporting Limit	Units of Measure	EPA Test Method	Date Analyzed	Tech. Initials
Tributyltin	45	30	ng/l	GC/FPB	14-Sep-04	SC*
Hydrogen Sulfide	<0.05	0.05	mg/L	4500F	28-Sep-04	PB
Cyanide	<0.01	0.01	mg/L	335.2	10-Sep-04	HV
2,4-D	<0.10	0.10	ug/L	8151	21-Sep-04	DK
Silvex	<0.10	0.10	ug/L	8151	21-Sep-04	DK

* Analysis sub-contracted.

Primary Laboratories, Inc.
Results

28-Sep-04

SL# 316825

Units of Measure: ug/L
EPA Test Method: 608
Date Analyzed: 14-Sep-04
Time Analyzed: 13:13
Technician: DK
Work Order No: 0409045-02
Client ID: North Anna Power Station Outfall 009

Test Description	Final Result	Reporting Limit
Pesticides		
Gamma-BHC (Lindane)	<0.05	0.05
Kepone	<0.10	0.10
Methoxychlor	<0.10	0.10
Mirex	<0.10	0.10
PCB 1016	<1.0	1.0
PCB 1221	<1.0	1.0
PCB 1232	<1.0	1.0
PCB 1242	<1.0	1.0
PCB 1248	<1.0	1.0
PCB 1254	<1.0	1.0
PCB 1260	<1.0	1.0

Date Sampled: 08-Sep-04
Units of Measure: ug/L
EPA Test Method: 622
Date Analyzed: 22-Sep-04
Time Analyzed: 3:53
Technician: SC*
Work Order No: 0409045-02
Client ID: North Anna Power Station Outfall 009

Test Description	Final Result	Reporting Limit
Organophosphorus Compounds		
Chlorpyrifos	<0.04	0.04
Demeton	<0.2	0.2
Guthion	<0.2	0.2
Malathion	<0.2	0.2
Parathion	<0.2	0.2

* Analysis sub-contracted.

Primary Laboratories, Inc.
Results

28-Sep-04

Date Sampled: 08-Sep-04
Work Order No: 0409045-02
Client ID: North Anna Power Station Outfall 009

Test Description	Final Result	Reporting Limit	Units of Measure	EPA Test Method	Date Analyzed	Tech. Initials
Tributyltin	49	30	ng/l	GC/FPB	14-Sep-04	SC*
Hydrogen Sulfide	<0.005	0.05	mg/L	4500F	28-Sep-04	PB
Cyanide	<0.01	0.01	mg/L	335.2	10-Sep-04	HV
2,4-D	<0.10	0.10	ug/L	8151	21-Sep-04	DK
Silvex	<0.10	0.10	ug/L	8151	21-Sep-04	DK

* Analysis sub-contracted.

Primary Laboratories, Inc.
Results

28-Sep-04

SC# 316826

Units of Measure: ug/L
EPA Test Method: 608
Date Analyzed: 14-Sep-04
Time Analyzed: 13:13
Technician: DK
Work Order No: 0409045-03
Client ID: North Anna Power Station Outfall 020

Test Description	Final Result	Reporting Limit
Pesticides		
Gamma-BHC (Lindane)	<0.05	0.05
Kepone	<0.10	0.10
Methoxychlor	<0.10	0.10
Mirex	<0.10	0.10
PCB 1016	<1.0	1.0
PCB 1221	<1.0	1.0
PCB 1232	<1.0	1.0
PCB 1242	<1.0	1.0
PCB 1248	<1.0	1.0
PCB 1254	<1.0	1.0
PCB 1260	<1.0	1.0

Date Sampled: 08-Sep-04
Units of Measure: ug/L
EPA Test Method: 622
Date Analyzed: 22-Sep-04
Time Analyzed: 3:53
Technician: SC*
Work Order No: 0409045-03
Client ID: North Anna Power Station Outfall 020

Test Description	Final Result	Reporting Limit
Organophosphorus Compounds		
Chlorpyrifos	<0.04	0.04
Demeton	<0.2	0.2
Guthion	<0.2	0.2
Malathion	<0.2	0.2
Parathion	<0.2	0.2

* Analysis sub-contracted.

Primary Laboratories, Inc.
Results

28-Sep-04

Date Sampled: 08-Sep-04
Work Order No: 0409045-03
Client ID: North Anna Power Station Outfall 020

Test Description	Final Result	Reporting Limit	Units of Measure	EPA Test Method	Date Analyzed	Tech. Initials
Tributyltin	64	30	ng/l	GC/FPB	14-Sep-04	SC*
Hydrogen Sulfide	<0.05	0.05	mg/L	4500F	28-Sep-04	PB
Cyanide	<0.01	0.01	mg/L	335.2	10-Sep-04	HV
2,4-D	<0.10	0.10	ug/L	8151	21-Sep-04	DK
Silvex	<0.10	0.10	ug/L	8151	21-Sep-04	DK

* Analysis sub-contracted.

Date Sampled: 08-Sep-04 SL# 316827
Work Order No: 0409045-04
Client ID: North Anna Power Station Outfall 104

Test Description	Final Result	Reporting Limit	Units of Measure	EPA Test Method	Date Analyzed	Tech. Initials
Cyanide	<0.01	0.01	mg/L	335.2	10-Sep-04	HV

Date Sampled: 08-Sep-04 SL# 316828
Work Order No: 0409045-05
Client ID: North Anna Power Station Outfall 105

Test Description	Final Result	Reporting Limit	Units of Measure	EPA Test Method	Date Analyzed	Tech. Initials
Cyanide	<0.01	0.01	mg/L	335.2	10-Sep-04	HV

Primary Laboratories, Inc.
Results

28-Sep-04

SL # 316829

Date Sampled: 08-Sep-04
Work Order No: 0409045-06
Client ID: North Anna Power Station Outfall 108

Test Description	Final Result	Reporting Limit	Units of Measure	EPA Test Method	Date Analyzed	Tech. Initials
Cyanide	<0.01	0.01	mg/L	335.2	10-Sep-04	HV

SL# 316830

Date Sampled: 08-Sep-04
Work Order No: 0409045-07
Client ID: North Anna Power Station Outfall 112

Test Description	Final Result	Reporting Limit	Units of Measure	EPA Test Method	Date Analyzed	Tech. Initials
Cyanide	<0.01	0.01	mg/L	335.2	10-Sep-04	HV

SL# 316834

Units of Measure: ug/L
EPA Test Method: 608
Date Analyzed: 14-Sep-04
Time Analyzed: 13:13
Technician: DK
Work Order No: 0409045-08
Client ID: North Anna Power Station Intake

Test Description	Final Result	Reporting Limit
Pesticides		
Gamma-BHC (Lindane)	<0.05	0.05
Kepone	<0.10	0.10
Methoxychlor	<0.10	0.10
Mirex	<0.10	0.10
PCB 1016	<1.0	1.0
PCB 1221	<1.0	1.0
PCB 1232	<1.0	1.0
PCB 1242	<1.0	1.0
PCB 1248	<1.0	1.0
PCB 1254	<1.0	1.0
PCB 1260	<1.0	1.0

Primary Laboratories, Inc.
Results

28-Sep-04

Date Sampled: 08-Sep-04
Units of Measure: ug/L
EPA Test Method: 622
Date Analyzed: 22-Sep-04
Time Analyzed: 3:53
Technician: SC*
Work Order No: 0409045-08
Client ID: North Anna Power Station Intake

Test Description	Final Result	Reporting Limit
Organophosphorus Compounds		
Chlorpyrifos	<0.04	0.04
Demeton	<0.2	0.2
Guthion	<0.2	0.2
Malathion	<0.2	0.2
Parathion	<0.2	0.2

* Analysis sub-contracted.

Primary Laboratories, Inc.
Results

28-Sep-04

Date Sampled: 08-Sep-04
Work Order No: 0409045-08
Client ID: North Anna Power Station Intake

Test Description	Final Result	Reporting Limit	Units of Measure	EPA Test Method	Date Analyzed	Tech. Initials
Tributyltin	41	30	ng/l	GC/FPB	14-Sep-04	SC*
Hydrogen Sulfide	<0.05	0.05	mg/L	4500F	28-Sep-04	PB
Cyanide	<0.01	0.01	mg/L	335.2	10-Sep-04	HV
2,4-D	<0.10	0.10	ug/L	8151	21-Sep-04	DK
Silvex	<0.10	0.10	ug/L	8151	21-Sep-04	DK

* Analysis sub-contracted.

Signature: Parry L. Bragg
Laboratory Manager

Date: 9/28/04

These analytical results are based upon materials provided by the client and are intended for the exclusive use of the client. These analytical results represent the best judgement of Primary Laboratories, Inc. Primary Laboratories, Inc. assumes no responsibility, express or implied, as to the interpretation of the analytical results contained in this report. This report is not to be reproduced except with the written approval of Primary Laboratories, Inc.

PRIMARY LABORATORIES CHAIN OF CUSTODY

Primary Laboratories
2087 Dabney Road
Richmond, Virginia 23230
TEL: (804) 213-0831
FAX: (804) 213-0842

CLIENT: Dominion VA Power
ATTN: Glenn Bishop
STREET: 4111 Castlewood Road
CITY: Richmond, VA 23234
PHONE: 271-5375 FAX:

CONSULTANT:
ATTN:
STREET:
CITY:
PHONE: FAX:

PROJECT:

PRESERVATIVE: Sewer

INVOICE TO:

P.O. #:

SAMPLED BY:

SAMPLE IDENTIFICATION	SAMPLING: COMPOSITE	GRAB	DATE	TIME	NO. OF CONTAINERS	MATRIX: WATER	SOIL	OTHER	Primary Lab No. (LAB USE ONLY)	ANALYSES: Cyanide	~~Fecal Coli~~	TBT	Hydrogen sulfide	Organics shown on attached list	608	622	8151	COMMENTS
North Anna Power Station																		For ETS
Outfall 001		✓			10	✓			0409045-01	✓	✓	✓	✓	✓				
009		✓			10	✓			02	✓	✓	✓	✓	✓				
020		✓			10	✓			03	✓	✓	✓	✓	✓				
104		✓			1	✓			04	✓	✓							
105		✓			1	✓			05	✓	✓							
108		✓			1	✓			06	✓	✓							
~~HH~~ 112		✓			1	✓			07	✓	✓							
Intake		✓			10	✓			08	✓	✓	✓	✓	✓				

RELINQUISHED BY SAMPLER:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
Robert Sandner	9/8/04	1542			
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY LAB:	DATE:	TIME:
			Rebecca Lee	9/8/04	15:42

TEMP: PRESERVATIVE

TAT:
- ○ 24 HRS / /
- ○ 48 HRS / /
- ○ 72 HRS / /
- ○ 5 DAYS / /
- ○ 10 DAYS / /
- ● OTHER 10/7/04

CHAIN OF CUSTODY #: ____ OF ____

Florida Radiochemistry Services, Inc.

Contact: Michael J. Naumann
5456 Hoffner Ave., Suite 201 Orlando, FL 32812
Phone: (407) 382-7733 Fax: (407)382-7744

Work Order #: 0409118
Report Date: 10/25/04

Report to:

Dominion Virginia Power System Laboratory
11201 Old Stage Road
Chester, VA 23831
Attention: David Yaworsky

273 3410

I do hereby affirm that this record contains no willful misrepresentations and that this information given by me is true to the best of my knowledge and belief. I further certify that the methods and quality control measures used to produce these laboratory results were implemented in accordance with the requirements of this laboratory's certification and NELAC Standards.

Signed Michael J. Naumann Date 10-25-04
Michael J. Naumann - President

Florida Radiochemistry Services, Inc.

Sample Login

Client:	Virginia Power	Date / Time Received	Work order #
Client Contact:	David Yaworsky	09/21/04 14:05	0409118
Client P.O.	SL11201		
Project I.D.			

Lab Sample I.D.	Client Sample I.D.	Sample Date/Time	Analysis Requested
0409118-01	316824	09/08/04 14:30	Gross Alpha / Beta Sr90, H3
0409118-02	316825	09/08/04 11:30	Gross Alpha / Beta Sr90, H3
0409118-03	316826	09/08/04 10:45	Gross Alpha / Beta Sr90, H3
0409118-04	316827	09/08/04 09:15	Gross Alpha / Beta
0409118-05	316828	09/08/04 12:50	Gross Alpha / Beta
0409118-06	316829	09/08/04 12:20	Gross Alpha / Beta
0409118-07	316830	09/08/04 09:00	Gross Alpha / Beta
0409118-08	316834	09/08/04 09:55	Gross Alpha / Beta Sr90, H3

Florida Radiochemistry Services, Inc.

Analysis Report

Lab Sample I.D.	0409118-01	0409118-02	0409118-03	0409118-04	0409118-05	0409118-06
Client I.D.	316824	316825	316826	316827	316828	316829
Gross Alpha	0.8	<1.0	<1.0	<1.2	<1.8	<1.3
Error +/-	0.6	0.7	0.6	0.7	1.1	0.8
MDL	0.7	1.0	1.0	1.2	1.8	1.3
EPA Method	900.0	900.0	900.0	900.0	900.0	900.0
Prep Date	09/29/04	09/29/04	09/29/04	09/29/04	09/29/04	09/29/04
Analysis Date	09/30/04	09/30/04	09/30/04	09/30/04	09/30/04	09/30/04
Analyst	MJN	MJN	MJN	MJN	MJN	MJN
Gross Beta	4.0	4.3	4.6	5.0	14.0	7.3
Error +/-	1.0	1.1	1.2	1.2	1.6	0.9
MDL	1.4	1.6	1.6	1.6	1.7	1.2
EPA Method	900.0	900.0	900.0	900.0	900.0	900.0
Prep Date	09/29/04	09/29/04	09/29/04	09/29/04	09/29/04	09/29/04
Analysis Date	09/30/04	09/30/04	09/30/04	09/30/04	09/30/04	09/30/04
Analyst	MJN	MJN	MJN	MJN	MJN	MJN
Strontium 90	<1.0	<1.0	<1.0			
Error +/-	0.4	0.3	0.4			
MDL	1.0	1.0	1.0			
EPA Method	905.0	905.0	905.0			
Analysis Date	10/19/04	10/19/04	10/19/04			
Analyst	JH	JH	JH			
Tritium	3142	1486	2791			
Error +/-	175	133	167			
MDL	131	131	131			
EPA Method	906.0	906.0	906.0			
Analysis Date	10/08/04	10/08/04	10/08/04			
Analyst	JE	JE	JE			
Units	pCi/l	pCi/l	pCi/l	pCi/l	pCi/l	pCi/l

Florida Radiochemistry Services, Inc.

Analysis Report

Lab Sample I.D.	0409118-07	0409118-08
Client I.D.	316830	316834
Gross Alpha	<0.7	<0.8
Error +/-	0.5	0.6
MDL	0.7	0.8
EPA Method	900.0	900.0
Prep Date	09/29/04	09/29/04
Analysis Date	09/30/04	09/30/04
Analyst	MJN	MJN
Gross Beta	<1.6	3.6
Error +/-	1.0	1.1
MDL	1.6	1.5
EPA Method	900.0	900.0
Prep Date	09/29/04	09/29/04
Analysis Date	09/30/04	09/30/04
Analyst	MJN	MJN
Strontium 90		<1.0
Error +/-		0.4
MDL		1.0
EPA Method		905.0
Analysis Date		10/19/04
Analyst		JH
Tritium		2660
Error +/-		164
MDL		131
EPA Method		906.0
Analysis Date		10/08/04
Analyst		JE
Units	pCi/l	pCi/l

Florida Radiochemistry Services, Inc.

QA Page

Analyte	Sample #	Date Analyzed	Sample Result	Amount Spiked	Spike Result	Spike /Dup Result	Spike % Rec.	Spike Dup % Rpd
Gross Alpha	0409118-08	09/30/04	<0.8	10.2	10.0	10.1	98	1.0
Gross Beta	0409118-08	09/30/04	3.6	12.6	16.1	16.4	99	1.8

	Quality Control Limits	
	% RPD	% Rec.
Gross Alpha	15.9	69-115
Gross Beta	15.0	75-120

Virginia Power P.O. # SL11201
System Laboratory
11201 Old Stage Road
Chester, Va 23831
Attn: David Yaworsky (804) 717-5901

2 of 2

CHAIN OF CUSTODY RECORD

PROJ NO. | PROJECT NAME

SAMPLER:

VIRGINIA POWER/SYSTEM LABORATORY

STA NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	# OF CONTAINERS				REMARKS
316824	9/8/04	1430				2 *				Analyze samples for Gross Alpha and
316825		1130				2 *				Gross Beta by EPA method 900.0.
316826		1045				2 *				* See Remarks
316827		0915				1				
316828		1250				1				
316829		1220				1				
316830		0900				1				
316834		0955				2 *				
										* Run Tritium EPA 906
										Strontium 90

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)
[signature]	9/17/04 0900	K Woods 9/21/04 14:05			
RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)

REMARKS:
*If Gross Alpha exceeds 5 picocuries/liter then analyze for Radium 226 and Radium 228.

Routinely Used Chemicals & Potential Pollutants to Surface Water (to support EPA Form 3510-2C, Section V)

Routinely Used Chemicals – to support EPA Form 3510-2C, Section V

The following is a list of chemicals either currently in use or likely to be evaluated for use within the next five years at North Anna Power Station. The list is subdivided into plant systems with brief comments included to give perspective.

I. Chemicals added (or potential for addition) to steam generators/secondary system (blowdown to the environment)

1. hydrazine	currently added to control oxygen
2. monoethanolamine (ETA)	added at NAPS to control pH
3. ammonium hydroxide	formed in the system by hydrazine decomposition (may be added to adjust pH)
4. carbohydrazide (N2H3)2CO	evaluating as a replacement for hydrazine
5. dimethylamine (DMA)	will be evaluated this year for future addition (pH control)
6. methoxypropylamine (MPA)	may be evaluated for use w/in 5 yrs. (pH control)
7. 2-amino-2-methyl-1-propanol (AMP)	may be evaluated for use w/in 5 yrs. (pH control)
8. morpholine used in the recent past	may be used again? (pH control)

II. Chemicals added to the service water reservoir

1. 33% sodium molybdate, 1% sodium borate	(Calgon's TRC-256)added as a corrosion inhibitor
2. 50% didecyl dimethyl ammonium chloride	(ONDEO H 130) added as a biocide
3. 45% glutaraldehyde	(Calgon's H 300) added as a biocide
5. 96% 1-bromo-5-chloro-5,5-dimethylhydantoin	(Calgon's H 901G) added as a biocide
6. organic polymer	(Calgon's PolyZ) seldom added, used to control silting in SW reservoir

III. Chemicals added to the auxiliary heating boiler (potential for blowdown to reach the environment during operation)

1. ammonium hydroxide	(already listed above)
2. hydrazine	(already listed above)

IV. Chemicals added to the bearing cooling system

1. organic and inorganic phosphates, tolytriazole	(Calgon's PCL-713) added as a corrosion inhibitor
2. 93.5% 1-bromo-3-chloro-5,5-dimethylhydantoin	(Calgon's H 900) biocide – not currently in use, may be used in future
3. 1.1% 5-chloro-2-methyl-4-isothiazolin- 3-one; 0.4% 2-methyl 4-isothiazolin-3-one	(Nalco 2894) added as a biocide
4. Sodium Bromide	(Calgon Acti-Brom 1318)
5. Sodium Hypochlorite	
6. Endothall, mono (,N-dimethylcocamine) salt	(Calgon EVAC molluscicide) no blowdown
Bearing cooling chemical #2 is already listed above	
7. Zinc Chloride	Nalco 7384

V. Chemicals added to the component cooling system (not expected to reach the environment-but have in the past)

1. potassium hydroxide	(pH control-currently added)
2. potassium chromate	(corrosion inhibitor-currently added)
3. potassium dichromate	(corrosion inhibitor-currently added)

NORTH ANNA POWER STATION POTENTIAL POLLUTANTS TO SURFACE WATER

SYSTEM	RELEASE MECHANISM	RELEASE PATH	FREQUENCY AND AMOUNT	CHEMICAL	MAX. CONC.
Bearing Cooling Water	Vacuum Priming Pump and cooling water discharges	TB Sump	60 GPM total (one pump per unit at 30 GPM) Continual	Zinc Chloride - Nalco 7384 Phosphate - PCL 713 Biocide - Nalco 2894 Bromine - Acti Brom 1318 Sodium Hypochlorite	1.0 ppm 25 ppm 28 ppm 22 ppm 34 ppm
	BC Pump Strainer Blowdown	Circulating Water	400 GPM for 3 min. intervals as requred		
	BC Line Draining During Maintenance	TB Sump	200,000 gals. Max. per unit		
	Blowdown	Circulating water	Maximum of 200 gpm		
Service Water Cooling Water	SW Line Draining During Maintenance	Sump, Storm Drain and Circulation Water	150,000 Gal max	Calgon TRC-256 ONDEO H-130 Calgon H-900 Calgon H-300 Calgon Poly-E-Z 7736	700 ppm 25 ppm 1 ppm 75 10 ppm
	Overflow	Circulating water when reservoir too full	Infrequent, Amount unknown		
	Blowdown - intermittent	Circulating water	Maximum of 70 gpm		
	Batch Blowdown	Discharge canal	As needed to maintain cycles of concentration 900 gpm		
Condenser Hotwell	Draining	Circulating water	200,000 gallons per Hotwell	ETA Hydrazine Ammonia	4.0 ppm 1.0 ppm 25 ppm
Steam Generator Wet Layup	Draining	Circulating water	43,000 gallons per Steam Generator	Hydrazine Ammonia ETA	500 ppm 4 gal of NH4OH per SG 20 ppm

Bearing Cooling Tower System – to support EPA Form 3510-2C, Section V

Pamela F. Faggert
Vice President and Chief Environmental Officer
5000 Dominion Boulevard, Glen Allen, VA 23060
Phone: 804-273-3467

Dominion

Certified Mail
Return Receipt Requested

September 2, 2004

Ms. Christine Trinh
DEQ – Northern Regional Office
13901 Crown Court
Woodbridge, VA 22193-1453

Re: North Anna Power Station - Bearing Cooling Tower System

Dear Ms. Trinh:

As Joyce Livingstone of Electric Environmental Services and Carter Cooke of North Anna Power Station discussed with you on August 19, 2004 at the DEQ's Fredericksburg Satellite Office, we are seeking approval to drain the bearing cooling tower system to the settling pond (Outfall 009).

The bearing cooling tower is scheduled to be demolished and rebuilt over a six-month period beginning later this month. We propose to drain approximately 250,000 gallons of water from the bearing cooling tower to the settling pond over several days beginning sometime after September 20, 2004. As the bearing cooling tower is blown down on a regular basis and no chemicals will be added for several days prior to draining, we anticipate that the water will be similar to lake water. The lake is the normal source of makeup water for the bearing cooling tower. In addition, during construction it will be necessary to periodically drain rainwater from the bearing cooling tower basin to the settling pond.

In October 2000, the DEQ – Valley Regional Office allowed the bearing cooling tower to be drained to the settling pond as an anticipated bypass. Attached is a copy of a notification letter sent to the DEQ.

If you have any questions or desire addition information, please call Ron Birckhead of my staff at (804) 273-2992 or Mr. Cooke at (540) 894-2856.

Sincerely,

Pamela F. Faggert

Pamela F. Faggert

cc:
U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

Mr. M. T. Whidmann
NRC Senior Resident Inspector
North Anna Power Station

bc:

bc:
J. M. Davis
N.L. Lane
J. W. Crossman
K. N. Kappatos – ODEC
C. C. Taylor
J. W. White
R. L. Birckhead
J. B. Livingstone
A. C. Cooke
Power Records Management – IN/GW
North Anna/ENV55/Correspondence

Concurrence:

Mr. J. M. Davis _____

Mr. N.L. Lane _____

Mr. A. C. Cooke _____

North Anna/COR14/Violations

Certified Mail
Return Receipt Requested

February 8, 2001

Mr. Janardan R. Pandey, P. E.
DEQ - Valley Regional Office
4411 Early Road
P. O. Box 1129
Harrisonburg, VA 22801

RE: North Anna Power Station - VPDES Permit - 126 Priority Pollutants

Dear Mr. Pandey:

Part I, Section E.9. of the recently reissued VPDES permit for North Anna Power Station allows the submittal of engineering calculations which demonstrate that the 126 priority pollutants are not detectable in outfall 105 as a substitute for monitoring. After reviewing the Material Safety Data Sheets (MSDS) for the chemicals added to the Bearing Cooling system, outfall 105, station personnel have determined that none of the 126 priority pollutants are in any of the chemicals used in the system.

We believe the information provided satisfies Part I, Section E.9. of the VPDES permit. Therefore, we are not proposing to sample outfall 105 for the 126 priority pollutants.

If you have any questions or desire additional information, please call Ron Birckhead at (804) 273-2992.

Sincerely,

Pamela F. Faggert

Pamela F. Faggert

bc:

D. A. Heacock
C. L. Funderburk
J. M. Davis
J. W. Crossman
K. N. Kappatos - ODEC
J. T. Ingram
J. W. White
R. L. Birckhead
J. B. Livingstone
K. W. Roller
A. C. Cooke
Power Records Management – IN/GW

Concurrence:

Mr. D. A. Heacock _____

Mr. C. L. Funderburk _____

Mr. J. M. Davis _____

Mr. A. C. Cooke _____

FILE COPY

North Anna/COR14/Violations

Certified Mail
Return Receipt Requested

November 1, 2000

Mr. Donald G. Kain
DEQ - Valley Regional Office
4411 Early Road
P. O. Box 1129
Harrisonburg, VA 22801

RE: North Anna Power Station - Bearing Cooling Tower

Dear Mr. Kain:

As requested during the meeting at the Valley Regional Office on September 1, 2000, this is to provide historical information on the use of Calgon H-510 in the bearing cooling tower at North Anna Power Station.

Station personnel began using the biocide Calgon H-510 in the bearing cooling tower in the early 1980's. At the time, station personnel were not aware that Calgon H-510 contained trace amounts of copper. The standard mode of operation of the bearing cooling tower was not to blowdown.

At the recommendation of the bearing cooling tower manufacturer, station personnel commenced blowing down the cooling tower on a continuous basis in May 2000. The rate of blowdown was in the range of 100 to 200 gallons per minute. As part of the process of applying for reissuance of the VPDES permit, the bearing cooling tower was sampled and analyzed for copper. When we became aware in June 2000 that the blowdown contained detectable levels of copper, the operation of the bearing cooling tower was changed to discontinue the blowdown and shortly thereafter the addition of Calgon H-510 was eliminated.

If you have any questions or desire additional information, please call Ron Birckhead at (804) 273-2992.

Sincerely,

Pamela F. Faggert

cc:
U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

Mr. M.J. Morgan
NRC Senior Resident Inspector
North Anna Power Station

bc:
D. A. Heacock
C. L. Funderburk
J. R. Hayes
J. W. Crossman
K. N. Kappatos - ODEC
J. T. Ingram
J. W. White
R. L. Birckhead
J. B. Livingstone
K. W. Roller
A. C. Cooke
Power Records Management – IN/GW

Concurrence:

Mr. D. A. Heacock _____

Mr. C. L. Funderburk _____ for CLF

Mr. J. R. Hayes _____ for JRH

Mr. A. C. Cooke _____

Mr. Janardan R. Pandey, P. E.
DEQ - Valley Regional Office
4411 Early Road
P. O. Box 1129
Harrisonburg, VA 22801

RE: North Anna Power Station - Anticipated Bypass

Dear Mr. Pandey:

This is to confirm our October 2, 2000 telephone report of an anticipated bypass from the bearing cooling tower system at North Anna Power Station in accordance with Part II Section U.1.a. of our VPDES permit. Mr. Judson White of my staff previously discussed the anticipated bypass with you on September 26, 2000.

The bearing cooling tower system supplies cooling and seal water flow for various steam and power-conversion equipment needed for full-load operation of the station. Critical equipment supplied by the bearing cooling tower system includes the Main Turbine oil coolers, the Main Generator hydrogen coolers and various condensate/feedwater pump seal coolers. The mode of operation of the system was switched from tower-to-tower to lake-to-lake on September 27, 2000 so that necessary maintenance could be performed. Needed maintenance includes making structural repairs to the cooling tower and removing sediment in the basin of the cooling tower.

Approximately 450,000 gallons of water were discharged from the cooling tower to the settling pond between September 30, 2000 and October 2, 2000. The effluent of the settling pond (VPDES 009) was sampled and monitored on October 2, 2000 and found to be in compliance with the limitations of the permit. No dead fish or other indications of adverse environmental impact were observed by station personnel in the vicinity of the discharge.

We anticipate that 50,000 to 100,000 gallons of filtrate/wash water from the sediment will also be discharged to the settling pond. A separate notification will be made concerning this discharge.

If you have any questions or desire additional information, please call Ron Birckhead at (804) 273-2992.

Sincerely,

Pamela F. Faggert

Pamela F. Faggert

cc:
U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
RE: North Anna Units 1 and 2
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License Nos. NPF-4/NPF-7

Mr. M.J. Morgan
NRC Senior Resident Inspector
North Anna Power Station

bc:

D. A. Heacock
C. L. Funderburk
J. R. Hayes
J. W. Crossman
K. N. Kappatos - ODEC
J. T. Ingram
J. W. White
R. L. Birckhead
J. B. Livingstone
K. W. Roller
A. C. Cooke
Power Records Management – IN/GW

Concurrence:

Mr. D. A. Heacock _____

Mr. C. L. Funderburk _____ for CLF

Mr. J. R. Hayes _____

Mr. A. C. Cooke _____

Certified Mail
Return Receipt Requested

August 16, 2000

Mr. Janardan R. Pandey, P. E.
DEQ - Valley Regional Office
4411 Early Road
P. O. Box 1129
Harrisonburg, VA 22801

RE: North Anna Power Station - Bearing Cooling Tower

Dear Mr. Pandey:

Permission is requested to discharge the Bearing Cooling Tower at North Anna Power Station to the discharge canal on a one-time basis later this year.

As Ken Roller recently discussed with you, there is measurable copper in the Bearing Cooling Tower system due to a chemical that was previously added. The Steam Electric Guidelines restrict the discharge of detectable levels of copper in cooling tower blowdown if the copper is contained in chemicals added to the system for maintenance. Therefore, the DEQ denied our request to blowdown the system.

Station personnel plan to remove the Bearing Cooling Tower from service this fall for scheduled maintenance. While the system is out of service, station personnel would like to discharge the entire volume of the Bearing Cooling Tower to the discharge canal via outfall 104. Approximately 500,000 gallons from the Bearing Cooling Tower would mix with 2,000,000 gpm of lake water in the discharge canal. The most recent total copper analysis revealed a concentration of 40 ppb in the Bearing Cooling Tower and the concentration is trending downward.

Station personnel have investigated other alternatives. For example, Koester Co. can filter the 500,000 gallons using diatomaceous earth. The diatomaceous earth would be filter pressed with the filtrate being treated with either a reverse osmosis or ion exchange unit. Approximately 20 tons of filter cake would have to be disposed of. The total cost of this operation would be about $150,000.

We look forward to hearing from you on our proposal. If you have any questions, please contact me at (804) 273-2992.

Sincerely,

Ron Birckhead
Environmental Engineer

cc:
U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

Mr. M.J. Morgan
NRC Senior Resident Inspector
North Anna Power Station

ebc:

D. A. Heacock
C. L. Funderburk
J. R. Hayes
J. W. Crossman
K. N. Kappatos - ODEC
J. T. Ingram
R. B. Asplund
R. L. Birckhead
J. B. Livingstone
K. W. Roller
A. C. Cooke
Power Records Management – IN/GW

Concurrence:

Mr. D. A. Heacock _____

Mr. C. L. Funderburk _____

Mr. J. R. Hayes _____

Mr. A. C. Cooke _____

Certified Mail
Return Receipt Requested

May 7, 1999

Mr. Janardan R. Pandey, P. E.
DEQ - Valley Regional Office
4411 Early Road
P. O. Box 1129
Harrisonburg, VA 22801

RE: North Anna Power Station - Bearing Cooling Tower Blowdown - VPDES Permit Application Addendum

Dear Mr. Pandey:

As recently discussed per telephone, we are proposing to use three chemicals in the bearing cooling tower at North Anna Power Station that were not addressed in our last application for reissuance of the VPDES permit. This information is submitted as an addendum to the original application. We have recently submitted application addenda to the Tidewater Regional Office for new chemicals proposed for use at the Chesapeake Energy Center and Yorktown Power Station. Attached are examples of submittals made to the Tidewater Regional Office.

For years, the bearing cooling tower has been chlorinated on a continuous basis, but has not been blown down. Due to the lack of blowdown, the calcium concentration has increased in the system, resulting in scale buildup. The bearing cooling tower needs to be blown down continuously to reduce this concentration. The estimated flowrate for the blowdown is 150 gpm to 200 gpm. This is an internal discharge that discharges into the circulating water tunnel where it mixes with as much as 2,000,000 gpm of lake water before being discharged into the discharge canal and cooling lagoons.

Calgon Corporation has recommended the use of a liquid oxidant system utilizing Calgon H-940 (40% sodium bromide) and sodium hypochlorite (15% active). The chemicals would be fed over a 30-minute period up to four times a day. The feed rates would be 3.5 gallons for Calgon H-940 and 11.3 gallons for sodium hypochlorite during each 30 minute period. Due to varying plant conditions, the recommended feed rate may change. However, at no time would we add these chemicals for more than 2 hours per day. This treatment method will provide adequate oxidant to control the system and still meet the limitations of our VPDES permit. Attached is the MSD sheet for Calgon H-940.

Calgon Corporation has also recommended the use of an amine salt of endothall (Calgon EVAC) to control mollusk infestations in the bearing cooling tower. EVAC would be added to the unit 3 to 4 times a year at the rate of 100-150 pounds per treatment to produce a concentration of 1.5 ppm to 3.0 ppm. The treatment is effective in as little as 8 to 24 hours. However, the bearing cooling tower would not be blown down for at least 72 hours to provide time for EVAC to naturally decompose. The half-life for this product is 19 to 72 hours. Attached is the MSD sheet for Calgon EVAC.

We look forward to hearing from you on our proposal. If you have any questions, please contact me at (804) 273-2992.

Sincerely,

Ron Birckhead
Staff Engineer

cc: (w/attach.)
U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

Mr. M.J. Morgan
NRC Senior Resident Inspector
North Anna Power Station

bc: (w/attach.)
W. R. Matthews
D. A. Heacock
C. L. Funderburk
P. A. Kemp
K. N. Kappatos - ODEC
R. B. Asplund
R. L. Birckhead
J. B. Livingstone
A. C. Cooke
Power Records Management – IN/GW

Concurrence:

Mr. W. R. Matthews per telephone

Mr. D. A. Heacock per telephone

Mr. C. L Funderburk per telephone

Mr. A. C. Cooke per telephone

North Anna/Env55/Correspondence

December 3, 1998

Mr. William L. Kregloe
DEQ-Valley Regional Office
4411 Early Road
P. O. Box 1129
Harrisonburg, Virginia 22801

RE: North Anna Power Station - Bearing Cooling Tower Blowdown

Dear Mr. Kregloe:

As previously discussed, we are seeking approval to discharge chlorinated blowdown from the bearing cooling tower for more than two hours per unit as specified in Special Condition No. 10 of the VPDES permit.

For years, the bearing cooling tower has been chlorinated on a continuous basis, but has not been blown down. Due to the lack of blowdown, the calcium concentration has increased in the system, resulting in scale buildup. The bearing cooling tower needs to be blown down continuously to reduce this concentration.

Other options have been evaluated. Reducing the normal chlorine feed to two hours per day was investigated along with shocking the unit with larger doses of chlorine for short periods. A representative of the Calgon Corporation makes inspections of the bearing cooling tower approximately once per week. It is his opinion that a small residual of chlorine must be maintained in the bearing cooling tower at all times to control biological growth. Based on their operating experience, station chemistry personnel agree that a continuous or near continuous feed of chlorine is necessary. Chlorine in the system is maintained at a level below the discharge limit of 0.2 mg/l monthly average.

Installation of a dechlorination system was also evaluated. There is no practicable way to inject the dechlorination chemicals into the discharge line. In addition, this would result in another chemical being introduced into the lake.

From an environmental standpoint, the discharge of chlorinated blowdown would have a negligible impact. The estimated flowrate for the blowdown is 150 gpm to 200 gpm. This is an internal discharge that discharges into the circulating water tunnel where it mixes with as much as 2,000,000 gpm of lake water before being discharged into the discharge canal and cooling lagoons. By comparison, our permit allows the discharge of reverse osmosis reject water directly to the lake with a total chlorine residual of up to 4.0 mg/l.

The Steam Electric Guidelines include a provision allowing the state to provide relief from the chlorination restriction for cooling tower blowdown.

We would like to meet with you and/or Mr. Pandey the week of December 14 to further discuss this matter. I will be calling you in several days to schedule a meeting. In the meantime, if you have any questions, please call me at (804) 273-2992.

Sincerely,

Ron Birckhead

cc:
U.S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth Street, SW
Suite 23T85
Atlanta, GA 30303
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

Mr. M.J. Morgan
NRC Senior Resident Inspector
North Anna Power Station

Data Processing Description – to support EPA Form 3510-2C, Section V

Data Processing Description
North Anna Power Station
(to support EPA Form 3510-2C, Section V)

The data used in the tables were taken from the DMRs for the period January 1, 2002 through December 31, 2004, and from the outfall sampling conducted between September 2004 and March 2005 (referred to as consolidated permit monitoring). Entries that show a single sample use only the data from the consolidated permit monitoring sampling.

The tables were generated with a program written at Dominion using SAS v8.2.

The general flow of the program is as follows:

1) Consolidated permit monitoring data are selected from the data base;

2) DMR data are selected from the DMR data base and loadings for the individual months are calculated; (average and maximum monthly loadings are calculated using the average and maximum concentration and flow data, respectively).

3) Flows from the monthly DMR are merged with the consolidated permit data and loadings are calculated (since only one datum exists for flow and concentration, only a single mass is calculated).

4) These two data sources (DMR and Consolidated Permit Monitoring) are combined and average and maximum concentration and mass values are calculated for each parameter;

5) The Maximum Daily Value is the highest value found;

6) The Maximum 30 Day value is the highest monthly average;

7) The Long-term Average is the average of the monthly averages.

8) Computing the long-term average for parameters other than pH presents a problem since the DMR does not indicate which months have 5 weeks. Ideally, one would compute the long term average by dividing the sum of the raw readings by the total number of samples; however the only values available were monthly averages and there was no information as to whether the months had four or five weeks so the program computed the long term average by simply averaging the monthly values. This should give a value very close to the desired result.

Addendum – Additional Information to support EPA Form 3510-2C

Addendum – Additional Information - 2005
(to support EPA Form 3510-2C)
North Anna Power Station - VPDES Permit No. VA0052451

EPA Form 3510-2C - Samples Collected

Effluent samples used to generate the data included in Form 2C were collected during periods representative of facility operations by persons experienced in the sampling of industrial effluents. The samples were collected in accordance with procedures described in Dominion's *Sampling / Testing Plan and Request for Waivers* (submitted by letter dated April 28, 2004, annotated on 6/20/05, see Attachment 2). Sample analyses were performed in accordance with the methods promulgated in 40 CFR Part 136. The following were used to generate Form 2C Items V-A-B and C:

- Discharge Monitoring Data generated for the period January 1, 2002 through December 31, 2004 in accordance with the conditions of the existing VPDES permit for North Anna Power Station.
- Data for samples collected from Outfalls 001, 009, 104, 105, 108, 112, and 020 on September 8, 2004.
- Data for fecal coliform samples collected from Outfalls 001, 009, 020, 104, 105, 108, 109, 111, 112 and the intakes on November 8, 2004.
- Data for samples collected from Outfall 109 and 111 on December 1, 2004.

Outfalls Sampled - **Results included in Form 2C – Part V**	
Intake	Lake Anna (Represents Outfalls 016, 021, 107)
Outfall 001	Discharge of Condenser Cooling Water from WHTF at Dike 3
Outfall 009	Settling Pond
Outfall 020	Reverse Osmosis Reject
Outfall 103	Process Waste Clarifier
Outfall 104	Oil/Water Separator & Storm Water (Represents Outfalls 013, *014)
Outfall 105	Bearing Cooling Tower Blowdown
Outfall 108	Service Water Overboard (Represents Outfalls 114, 115)
Outfall 109	Hot Well Drain Unit 1 (Represents Outfall 110)
Outfall 111	Main Sewage Treatment Plant (Data shown on Form 2E – Attachment 19)
Outfall 112	Steam Generator Blowdown Unit 1 (Represents Outfall 113)

Outfalls Represented by those listed above (NOT SAMPLES)	
Outfall 013	Turbine Bldg Sump #1 and Common Sump #2 & Storm Water only
Outfall 014	*~~Turbine Bldg Sump #2 &~~ Storm Water only
Outfall 016	Intake Screen Wash Water
Outfall 021	Reverse Osmosis Drain Line
Outfall 107	Bearing Cooling System Discharge - Lake to Lake Operation
Outfall 110	Hot Well Drain Unit 2
Outfall 113	Steam Generator Blowdown Unit 2
Outfall 114	Service Water Pipe Vault Drain
Outfall 115	Service Water System Blowdown

*Revised for 2005 Application

Addendum – Additional Information - 2005 (continued).

Forms
As allowed by Form 2C instructions, the required data are being submitted on separate sheets as an attachment to form 2C (with the exception of the intake data). The data sheets we are submitting were computer generated which greatly shortened the amount of clerical effort needed to prepare the application. The sheets contain the required information in a format consistent with pages V-1 to V-9 in spacing and in identification of pollutants and pollutant columns. The forms were generated with a program written at Dominion using SAS v8.2 using the data described under ITEM V-A.B.&C: Intake and Effluent Characteristics above.

Additional Monitoring for Permit Reissuance
In addition to the parameters required for Form 2C, Dominion has collected and analyzed additional samples as specified in the DEQ Water Quality Standards for effluents from Outfalls 001, 009, 020 as follows:

SUBSTANCE	QL	Intake	Outfall 001	Outfall 009	Outfall 020
2,4-D (ppb)	0.10	<0.10	<0.10	<0.10	<0.10
Arochlor 1016 (ppb)	1	<1	<1	<1	<1
Arochlor 1221 (ppb)	1	<1	<1	<1	<1
Arochlor 1232 (ppb)	1	<1	<1	<1	<1
Arochlor 1242 (ppb)	1	<1	<1	<1	<1
Arochlor 1248 (ppb)	1	<1	<1	<1	<1
Arochlor 1254 (ppb)	1	<1	<1	<1	<1
Arochlor 1260 (ppb)	1	<1	<1	<1	<1
Chlordane (ppb)	10.00	<10.00	<10.00	<10.00	<10.00
Chloride as CL (ppm)			4.26	23.36	16.03
Chlorpyritos (ppb)	1	<1	<1	<1	<1
Chromium +6 as CR6 (ppm)	0.01		<0.01	0.01	<0.0
Demeton (ppb)	1	<1	<1	<1	<1
Gamma-BHC Lindane (ppb)	0.05	<0.05	<0.05	<0.05	<0.05
Guthion (ppb)	1	<1	<1	<1	<1
Hydrogen Sulfide (ppm)	0.05	<0.05	<0.05	<0.05	<0.05
Kepone (ppb)	0.10	<0.10	<0.10	<0.10	<0.10
Malathion (ppb)	1	<1	<1	<1	<1
Methoxychlor (ppb)	0.10	<0.10	<0.10	<0.10	<0.10
Mirex (ppb)	1	<1	<1	<1	<1
Nitrate as N (ppm)	0.01		0.04	<0.01	0.20
Silvex (ppb)	0.10	<0.10	<0.10	<0.10	<0.10
Strontium-90 (ppb)	1	<1	<1	<1	<1
Tributyltin (ng/l)		41	45	49	64
Tritium (pCi/L)		2660.0	3142.0	1486.0	2791.0

Addendum – Additional Information - 2005 (continued).

Parameters for which analyses were not performed
Sulfite – No samples were collected or analyzed for sulfite because the pollutant is believed to be absent from our discharges. Sulfite is believed to be fully oxidized in our discharges and any analytical result for the parameter is not believed to be representative.

Total Radium and Total Radium 226 – Non analyses were performed for Total Radium or total Radium 226. The amount of Total Radium and Total Radium 226 present in these outfalls would be less than or equal to the amount of Total Alpha and Total Beta radioactivity determined for each outfall.

Material Safety Data Sheets

ONDEO Nalco

MATERIAL SAFETY DATA SHEET

PRODUCT

PCL-713

EMERGENCY TELEPHONE NUMBER
(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : PCL-713

APPLICATION : WATER TREATMENT

CHEMICAL DESCRIPTION : Phosphonate, Phosphate, Polymer, Water

COMPANY IDENTIFICATION : ONDEO Nalco Company
ONDEO Nalco Center
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 0 / 1 FLAMMABILITY : 1 / 1 REACTIVITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Based on our hazard evaluation, none of the substances in this product are hazardous.

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

CAUTION
May cause irritation with prolonged contact.
Do not get in eyes, on skin, on clothing. Do not take internally. Wear suitable protective clothing. Keep container tightly closed. Flush affected area with water.
May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of phosphorus (POx) under fire conditions. May evolve oxides of nitrogen (NOx) and sulfur (SOx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
May cause irritation with prolonged contact.

SKIN CONTACT :
May cause irritation with prolonged contact.

INGESTION :
Not a likely route of exposure. No adverse effects expected.

INHALATION :
Not a likely route of exposure. No adverse effects expected.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

4. FIRST AID MEASURES

EYE CONTACT :
Flush affected area with water. If symptoms develop, seek medical advice.

SKIN CONTACT :
Flush affected area with water. If symptoms develop, seek medical advice.

INGESTION :
Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If symptoms develop, seek medical advice.

INHALATION :
Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

NOTE TO PHYSICIAN :
Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : > 200 °F / > 93 °C ( )

EXTINGUISHING MEDIA :
This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :
May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of phosphorus (POx) under fire conditions. May evolve oxides of nitrogen (NOx) and sulfur (SOx) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Do not touch spilled material. Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :
Avoid eye and skin contact. Do not take internally. Ensure all containers are labelled. Keep the containers closed when not in use.

STORAGE CONDITIONS :
Store the containers tightly closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
This product does not contain any substance that has an established exposure limit.

ENGINEERING MEASURES :
General ventilation is recommended.

RESPIRATORY PROTECTION :
Respiratory protection is not normally needed.

HAND PROTECTION :
Neoprene gloves, Nitrile gloves, Butyl gloves, PVC gloves

SKIN PROTECTION :
Wear standard protective clothing.

EYE PROTECTION :
Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Clear Light yellow
ODOR	None

SPECIFIC GRAVITY	1.19 - 1.23 @ 77 °F / 25 °C
DENSITY	9.9 - 10.2 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	5.5 - 6.5
VAPOR PRESSURE	Same as water

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Freezing temperatures.

MATERIALS TO AVOID :
Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon, Oxides of sulfur, Oxides of nitrogen, Oxides of phosphorus

11. TOXICOLOGICAL INFORMATION

No toxicity studies have been conducted on this product.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the active components.

MOBILITY AND BIOACCUMULATION POTENTIAL
High phosphate levels in surface water can cause eutrophication with subsequent algal blooms and oxygen depletion.

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are:

LAND TRANSPORT :

Proper Shipping Name :	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Name(s) :	SODIUM PHOSPHATE, TRIBASIC
UN/ID No :	UN 3082
Hazard Class - Primary :	9
Packing Group :	III
Flash Point :	> 93 °C / > 200 °F
DOT Reportable Quantity (per package) :	30,480 lbs
DOT RQ Component :	SODIUM PHOSPHATE, TRIBASIC

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Name(s) :	SODIUM PHOSPHATE, TRIBASIC
UN/ID No :	UN 3082
Hazard Class - Primary :	9
Packing Group :	III

IATA Cargo Packing Instructions :	914
IATA Cargo Aircraft Limit :	NO LIMIT (Max net quantity per package)

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, none of the substances in this product are hazardous.

CERCLA/SUPERFUND, 40 CFR 117, 302 :
This product contains the following Reportable Quantity (RQ) Substance. Also listed is the RQ for the product. If a reportable quantity of product is released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D.C. (1-800-424-8802).

RQ Substance	RQ
Sodium Phosphate, Tribasic	30,480 lbs

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The chemical substances in this product are on the TSCA 8(b) Inventory (40 CFR 710).

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act :
When use situations necessitate compliance with FDA regulations, this product is acceptable under : 21 CFR 173.310 Boiler Water Additives, 21 CFR 176.170 Components of paper and paperboard in contact with aqueous and fatty foods and 21 CFR 176.180 Components of paper and paperboard in contact with dry foods., 21 CFR 176.180 Components of paper and paperboard in contact with dry foods

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR / formerly Sec. 311 :
None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
None of the substances are specifically listed in the regulation.

CALIFORNIA PROPOSITION 65 :
This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS :
None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :
The following substances are disclosed for compliance with State Right to Know Laws:

Sodium Phosphate, Tribasic	7601-54-9
Sodium Tripolyphosphate	7758-29-4

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
Not considered a WHMIS controlled product.

16. OTHER INFORMATION

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, Co.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO

Prepared By : Product Safety Department
Date issued : 02/11/2000
Replaces : 01/04/1995

ONDEO Nalco

MATERIAL SAFETY DATA SHEET

PRODUCT

H-130 MICROBIOCIDE

EMERGENCY TELEPHONE NUMBER(S)
(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME :	**H-130 MICROBIOCIDE**
APPLICATION :	BIOCIDE TWIN-CHAIN QUATERNARY AMMONIUM COMPOUND CONCENTRATE
COMPANY IDENTIFICATION :	Ondeo Nalco Company Ondeo Nalco Center Naperville, Illinois 60563-1198
EMERGENCY TELEPHONE NUMBER(S) :	(800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 3 / 3 FLAMMABILITY : 2 / 2 REACTIVITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Didecyl-Dimethyl-Ammonium chloride	7173-51-5	50.0
Ethanol	64-17-5	10.0

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

DANGER
Combustible. May cause tissue damage. Toxic to aquatic organisms. KEEP OUT OF REACH OF CHILDREN. Corrosive to eyes and skin. Do not get in eyes, on skin or clothing. May be fatal if swallowed or inhaled. Do not swallow. Do not breathe vapour or mist.
Do not get in eyes, on skin, on clothing. Do not take internally. Keep away from heat. Keep away from sources of ignition - No smoking. Use with adequate ventilation. Keep container tightly closed and in a well-ventilated place. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful if inhaled. Avoid breathing vapor. Remove contaminated clothing and wash before reuse. Harmful or fatal if swallowed. Avoid contamination of food.
Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots.
Combustible Liquid; may form combustible mixtures at or above the flash point. Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, or expose containers to flame or other sources of ignition. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. May evolve HCl under fire conditions. May evolve ammonia (NH4) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
May cause severe irritation or tissue damage depending on the length of exposure and the type of first aid administered.

SKIN CONTACT :
May cause severe irritation or tissue damage depending on the length of exposure and the type of first aid administered.

INGESTION :
May cause burns to mouth and gastro-intestinal tract.

INHALATION :
Repeated or prolonged exposure may irritate the respiratory tract. Can cause central nervous system depression.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

4. FIRST AID MEASURES

For eye contact, flush eyes with large amounts of running water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eye and lids with water. If physician is not available, flush for additional 15 minutes. Obtain immediate medical attention.

IF ON SKIN: Immediately flush contact areas with copious quantities of water for at least 15 minutes. Remove and wash contaminated clothing before reuse.

IF SWALLOWED: Promptly drink a large quantity of milk, beaten egg white or gelatin solution. If these are not available, drink large quantitiesof water. Avoid alcohol. Call a physician immediately. NEVER give an unconscious person anything by mouth.

INHALATION: Remove to fresh air. If breathing is difficult, administer oxygen. If symptoms persist, call a physician.

NOTE TO PHYSICIAN :
Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : 109 °F / 43 °C (SETAFLASH)

EXTINGUISHING MEDIA :
Foam, Carbon dioxide, Dry powder, Other extinguishing agent suitable for Class B fires, For large fires, use water spray or fog, thoroughly drenching the burning material.
Water mist may be used to cool closed containers.

FIRE AND EXPLOSION HAZARD :
Combustible Liquid; may form combustible mixtures at or above the flash point. Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, or expose containers to flame or other sources of ignition. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. May evolve HCl under fire conditions. May evolve ammonia (NH4) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Notify appropriate government, occupational health and safety and environmental authorities. Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Eliminate ignition sources. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection).

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
This product is toxic to fish and other water organisms. Do not discharge directly into lakes, ponds, streams, waterways or public water supplies.

7. HANDLING AND STORAGE

HANDLING :
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Avoid release of vapors or mists into workplace air. Keep the containers closed when not in use. Do not use in locations where vapor is likely to travel to welding flames or arcs or to other hot surfaces. Vapors are much heavier than air, this can result in uneven distribution. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

STORAGE CONDITIONS :
Store away from heat and sources of ignition. Connections must be grounded to avoid electrical charges. Store the containers tightly closed. Store separately from oxidizers. Store in suitable labelled containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

ACGIH/TLV :
Substance(s)
Ethanol TWA: 1,000 ppm , 1,880 mg/m3

OSHA/PEL :
Substance(s)
Ethanol TWA: 1,000 ppm , 1,900 mg/m3

ENGINEERING MEASURES :
Use general ventilation with local exhaust ventilation.

RESPIRATORY PROTECTION :
If significant mists, vapors or aerosols are generated an approved respirator is recommended. An organic vapor cartridge with dust/mist prefilter may be used. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

HAND PROTECTION :
Neoprene gloves, Viton# gloves

SKIN PROTECTION :
Wear impervious apron and boots. A full slicker suit is recommended if gross exposure is possible.

EYE PROTECTION :
Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Eye wash station and safety shower are necessary. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Use good work and personal hygiene practices to avoid exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE Liquid

APPEARANCE Light yellow

ODOR	Alcoholic
SPECIFIC GRAVITY	0.93 @ 77 °F / 25 °C
DENSITY	7.7 lb/gal
SOLUBILITY IN WATER	Complete
pH (1 %)	7.0 - 8.0
VISCOSITY	< 100 cps @ 77 °F / 25 °C
FREEZING POINT	12 °F /
VAPOR PRESSURE	30 mm Hg @ 77 °F / 25 °C
VOC CONTENT	10 %

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Heat and sources of ignition including static discharges.

MATERIALS TO AVOID :
Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Contact with reducing agents (e.g. hydrazine, sulfites, sulfide, aluminum or magnesium dust) may generate heat, fires, explosions and toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon, Oxides of nitrogen, HCl

11. TOXICOLOGICAL INFORMATION

The following results are for the product.

ACUTE DERMAL TOXICITY :

Species	LD50	Test Descriptor
Rabbit	> 4 g/kg	Product

Rating : Non-Hazardous

SENSITIZATION :
This product is not expected to be a sensitizer.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Rainbow Trout	96 hrs	2.2 mg/l	
Bluegill Sunfish	96 hrs	0.92 mg/l	

Rating : Very toxic

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	0.19 mg/l		
Mysid Shrimp (A. bahia)	96 hrs	0.14 mg/l		

Rating : Very toxic

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste: D001

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are:

LAND TRANSPORT :

Proper Shipping Name :	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Technical Name(s) :	DIDECYLDIMETHYLAMMONIUM CHLORIDE, ETHANOL
UN/ID No :	UN 2920
Hazard Class - Primary :	8
Hazard Class - Secondary :	3
Packing Group :	II

Flash Point :	43 °C / 109 °F
DOT Reportable Quantity (per package) :	1,000 lbs
DOT RQ Component :	ETHANOL

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Technical Name(s) :	DIDECYLDIMETHYLAMMONIUM CHLORIDE, ETHANOL
UN/ID No :	UN 2920
Hazard Class - Primary :	8
Hazard Class - Secondary :	3
Packing Group :	II
IATA Cargo Packing Instructions :	
IATA Cargo Aircraft Limit :	(Max net quantity per package)

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Technical Name(s) :	DIDECYLDIMETHYLAMMONIUM CHLORIDE, ETHANOL
UN/ID No :	UN 2920
Hazard Class - Primary :	8
Hazard Class - Secondary :	3
Packing Group :	II

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Didecyl-Dimethyl-Ammonium chloride : Corrosive
Ethanol : Flammable

CERCLA/SUPERFUND, 40 CFR 117, 302 :
This product contains the following Reportable Quantity (RQ) Substance. Also listed is the RQ for the product. If a reportable quantity of product is released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D.C. (1-800-424-8802).

RQ Substance	RQ
Ethanol	1,000 lbs

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

X	Immediate (Acute) Health Hazard
-	Delayed (Chronic) Health Hazard
X	Fire Hazard
-	Sudden Release of Pressure Hazard
-	Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR / formerly Sec. 311 :
None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
This product contains the following substances listed in the regulation:

Substance(s)	Citations
Ethanol :	Sec. 111

CALIFORNIA PROPOSITION 65 :
This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS :
None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :
This product is a registered biocide and is exempt from State Right to Know Labelling Laws.

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
Pesticide controlled products are not regulated under WHMIS.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

16. OTHER INFORMATION

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An Integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department
Date Issued : 07/10/2000
Replaces : 07/08/1999

CALGON CORPORATION

PRODUCT BULLETIN

Rev. 2/98

Bulletin No. T-001

CALGON EVAC MOLLUSK CONTROL TREATMENT

DESCRIPTION:

Calgon EVAC molluscicide is FIFRA registered for use in once through and recirculating cooling systems. Calgon EVAC is an amine salt of endothall that effectively controls mollusk infestations in plant distribution systems when used at recommended levels. Calgon EVAC is sold as part of a turn key application service coordinated by Calgon technical representatives.

ADVANTAGES:

- Treatment effectiveness in as little as 8 to 24 hours per application which provides flexibility in the approach to any situation.
- No need for deactivation with clay or any other compound.
- No concern over additional suspended solids in the discharge or associated equipment reliability and expense.
- Excellent environmental fate characteristics
- Calgon EVAC has a half life of 19 to 72 hours versus 28 days for other products.
- Calgon EVAC is more environmentally acceptable helping to minimize and concern over ultimate degradation in receiving waters.

ANALYTICAL TEST METHODS

A test method of measuring both the endothall salt and the amine portion of the product is available in low and high ranges. The high range tests are used to confirm product levels in the distribution systen being treated. The low range test is for accurate measurement in discharge waters.

Consult your Calgon field engineer for the specific procedure applicable to your need.

CALGON CORPORATION

P.O. Box 1346
Pittsburgh, PA 15230-1346
Phone-(412)494-8000
CHEMTREC® 1-800-424-9300

MATERIAL SAFETY DATA SHEET

Section 1. PRODUCT IDENTIFICATION

PRODUCT NAME: EVAC

CHEMICAL DESCRIPTION: Dicarboxylic acid, monoamine salt
PRODUCT CLASS: Biocide
MSDS CODE: 0K41

Section 2. INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	% by Weight	OSHA PEL	ACGIH TLV
Endothall, mono(N,N-dimethylcocoamine) salt	66330-88-9	53	None established	None established

Section 3. HAZARDS IDENTIFICATION

********** EMERGENCY OVERVIEW **********

Yellowish brown liquid with very faint odor.
DANGER!
May cause severe eye damage.
May cause severe skin irritation.
May cause severe digestive tract burns if swallowed.
May be harmful if inhaled or if absorbed through skin.

****

PRIMARY ROUTES OF ENTRY: Eye and skin contact, skin absorption, inhalation, ingestion

TARGET ORGANS: Eye, skin, mucous membranes

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: No data available.

POTENTIAL HEALTH EFFECTS:

EYE CONTACT: This product may cause severe irritation and damage upon contact with the eye.

Continued on Page 2

SKIN CONTACT: This product is expected to produce severe irritation upon contact with the skin. This product m; be harmful if absorbed through the skin.

INGESTION: This product is toxic by OSHA definition. Ingestion of this product may cause severe irritation or burns of the mucous membranes of the mouth, throat, esophagus and stomach.

INHALATION: Lung congestion and hemorrhage upon heavy overexposure.

SUBCHRONIC, CHRONIC:
See Section 11 for additional information.

CARCINOGENICITY:
NTP:
No ingredients listed in this section
IARC:
No ingredients listed in this section
OSHA:
No ingredients listed in this section

Section 4. FIRST AID MEASURES

EYE CONTACT: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical ai immediately.

SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Seek medical aid immediately. Wash clothing before reuse.

INGESTION: If swallowed, do NOT induce vomiting. Give one or two glasses of water. Seek medical aid immediatel Never give anything by mouth to an unconscious person.
NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures again circulatory shock, respiratory depression and convulsions may be needed.

INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical aid.

Section 5. FIRE-FIGHTING MEASURES

FLASH POINT: 230°F (TCC)
This product is not by definition a "flammable liquid" or a "combustible liquid".

LOWER FLAMMABLE LIMIT: Not available UPPER FLAMMABLE LIMIT: Not available

AUTO-IGNITION TEMPERATURE: Not available

EXTINGUISHING MEDIA: Water, CO_2, dry chemical, foam, earth or sand.

FIRE-FIGHTING INSTRUCTIONS: Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential.
Use water to keep fire-exposed containers cool.

Continued on Page 3

FIRE & EXPLOSION HAZARDS: Product emits toxic gases under fire conditions.

DECOMPOSITION PRODUCTS: Elevated temperatures convert endothall to anhydride, a strong vesicant, causing blistering of eyes, mucous membranes, and skin.

NFPA RATINGS: Health - 3 Flammability - 1 Reactivity - 0 Special Hazard - None

Hazard rating scale: 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

Section 6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Wearing appropriate personal protective equipment, contain spill, collect onto inert absorbent and place into suitable container.

Section 7. HANDLING AND STORAGE

HANDLING: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Do not get in eyes, on skin or clothing.
Do not breathe vapor or mist.
Use with adequate ventilation.
Remove contaminated clothing and wash before reuse.
Wash thoroughly after handling. Keep container closed when not in use.

STORAGE: Do not contaminate water, food, or feed by storage.
Store in original container.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT:

EYE/FACE PROTECTION: Chemical splash goggles and face shield
SKIN PROTECTION: Chemical resistant gloves and protective clothing
Neoprene, butyl rubber, natural rubber, and polyethylene type gloves are acceptable.
RESPIRATORY PROTECTION: If airborne concentrations become irritating, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements (29 CFR 1910.134).

ENGINEERING CONTROLS: Local exhaust ventilation may be required in addition to general room ventilation to maintain airborne concentrations below irritation levels.

WORK PRACTICES: Eye wash station and safety shower should be accessible in the immediate area of use. Protective equipment should be cleaned thoroughly after each use.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: > 212°F SOLUBILITY IN WATER: Soluble

Continued on Page 4

VAPOR PRESSURE: Not available

SPECIFIC GRAVITY: 1.044 @ 25°C

VAPOR DENSITY (air = 1): Not available

pH: Not available

%VOLATILE BY WEIGHT: 47

FREEZING POINT: < 5°F

APPEARANCE AND ODOR: Yellowish brown liquid with very faint odor.

Section 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Avoid high temperatures.

INCOMPATIBILITY: Water reactive compounds

DECOMPOSITION PRODUCTS: Elevated temperatures convert endothall to anhydride, a strong vesicant, causing blistering of eyes, mucous membranes, and skin.

Section 11. TOXICOLOGICAL INFORMATION

ON PRODUCT:

Product Oral LD_{50} (rat): 233.4 mg/kg
Product Dermal LD_{50} (rabbit): 480.9 mg/kg
Product Inhalation LC_{50} (rat): 0.70 mg/L/4H
Skin sensitization: The product was found to be non-sensitizing in guinea pigs.
Toxicological data on chronic effects: Based on a one year feeding study of disodium endothall to dogs, the NOEL is considered to be 150 ppm. Mice were dosed with disodium endothall in an 18-month oncogenicity study. The NOE for this study is considered to be 100 ppm. There was no indication of carcinogenic effects.

Section 12. ECOLOGICAL INFORMATION

ON PRODUCT:

Environmental data:
This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, stre: ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Dischar Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment authority. For guidance contact your State Water Board or Regional Office of the EPA.

Section 13. DISPOSAL CONSIDERATIONS

RCRA STATUS: The EPA Hazardous Waste Number for Endothall is P088.

Continued on Page 5

DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Section 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:
Class/Division: 6.1
Proper Shipping Name: Pesticides, liquid, toxic, n.o.s. (endothall)
Label: Keep away from food (ground)
Toxic (air)
Packing Group: III
ID Number: UN 2902

Section 15. REGULATORY INFORMATION

OSHA Hazard Communication Status: Hazardous
TSCA: Pesticides are exempted by TSCA (the Toxic Substances Control Act), under Section 3(2)(a)ii, from the provision of the Act.
CERCLA reportable quantity of EPA hazardous substances in product:

Chemical Name	RQ
Endothall	1000 lb

Product RQ: 4280 lb (Notify EPA of product spills exceeding this amount.)

SARA TITLE III:

Section 302 Extremely Hazardous Substances:

Chemical Name	CAS #	RQ	TPQ

There are no SARA 302 Extremely Hazardous Substances in this product.

Section 311 and 312 Health and Physical Hazards:

Immediate	Delayed	Fire	Pressure	Reactivit
[yes]	[no]	[no]	[no]	[no]

Section 313 Toxic Chemicals:

Chemical Name	CAS #	% by Weight

There are no reportable SARA 313 Toxic Chemicals in this product.

Continued on Page 6

Section 16. OTHER INFORMATION

HMIS RATINGS: Health - 3 Flammability - 1 Reactivity - 0
Personal Protective Equipment - X (to be specified by user depending on use conditions)

Hazard rating scale: 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

MSDS REVISION SUMMARY: Not applicable

While this information and recommendations set forth herein are believed to be accurate as of the date hereof, CALGON CORPORATION MAKES NO WARRANTY WITH RESPECT HERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

PREPARED BY: P.J. Maloney

CALGON CORPORATION

P.O. Box 1346
Pittsburgh, PA 15230-1346
Phone--(412)494-8000

MATERIAL SAFETY DATA SHEET

Section 1. PRODUCT IDENTIFICATION

PRODUCT NAME: H-940

CHEMICAL DESCRIPTION: Aqueous solution of alkali metal halide
PRODUCT CLASS: Biocide
MSDS CODE: 0A48-11-04-93

Section 2. INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	% by Weight	OSHA PEL	ACGIH TLV
Sodium bromide	7647-15-6	40	None established	None established

Section 3.. HAZARDS IDENTIFICATION

********** EMERGENCY OVERVIEW **********

WARNING!
May cause eye and skin irritation.

****

PRIMARY ROUTES OF ENTRY: Eye and skin contact, inhalation of mist

TARGET ORGANS: Eye, skin

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing skin disorders.

POTENTIAL HEALTH EFFECTS:

EYE CONTACT: This product may produce irritation upon contact with the eye.

SKIN CONTACT: This solution was found to be non-irritating to the skin in animal tests. It is not expected to be absorbed in harmful amounts. Prolonged or repeated skin exposure may result in skin irritation and dermatitis. Failure to decontaminate could result in superficial burns.

INGESTION: This product would be regarded as practically non-toxic if swallowed. Excessive ingestion of sodium bromide may produce rashes, depression, emaciation and, in severe cases, psychosis and mental deterioration.

Continued on Page 2

DECOMPOSITION PRODUCTS: In fires fueled by other material, hydrogen bromide or bromine may be released.

NFPA RATINGS: Health = 2 Flammability = 0 Reactivity = 0 Special Hazard = None

Hazard rating scale: 0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

Section 6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Wearing appropriate personal protective equipment, contain spill, collect onto inert absorbent and place into suitable container.

Section 7. HANDLING AND STORAGE

HANDLING: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Avoid contact with eyes, skin and clothing.
Avoid breathing mist.
Use with adequate ventilation.
Wash thoroughly after handling. Keep container closed when not in use.

STORAGE: Store in a cool, dry, well-ventilated location.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT:

EYE/FACE PROTECTION: Chemical splash goggles
SKIN PROTECTION: Chemical resistant gloves
RESPIRATORY PROTECTION: When misting may occur in the work area, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements (29 CFR 1910.134).

ENGINEERING CONTROLS: Use local exhaust ventilation where mist or spray may be generated.

WORK PRACTICES: An eye wash station should be accessible in the immediate area of use.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 217 -219°F (103 -104°C)

SOLUBILITY IN WATER: Complete

VAPOR PRESSURE: Similar to water

SPECIFIC GRAVITY: 1.43 @ 25°C

VAPOR DENSITY (air=1): Similar to water

pH: 5.5 - 9.0 @ 25°C

%VOLATILE BY WEIGHT: 60 (water)

FREEZING POINT: Not available

APPEARANCE AND ODOR: Clear, colorless liquid with no odor.

Continued on Page 4

Section 15. REGULATORY INFORMATION

OSHA Hazard Communication Status: Hazardous
TSCA: Pesticides are exempted by TSCA (the Toxic Substances Control Act), under Section 3(2)(a)ii, from the provisions of the Act.
CERCLA reportable quantity of EPA hazardous substances in product:

Chemical Name	RQ
No ingredients of this product have CERCLA reportable quantities.	

Product RQ: Not applicable (Notify EPA of product spills exceeding this amount.)

SARA TITLE III:

Section 302 Extremely Hazardous Substances:

Chemical Name	CAS #	RQ	TPQ
There are no SARA 302 Extremely Hazardous Substances in this product.			

Section 311 and 312 Health and Physical Hazards:

Immediate	Delayed	Fire	Pressure	Reactivity
[yes]	[yes]	[no]	[no]	[no]

Section 313 Toxic Chemicals:

Chemical Name	CAS #	% by Weight
There are no reportable SARA 313 Toxic Chemicals in this product.		

Section 16. OTHER INFORMATION

HMIS RATINGS: Health = 2* Flammability = 0 Reactivity = 0
Personal Protective Equipment = X (to be specified by user depending on use conditions)

*There are potential chronic health effects to consider.

Hazard rating scale: 0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

MSDS REVISION SUMMARY: Reason for reissue: Update to new format.

While this information and recommendations set forth herein are believed to be accurate as of the date hereof, CALGON CORPORATION MAKES NO WARRANTY WITH RESPECT HERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

PREPARED BY: P.J. Maloney

ONDEO Nalco

MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 2894

EMERGENCY TELEPHONE NUMBER
(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : NALCO 2894

APPLICATION : ALGAECIDE

COMPANY IDENTIFICATION : ONDEO Nalco Company
ONDEO Nalco Center
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 3 / 3 FLAMMABILITY : 1 / 1 REACTIVITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
4,5-DICHLORO-2-OCTYL-3-ISOTHIAZOLONE	64359-81-5	1.0 - 5.0
Benzyl Alcohol	100-51-6	5.0 - 10.0
Surfactant mixture		10.0 - 30.0

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

DANGER
CORROSIVE. CAUSES IRREVERSIBLE EYE DAMAGE. HARMFUL IF ABSORBED THROUGH THE SKIN. AVOID CONTACT WITH SKIN OR CLOTHING. HARMFUL IF INHALED. MAY CAUSE ALLERGIC SKIN REACTION.
This product is a dermal sensitizer. Do not get in eyes, on skin, or on clothing. Wear goggles and face shield, protective clothing and rubber gloves. Avoid breathing vapor or spray mist. Keep container closed. Use with adequate ventilation. Do not take internally. Remove contaminated clothing and wash before reuse. Wash thoroughly with soap and water after handling.
Not flammable or combustible. May evolve oxides of carbon (COx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
Corrosive. Will cause eye burns and permanent tissue damage.

SKIN CONTACT :
May cause severe irritation or tissue damage depending on the length of exposure and the type of first aid administered.

INGESTION :
Not a likely route of exposure. Corrosive; causes chemical burns to the mouth, throat and stomach.

INHALATION :
Not a likely route of exposure. Irritating, in high concentrations, to the eyes, nose, throat and lungs.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

4. FIRST AID MEASURES

EYE CONTACT :
PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT. Immediately flush eye with water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

SKIN CONTACT :
Immediately flush with plenty of water for at least 15 minutes. For a large splash, flood body under a shower. Remove contaminated clothing. Wash off affected area immediately with plenty of water. Get immediate medical attention. Contaminated clothing, shoes, and leather goods must be discarded or cleaned before re-use.

INGESTION :
DO NOT INDUCE VOMITING. If conscious, washout mouth and give water to drink. Get immediate medical attention.

INHALATION :
Remove to fresh air, treat symptomatically. Get medical attention.

IF IN EYES: Hold eyelids open and flush with steady, gentle stream of water for 15 minutes. Get medical attention.

IF ON SKIN: Wash with plenty of soap and water. Get attention if symptoms persist.

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention.

IF SWALLOWED: Call a physician or Poison Control Center. Do not induce vomiting Drink promptly a large quantity of milk, egg whites, gelatin solution, or if these are not available, drink large quantities of water. Avoid alcohol.

NOTE TO PHYSICIAN :
Probable mucosal damage may contraindicate the use of gastric lavage. Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : 311 °F / 155 °C (SETAFLASH)

EXTINGUISHING MEDIA :
Not expected to burn. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :
Not flammable or combustible. May evolve oxides of carbon (COx) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Avoid generating aerosols and mists. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

STORAGE CONDITIONS :
Store the containers tightly closed. Store separately from oxidizers. Store in suitable labelled containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
Available exposure limits for the substance(s) are shown below.

ENGINEERING MEASURES :
General ventilation is recommended. Use local exhaust ventilation if necessary to control airborne mist and vapor.

RESPIRATORY PROTECTION :
If significant mists, vapors or aerosols are generated an approved respirator is recommended. A dust, mist, fume cartridge may be used. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

HAND PROTECTION :
Nitrile gloves, Neoprene gloves, PVC gloves, Rubber gloves, Butyl gloves

SKIN PROTECTION :
Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots. A full slicker suit is recommended if gross exposure is possible.

EYE PROTECTION :
Wear a face shield with chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Eye wash station and safety shower are necessary. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

HUMAN EXPOSURE CHARACTERIZATION :
Based on our recommended product application and personal protective equipment, the potential human exposure is: Moderate

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Clear Light yellow
ODOR	Mild

SPECIFIC GRAVITY	1.02 @ 77 °F / 25 °C
DENSITY	8.48 lb/gal
SOLUBILITY IN WATER	Complete
pH ()	4 - 6.5
VISCOSITY	60 cps @ 70 °F / 21.1 °C
BOILING POINT	212 °F / 100 °C

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Freezing temperatures.

MATERIALS TO AVOID :
Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon

11. TOXICOLOGICAL INFORMATION

No toxicity studies have been conducted on this product.

ACUTE ORAL TOXICITY :

Species	LD50	Tested Substance
Rat	> 5,000 mg/kg	

ACUTE DERMAL TOXICITY :

Species	LD50	Tested Substance
Rabbit	> 2,000 mg/kg	

ACUTE INHALATION TOXICITY :

Species	LC50	Tested Substance
Rat	1.3 mg/l ()	

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION :
Based on our hazard characterization, the potential human hazard is: High

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

No toxicity studies have been conducted on this product.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Tested Substance
Bluegill Sunfish	96 hrs	14 mg/l	
Rainbow Trout	96 hrs	2.7 mg/l	

Rating : Toxic

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: High
Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Moderate

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility. Consult local, state, and federal regulations for specific requirements.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are:

LAND TRANSPORT :

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) :	ISOTHIAZOLINONE MICROBIOCIDE
UN/ID No :	UN 3265
Hazard Class - Primary :	8
Packing Group :	III
Flash Point :	155 °C / 311 °F

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) :	ISOTHIAZOLINONE MICROBIOCIDE
UN/ID No :	UN 3265
Hazard Class - Primary :	8
Packing Group :	III
IATA Cargo Packing Instructions :	820
IATA Cargo Aircraft Limit :	60 L (Max net quantity per package)

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) :	ISOTHIAZOLINONE MICROBIOCIDE
UN/ID No :	UN 3265
Hazard Class - Primary :	8
Packing Group :	III

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

4,5-DICHLORO-2-OCTYL-3-ISOTHIAZOLONE :
Benzyl Alcohol : Eye irritant
Surfactant mixture :

CERCLA/SUPERFUND, 40 CFR 117, 302 :
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

X	Immediate (Acute) Health Hazard
-	Delayed (Chronic) Health Hazard
-	Fire Hazard
-	Sudden Release of Pressure Hazard
-	Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The chemical substances in this product are on the TSCA 8(b) Inventory (40 CFR 710).

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR / formerly Sec. 311 :
None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
This product contains the following substances listed in the regulation:

Substance(s)	Citations
Benzyl Alcohol :	Sec. 111

CALIFORNIA PROPOSITION 65 :
This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS :
None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :
The following substances are disclosed for compliance with State Right to Know Laws:

Benzyl Alcohol	100-51-6

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
E - Corrosive Material

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
All substances in this product are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

16. OTHER INFORMATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Moderate

* The environmental risk is: Moderate

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, Co.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO

Prepared By : Product Safety Department
Date issued : 09/05/2001

1170 L/01

MATERIAL SAFETY DATA SHEET

6754-06-14-89

DATE October 30, 1991

CALGON CORPORATION

PRODUCT NAME TRC-256

SECTION I

MANUFACTURER'S NAME	Calgon Corporation	EMERGENCY TELEPHONE NO.	(412) 494-8000
ADDRESS	P. O. Box 1346, Pittsburgh, Pennsylvania 15230		
CHEMICAL NAME AND SYNONYMS	Molybdate Solution	FORMULA	Multicomponent Liquid

SECTION II HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENT (S)	CAS #	% BY WEIGHT	ORAL LD_{50}	DERMAL LD_{50}	TLV (Units) ACGIH	OSHA	OTHER
Chemical Name: Sodium Molybdate Dihydrate; Common Name:	7631-85-0	~30	2960 mg/kg	> 8.0 g/kg	* 5 mg/m³	* 5 mg/m³	N/A
Chemical Name: Sodium Tetraborate Pentahydrate; Common Name:	12179-04-3	1	2.4 g/kg	> 2.0 g/kg	1 mg/m³	10 mg/m³	N/A
Chemical Name: ; Common Name:							
Chemical Name: ; Common Name:							
Chemical Name: ; Common Name:							

*ACGIH TLV and OSHA PEL for soluble molybdenum compounds, as Mo.

SECTION III PHYSICAL DATA

BOILING POINT (°F)	> 212	SPECIFIC GRAVITY (H_2O=1)	1.25 - 1.29
VAPOR PRESSURE (mmHg)	Similar to Water	PERCENT VOLATILE BY VOLUME (%)	~70
VAPOR DENSITY (AIR=1)	Similar to Water	pH	7.2 - 7.8
SOLUBILITY IN WATER	Complete	OTHER	N/A

APPEARANCE AND ODOR Water-white clear liquid

N/A = Not applicable

While this information and recommendations set forth herein are believed to be accurate as of the date hereof, CALGON CORPORATION MAKES NO WARRANTY WITH RESPECT HERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	> 200°F; this product is not flammable or combustible.
EXTINGUISHING MEDIA	This product is not flammable or combustible.
SPECIAL FIRE FIGHTING PROCEDURES	Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential.
UNUSUAL FIRE AND EXPLOSION HAZARDS	None

SECTION V HEALTH HAZARD DATA

EFFECT OF OVEREXPOSURE

A. ACUTE

1. INGESTION	Based on the oral LD50s of the principal hazardous ingredients, this product is expected to be practically non-toxic if swallowed.
2. INHALATION	This product is not expected to present a potential inhalation hazard.
3. DERMAL EXPOSURE	
a. TOXIC	This product is not expected to produce systemic toxicity if it may be absorbed through the skin.
b. IRRITATION	This product is not expected to cause irritation upon contact with the skin.
c. SENSITIZATION	No information was available to suggest that this product may produce an allergic skin reaction.

4. EYE IRRITATION

This product may be expected to produce irritation upon contact with the eye.

B. SUBCHRONIC, CHRONIC, OTHER

No applicable information was found regarding any adverse health effects resulting from subchronic or chronic exposure to this product.

FIRST AID

A. EYE

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical aid.

B. SKIN

Not applicable

C. INGESTION

Not applicable

D. INHALATION

Not applicable

SECTION VI REACTIVITY DATA

STABILITY	STABLE	X	CONDITIONS TO AVOID	Unknown
	UNSTABLE			

INCOMPATABILITY (Materials to Avoid)

Strong oxidizers and reducers; for sodium tetraborate: elemental zirconium

HAZARDOUS DECOMPOSITION PRODUCTS

Unknown

SECTION VII SPILL OR LEAK PROCEDURES

REPORTABLE QUANTITIES (RQ) IN LBS OF EPA HAZARDOUS SUBSTANCES IN PRODUCT

1. N/A
2.
3.

NOTIFY EPA OF PRODUCT SPILLS EQUAL TO OR EXCEEDING N/A LBS.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Dispose of in accordance with local, state and federal regulations. Dike area to contain as much spilled material as possible. Remove any remaining material by absorbing on vermiculite or other suitable absorbing material and place in a sealed container for disposal.

WASTE DISPOSAL METHOD

Dispose of in an approved landfill in accordance with local, state and federal regulations. This product as sold would not be considered a RCRA hazardous waste as defined in 40 CFR Part 261.22.

SECTION VIII HANDLING/STORAGE

PROTECTIVE GLOVES	EYE PROTECTION
Not required	Chemical splash goggles

OTHER PROTECTIVE CLOTHING: Not required

RESPIRATORY PROTECTION

Not required, however if the recommended ACGIH TLV or OSHA PEL concentrations for sodium molybdate or sodium tetraborate are exceeded, then a NIOSH/MSHA approved respirator should be used. (See Section II)

VENTILATION	LOCAL EXHAUST	OTHER
Normal	Not required	Use only in well-ventilated areas that will maintain air levels below limits established by local, state and federal regulations.
	MECHANICAL (General): Not required	

STORAGE & HANDLING

WARNING!

May cause eye irritation.
Avoid contact with eyes.
Wear chemical splash goggles.
Wash thoroughly after handling.
Keep container closed when not in use.
Use only in well-ventilated areas that will maintain air levels below limits established by local, state and federal regulations.

OTHER PRECAUTIONS

None

N/A = Not applicable

Page 4 of 4 PREPARED BY Brian T. Laplante TRC-256 10/30/91

TRC-256

SECTION 313 TOXIC CHEMICAL	CAS NO.	% BY WT.
Sodium Molybdate	7631-95-0	30.00

MATERIAL SAFETY DATA SHEET

PRODUCT

ACTI-BROM® 1318

EMERGENCY TELEPHONE NUMBER(S)
(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : ACTI-BROM® 1318

APPLICATION : BIOCIDE

COMPANY IDENTIFICATION : Ondeo Nalco Company
Ondeo Nalco Center
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 1 / 1 FLAMMABILITY : 0 / 0 INSTABILITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Sodium Bromide	7647-15-6	30.0 - 60.0

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING
Causes moderate eye irritation.
Avoid contact with eyes, skin and clothing. Wash with soap and water after handling. Remove contaminated clothing and wash before reuse.
May evolve hydrogen bromide and bromine under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
Can cause mild to moderate irritation.

SKIN CONTACT :
May cause irritation with prolonged contact.

INGESTION :
Not a likely route of exposure. No adverse effects expected.

INHALATION :
Not a likely route of exposure. Aerosols or product mist may irritate the upper respiratory tract.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

4. FIRST AID MEASURES

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration, preferably, mouth-to-mouth. Get medical attention.^

5. FIRE FIGHTING MEASURES

FLASH POINT : None

EXTINGUISHING MEDIA :
Not expected to burn. Keep containers cool by spraying with water. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :
May evolve hydrogen bromide and bromine under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Stop or reduce any leaks if it is

safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters, unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

7. HANDLING AND STORAGE

HANDLING :
Avoid eye and skin contact. Do not take internally. Do not get in eyes, on skin, on clothing. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labelled. Keep the containers closed when not in use. Use with adequate ventilation.

STORAGE CONDITIONS :
Store the containers tightly closed. Store in suitable labelled containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
This product does not contain any substance that has an established exposure limit.

ENGINEERING MEASURES :
General ventilation is recommended.

RESPIRATORY PROTECTION :
Respiratory protection is not normally needed.

HAND PROTECTION :
Neoprene gloves, Nitrile gloves, Butyl gloves, PVC gloves

SKIN PROTECTION :
Wear standard protective clothing.

EYE PROTECTION :
Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS :
If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Keep an eye wash fountain available. Keep a safety shower available.

HUMAN EXPOSURE CHARACTERIZATION :
Based on our recommended product application and personal protective equipment, the potential human exposure is: Moderate

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Colorless
ODOR	None
SPECIFIC GRAVITY	1.45 @ 77 °F / 25 °C
DENSITY	12.1 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	7.9
FREEZING POINT	7 °F / -14 °C
BOILING POINT	218 °F / 103.5 °C
VAPOR PRESSURE	5.6 mm Hg @ 68 °F / 20 °C
VOC CONTENT	0.00 %

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Freezing temperatures.

MATERIALS TO AVOID :
Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: None known

11. TOXICOLOGICAL INFORMATION

The following results are for the product.

ACUTE ORAL TOXICITY :

Species	LD50	Test Descriptor
Rat	> 5,000 mg/kg	Product

Rating : Non-Hazardous

ACUTE DERMAL TOXICITY :

Species	LD50	Test Descriptor
Rabbit	> 2,000 mg/kg	Product

Rating : Non-Hazardous

PRIMARY SKIN IRRITATION :

Draize Score	Test Descriptor
0.4 / 8.0	Product

Rating : Essentially non-irritating

PRIMARY EYE IRRITATION :

Draize Score	Test Descriptor
10.8 / 110.0	Product

Rating : Moderately irritating

SENSITIZATION :
This product is not expected to be a sensitizer.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION :
Based on our hazard characterization, the potential human hazard is: Low

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product. The following results are for the hypobromous acid (as Br2) generated from sodium bromide and hypochlorite.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Fathead Minnow	96 hrs	> 9,999 mg/l	Active Substance (Sodium Bromide)
Guppy	96 hrs	225 mg/l	Active Substance (Sodium Bromide)
Bluegill Sunfish	96 hrs	0.52 mg/l	HOBr (Generated from NaBr) (Sodium Bromide)
Rainbow Trout	96 hrs	0.23 mg/l	HOBr (Generated from NaBr)
Sheepshead Minnow	96 hrs	0.19 mg/l	HOBr (Generated from NaBr)

Rating : Essentially non-toxic

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	7,900 mg/l		Active Substance
Daphnia magna	48 hrs	0.71 mg/l		HOBr (Generated from NaBr) (Sodium Bromide)
American Oyster	96 hrs	0.54 mg/l		HOBr (Generated from NaBr)
Mysid Shrimp (Mysidopsis bahia)	96 hrs	0.17 mg/l		HOBr (Generated from NaBr)

Rating : Essentially non-toxic

PERSISTENCY AND DEGRADATION :

Biological Oxygen Demand (BOD) : This material is an oxidizing biocide and is not expected to persist in the environment.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Low
Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Moderate

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

DO NOT REUSE EMPTY CONTAINER. Triple rinse the container (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incinerate. Burn only if allowed by state and local authorities. If burned, stay out of smoke.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

AIR TRANSPORT (ICAO/IATA) : ——

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Sodium Bromide : Eye irritant

CERCLA/SUPERFUND, 40 CFR 117, 302 :
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following indicated EPA hazard categories:

X	Immediate (Acute) Health Hazard
-	Delayed (Chronic) Health Hazard
-	Fire Hazard
-	Sudden Release of Pressure Hazard
-	Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
This product is exempted under TSCA and regulated under FIFRA. The inerts are on the Inventory List.

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act :
When use situations necessitate compliance with FDA regulations, this product is acceptable under : 21 CFR 176.170 Components of paper and paperboard in contact with aqueous and fatty foods and 21 CFR 176.180 Components of paper and paperboard in contact with dry foods.

This product may be added to pulp and papermill process water systems in plants where paper or paperboard destined for food contact purposes is manufactured as long as the bromide concentration in the water is no greater than 22 ppm.

FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (FIFRA) :
EPA Reg. No. 5185-467-1706
In all cases follow instructions on the product label.

This product has been certified as KOSHER/PAREVE for year-round use INCLUDING THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :
None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
None of the substances are specifically listed in the regulation.

CALIFORNIA PROPOSITION 65 :
This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS :
None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :
This product is a registered biocide and is exempt from State Right to Know Labelling Laws.

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
Pesticide controlled products are not regulated under WHMIS.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

INTERNATIONAL CHEMICAL CONTROL LAWS

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS) and are listed on the Australian Inventory of Chemical Substances (AICS).

EUROPE
The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

JAPAN
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Ministry of International Trade & Industry List (MITI).

KOREA
All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

THE PHILIPPINES
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippine Inventory of Chemicals & Chemical Substances (PICCS).

16. OTHER INFORMATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Low

* The environmental risk is: Low

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department
Date issued : 11/07/2001
Replaces : 01/19/2001

1179 1/85

MATERIAL SAFETY DATA SHEET

DATE June 24, 1992

6696-03-08-90-655

CALGON CORPORATION

SUBSIDIARY OF MERCK & CO., INC.

PRODUCT NAME H-900

SECTION I

MANUFACTURER'S NAME	Calgon Corporation	EMERGENCY TELEPHONE NO.	(412) 777-8000
ADDRESS	P.O. Box 1346, Pittsburgh, Pennsylvania 15230		
CHEMICAL NAME AND SYNONYMS	Halogenated Hydantoin	FORMULA	Solid

SECTION II HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENT (S)	CAS #	% BY WEIGHT	ORAL LD_{50}	DERMAL LD_{50}	TLV (Units) ACGIH	OSHA	OTHE
Chemical Name 1-Bromo-3-chloro-5,5-dimethylhydantoin Common Name	16079-88-2	96	1.39 g/kg	> 2 g/kg	Not Listed	Not Listed	N/A
Chemical Name Common Name							
Chemical Name Common Name							
Chemical Name Common Name							
Chemical Name Common Name							

SECTION III PHYSICAL DATA

BOILING POINT (°F)	Solid	SPECIFIC GRAVITY (H_2O=1)	Solid
VAPOR PRESSURE (mmHg)	Solid	PERCENT VOLATILE BY VOLUME (%)	Solid
VAPOR DENSITY (AIR=1)	Solid	pH	Solid
SOLUBILITY IN WATER	Miscible	OTHER	
APPEARANCE AND ODOR	White solid with faint halogen odor		

N/A = Not applicable

While this information and recommendations set forth herein are believed to be accurate as of the date hereof, CALGON CORPORATION MAKES NO WARRANTY WITH RESPECT HERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	Product is not flammable or combustible.
EXTINGUISHING MEDIA	Product is not flammable or combustible.
SPECIAL FIRE FIGHTING PROCEDURES	Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential.
UNUSUAL FIRE AND EXPLOSION HAZARDS	This product is an oxidizer. Contamination with moisture, organic matter or other chemicals may start a chemical reaction with generation of heat, hazardous gases and possible fire and explosion.

SECTION V HEALTH HAZARD DATA

EFFECT OF OVEREXPOSURE

A. ACUTE

1. INGESTION	This product, if swallowed, may be fatal.
2. INHALATION	Inhalation of the dusts of this product may be irritating to the nose and throat.
3. DERMAL EXPOSURE	
a. TOXIC	The dermal LD_{50} value of the active ingredient was determined to be > 2 g/kg. This product would not be expected to produce systemic toxicity if it is absorbed through the skin.
b. IRRITATION	The product may produce burns upon contact with the skin. The severity of the burn is generally determined by the concentration and duration of the exposure.
c. SENSITIZATION	No data were available to suggest that this product may produce an allergic skin reaction.

SECTION VI REACTIVITY DATA

Y	STABLE	X	CONDITIONS TO AVOID: Keep product dry in tightly closed container when not in use. Store in a cool, dry, well-ventilated area away from heat, open flames, organic chemicals and sunlight. Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.
	UNSTABLE		

.TABILITY (to Avoid): Mix only with water. Use clean, dry utensils and equipment. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire and explosion.

OUS DECOMPOSITION TS: Fire may release hydrogen bromide or bromine.

SECTION VII SPILL OR LEAK PROCEDURES

BLE QUANTITIES (RQ) F EPA HAZARDOUS CES IN PRODUCT

1. N/A
2.
3.

NOTIFY EPA OF PRODUCT SPILLS EQUAL TO OR EXCEEDING N/A LBS.

BE TAKEN IN CASE L IS RELEASED ED: Dispose of in accordance with local, state and federal regulations. Sweep up spilled material and repackage. Wash area of spill with large amount of water. This product is toxic to fish. Do not harge into lakes, streams, ponds or public water unless in accordance with an NPDES permit. For guidance, contact your ional office of EPA.

ISPOSAL METHOD: Dispose of in a landfill or incinerate in accordance with local, state and federal regulations. This product is toxic to fish. Do not discharge into lakes, streams, ponds and estuaries, oceans, or public waters unless in accordance with NPDES permit.

SECTION VIII HANDLING/STORAGE

TIVE GLOVES	EYE PROTECTION
Rubber gloves	Chemical splash goggles or face shield

ROTECTIVE G: Rubber apron and impervious boots

TORY PROTECTION: Not likely to be needed. However, avoid breathing vapors that may collect in headspace of containers. May contain cyanogen bromide and dibromoacetylnitrile which may be irritating.

TION	LOCAL EXHAUST	OTHER
	Recommended	None
	MECHANICAL (General): Recommended	

E HANDLING

DANGER!

Corrosive.
Causes eye and skin damage.
May be fatal if swallowed.
Do not get in eyes, on skin or clothing.
Wear chemical splash goggles or face shield, rubber gloves and protective equipment when handling.
Irritating to nose and throat.
Avoid breathing dust.
Remove and wash contaminated clothing before reuse.

RECAUTIONS: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. DO NOT REUSE EMPTY CONTAINER. Triple rinse the container or equivalent. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incinerate. Burn only if allowed by state and local authorities. If burned, stay out of smoke.

Not applicable

PREPARED BY Patricia A. Pacella — IMP-0656 6/24/92

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4. EYE IRRITATION

This product may cause burns upon contact with the eye, with possible eye damage.

B. SUBCHRONIC, CHRONIC, OTHER

No data were available to indicate that this product may produce adverse health effects following subchronic or chronic exposure.

FIRST AID

A. EYE

In case of eye contact, flush eyes with cold water for at least 15 minutes. Seek medical attention promptly.

B. SKIN

In case of skin contact, brush off excess chemical and flush skin with cold water for at least 15 minutes. If irritation develops, seek medical attention.

C. INGESTION

If swallowed, feed bread soaked in milk, followed by olive oil or cooking oil. Seek medical attention immediately.

D. INHALATION

Not applicable

MATERIAL SAFETY DATA SHEET

Calgon Corporation
P.O. Box 1346
Pittsburgh, PA 15230-1346

24 Hour Emergency Telephone–(412)777-8000

Section 1. PRODUCT IDENTIFICATION

PRODUCT NAME: H-901G

CHEMICAL DESCRIPTION: Halogenated hydantoin granules
PRODUCT CLASS: Biocide
MSDS CODE: 0E08-10-19-93

Section 2. HAZARDOUS INGREDIENTS AND EXPOSURE LIMITS

Chemical Name	CAS Number	% by Weight	OSHA PEL	ACGIH TLV
Bromochloro-5,5-dimethylhydantoin (BCDMH)	32718-18-6	96	None established	None established

Alternate Chemical Name: 1-Bromo-3-chloro-5,5-dimethylhydantoin (BCDMH), CAS #16079-88-2, is the specific isomer usually referenced for this product. When dissolved in water, BCDMH hydrolyzes immediately to hypobromous acid, hypochlorous acid (the active biocides) and 5,5-dimethylhydantoin (DMH).

Section 3. HAZARDS IDENTIFICATION

********** EMERGENCY OVERVIEW **********

DANGER!
Strong oxidizer. Contact with other material may cause fire.
Contamination with moisture, organic matter or other chemicals may start a chemical reaction with generation of heat, hazardous gases and possible fire and explosion.
May cause severe eye and skin damage.
May be harmful if swallowed or if inhaled.
Contact with this product may induce delayed hypersensitivity.

****

PRIMARY ROUTES OF ENTRY: Eye and skin contact, inhalation, ingestion

TARGET ORGANS: Eye, skin, mucous membranes

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None reported. Existing dermatitis may be aggravated by exposure.

Continued on Page 2

MATERIAL SAFETY DATA SHEET

POTENTIAL HEALTH EFFECTS:

EYE CONTACT: This product may cause severe irritation and damage upon contact with the eye.

SKIN CONTACT: Contact with moist skin will cause severe skin burns. Product may cause an allergic skin reaction in susceptible individuals.

INGESTION: Ingestion of this product may cause severe irritation or burns of the mucous membranes of the mouth, throat, esophagus and stomach.

INHALATION: Inhalation of product dust may be severely irritating to the nose, throat, and lungs causing shortness of breath, headache, and nausea.

SUBCHRONIC, CHRONIC:
Ames mutagenicity: Negative.

CARCINOGENICITY:
NTP:
"No ingredients listed in this section"
IARC:
"No ingredients listed in this section"
OSHA:
"No ingredients listed in this section"

Section 4. FIRST AID MEASURES

EYE CONTACT: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical aid immediately.

SKIN CONTACT: Remove contaminated clothing immediately. Brush off excess chemical and wash skin with large volumes of soap and water, flushing the skin with water for at least 15 minutes. Seek medical aid immediately. Wash clothing before reuse. Do not take clothing home to be laundered.

INGESTION: If swallowed, do NOT induce vomiting. Give large quantities of water. Seek medical aid immediately. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical aid.

Section 5. FIRE-FIGHTING MEASURES

FLASH POINT: Not applicable
This product is a strong oxidizer. Contact with other material may cause fire.

LOWER FLAMMABLE LIMIT: Not applicable UPPER FLAMMABLE LIMIT: Not applicable

AUTO-IGNITION TEMPERATURE: Not available

Continued on Page 3

MATERIAL SAFETY DATA SHEET

EXTINGUISHING MEDIA: Use water. Do not use ammonium phosphate fire extinguishers. (The presence of ammonium ion accelerates the decomposition of BCDMH.)

FIRE-FIGHTING INSTRUCTIONS: Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential.
Use water spray to cool containers exposed to fire. Minimize exposure.
DO NOT breathe fumes. Contain run-off.

FIRE & EXPLOSION HAZARDS: Product emits toxic gases under fire conditions. Runoff to sewer may create fire or explosion hazard. Runoff from fire control or dilution water may cause pollution.

DECOMPOSITION PRODUCTS: Combustion may generate hydrogen chloride, hydrogen bromide, nitrogen oxides, bromine, and chlorine.

NFPA RATINGS: Health = 3 Flammability = 1 Reactivity = 1 Special Hazard = OX

Hazard rating scale: 0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

Section 6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Wear personal protective equipment recommended in Section 8. Avoid inhalation of dust. With clean shovel, place material into a clean, dry container and cover loosely; move containers from spill area. Remove and isolate contaminated clothing and shoes at the site. Wash area of spill with large amounts of water. Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Section 7. HANDLING AND STORAGE

HANDLING: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Do not get in eyes, on skin or clothing.
Avoid breathing dust.
Use with adequate ventilation.
Avoid contact with organic materials, oils, greases, and any oxidizable materials.
Use clean, dry utensils and equipment. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire and explosion. In case of contamination or decomposition, do not reseal container. If possible, isolate container in open air or well ventilated area.
Wash thoroughly after handling.
Remove and wash contaminated clothing promptly.
Store in tightly closed container.

STORAGE: Recommended storage temperature range is 68-86°F (20-30°C). Keep product dry in tightly closed container when not in use. Store in a cool, dry, well-ventilated area away from heat, open flames, organic chemicals, combustible materials, and sunlight.

Continued on Page 4

MATERIAL SAFETY DATA SHEET

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT:

EYE/FACE PROTECTION: Chemical splash goggles and face shield
SKIN PROTECTION: Chemical resistant gloves and protective clothing
RESPIRATORY PROTECTION: A NIOSH approved dust mask must be used when handling this product.

ENGINEERING CONTROLS: Use local exhaust ventilation with a minimum capture velocity of 150 ft/min at the point of dust or mist evolution.

WORK PRACTICES: Eye wash station and safety shower should be accessible in the immediate area of use. Remove and wash contaminated clothing promptly.

SATISFACTORY MATERIALS OF CONSTRUCTION: PVC, CPVC, polyethylene, Teflon, Viton, fiberglass with isophthalic polyester resin.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: Not applicable

VAPOR PRESSURE: Negligible

VAPOR DENSITY (air=1): Not applicable

% VOLATILE BY WEIGHT: Not available

SOLUBILITY IN WATER: 0.2% (as BCDMH) @ 25°C

SPECIFIC GRAVITY: 1.8 - 2.0

pH: 3.5 (0.1% soln in DI water)

FREEZING POINT: Decomposes ~ 130°C

APPEARANCE AND ODOR: White to off-white granules with faint halogen odor.

Section 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Keep from contact with clothing and other combustible materials. Avoid high storage temperatures and moisture.

INCOMPATIBILITY: Strong reducing agents, organics, acids, bases

DECOMPOSITION PRODUCTS: Combustion may generate hydrogen chloride, hydrogen bromide, nitrogen oxides, bromine, and chlorine.

Section 11. TOXICOLOGICAL INFORMATION

ON PRODUCT:
Product Oral LD_{50} (rat): 929 mg/kg
Product Inhalation LC_{50} (rat): 1.11 mg/L for 4 hr

Continued on Page 5

MATERIAL SAFETY DATA SHEET

Section 12. ECOLOGICAL INFORMATION

ON PRODUCT:

Aquatic toxicity data:
(for 5,5-dimethylhydantoin, the dehalogenated by-product of 1-bromo-3-chloro-5,5-dimethylhydantoin)
48 hr LC_{50} (Daphnia magna): 1300 ppm
96 hr LC_{50} (rainbow trout): 6100 ppm
96 hr LC_{50} (fathead minnow): 8100 ppm

Environmental data:
The COD for 5,5-dimethylhydantoin (DMH) was determined to be 1005 mg O_2 per gram of DMH.

Environmental toxicity:
Dietary LC_{50} (bobwhite quail): > 5620 ppm
Oral LD_{50} (bobwhite quail): 1839 mg/kg
Dietary LC_{50} (mallard duck): > 5620 ppm

This product is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless in accordance with an NPDES permit. Do not discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

ON INGREDIENTS:

Chemical Name	Aquatic Toxicity Data
BCDMH (96%)	96 hr LC_{50} (rainbow trout): 0.4 ppm 96 hr LC_{50} (bluegill sunfish): 0.46 ppm 48 hr LC_{50} (Daphnia magna): 0.75 ppm

Section 13. DISPOSAL CONSIDERATIONS

RCRA STATUS: Discarded product, as sold, would be considered a RCRA Hazardous Waste based on the characteristic of ignitability. The EPA Hazardous Waste Number is D001.

DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. Do not reuse empty container.

Section 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:
Class/Division: 5.1
Proper Shipping Name: Oxidizing substance, solid, n.o.s. (1-Bromo-3-chloro-5,5-dimethylhydantoin)
Label: OXIDIZER
Packing Group: II
ID Number: UN 1479

Continued on Page 6

MATERIAL SAFETY DATA SHEET

Section 15. REGULATORY INFORMATION

OSHA Hazard Communication Status: Hazardous

TSCA: Pesticides are exempted by TSCA (the Toxic Substances Control Act), under Section 3(2)(a)ii, from the provisions of the Act. FIFRA (the Federal Insecticide, Fungicide and Rodenticide Act) does not allow the use of registered pesticides in any manner inconsistent with the label.

CERCLA reportable quantity of EPA hazardous substances in product:

Chemical Name	RQ
No ingredients listed in this section	

Product RQ: Not applicable (Notify EPA of product spills exceeding this amount.)

SARA TITLE III:

Section 302 Extremely Hazardous Substances:

Chemical Name	CAS #	RQ	TPQ
No ingredients listed in this section			

Section 311 and 312 Health and Physical Hazards:

Immediate	Delayed	Fire	Pressure	Reactivity
[yes]	[yes]	[yes]	[no]	[yes]

Section 313 Toxic Chemicals:

Chemical Name	CAS #	% by Weight
No ingredients listed in this section		

Section 16. OTHER INFORMATION

HMIS RATINGS: Health = 3* Flammability = 1 Reactivity = 1
Personal Protective Equipment = X (to be specified by user depending on use conditions)

*There are potential chronic health effects to consider.

Hazard rating scale: 0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

MSDS REVISION SUMMARY: Not applicable

While this information and recommendations set forth herein are believed to be accurate as of the date hereof, CALGON CORPORATION MAKES NO WARRANTY WITH RESPECT HERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

PREPARED BY: P.J. Maloney

MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 7384

EMERGENCY TELEPHONE NUMBER(S)
(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : NALCO 7384

APPLICATION : CORROSION INHIBITOR

COMPANY IDENTIFICATION : Ondeo Nalco Company
Ondeo Nalco Center
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 3 / 3 FLAMMABILITY : 0 / 0 REACTIVITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Zinc Chloride	7646-85-7	60.0 - 100.0

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

DANGER
Corrosive. May cause tissue damage. Toxic to aquatic organisms.
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Keep container tightly closed and in a well-ventilated place. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water.
Wear a face shield. Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots.
May evolve HCl under fire conditions. May evolve zinc fumes under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
Corrosive. Will cause eye burns and permanent tissue damage.

SKIN CONTACT :
May cause severe irritation or tissue damage depending on the length of exposure and the type of first aid administered.

INGESTION :
Not a likely route of exposure. Corrosive; causes chemical burns to the mouth, throat and stomach.

INHALATION :
Not a likely route of exposure. Irritating, in high concentrations, to the eyes, nose, throat and lungs.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

4. FIRST AID MEASURES

EYE CONTACT :
PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT. Immediately flush eye with water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

SKIN CONTACT :
Immediately flush with plenty of water for at least 15 minutes. For a large splash, flood body under a shower. Remove contaminated clothing. Wash off affected area immediately with plenty of water. Get immediate medical attention. Contaminated clothing, shoes, and leather goods must be discarded or cleaned before re-use.

INGESTION :
DO NOT INDUCE VOMITING. If conscious, washout mouth and give water to drink. Get immediate medical attention.

INHALATION :
Remove to fresh air, treat symptomatically. Get medical attention.

NOTE TO PHYSICIAN :
Probable mucosal damage may contraindicate the use of gastric lavage. Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : Not applicable

EXTINGUISHING MEDIA :
Not expected to burn. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :
May evolve HCl under fire conditions. May evolve zinc fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
This product is toxic to fish and other water organisms. Do not discharge directly into lakes, ponds, streams, waterways or public water supplies.

7. HANDLING AND STORAGE

HANDLING :
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Avoid generating aerosols and mists. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

STORAGE CONDITIONS :
Store the containers tightly closed. Store separately from oxidizers. Store in suitable labelled containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

ACGIH/TLV :

Substance(s)	
Zinc Chloride Fume	TWA: 1 mg/m3 STEL: 2 mg/m3

OSHA/PEL :
Substance(s)

Zinc Chloride Fume	TWA: 1 mg/m3 STEL: 2 mg/m3

ENGINEERING MEASURES :
General ventilation is recommended. Use local exhaust ventilation if necessary to control airborne mist and vapor.

RESPIRATORY PROTECTION :
If significant mists, vapors or aerosols are generated an approved respirator is recommended. A dust, mist, fume cartridge may be used. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

HAND PROTECTION :
Impervious gloves, NEOPRENE, NITRILE, NATURAL RUBBER OR PVC GLOVES

SKIN PROTECTION :
Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots. A full slicker suit is recommended if gross exposure is possible.

EYE PROTECTION :
Wear a face shield with chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Eye wash station and safety shower are necessary. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

HUMAN EXPOSURE CHARACTERIZATION :
Based on our recommended product application and personal protective equipment, the potential human exposure is: Moderate

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Colorless
ODOR	None

SPECIFIC GRAVITY	1.6 - 1.9 @ 59 °F / 15 °C
DENSITY	11.7 - 12.5 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	< 2
FREEZING POINT	< -20 °F / < -29 °C
BOILING POINT	275 °F / 135 °C

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
None known.

MATERIALS TO AVOID :
Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: HCl

11. TOXICOLOGICAL INFORMATION

The following results are for the active components.

ACUTE ORAL TOXICITY :

Species	LD50	Test Descriptor
Rat	350 mg/kg	Active Substance Zinc Chloride

Rating : Harmful

SENSITIZATION :
This product is not expected to be a sensitizer.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION :
Based on our hazard characterization, the potential human hazard is: High

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

Results below (expressed as product) extrapolated from Ambient Quality Criteria Document for Zinc.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Rainbow Trout	96 hrs	1.13 mg/l	Tested in Soft Water (40-48 mg/L as CaC03)
Fathead Minnow	96 hrs	1.83 mg/l	Tested in Soft Water (40-48 mg/L as CaC03)

Rainbow Trout	96 hrs	5.78 mg/l	Tested in Hard Water (160-180 mg/L as CaC03)
Fathead Minnow	96 hrs	24.96 mg/l	Tested in Hard Water (160-180 mg/L as CaC03)

Rating : Toxic

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	2.43 mg/l		Tested in Hard Water (160-180 mg/L as CaC03)
Daphnia magna	48 hrs	0.85 mg/l		Tested in Soft Water (40-48 mg/L as CaC03)

Rating : Very toxic

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: High
Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Moderate

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste: D002

Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility. Consult local, state, and federal regulations for specific requirements.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are:

LAND TRANSPORT :

Proper Shipping Name :	ZINC CHLORIDE, SOLUTION
Technical Name(s) :	
UN/ID No :	UN 1840
Hazard Class - Primary :	8
Packing Group :	III
Flash Point :	Not applicable

DOT Reportable Quantity (per package) :	1,450 lbs
DOT RQ Component :	ZINC CHLORIDE

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	ZINC CHLORIDE, SOLUTION
Technical Name(s) :	
UN/ID No :	UN 1840
Hazard Class - Primary :	8
Packing Group :	III
IATA Cargo Packing Instructions :	820
IATA Cargo Aircraft Limit :	60 L (Max net quantity per package)

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	ZINC CHLORIDE, SOLUTION
Technical Name(s) :	
UN/ID No :	UN 1840
Hazard Class - Primary :	8
Packing Group :	III

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Zinc Chloride : Corrosive

CERCLA/SUPERFUND, 40 CFR 117, 302 :
This product contains the following Reportable Quantity (RQ) Substance. Also listed is the RQ for the product.

RQ Substance	RQ
Zinc Chloride	1,450 lbs

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

X Immediate (Acute) Health Hazard

- Delayed (Chronic) Health Hazard
- Fire Hazard
- Sudden Release of Pressure Hazard
- Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product contains the following substance(s), (with CAS # and % range) which appear(s) on the List of Toxic Chemicals

Hazardous Substance(s)	CAS NO	% (w/w)
Zinc Chloride	7646-85-7	60.0 - 100.0

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act :
When use situations necessitate compliance with FDA regulations, this product is acceptable under : 21 CFR 176.170 Components of paper and paperboard in contact with aqueous and fatty foods and 21 CFR 176.180 Components of paper and paperboard in contact with dry foods.

This product has been certified as KOSHER/PAREVE for year-round use INCLUDING THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

NSF INTERNATIONAL :
This product has received NSF/International certification under ANSI/NSF Standard 60 in the corrosion and scale control category. The official name is "Zinc Chloride." Maximum product application dosage is : 6.6 mg/l. Only product manufactured at Plants 1, 6 and 9 USA and whose container label bears the ANSI/NSF Mark may be used in potable water treatment applications.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR / formerly Sec. 311 :
This product contains the following substances listed in the regulation:

Substance(s)	Citations
Zinc Chloride :	Sec. 307, Sec. 311

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
None of the substances are specifically listed in the regulation.

CALIFORNIA PROPOSITION 65 :
This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS :
This product contains the following substances listed in the regulation:

Zinc Compound

STATE RIGHT TO KNOW LAWS :
The following substances are disclosed for compliance with State Right to Know Laws:

Zinc Chloride	7646-85-7
Water	7732-18-5

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
E - Corrosive Material

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

16. OTHER INFORMATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Moderate

* The environmental risk is: Moderate

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department
Date Issued : 08/12/2001

MATERIAL SAFETY DATA SHEET

PRODUCT

H-300 MICROBIOCIDE

EMERGENCY TELEPHONE NUMBER
(800)424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : H-300 MICROBIOCIDE

APPLICATION : BIOCIDE

CHEMICAL DESCRIPTION : Glutaraldehyde, Water

COMPANY IDENTIFICATION : ONDEO Nalco Company
ONDEO Nalco Center
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER : (800)424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 3 / 3 FLAMMABILITY : 1 / 1 REACTIVITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Glutaraldehyde	111-30-8	30.0 - 60.0

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

DANGER
Corrosive. May cause tissue damage. May cause sensitization by inhalation and skin contact.
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Keep container tightly closed and in a well-ventilated place. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Protect product from freezing. Wear a face shield. Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots.
Not flammable or combustible. May evolve oxides of carbon (COx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin, Inhalation

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
Corrosive. Will cause eye burns and permanent tissue damage.–Vapors can cause watering of the eyes.

SKIN CONTACT :
May cause severe irritation or tissue damage depending on the length of exposure and the type of first aid administered. Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

INGESTION :
Not a likely route of exposure. Corrosive; causes chemical burns to the mouth, throat and stomach.

INHALATION :
Irritating, in high concentrations, to the eyes, nose, throat and lungs. Repeated or prolonged inhalation exposure may cause asthmatic reactions in susceptable individuals.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :
Skin contact may aggravate an existing dermatitis condition.

4. FIRST AID MEASURES

NOTE TO PHYSICIAN :
Probable mucosal damage may contraindicate the use of gastric lavage. Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : None

EXTINGUISHING MEDIA :
This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use extinguishing media appropriate for surrounding fire. Keep containers cool by spraying with water.

FIRE AND EXPLOSION HAZARD :
Not flammable or combustible. May evolve oxides of carbon (COx) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Dilute the gutaraldehyde to 5% or less with water. Add sodium bisulfite (2-3 parts by weight per part glutaraldehyde). This will typically reduce the glutaraldyde concentration to 2 ppm or less in 5 minutes at room temperature. The remaining solution can be disposed of via appropriate means. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
This product is toxic to fish and other water organisms. Do not discharge directly into lakes, ponds, streams, waterways or public water supplies.

7. HANDLING AND STORAGE

HANDLING :
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Avoid generating aerosols and mists. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

STORAGE CONDITIONS :
Store the containers tightly closed. Store separately from bases. Store in suitable labelled containers.

SUITABLE CONSTRUCTION MATERIAL :
Polyethylene, Stainless steel

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

ACGIH/TLV :

Substance(s)	
Glutaraldehyde	CEILING: 0.05 ppm, 0.05 ppm , 0.2 mg/m3, 0.2 mg/m3

OSHA/PEL :

Substance(s)	
Glutaraldehyde	CEILING: 0.2 ppm , 0.8 mg/m3

ENGINEERING MEASURES :
General ventilation is recommended. Local exhaust ventilation may be necessary when dusts or mists are generated.

RESPIRATORY PROTECTION :
If significant mists, vapors or aerosols are generated an approved respirator is recommended. An organic vapor cartridge with dust/mist prefilter may be used. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

HAND PROTECTION :
Nitrile gloves, Rubber gloves, Butyl gloves

SKIN PROTECTION :
Wear impervious apron and boots. A full slicker suit is recommended if gross exposure is possible.

EYE PROTECTION :
Wear a face shield with chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Keep an eye wash fountain available. Keep a safety shower available.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Clear Colorless
ODOR	Characteristic, Aldehyde

SPECIFIC GRAVITY	1.11 - 1.13 @ 68 °F / 20 °C
SOLUBILITY IN WATER	Complete
pH (100 %)	3.7 - 4.5
FREEZING POINT	1.4 °F / -17 °C
BOILING POINT	215.7 °F / 102.1 °C
VAPOR PRESSURE	14.7 mm Hg @ 68 °F / 20 °C

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Polymerization may occur, but is not expected to be violent.

CONDITIONS TO AVOID :
High temperatures

MATERIALS TO AVOID :
Strong acids Strong Bases Contact with these may cause a heat-generating reaction which is not expected to be violent.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon

11. TOXICOLOGICAL INFORMATION

The following results are for the product along with results on the hazardous components.

ACUTE ORAL TOXICITY :

Species	LD50	Tested Substance
Rat	1.2 ml/Kg	45% Active Ingredient Glutaraldehyde

Rating : Non-Hazardous

ACUTE DERMAL TOXICITY :

Species	LD50	Tested Substance
Rabbit	2.0-2.7 ml/kg	45% Active Ingredient Glutaraldehyde

Rating : Non-Hazardous

ACUTE INHALATION TOXICITY :

Species	LC50	Tested Substance
Rat	20.4 mg/L (4 hrs)	Glutaraldehyde

Rating : Non-Hazardous

CHRONIC TOXICITY DATA :
Glutaraldehyde incorporated into the diet of rats up to 1.6 g/kg for seven days resulted in no deaths. An eleven week drinking water study of glutaraldehyde at up to 0.5% showed no effect.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH). Preliminary histopathological findings in the 24-month sacrifice of a combined oncogenicity/chronic study in Fischer 344 rats given glutaraldehyde in drinking water showed an increase in the incidence of the spontaneously occurring large granular cell lymphocytic leukemia (LGL) at all doses (50, 250, 1000 ppm) compared with the controls only for the female rats. Male rats had the same incidence as the controls at all levels of exposures. The significance of this observation to humans remains to be determined.

TERATOGENICITY :
Doses of 25 and 50 mg/kg given by gavage to pregnant rats produced decreases in maternal body weight. There were no other indications of maternal toxicity nor was there evidence of fetotoxicity or external, visceral or skeletal abnormalities. Mice (CD-1 strain) given 100 mg/kg by gavage showed fetotoxicity as evidenced by decreased body weight. At lower doses, there was no evidence of fetotoxicity or skeletal abnormalities. No evidence of teratogenic effects were noted in either species.

MUTAGENICITY :
Mutagenicity in vitro tests of Chinese hamster ovary, sister chromatid exchange and unscheduled DNA synthesis did not produce dose-related responses. Oral doses of 30 and 60 mg/kg to mice showed no effect in the dominant lethal assay. In all five strains of Salmonella, with and without metabolic activation by S9 liver homogenate, no mutagenic response was noted.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the active components.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Tested Substance
Bluegill Sunfish	96 hrs	22.4 mg/l	50% Active Ingredient
Rainbow Trout	96 hrs	23.7 mg/l	50% Active Ingredient
Fathead Minnow	96 hrs	6.0 mg/l	Active Substance
Sheepshead Minnow	96 hrs	32 mg/l	Active Substance

Rating : Toxic

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Tested Substance
Grass Shrimp	96 hrs	41 mg/l		25% Active Ingredient
Green Crab	96 hrs	465 mg/l		25% Active Ingredient
Mysid Shrimp (A. bahia)	96 hrs	7.1 mg/l		Active Substance
Daphnia magna	48 hrs	11.5 mg/l		50% Active Ingredient
Ceriodaphnia dubia	48 hrs	18.000 mg/l		Product

Rating : Toxic

AVIAN RESULTS :

Species	Exposure	LC50	Tested Substance
Bobwhite Quail	8 Days	10,000 ppm	Active Substance
Mallard Duck	8 Days	10,000 ppm	Active Substance
Mallard Duck		933 mg/kg	50% Active Ingredient

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

Do not contaminate water, food, or feed by storage or disposal, or cleaning of equipment. Pesticide wastes are acutely hazardous and/or toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to the label instructions, contact your State pesticide or environmental control agent or the hazardous waste representative at the nearest EPA Regional Office for guidance.

Metal Containers or Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or other procedures approved by state and local authorities. Plastic Containers: May be incinerated, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Metal Containers: Must not be incinerated. Do not cut or weld on or near metal containers.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are:

LAND TRANSPORT :

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) :	GLUTARALDEHYDE
UN/ID No :	UN 3265
Hazard Class - Primary :	8
Packing Group :	II
Flash Point :	None

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) :	GLUTARALDEHYDE
UN/ID No :	UN 3265
Hazard Class - Primary :	8
Packing Group :	II
IATA Cargo Packing Instructions :	812
IATA Cargo Aircraft Limit :	30 L (Max net quantity per package)

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) :	GLUTARALDEHYDE
UN/ID No :	UN 3265
Hazard Class - Primary :	8
Packing Group :	II

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below., Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Glutaraldehyde : Corrosive, Sensitizer

CERCLA/SUPERFUND, 40 CFR 117, 302 :
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

X	Immediate (Acute) Health Hazard
X	Delayed (Chronic) Health Hazard
-	Fire Hazard
-	Sudden Release of Pressure Hazard
-	Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
This product is exempted under TSCA and regulated under FIFRA. The inerts are on the Inventory List.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR / formerly Sec. 311 :
None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
None of the substances are specifically listed in the regulation.

CALIFORNIA PROPOSITION 65 :
This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS :
None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :
This product is a registered biocide and is exempt from State Right to Know Labelling Laws.

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
Pesticide controlled products are not regulated under WHMIS.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
All substances in this product are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

16. OTHER INFORMATION

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, Co.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO

Prepared By : Product Safety Department
Date issued : 10/11/2000
Replaces : 01/06/2000

Outfall 001 Toxicity Data Summary
(to support EPA Form 3510-2C, Section VII)

Client: Dominion Virginia Power
Project ID: VPOW0341
Client Sample ID: North Anna Power Station Outfall 001
Permit No: VA0052451
Sample Period: 8/20/03 to 8/25/03

Acute Test Results				
Species-Test Method	48-h LC50	95% C.L.	$T.U._{Ac}$	NOAEC
C. dubia EPA 2002.0	>100	N/A	<1.00	N/A

Chronic Test Results										
Species-Test Method	Endpoint	NOEC	LOEC	ChrV	PMSD	$T.U._C$	IC25	48-h LC50	LC50 95% C.L.	$T.U._{Ac}$
C. dubia	Survival	100	>100	>100	N/A	1.00	N/A	>100	N/A	<1.00
EPA 1002.0	Reproduction	100	>100	>100	24	1.00	>100	N/A	N/A	N/A

*Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

EPA Form 3510-2E
Application for Permit to Discharge Industrial Non-process Wastewater

Please type or print in the unshaded areas only	EPA ID Number *(copy from Item 1 of Form 1)* VAD065376279	Form Approved. OMB No. 2040-0086 Approval expires 5-31-92.

Form **2E** NPDES

North Anna Application 2005

EPA Facilities Which Do Not Discharge Process Wastewater

I. Receiving Waters

For this outfall, list the latitude and longitude, and name of the receiving water(s).

Outfall Number *(list)*	Latitude			Longitude			Receiving Water *(name)*
	Deg	Min	Sec	Deg	Min	Sec	
111	38	03	47	77	47	56	Discharge Canal

II. Discharge Date *(If a new discharger, the date you expect to begin discharging)*

NA

III. Type of Waste

A. Check the box(es) indicating the general type(s) of wastes discharged.

☒ Sanitary Wastes ☐ Restaurant or Cafeteria Wastes ☐ Noncontact Cooling Water ☐ Other Nonprocess Wastewater *(Identify)*

B. If any cooling water additives are used, list them here. Briefly describe their composition if this information is available.

None

IV. Effluent Characteristics

A. Existing Sources — Provide measurements for the parameters listed in the left-hand column below, unless waived by the permitting authority *(see instructions)*.

B. New Dischargers — Provide estimates for the parameters listed in the left-hand column below, unless waived by the permitting authority. Instead of the number of measurements taken, provide the source of estimated values *(see instructions)*.

Pollutant or Parameter	(1) Maximum Daily Value *(include units)*		(2) Average Daily Value *(last year)* *(include units)*		(3) (or) Number of Measurements Taken *(last year)*	(4) Source of Estimate *(if new discharger)*
	Mass	Concentration	Mass	Concentration		
Biochemical Oxygen Demand (BOD)	0.81 kg/d	12 ppm	0.24 kg/d	7.8 ppm	7	NA
Total Suspended Solids (TSS)	1.76 kg/d	26.1 ppm	0.37 kg/d	12.2 ppm	13	NA
Fecal Coliform *(if believed present or if sanitary waste is discharged)*	NA	<2 MPN / 100 ml	NA	NA	1	NA
Total Residual Chlorine *(if chlorine is used)*	0.14 kg/d	2.02 ppm	0.05 kg/d	1.8 ppm	36	NA
Oil and Grease	NA	<5.00 ppm	NA	NA	1	NA
*Chemical oxygen demand (COD)	Not required	Not required	Not required	Not required	Not required	NA
*Total organic carbon (TOC)	Not required	Not required	Not required	Not required	Not required	NA
Ammonia *(as N)*	0.12 kg/d	1.81 ppm	NA	NA	1	NA
Discharge Flow	Value 0.0178 mgd		0.008 mgd		36	NA
pH *(give range)*	Value 6.43 - 7.63		NA		36	NA
Temperature *(Winter)*	22.2 °C		22.2 °C		1	NA
Temperature *(Summer)*	26.3 °C		26.3 °C		1	NA

*If noncontact cooling water is discharged

STF ENV44F.1

V. Except for leaks or spills, will the discharge described in this form be intermittent or seasonal? If yes, briefly describe the frequency of flow and duration. ☐ Yes ☒ No

VI. Treatment System *(Describe briefly any treatment system(s) used or to be used)*

See attachment "Treatment System Component Description"

VII. Other Information *(Optional)*

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations. Attach additional sheets, if necessary.

NA

VIII. 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	B. Phone No. *(area code & no.)*
Jack Michael Davis, VICE PRESIDENT - STATION MANAGER	540-894-2101
C. Signature	D. Date Signed
Larry Lee for	6-28-05

North Anna Power Station VPDES Application - Permit No. VA0052451

Addendum To Form 2E - 2005

The conversion of concentration values (mg/d) to mass values (kg/d) was calculated with this standard equation:

concentration (mg/L) X flow (MG/d) X 3.785 kg/mg/L/MG = mass (kg/d)

	Enter from Form 2C		Constant	Enter on Form 2C
Outfall #	conc (mg/L) X	Long term ave flow (MG/d) X	Conversion factor 3.785 kg/mg/L/MG =	mass (kg/d)
111	12	0.0178	3.785	0.81
111	26.1	0.0178	3.785	1.76
111	2.02	0.0178	3.785	0.14
111	1.81	0.0178	3.785	0.12
		Max Average flow		
111	7.8	0.008	3.785	0.24
111	12.2	0.008	3.785	0.37
111	1.8	0.008	3.785	0.05

Maximum daily flows for August and September 2002 and June 2004, were not included in the calculations due to flow recorder and transducer malfunctions (see attached DMRs for those months.)

PERMIT	DISCHNO	D1	D2	AVG_QUAN	MAX_QUAN	AVG_CON	MAX_CON	CODE	PARAMETER	STAT
52451	111	01/01/2002	01/31/2002	0.005474	0.011977			1	FLOW	
52451	111	02/01/2002	02/28/2002	0.006648	0.013928			1	FLOW	
52451	111	03/01/2002	03/31/2002	0.006421	0.01269			1	FLOW	
52451	111	04/01/2002	04/30/2002	0.006246	0.018048			1	FLOW	
52451	111	05/01/2002	05/31/2002	0.005226	0.012591			1	FLOW	
52451	111	06/01/2002	06/30/2002	0.007365	0.016685			1	FLOW	
52451	111	07/01/2002	07/31/2002	0.007125	0.016795			1	FLOW	
52451	111	08/01/2002	08/31/2002	0.010294				1	FLOW	
52451	111	09/01/2002	09/30/2002	0.01417				1	FLOW	
52451	111	10/01/2002	10/31/2002	0.009192	0.018957			1	FLOW	
52451	111	11/01/2002	11/30/2002	0.009971	0.022472			1	FLOW	
52451	111	12/01/2002	12/31/2002	0.009286	0.023209			1	FLOW	
52451	111	01/01/2003	01/31/2003	0.01139	0.022757			1	FLOW	
52451	111	02/01/2003	02/28/2003	0.013874	0.032678			1	FLOW	
52451	111	03/01/2003	03/31/2003	0.015581	0.029777			1	FLOW	
52451	111	04/01/2003	04/30/2003	0.009676	0.026985			1	FLOW	
52451	111	05/01/2003	05/31/2003	0.007213	0.014318			1	FLOW	
52451	111	06/01/2003	06/30/2003	0.007615	0.01789			1	FLOW	
52451	111	07/01/2003	07/31/2003	0.006299	0.014854			1	FLOW	
52451	111	08/01/2003	08/31/2003	0.006017	0.011558			1	FLOW	
52451	111	09/01/2003	09/30/2003	0.009449	0.023218			1	FLOW	
52451	111	10/01/2003	10/31/2003	0.008299	0.015482			1	FLOW	
52451	111	11/01/2003	11/30/2003	0.007816	0.015831			1	FLOW	
52451	111	12/01/2003	12/31/2003	0.008627	0.019411			1	FLOW	
52451	111	01/01/2004	01/31/2004	0.009312	0.025526			1	FLOW	
52451	111	02/01/2004	02/29/2004	0.008437	0.015098			1	FLOW	
52451	111	03/01/2004	03/31/2004	0.008871				1	FLOW	
52451	111	04/01/2004	04/30/2004	0.006379	0.01188			1	FLOW	
52451	111	05/01/2004	05/31/2004	0.009223	0.015322			1	FLOW	
52451	111	06/01/2004	06/30/2004	0.001917				1	FLOW	
52451	111	07/01/2004	07/31/2004	0.00456	0.012901			1	FLOW	
52451	111	08/01/2004	08/31/2004	0.004569	0.009578			1	FLOW	
52451	111	09/01/2004	09/30/2004	0.011663	0.026282			1	FLOW	
52451	111	10/01/2004	10/31/2004	0.007725	0.013965			1	FLOW	
52451	111	11/01/2004	11/30/2004	0.006471	0.014191			1	FLOW	
52451	111	12/01/2004	12/31/2004	0.00706	0.013741			1	FLOW	
				0.295461	0.570595			1	FLOW	MEAN
				0.00820725	0.017831094			1	FLOW	MAXIMUM

Outfall 111 Flow mgd (DMR data)

		AVE		MAX		
2002	jan	0.005		0.012		
	feb	0.007		0.014		
	mar	0.006		0.013		
	apr	0.006		0.018		
	may	0.005		0.012		
	jun	0.007		0.017		
	jul	0.007		0.017		
	aug	0.01			0.044	malfunction
	sep	0.014			0.062	malfunction
	oct	0.009		0.019		
	nov	0.01		0.022		
	dec	0.009		0.023		
			0.007917		0.0167	ave
2003	jan	0.011		0.023		
	feb	0.014		0.033		
	mar	0.016		0.03		
	apr	0.01		0.03		
	may	0.007		0.014		
	jun	0.007		0.018		
	jul	0.006		0.015		
	aug	0.006		0.012		
	sep	0.009		0.023		
	oct	0.008		0.015		
	nov	0.008		0.015		
	dec	0.009		0.019		
			0.00925		0.020583	ave
2004	jan	0.009		0.026		
	feb	0.008		0.015		
	mar	0.009			0.072	malfunction
	apr	0.006		0.012		
	may	0.009		0.015		
	jun	0.002			0.108	malfunction
	jul	0.005		0.013		
	aug	0.005		0.01		
	sep	0.012		0.026		
	oct	0.008		0.014		
	nov	0.006		0.014		
	dec	0.007		0.014		
			0.007167		0.0159	ave
2005	jan	0.006		0.011		
	feb	0.006		0.011		
	mar	0.006		0.012		
	apr	0.005		0.011		
			0.006417		0.013727	May 2004-April 2005
		0.008111		0.017906	2002-2004 only	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Industria Major 0110

PERMITTEE NAME/ADRESS (INCLUDE FACILITY NAME/LOCATION IF DIFFERENT)

NAME VEPCO - North Anna
ADDRESS 5000 Dominion Blvd
Glen Allen VA 23060

FACILITY LOCATION on Route 700 near Mineral

DEPT. OF ENVIRONMENTAL QUALITY (REGIONAL OFFICE)
Northern Va. Regional Office
13901 Crown Court
Woodbridge VA 22193

PERMIT NUMBER	DISCHARGE NUMBER
VA0052451	111

MONITORING PERIOD						
YEAR	MO	DAY		YEAR	MO	DAY
02	08	01	TO	02	08	31

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM

PARAMETER		QUALITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
001 FLOW	REPORTED	0.010294	0.043830	MGD	*********	*********	*********		0	Cont. Rec	CONT.
	REQUIREMENT	0.030	NL	MGD	*********	*********	*********			1/DAY	EST
002 PH	REPORTED	*********	*********		6.78	*********	6.78	SU	0	1/M	GRAB
	REQUIREMENT	*********	*********		6.0	*********	9.0	SU		1/M	GRAB
003 BOD5	REPORTED	***	***	KG/D	*********	***	***	MG/L	**	***	***
	REQUIREMENT	3.40	5.11	KG/D	*********	30	45	MG/L		1/6M	GRAB
004 TSS	REPORTED	***	***	KG/D	*********	***	***	MG/L	**	***	***
	REQUIREMENT	3.40	5.11	KG/D	*********	30	45	MG/L		1/3M	GRAB
157 CL2. TOTAL CONTACT	REPORTED	*********	*********		1.01	*********	*********	MG/L	0	1/DAY	GRAB
	REQUIREMENT	*********	*********		1.0	*********	*********	MG/L	3	1/DAY	GRAB
165 CL2, INST RES MAX	REPORTED	*********	*********		*********	1.41	1.77	MG/L	0	1/DAY	GRAB
	REQUIREMENT	*********	*********		*********	2.0	2.4	MG/L		1/DAY	GRAB
213 CL2, INST TECH MIN LIMIT	REPORTED	*********	*********		1.01	*********	*********	MG/L	0	1/DAY	GRAB
	REQUIREMENT	*********	*********		0.6	*********	*********	MG/L		*******	*******
	REPORTED										
	REQUIREMENT									*******	

ADDITIONAL PERMIT REQUIREMENTS OR COMMENTS

HIGH FLOW RECORDED ON CHART AS FLOW RECORDER FAILED.

Submit daily log with DMR

BYPASSES AND OVERFLOWS	TOTAL OCCURRENCES	TOTAL FLOW(M.G.)	TOTAL BOD5(K.G.)
	N/A	N/A	N/A

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, ACURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)

OPERATOR IN RESPONSIBLE CHARGE			DATE		
D. L. Huffman		1911-003220	02	09	09
TYPED OR PRINTED NAME	SIGNATURE	CERTIFICATE NO.	YEAR	MO.	DAY
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE			
C. L. Funderburk		540-894-2102	02	09	09
TYPED OR PRINTED NAME	SIGNATURE		YEAR	MO.	DAY

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

Industria Major 01/09/0

PERMITTEE NAME/ADRESS (INCLUDE FACILITY NAME/LOCATION IF DIFFERENT)

NAME VEPCO - North Anna
ADDRESS 5000 Dominion Blvd
Glen Allen VA 23060

FACILITY LOCATION on Route 700 near Mineral

VA0052451	111
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD						
YEAR	MO	DAY		YEAR	MO	DAY
02	09	01	TO	02	09	30

DEPT. OF ENVIRONMENTAL QUALITY (REGIONAL OFFICE)
Northern Va. Regional Office
13901 Crown Court
Woodbridge VA 22193

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM

PARAMETER		QUALITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
001 FLOW	REPORTED	0.014170	0.061813	MGD	*********	*********	*********		0	Cont. Rec	CONT.
	REQUIREMENT	0.030	NL	MGD	*********	*********	*********			1/DAY	EST
002 PH	REPORTED	*********	*********		7.00	*********	7.00	SU	0	1/M	GRAB
	REQUIREMENT	*********	*********		6.0	*********	9.0	SU		1/M	GRAB
003 BOD5	REPORTED	***	***	KG/D	*********	***	***	MG/L	**	***	***
	REQUIREMENT	3.40	5.11	KG/D	*********	30	45	MG/L		1/6M	GRAB
004 TSS	REPORTED	***	***	KG/D	*********	***	***	MG/L	**	***	***
	REQUIREMENT	3.40	5.11	KG/D	*********	30	45	MG/L		1/3M	GRAB
157 CL2. TOTAL CONTACT	REPORTED	*********	*********		1.08	*********	*********	MG/L	0	1/DAY	GRAB
	REQUIREMENT	*********	*********		1.0	*********	*********	MG/L	3	1/DAY	GRAB
165 CL2, INST RES MAX	REPORTED	*********	*********		*********	1.74	1.88	MG/L	0	1/DAY	GRAB
	REQUIREMENT	*********	*********		*********	2.0	2.4	MG/L		1/DAY	GRAB
213 CL2, INST TECH MIN LIMIT	REPORTED	*********	*********		1.08	*********	*********	MG/L	0	1/DAY	GRAB
	REQUIREMENT	*********	*********		0.6	*********	*********	MG/L		*******	*******
	REPORTED										
	REQUIREMENT									*******	

ADDITIONAL PERMIT REQUIREMENTS OR COMMENTS

HIGH FLOW RECORDED ON CHART AS FLOW RECORDER FAILED.Repaired 9-10-02.

Submit daily log with DMR

BYPASSES AND OVERFLOWS	TOTAL OCCURRENCES	TOTAL FLOW(M.G.)	TOTAL BOD5(K.G.)
	N/A	N/A	N/A

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, ACURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include [illegible] maximum imprisonment of between 6 months and 5 years.)

OPERATOR IN RESPONSIBLE CHARGE			DATE		
D. L. Huffman		1911-003220	02	10	08
TYPED OR PRINTED NAME	SIGNATURE	CERTIFICATE NO.	YEAR	MO.	DAY
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE			
C. L. Funderburk		540-894-2102	02	10	08
TYPED OR PRINTED NAME	SIGNATURE		YEAR	MO.	DAY

PERMITTEE NAME/ADRESS (INCLUDE FACILITY LOCATION IF DIFFERENT)

NAME VEPCO - North Anna
ADDRESS 5000 Dominion Blvd
Glen Allen VA 23060

FACILITY LOCATION on Route 700 near Mineral

DEPARTMENT OF ENVIRONMENTAL QUALITY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

DEPT. OF ENVIRONMENTAL QUALITY
(REGIONAL OFFICE)
Northern Va. Regional Office
13901 Crown Court

Woodbridge VA 22193

VA0052451	111
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD						
YEAR	MO	DAY		YEAR	MO	DAY
04	03	01	TO	04	03	31

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
001 FLOW	REPORTED	0.008871	0.072043	MGD	*********	*********	*********		0	Cont. Rec	CONT.
	REQUIREMENT	0.030	NL	MGD	*********	*********	*********			1/DAY	EST.
002 PH	REPORTED	*********	*********		7.04	*********	7.04	SU	0	1/M	GRAB
	REQUIREMENT	*********	*********		6.0	*********	9.0	SU		1/M	GRAB
003 BOD5	REPORTED	****	****	KG/D	*********	****	****	MG/L	**	***	***
	REQUIREMENT	3.40	5.11	KG/D	*********	30	45	MG/L		1/6M	GRAB
004 TSS	REPORTED	****	****	KG/D	*********	****	****	MG/L	**	***	***
	REQUIREMENT	3.40	5.11	KG/D	*********	30	45	MG/L		1/3M	GRAB
157 CL2. TOTAL CONTACT	REPORTED	*********	*********		1.06	*********	*********	MG/L	0	1/DAY	GRAB
	REQUIREMENT	*********	*********		1.0	*********	*********	MG/L	3	1/DAY	GRAB
165 CL2, INST RES MAX	REPORTED	*********	*********		*********	1.56	1.77	MG/L	0	1/DAY	GRAB
	REQUIREMENT	*********	*********		*********	2.0	2.4	MG/L		1/DAY	GRAB
213 CL2, INST TECH MIN LIMIT	REPORTED	*********	*********		1.06	*********	*********	MG/L	0	1/DAY	GRAB
	REQUIREMENT	*********	*********		0.6	*********	*********	MG/L		*******	*******
	REPORTED										
	REQUIREMENT										

ADDITIONAL PERMIT REQUIREMENTS OR COMMENTS

Totalizer Transducer inadvertently covered for one day giving a very high maximum reading.

Submit daily log with DMR

BYPASSES AND OVERFLOWS	TOTAL OCCURRENCES	TOTAL FLOW(M.G.)	TOTAL BOD5(K.G.)
	N/A	N/A	N/A

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, ACURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)

OPERATOR IN RESPONSIBLE CHARGE			DATE		
D. L. Huffman		1911-003220	04	04	07
TYPED OR PRINTED NAME	SIGNATURE	CERTIFICATE NO.	YEAR	MO.	DAY
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE			
N. L. Lane		540-894-2108	04	04	07
TYPED OR PRINTED NAME	SIGNATURE		YEAR	MO.	DAY

PERMITTEE NAME/ADRESS (INCLUDE FACILITY NAME/LOCATION IF DIFFERENT)

NAME VEPCO - North Anna
ADDRESS 5000 Dominion Blvd
Glen Allen VA 23060

FACILITY LOCATION on Route 700 near Mineral

DEPARTMENT OF ENVIRONMENTAL QUALITY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

DEPT. OF ENVIRONMENTAL QUALITY (REGIONAL OFFICE)
Northern Va. Regional Office
13901 Crown Court
Woodbridge VA 22193

VA0052451	111
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD						
YEAR	MO	DAY		YEAR	MO	DAY
04	06	01	TO	04	06	30

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM

PARAMETER		QUALITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMP TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
001 FLOW	REPORTED	0.001917	0.107709	MGD	*********	*********	*********		0	Cont. Rec	CON
	REQUIREMENT	0.030	NL	MGD	*********	*********	*********			1/DAY	EST
002 PH	REPORTED	*********	*********		6.43	*********	6.43	SU	0	1/M	GRA
	REQUIREMENT	*********	*********		6.0	*********	9.0	SU		1/M	GRA
003 BOD5	REPORTED	****	****	KG/D	*********	****	****	MG/L	**	***	***
	REQUIREMENT	3.40	5.11	KG/D	*********	30	45	MG/L		1/6M	GRA
004 TSS	REPORTED	****	****	KG/D	*********	****	****	MG/L	**	***	***
	REQUIREMENT	3.40	5.11	KG/D	*********	30	45	MG/L		1/3M	GRA
157 CL2. TOTAL CONTACT.	REPORTED	*********	*********		1.03	*********	*********	MG/L	0	1/DAY	GRA
	REQUIREMENT	*********	*********		1.0	*********	*********	MG/L	3	1/DAY	GRA
165 CL2, INST RES MAX	REPORTED	*********	*********		*********	1.34	1.48	MG/L	0	1/DAY	GRA
	REQUIREMENT	*********	*********		*********	2.0	2.4	MG/L		1/DAY	GRA
213 CL2, INST TECH MIN LIMIT	REPORTED	*********	*********		1.03	*********	*********	MG/L	0	1/DAY	GRA
	REQUIREMENT	*********	*********		0.6	*********	*********	MG/L		*******	***
	REPORTED										
	REQUIREMENT									*******	

ADDITIONAL PERMIT REQUIREMENTS OR COMMENTS

High recorded discharge due to transducer malfunction.

Submit daily log with DMR

BYPASSES AND OVERFLOWS	TOTAL OCCURRENCES	TOTAL FLOW(M.G.)	TOTAL BOD5(K.G.)
	N/A	N/A	N/A

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. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)

OPERATOR IN RESPONSIBLE CHARGE			DATE	
D. L. Huffman		1911-003220	04	07
TYPED OR PRINTED NAME	SIGNATURE	CERTIFICATE NO.	YEAR	MO.
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE		
N. L. Lane		540-894-2108	04	07
TYPED OR PRINTED NAME	SIGNATURE		YEAR	MO.

Treatment System Component Description
(to support EPA Form 3510-2E, Section VI)

II. TREATMENT SYSTEM COMPONENT DESCRIPTION

A. Influent Pump Stations

There are currently 14 influent pump stations which collect and pump wastewater to other pump stations or to the influent sanitary piping. Table 1 on the following page lists the pumps station capacities, the buildings/areas served by each station, and the discharge locations.

Figure 3 shows the locations of all the influent pump stations.

The influent pump stations consist of duplex grinder pump systems in lead/lag operation with audible high water alarms. Two of the stations, PS No. 7 (SGRP) and PS No. 8 (SCOBN) are provided with 1000 gallon overflow tanks.

B. Sanitary Piping

The wastewater from the influent stations is collected in a series of gravity sanitary piping and manholes which convey the wastewater to the plant. The wastewater enters the plant from a manhole prior to the equalization tanks.

C. Equalization Tank

The equalization tank is divided into two main equalization chambers with a comminutor/bar screen chamber provided at the inlet of the tank. **Figures 4, 5,** and **6** show the basic components of the tank.

1. Comminutor/Bar Screen Chamber

The comminutor/bar screen chamber within the equalization tank provides for preliminary treatment of the wastewater and includes a comminutor and a bar screen. The comminutor is used during normal operation. Slide gates allow the influent to be diverted to the bar screen when the comminutor is not in operation.

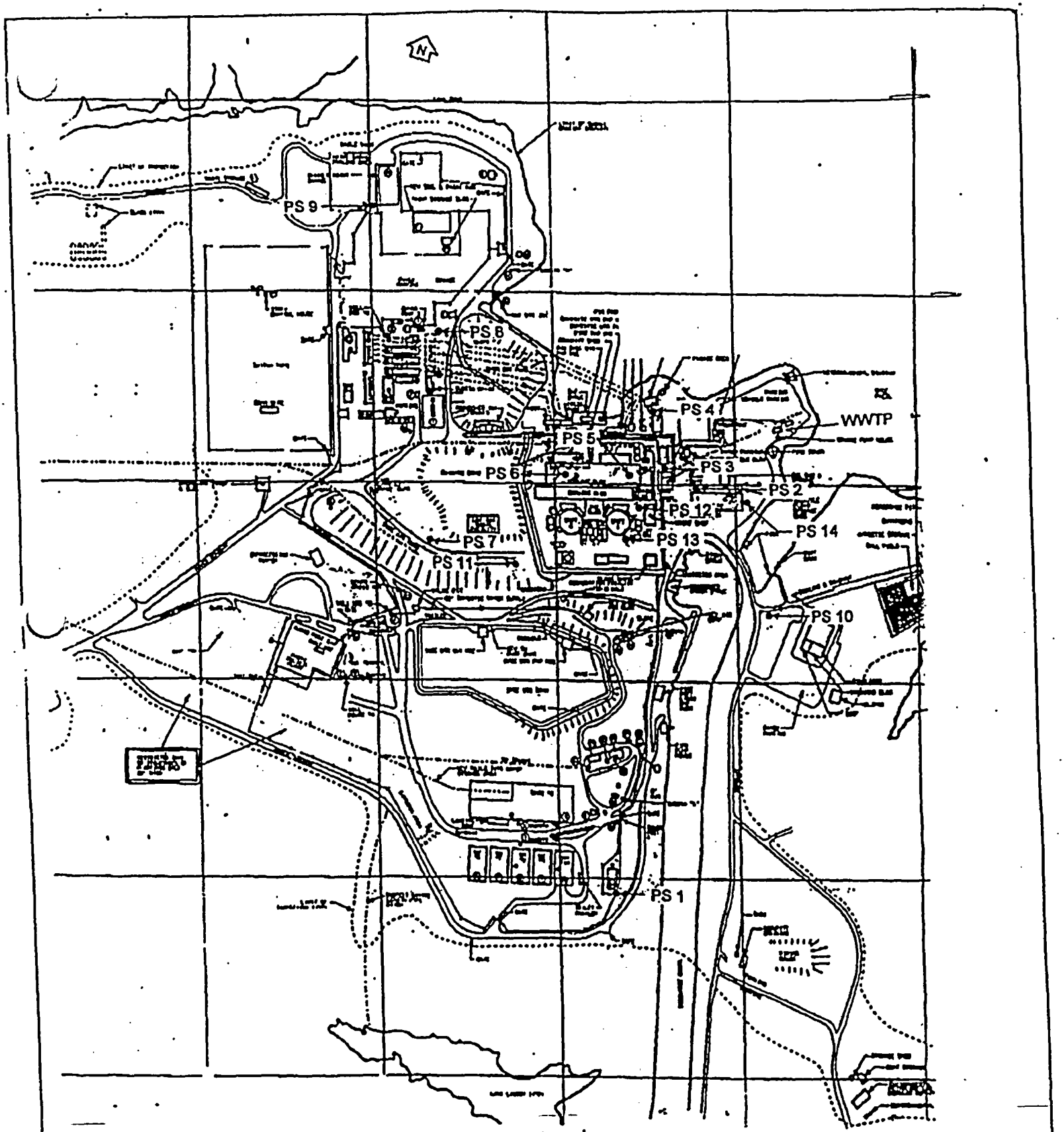
A Pollution Control, Inc. Model P-8X-C comminutor with a ½ HP, 480 Volt, 3 Phase motor is provided.

The bar screen must be manually cleaned.

Table 1: Influent Pump Stations

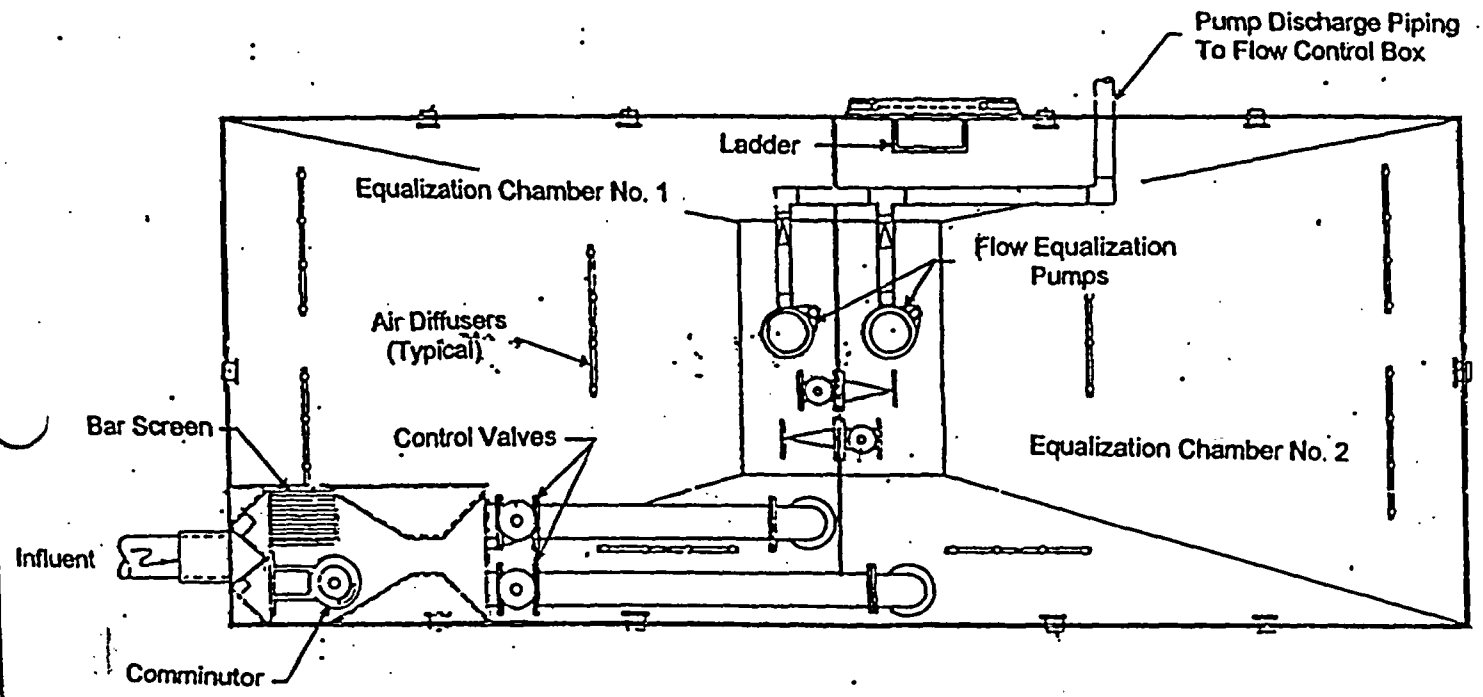
Pump Station No.	Capacity	Buildings/Areas Served	Discharge Location
1	90 GPM	Building No. 58; Warehouse No. 5 Warehouse No. 6	Influent Sewer
2	120 GPM	Administration Annex South	Influent Sewer
3	120 GPM	Records and Security	Influent Sewer
4	90 GPM	Snubber Shop	Influent Sewer
5	200 GPM	Turbine Building; Administration and Engineering; TSC; Electric Shop	Influent Sewer
6	200 GPM	Chemical Pump Room; PDA; Chemistry Lab	Influent Sewer
7	200 GPM	SGRP Building	Influent Sewer
8	200 GPM	SCOBN Building; FFD Building; Cafeteria; Pipe Shop; Building 12	PS No. 7
9	170 GPM	Vehicle Maintenance Building; Paint Shop	PS No. 8
10	200 GPM	Training Building; Island Bathrooms	Influent Sewer
11	90 GPM	West End Security Building	PS No. 7
12	170 GPM	Maintenance Building	Influent Sewer
13	90 GPM	Security Block House	PS No.12
14	120 GPM	Administration Annex North	Influent Sewer
15	120 GPM	Administration Annex South	Influent Sewer
16	120 GPM	TSB Cafeteria	Influent Sewer

Revised 6/21/05



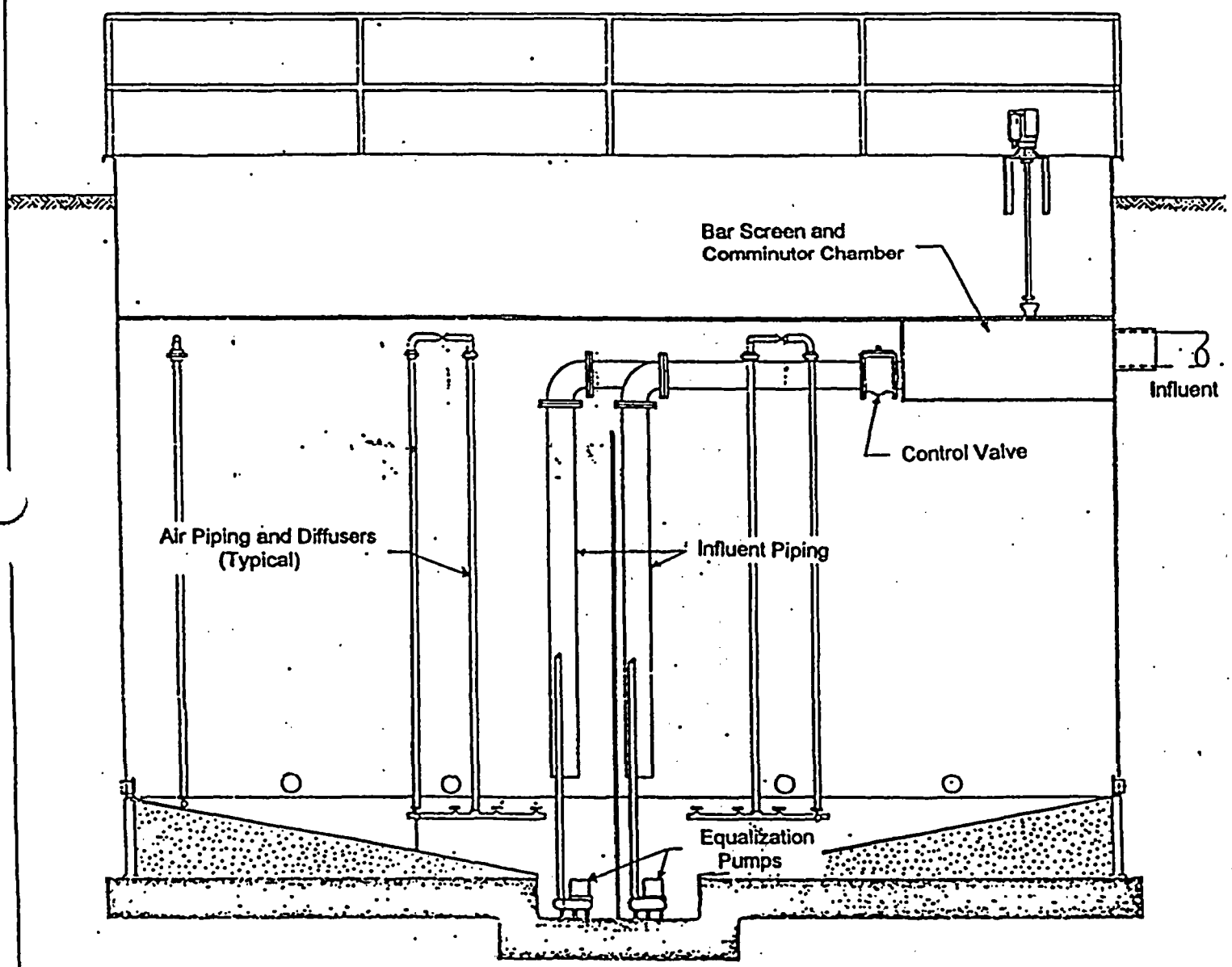
Influent Pump Station Locations

Figure 3



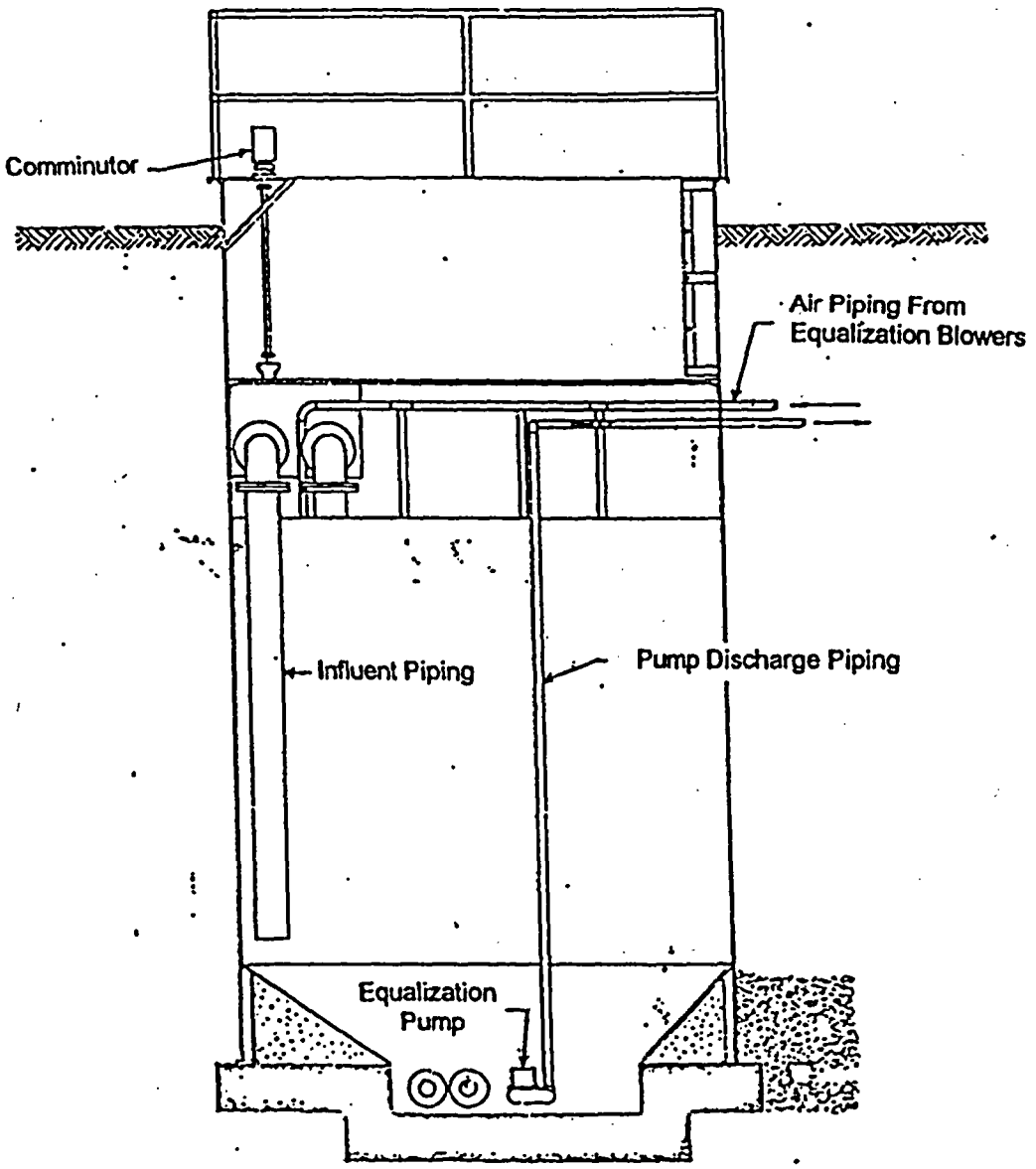
FLOW EQUALIZATION TANK PLAN

FIGURE 4



FLOW EQUALIZATION TANK SECTION

FIGURE 5



FLOW EQUALIZATION TANK SECTION

FIGURE 6

2. Equalization Chambers

Each equalization chamber holds approximately 18,700 Gallons, providing for approximately 4 hours of detention time at the design flow. An aeration system is provided to prevent septic conditions and two (2) equalization pumps are provided to transfer the wastewater to the main process tank.

a. Aeration System

Two (2) Roots AF-33 positive displacement blowers with 3 HP, 480 Volt, 3 Phase motors are provided in the equipment building for the equalization tank aeration system. Each blower is designed to deliver 32 SCFM at 6 PSID.

The aeration system also includes air piping, aeration headers, and diffusers. Each diffuser header is provided with its own air control valve.

The operation of the blowers is controlled by mercury level switches. Under normal operation, one blower operates and the other blower is for standby. A manual alternator is provided to switch the blowers between primary and standby. If the primary blower is called on to run and does not operate, the standby blower will come on line and an alarm will be annunciated.

b. Equalization Pumps

Two Hydromatic Model SPGL-200M-4 grinder pumps with 3 HP, 460 Volt, 3 Phase motors are provided.

The operation of the equalization pumps is controlled by mercury float switches. Under normal operation, one pump operates and the other pump is for standby. An alternator is provided to switch the pumps between primary and standby each time they operate. If the primary pump is called on to run and does not operate, the standby pump will come on line and an alarm is annunciated.

D. Flow Control and Flow Splitter Boxes

1. Flow Control Box

The discharge from the equalization tank pumps flows to a flow control box which controls the flow to the splitter box and aeration/sludge holding/settling tanks. A return flow flume is adjusted to return excess flows to the equalization tank and an adjustable orifice plate provides more accurate control of the flow to the main process tanks. **Figure 7** shows the components of the box.

2. Flow Splitter Box

The discharge from the flow control box flows to a splitter box which divides the flow equally between the two aeration/sludge holding/settling tanks. The flow is divided though a tee, and a pipe plug is provided to plug either side of the tee if the entire flow needs to be diverted to one aeration tank or the other.

E. Aeration/Sludge Holding/Settling Tanks

The aeration/sludge holding/settling tanks are the main process tanks and are divided into three main chambers. **Figures 8** and **9** show the components of the tanks.

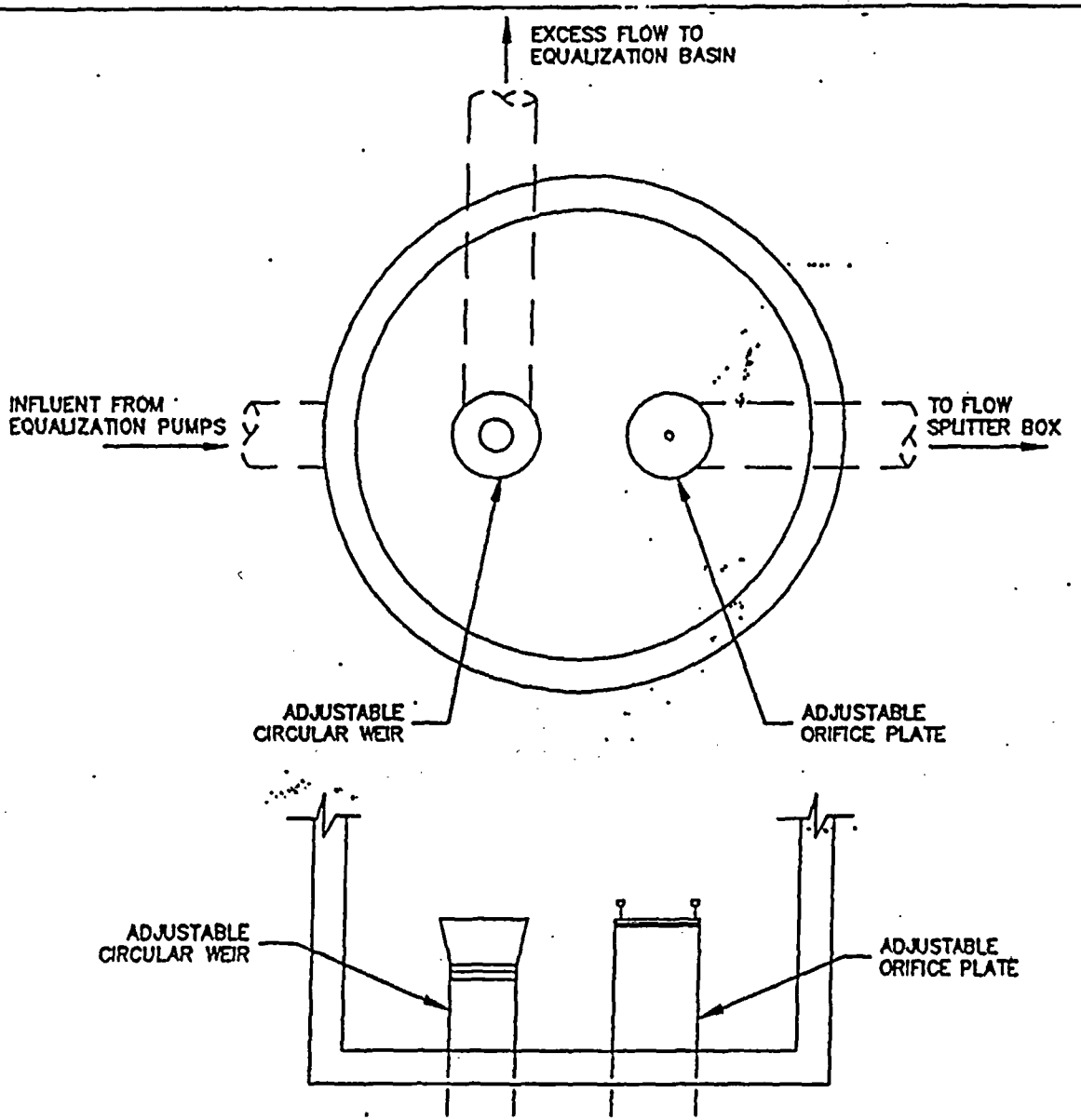
1. Aeration Chamber

Each aeration/sludge holding/settling tank has an aeration chamber which holds approximately 15,000 Gallons, providing for approximately 24 hours of detention time overall. An aeration system and a froth control spray system are also provided.

a. Aeration System

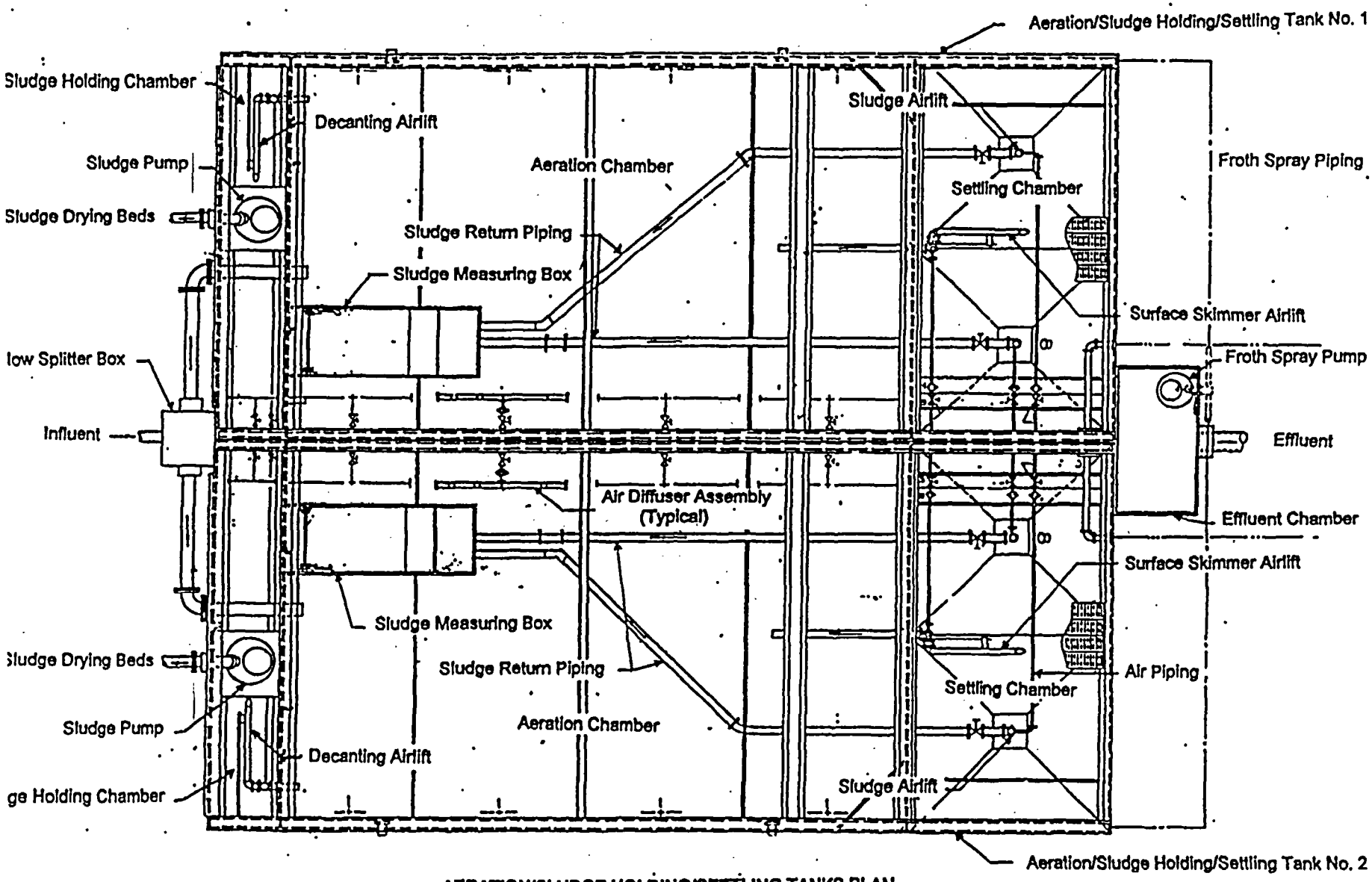
Two (2) Sutorbilt 5MB positive displacement blowers with 7.5 HP, 480 Volt, 3 Phase motors are provided in the equipment building for the aeration chamber aeration system. Each blower is designed to deliver 210 SCFM at 5 PSID.

The aeration system also includes air piping, aeration headers, and diffusers. Each diffuser header is provided



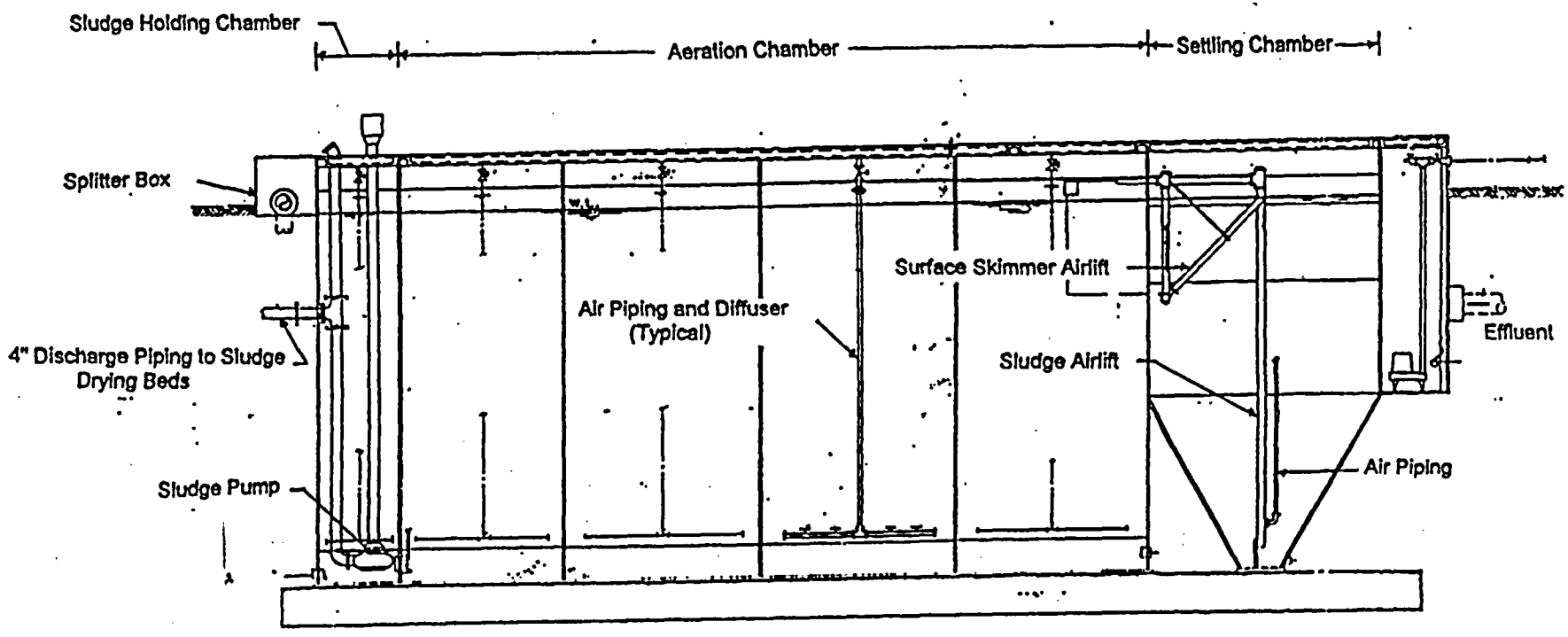
FLOW CONTROL BOX PLAN
AND SECTION

FIGURE 7



AERATION/SLUDGE HOLDING/SETTLING TANKS PLAN

FIGURE 8



AERATION/SLUDGE HOLDING/SETTLING TANK SECTION

FIGURE 9

with its own air control valve.

The operation of the blowers is controlled by a 24 hour timer which can be set to operate the blowers in 15 minute increments. A percentage timing device in the controls allow the cycle to be adjusted based on a percentage of every hour. Under normal operation, one blower operates and the other blower is for standby. A manual alternator is provided to switch the blowers between primary and standby. If the primary blower is called on to run and does not operate, the standby blower will come on line and an alarm will be annunciated.

b. Froth Control Spray System

The froth control spray system consists of eight spray nozzles evenly spaced and attached to piping headers along the exterior wall of each aeration chamber.

A Tait, Inc., Model WH5-43-2 submersible pump with a ½ HP, 460V, 3-Phase motor is provided in the effluent tank to supply non-potable water for the spray system.

2. Settling Chamber

Each aeration/sludge holding/settling tank has a settling chamber which provides for 4 hours of detention time based on 24 hours of runoff daily. The maximum allowable surface settling rate is 300 GPD per square foot which is also based on a 24 hour daily runoff. A sludge lift system and a surface skimming device are also provided.

a. Sludge Lift System

Two (2) three inch diameter air lift pipes are provided to remove sludge from the settling chambers and return it to the aeration chambers or waste it to the sludge holding chambers.

Valves are provided for adjusting the air flow to the lift system and adjustable slide gates allow for adjusting the sludge wasting rate.

The blowers supplying air to the aeration chamber aeration system also supply air to the air lift system.

b. Surface Skimming System

A decanting air lift system is provided to remove surface scum from the water surfaces in the settling tanks. The system includes adjustable, swivel-jointed inlet pipes and notched adjustable inlet height rods.

The blowers providing air to the aeration chamber aeration system also provide the air for the surface skimming system.

3. Sludge Holding Chamber

Each aeration/sludge holding/settling tank also has a sludge holding chamber which holds approximately 2,100 Gallons each. Sludge pumps and decanting air lifts are also provided.

a. Sludge Pumps

Two sludge pumps are provided to pump excess sludge to the drying beds or into a truck for disposal off site.

The pumps are Clow/Yeomans Model 5-3 (8000 Series) submersible pumps with ½ HP, 460V, 3 Phase motors. The pumps are designed to pump 50 GPM at 11 feet TDH.

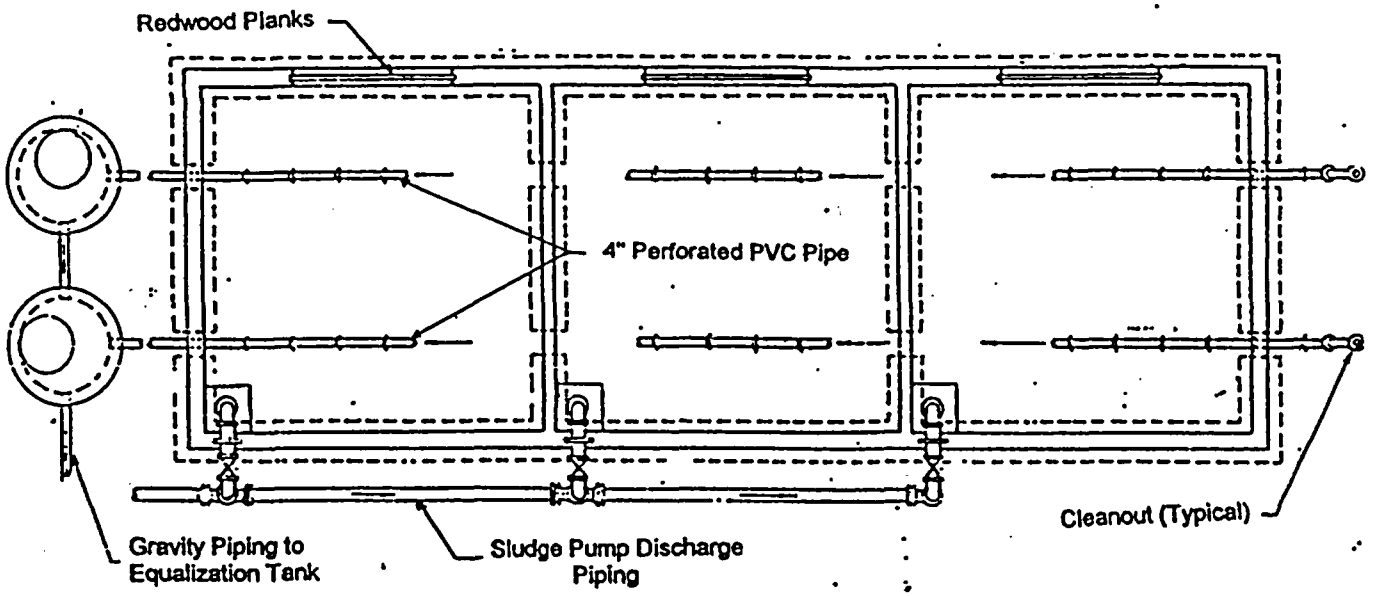
b. Decanting Air Lift System

A decanting air lift system is provided in the sludge holding chamber to draw off the supernatant. The system includes adjustable, swivel-jointed inlet pipes and notched adjustable inlet height rods.

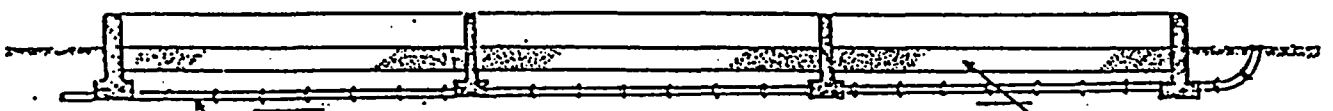
The blowers providing air to the aeration chambers also provide the air for the decanting air lift system.

F. Sludge Drying Beds

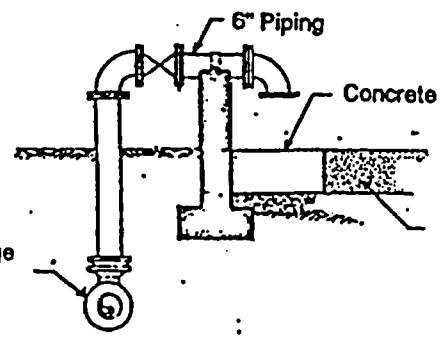
Three drying beds are provided to dewater and reduce the volume to the waste sludge before its final disposal. The beds are 15' x 15' and have 12" of coarse filter media over approximately 6" of gravel. **Figure 10**



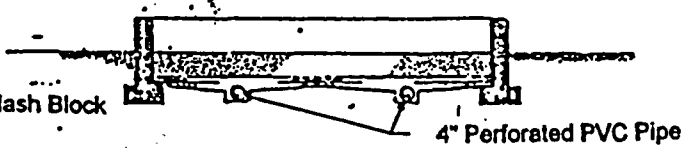
SLUDGE DRYING BEDS PLAN



SLUDGE DRYING BEDS SECTION



SLUDGE DRYING BED PIPING DETAIL



SLUDGE DRYING BEDS SECTION

FIGURE 10

shows the components of the drying beds.

The underdrain system consists of 4" perforated PVC pipe which changes to 4" CI pipe outside the beds. The bed drainage is directed to manholes for recirculation to the equalization tanks.

G. Chlorination/Dechlorination/Post Aeration Tank

The chlorination/dechlorination/post aeration tank includes a flow splitting chamber with adjustable weirs, two (2) chlorine contact chambers with chlorination tablet feeders at the inlets, and a dechlorination/post aeration chamber with mounting brackets for dechlorination tablet feeders to be installed at the inlets at a later date if required . Provisions are also included to install an aeration system for post aeration if required in the future. The wastewater flows through a stilling well with an ultrasonic flow meter prior to being discharged. **Figures 11** and **12** show the componants of the tank.

1. Chlorination Chambers

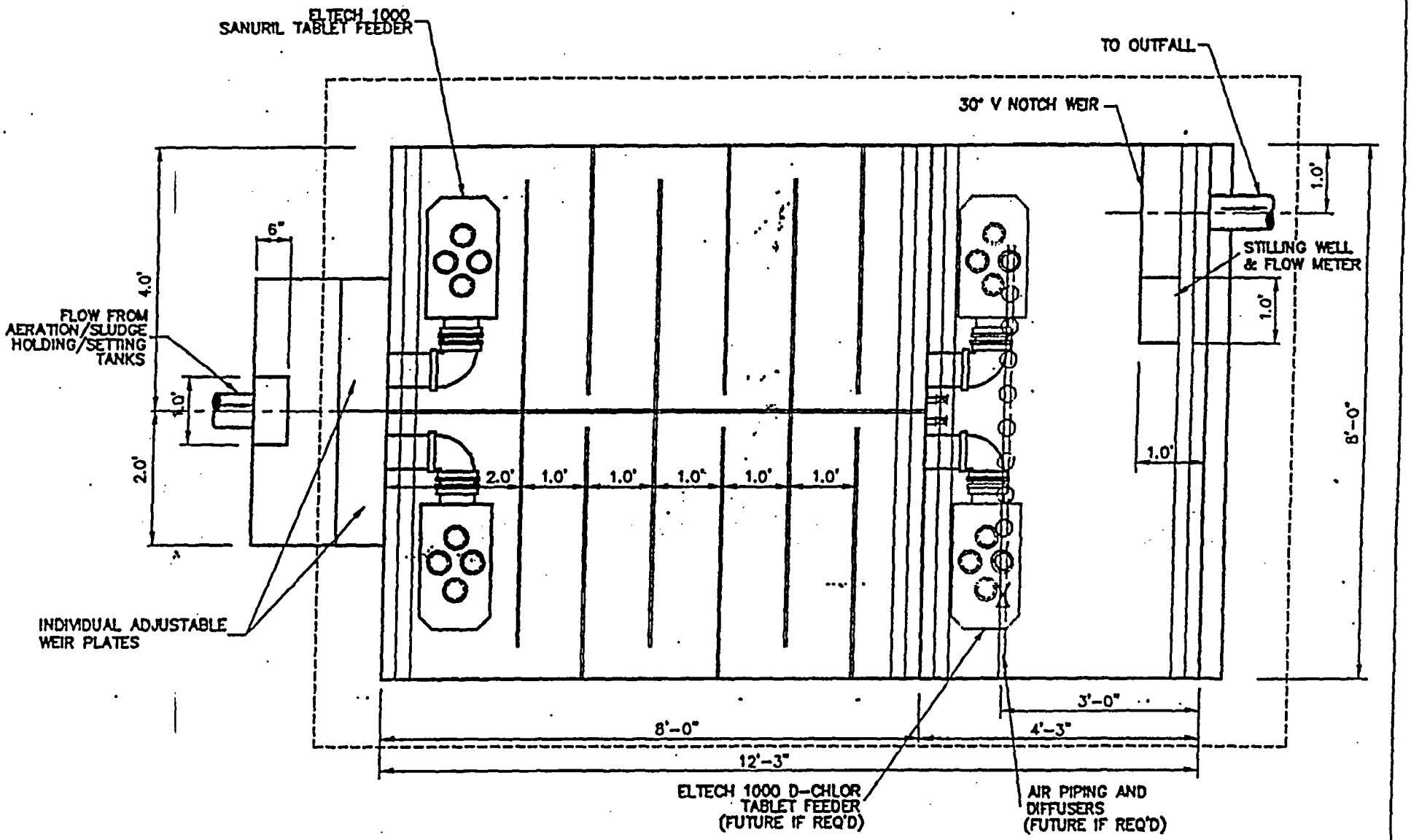
The chlorine contact chambers are 8' long x 4' wide with a water depth of 3'. The chambers are designed for a 69 minute contact time based on the design flow and have the required length/width ratio of 20:1 and a width/depth ratio of approximately 1.0 (1.33). Tablet feeders with chlorination tablets are provided at the inlets to the chambers to obtain the desired chlorine concentration.

a. Tablet Feeders

The tablet feeders are Eltech Model 1000 tablet feeders capable of treating approximately 50,000 GPD each. Sanuril calcium hypochlorite tablets are used to provide the required chlorine concentration.

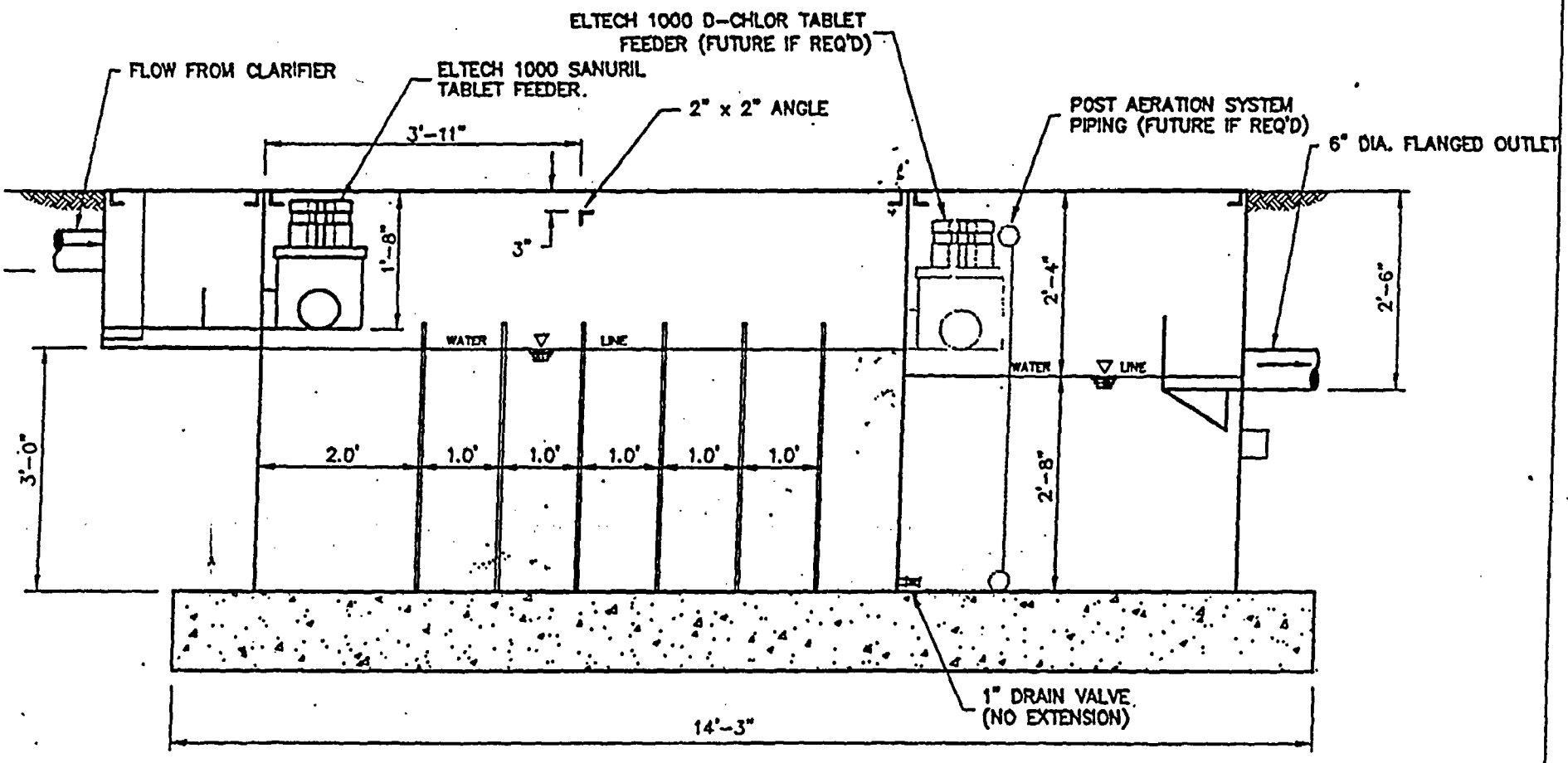
2. Dechlorination/Post Aeration Chamber

The dechlorination/post aeration chamber is 4'-3" long x 8' wide with a water depth of 2'-8". Tablet feeder mounting brackets are provided on the inlets to the chamber to allow for the installation of dechlorination facilities at a later date if required and provisions for a post aeration system are also present. A flow meter is provided in a stilling well prior to discharge and a 30 Degree V-notch weir is provided for alternate flow measurement.



CHLORINATION/DECHLORINATION/POST AERATION TANK
PLAN

FIGURE 11



CHLORINATION/DECHLORINATION/POST AERATION TANK SECTION

FIGURE 12

a. Tablet Feeders

The tablet feeders which would be installed if required are Eltech Model 1000 tablet feeders capable of treating approximately 50,000 GPD each. D-Chlor sodium sulfite tablets would be used to remove the chlorine present in the wastewater.

b. Aeration System

The aeration system which would be installed if required would be supplied by the aeration blowers in the equipment building. Each diffuser header would be provided with its own air control valve.

c. Flow Meter

The flow meter transducer provided in the stilling well of the dechlorination/post aeration chamber is a TN Technologies MeasureTech SCM sonic level transducer and the transmitter is located in the equipment building.

H. Outfall

In order to discharge the finished effluent to the discharge canal, the plant outfall is provided with 6" piping and two (2) concrete pipe supports/ anchors.

I. Plant Water System

A 2" water line extends from the power plant water main at the security building to the equipment building. A backflow prevention assembly is provided on the supply line in the building prior to feeding the lab sink, water closet, and yard hydrants.

J. Plant Alarm System

Four (4) alarm conditions are annunciated at the main control panel which are also annunciated in the motor control room of the power plant. In addition, a fifth alarm condition, loss of power to the treatment plant, is monitored and annunciated in the power plant motor control room.

The alarm conditions are as follows:

1. Primary equalization pump fails to start.

2. High water condition in the equalization tank.

3. Primary equalization tank blower fails to start.

4. Primary aeration/sludge holding/settling tank blower fails to start.

5. Loss of power to treatment plant.

K. Plant HVAC System

An IPI 5 KW, 480 V unit heater , a Carrier 9000 BTU/HR, 230 V air conditioner and a Loren Cook 1/6 HP, 115 V roof ventilator are provided in the main portion of the equipment building.

A Loren Cook 110 V ceiling fan is provided in the rest room.

L. Emergency Power

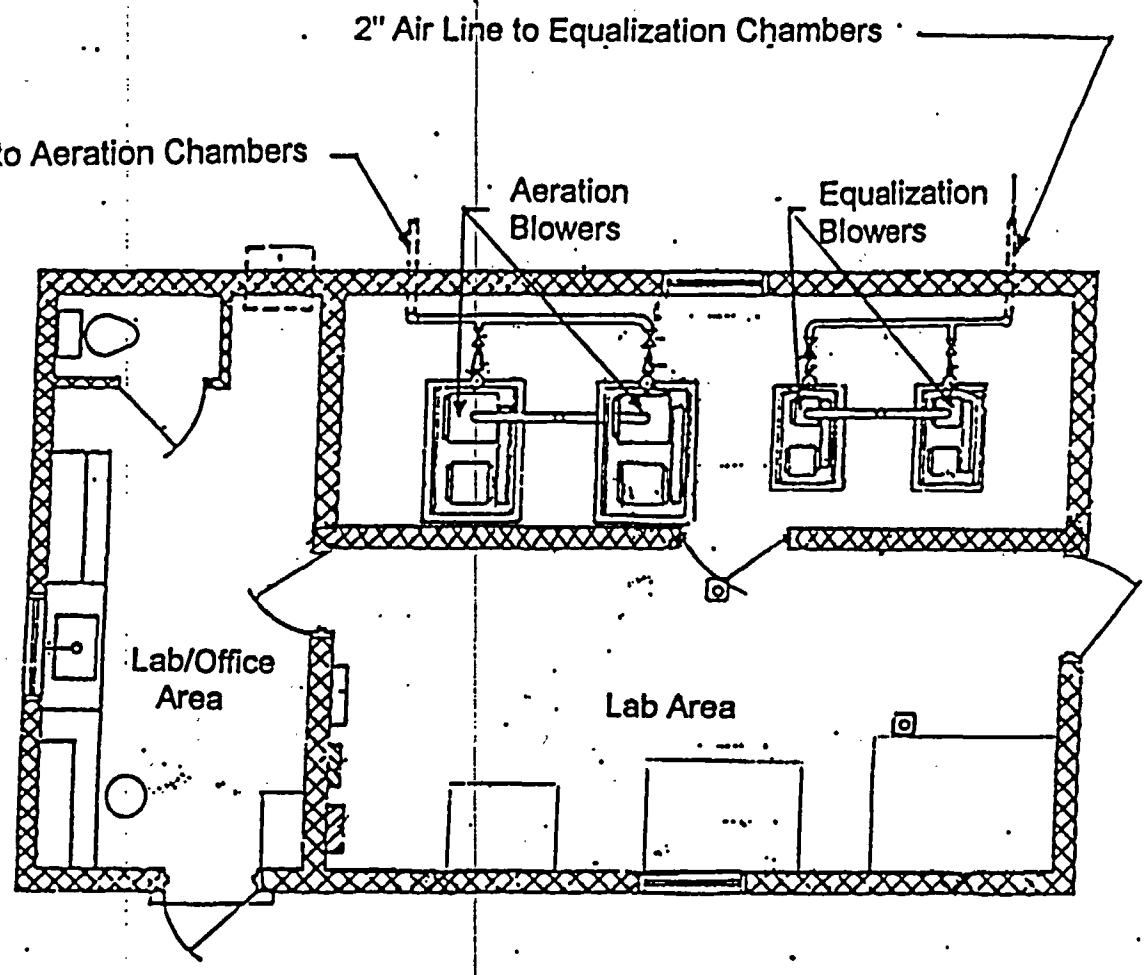
In the event that the primary power source fails, an alternate source is provided. Wiring, conduit, concrete encasement, three electrical manholes, and the existing MCC-1 in the power plant warehouse is provided for the emergency power.

M. Miscellaneous Equipment

To aid in emptying the treatment tanks, a portable sump pump is provided at the plant.

N. Laboratory Equipment

The following equipment are provided in the laboratory: a Fischer Model 805 MP & Fischer Accument Model AB15 to measure pH, a YSI 59 & YSI 55 to measure dissolved oxygen, a Sarorius Research A200D balance, a VWR Scientific Model 1310 oven, a Precision Model 181 water bath, a Hach DR 2000 & Hach Pocket Colorimeter to measure chlorine, a Mettler Model DL21 to measure alkalinity, and a Fischer Micrometer II microscope. **Figure 13** shows the laboratory areas of the laboratory/equipment building.



LABORATORY/EQUIPMENT BUILDING

FIGURE 13

VPDES Sewage Sludge Permit Application Form
&
Notice and Necessary Information

FACILITY NAME: North Anna Power Station VPDES PERMIT NUMBER: VA0052451

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

SCREENING INFORMATION

This application is divided into sections. Sections A pertain to all applicants. The applicability of Sections B, C and D depend on your facility's sewage sludge use or disposal practices. The information provided on this page will help you determine which sections to fill out.

1. All applicants must complete Section A (General Information).

2. Will this facility generate sewage sludge? X Yes __No

   Will this facility derive a material from sewage sludge? __Yes X No

   If you answered Yes to either, complete Section B (Generation Of Sewage Sludge Or Preparation Of A Material Derived From Sewage Sludge).

3. Will this facility apply sewage sludge to the land? __Yes X No

   Will sewage sludge from this facility be applied to the land? X Yes __No

   If you answered No to both questions above, skip Section C.

   If you answered Yes to either, answer the following three questions:

   a. Will the sewage sludge from this facility meet the ceiling concentrations, pollutant concentrations, Class A pathogen reduction requirements and one of the vector attraction reduction requirements 1-8, as identified in the instructions?
      __Yes X No

   b. Will sewage sludge from this facility be placed in a bag or other container for sale or give-away for application to the land? __Yes X No

   c. Will sewage sludge from this facility be sent to another facility for treatment or blending? X Yes __No

   If you answered No to all three, complete Section C (Land Application Of Bulk Sewage Sludge).

   If you answered Yes to a, b or c, skip Section C.

4. Do you own or operate a surface disposal site? __Yes X No

   If Yes, complete Section D (Surface Disposal).

FACILITY NAME: Dominion - North Anna Power Station VPDES PERMIT NUMBER: VA0052451

SECTION A. GENERAL INFORMATION

All applicants must complete this section.

1. Facility Information.
   a. Facility name: Dominion - North Anna Power Station
   b. Contact person: Pamela F. Faggert
      Title: Vice President and Chief Environmental Officer
      Phone: ( ) 804-273-3467
   c. Mailing address:
      Street or P.O. Box: 5000 Dominion Boulevard
      City or Town: Glen Allen State: Virginia Zip: 23060
   d. Facility location:
      Street or Route #: 1022 Haley Drive
      County: Louisa
      City or Town: Mineral State: Virginia Zip: 23117
   e. Is this facility a Class I sludge management facility? __Yes X No
   f. Facility design flow rate: 30,000 gpd mgd
   g. Total population served: 950
   h. Indicate the type of facility:
      __ Publicly owned treatment works (POTW)
      X Privately owned treatment works
      __ Federally owned treatment works
      __ Blending or treatment operation
      __ Surface disposal site
      __ Other (describe): _____

2. Applicant Information. If the applicant is different from the above, provide the following: SAME
   a. Applicant name: _____
   b. Mailing address:
      Street or P.O. Box: _____
      City or Town: _____ State: _____ Zip: _____
   c. Contact person: _____
      Title: _____
      Phone: ( ) _____
   d. Is the applicant the owner or operator (or both) of this facility?
      _____ owner _____ operator
   e. Should correspondence regarding this permit be directed to the facility or the applicant? (Check one)
      _____ facility _____ applicant

3. Permit Information.
   a. Facility's VPDES permit number (if applicable): VA0052451
   b. List on this form or an attachment, all other federal, state or local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:

Permit Number:	Type of Permit:
N/A	Sludge Disposal Plan for the North Anna Power Station STP, Louisa County approved by DEQ on 6/10/96, revised by letter dated 10/27/97

4. Indian Country. Does any generation, treatment, storage, application to land or disposal of sewage sludge from this facility occur in Indian Country? __Yes X No If yes, describe:

_____

FACILITY NAME: Dominion - North Anna Power Station VPDES PERMIT NUMBER: VA0052451

5. Topographic Map. Provide a topographic map or maps (or other appropriate maps if a topographic map is unavailable) that shows the following information. Maps should include the area one mile beyond all property boundaries of the facility:
   a. Location of all sewage sludge management facilities, including locations where sewage sludge is generated, stored, treated, or disposed.
   b. Location of all wells, springs, and other surface water bodies listed in public records or otherwise known to the applicant within 1/4 mile of the property boundaries. See VPDES Outfall Location Map

6. Line Drawing. Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction. The line drawing is attached to this application form

7. Contractor Information. Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor? X Yes __ No Holding tank, liquid sludge
   If yes, provide the following for each contractor (attach additional pages if necessary).
   Name: Hauler - Stamie E. Lyttle Co., Inc. (Buck Accashian - Mgr Service Dept)
   Mailing address: 2210 Belt Blvd., at Hopkins Rd. P. O. Box 24205
   Street or P.O. Box: _____
   City or Town: Richmond State: Virginia Zip: 23224
   Phone: ( ) 804-232-6774
   Contractor's Federal, State or Local Permit Number(s) applicable to this facility's sewage sludge:
   VDH (Chesterfield Co.) Permit # 96-120-0001H
   If the contractor is responsible for the use and/or disposal of the sewage sludge, provide a description of the service to be provided to the applicant and the respective obligations of the applicant and the contractor(s). N/A

8. Pollutant Concentrations. Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants which limits in sewage sludge have been established in 9 VAC 25-31-10 et seq. for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old. This data from 4/30/96 is still representative.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	SAMPLE DATE	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
Arsenic	<0.010	grab	4/30/96	0.010
Cadmium	<0.05	grab	4/30/96	0.05
Chromium	<0.15	grab	4/30/96	0.15
Copper				
Lead	<0.65	grab	4/30/96	0.65
Mercury	<0.001	grab	4/30/96	0.001
Molybdenum				
Nickel				
Selenium	<0.010	grab	4/30/96	0.010
Zinc				

9. Certification. Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of the application you have completed and are submitting:

   X Section A (General Information)
   X Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)
   ___ Section C (Land Application of Bulk Sewage Sludge)
   ___ Section D (Surface Disposal)

FACILITY NAME: Dominion - North Anna Power Station VPDES PERMIT NUMBER: VA0052451

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 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.

Name and official title Jack Michael Davis - Site Vice President

Signature [signature] Date Signed 6-28-05

Telephone number (540) 894-2101

Upon request of the department, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

FACILITY NAME: Dominion - North Anna Power Station VPDES PERMIT NUMBER: VA0052451

SECTION B. GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE

Complete this section if your facility generates sewage sludge or derives a material from sewage sludge

1. Amount Generated On Site.
   Total dry metric tons per 365-day period generated at your facility: <1 dry metric tons

2. Amount Received from Off Site. If your facility receives sewage sludge from another facility for treatment, use or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary. N/A
   a. Facility name: _____
   b. Contact Person: _____
      Title: _____
      Phone ( ) _____
   c. Mailing address:
      Street or P.O. Box: _____
      City or Town: _____ State: _____ Zip: _____
   d. Facility Address: _____
      (not P.O. Box) _____
   e. Total dry metric tons per 365-day period received from this facility: _____ dry metric tons
   f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics:
      _____
      _____

3. Treatment Provided at Your Facility.
   a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?
      __Class A __Class B X Neither or unknown
   b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge: Drying beds, only for low-level rad waste-->
      dry sludge incinerated off-site
   c. Which vector attraction reduction option is met for the sewage sludge at your facility?
      __ Option 1 (Minimum 38 percent reduction in volatile solids)
      __ Option 2 (Anaerobic process, with bench-scale demonstration)
      __ Option 3 (Aerobic process, with bench-scale demonstration)
      __ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
      __ Option 5 (Aerobic processes plus raised temperature)
      __ Option 6 (Raise pH to 12 and retain at 11.5)
      __ Option 7 (75 percent solids with no unstabilized solids)
      __ Option 8 (90 percent solids with unstabilized solids)
      X None or unknown
   d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge: NONE
   e. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities, including blending, not identified in a - d above: NONE

4. Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements and One of Vector Attraction Reduction Options 1-8 (EQ Sludge). N/A
   (If sewage sludge from your facility does not meet all of these criteria, skip Question 4.)
   a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land: _____ dry metric tons
   b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away?
      __Yes __No

FACILITY NAME: Dominion - North Anna Power Station VPDES PERMIT NUMBER: VA0052451

5. Sale or Give-Away in a Bag or Other Container for Application to the Land. N/A

(Complete this question if you place sewage sludge in a bag or other container for sale or give-away prior to land application. Skip this question if sewage sludge is covered in Question 4.)

a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land:_____ dry metric tons

b. Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

6. Shipment Off Site for Treatment or Blending.

(Complete this question if sewage sludge from your facility is sent to another facility that provides treatment or blending. This question does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this question if the sewage sludge is covered in Questions 4 or 5. If you send sewage sludge to more than one facility, attach additional sheets as necessary.)

a. Receiving facility name: Louisa County Water Authority - Non-Rad. Sludge Only

b. Facility contact: H. Barlow Delk
Title: General Manager
Phone: ( ) 540-967-1122

c. Mailing address:
Street or P.O. Box: P. O. Box 9
City or Town: Louisa State: Virginia Zip: 23093

d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility: <1 dry metric tons Sludge is in concentrated liquid form

e. List, on this form or an attachment, the receiving facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the receiving facility's sewage sludge use or disposal practices:

Permit Number:	Type of Permit:
VA0067954	VPDES (Includes Sludge Disposal Plan)

f. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility? X Yes __No
Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?
__Class A X Class B __Neither or unknown
Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge: . Sludge -> Aerobic digester -> blending with all sludge, aeration -> into second digester, aeration -> dewatering -> land application disposal according to approved sludge disposal plan

g. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge? X Yes __No
Which vector attraction reduction option is met for the sewage sludge at the receiving facility?
X Option 1 (Minimum 38 percent reduction in volatile solids)
__ Option 2 (Anaerobic process, with bench-scale demonstration)
__ Option 3 (Aerobic process, with bench-scale demonstration)
__ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
__ Option 5 (Aerobic processes plus raised temperature)
__ Option 6 (Raise pH to 12 and retain at 11.5)
__ Option 7 (75 percent solids with no unstabilized solids)
__ Option 8 (90 percent solids with unstabilized solids)
__ None unknown
Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge: N/A

h. Does the receiving facility provide any additional treatment or blending not identified in f or g above?
__Yes X No
If yes, describe, on this form or another sheet of paper, the treatment processes not identified in f or g above:

i. If you answered yes to f., g or h above, attach a copy of any information you provide to the receiving facility to comply with the "notice and necessary information" requirement of 9 VAC 25-31-530.G. Attached

j Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? __Yes X No
If yes, provide a copy of all labels or notices that accompany the product being sold or given away.

k. Will the sewage sludge be transported to the receiving facility in a truck-mounted watertight tank normally used for such purposes? X Yes ___ No. If no, provide description and specification on the vehicle used to transport the sewage sludge to the receiving facility.
Show the haul route(s) on a location map or briefly describe the haul route below and indicate the days of the week and the times of the day sewage sludge will be transported. _____
See approved Sludge Management Plan - Attachment 24

7. Land Application of Bulk Sewage Sludge. N/A
(Complete Question 7.a if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in Questions 4, 5 or 6; complete Question 7.b, c & d only if you are responsible for land application of sewage sludge.)

a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites:_____dry metric tons

b. Do you identify all land application sites in Section C of this application? __Yes __No
If no, submit a copy of the Land Application Plan (LAP) with this application (LAP should be prepared in accordance with the instructions).

c. Are any land application sites located in States other than Virginia? __Yes __No
If yes, describe, on this form or on another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.
_____

d. Attach a copy of any information you provide to the owner or lease holder of the land application sites to comply with the "notice and necessary" information requirement of 9 VAC 25-31-530 F and/or H (Examples may be obtained in Appendix IV).

8. Surface Disposal. N/A
(Complete Question 8 if sewage sludge from your facility is placed on a surface disposal site.)

a. Total dry metric tons per 365-day period of sewage sludge from your facility placed on all surface disposal sites: _____ dry metric tons

b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?
__Yes __No
If no, answer questions c - g for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one surface disposal site, attach additional pages as necessary.

c. Site name or number: _____

d. Contact person: _____
Title: _____
Phone: ( ) _____
Contact is: __Site Owner __Site operator

e. Mailing address.
Street or P.O. Box: _____
City or Town: _____ State: _____ Zip: _____

f. Total dry metric tons per 365-day period of sewage sludge from your facility placed on this surface disposal site: _____ dry metric tons

g. List, on this form or an attachment, the surface disposal site VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the sewage sludge use or disposal practices at the surface disposal site:

Permit Number:	Type of Permit:
_____	_____
_____	_____

9. Incineration.
(Complete Question 9 if sewage sludge from your facility is fired in a sewage sludge incinerator.)

a. Total dry metric tons per 365-day period of sewage sludge from your facility fired in a sewage sludge incinerator: <1 tons Low Level Rad-Waste Only - regulated by NRC

b. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired?
___Yes X No
If no, answer questions c - g for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one sewage sludge incinerator, attach additional pages as necessary.

c. Incinerator name or number: Duratek Inc. — Low Level Rad-Waste Only ___

d. Contact person: Dennis Hennen
Title: Account Mgr Phone: 865-220-1632

Contact is: X Incinerator Owner X Incinerator Operator

e. Incinerator mailing address: 1560 Bear Creek Road, P0 Box 2530
Oak Ridge, Tennessee 37830

f. Total dry metric tons per 365-day period of sewage sludge from your facility fired in this sewage sludge incinerator: <1 tons Low Level Rad-Waste Only - regulated by NRC

g. List on this form or an attachment the numbers of all other federal, state or local permits that regulate the firing of sewage sludge at this incinerator:

Permit Number:	Type of Permit:
450482	Conditional Major Operating Permit (TN Division of Air Pollution Control)
TNR051628	NPDES Permit for Storm Water Discharges Associated w/industrial Activity
R-73008-C14	Radioactive Material License
TND 98-215-7570	Hazardous waste generator
071299 851 014H	Hazardous Materials Certification of Registration (DOT)
TN-8004	Tracking System Permit (Illinois Dept of Nuclear Safety)
T-TNO12-L05	Radioactive Waste Delivery License

10. Disposal in a Municipal Solid Waste Landfill. NA
(Complete Question 10 if sewage sludge from your facility Is placed on a municipal solid waste landfill. Provide the following information for each municipal solid waste land fill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as needed.)

Street or P.O. Box:_____
City or Town:_____ State:_____ Zip:_____

d. Landfill location.
Street or Route #:_____
County: _____
City or Town: _____ State:_____ Zip:_____

e. Total dry metric tons per 365-day period of sewage sludge placed in this municipal solid waste landfill:
_____ dry metric tons

f. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the operation of this municipal solid waste landfill:

Permit Number:	Type of Permit:
_____	_____
_____	_____

g. Does sewage sludge meet applicable requirements in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq., concerning the quality of materials disposed in a municipal solid waste landfill?
___Yes ___No

h. Does the municipal solid waste landfill comply with all applicable criteria set forth in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq.? ___Yes ___No

i. Will the vehicle bed or other container used to transport sewage sludge to the municipal solid waste landfill be watertight and covered? ___ Yes ___ No
Show the haul route(s) on a location map or briefly describe the route below and indicate the days of the week and time of the day sewage sludge will be transported. _____

FACILITY NAME: Dominion - North Anna Power Station VPDES PERMIT NUMBER: VA0052451

SECTION C. LAND APPLICATION OF BULK SEWAGE SLUDGE

N/A

Complete this section for sewage sludge that is land applied unless any of the following conditions apply:

The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements and one of the vector attraction reduction options 1-8 (fill out B.4 instead) (EQ Sludge); or

The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 instead); or

You provide the sewage sludge to another facility for treatment or blending (fill out B.6 instead).

Complete Section C for every site on which the sewage sludge that you reported in B.7 is land applied.

1. Identification of Land Application Site.
   a. Site name or number: _____
   b. Site location (Complete i and ii)
      i. Street or Route#: _____
         County: _____
         City or Town: _____ State: _____ Zip: _____
      ii. Latitude: _____ Longitude: _____
         Method of latitude/longitude determination
         _____ USGS map _____ Filed survey _____ Other
   c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

2. Owner Information.
   a. Are you the owner of this land application site? __Yes __No
   b. If no, provide the following information about the owner:
      Name: _____
      Street or P.O. Box: _____
      City or Town: _____ State: _____ Zip: _____
      Phone: ( ) _____

3. Applier Information:
   a. Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site? __Yes __No
   b. If no, provide the following information for the person who applies the sewage sludge:
      Name: _____
      Street or P.O. Box: _____
      City or Town: _____ State: _____ Zip: _____
      Phone: ( ) _____
   c. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the person who applies sewage sludge to this land application site:

Permit Number:	Type of Permit:
_____	_____
_____	_____

4. Site Type. Identify the type of land application site from among the following:
   __Agricultural land __Reclamation site __Forest
   __Public contact site __Other. Describe _____

5. Vector Attraction Reduction.
   Are any vector attraction reduction requirements met when sewage sludge is applied to the land application site?
   __Yes __No If yes, answer a and b.
   a. Indicate which vector attraction reduction option is met:
      __ Option 9 (Injection below land surface)
      __ Option 10 (Incorporation into soil within 6 hours)
   b. Describe, on this form or on another sheet of paper, any treatment processes used at the land application site to reduce the vector attraction properties of sewage sludge:
      _____
      _____

FACILITY NAME: Dominion - North Anna Power Station VPDES PERMIT NUMBER: VA0052451

6. Cumulative Loadings and Remaining Allotments.

(Complete Question 6 only if the sewage sludge applied to this site since July 20, 1993 is subject to the cumulative pollutant loading rates (CPLRs) - see instructions.)

a. Have you contacted DEQ or the permitting authority in the state where the sewage sludge subject to the CPLRs will be applied to ascertain whether bulk sewage sludge subject to the CPLRs has been applied to this site since July 20, 1993? ___Yes ___No

If no, sewage sludge subject to the CPLRs may not be applied to this site.

If yes, provide the following information:

Permitting authority: _____

Contact person: _____

Phone: ( ) _____

b. Based upon this inquiry, has bulk sewage sludge subject to the CPLRs been applied to this site since July 20, 1993? ___Yes ___No If no, skip the rest of Question 6. If yes, answer questions c - e.

c. Site size, in hectares: _____ (one hectare = 2.471 acres)

d. Provide the following information for every facility other than yours that is sending or has sent sewage sludge subject to the CPLRs to this site since July 20, 1993. If more than one such facility sends sewage sludge to this site, attach additional pages as necessary.

Facility name: _____

Facility contact: _____

Title: _____

Phone: ( ) _____

Mailing address.

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

e. Provide the total loading and allotment remaining, in kg/hectare, for each of the following pollutants:

	Cumulative loading	Allotment remaining
Arsenic	_____	_____
Cadmium	_____	_____
Copper	_____	_____
Lead	_____	_____
Mercury	_____	_____
Nickel	_____	_____
Selenium	_____	_____
Zinc	_____	_____

Complete Questions 7-12 below only if you apply sewage sludge, or you are responsible for land application of sewage sludge. Information required by these questions may be prepared as attachments to this form. Skip the following questions if you contract land application to someone else (as indicated under Section A.7) who is responsible for the operation.

7. Sludge Characterization. Use the table below or a separate attachment, provide at least one analysis for each parameter.

PCBs (mg/kg)	____
pH (S. U.)	____
Percent Solids (%)	____
Ammonium Nitrogen (mg/kg)	____
Nitrate Nitrogen (mg/kg)	____
Total Kjeldahl Nitrogen (mg/kg)	____
Total Phosphorus (mg/kg)	____
Total Potassium (mg/kg)	____
Alkalinity as $CaCO_3$* (mg/kg)	____

* Lime treated sludge (10% or more lime by dry weight) should be analyzed for percent $CaCO_3$.

8. Storage Requirements.
Existing and proposed sludge storage facilities must provide an estimated annual sludge balance on a monthly basis incorporating such factors as storage capacity, sludge production and land application schedule. Include pertinent calculations justifying storage requirements.
Proposed sludge storage facilities must also provide the following information:
   a. A sludge storage site layout on a 7.5 minute topographic quadrangle or other appropriate scaled map to show the following topographic features of the surrounding landscape to a distance of 0.25 mile. Clearly mark the property line.
      1) Water wells, abandoned or operating
      2) Surface waters
      3) Springs
      4) Public water supply(s)
      5) Sinkholes
      6) Underground and/or surface mines
      7) Mine pool (or other) surface water discharge points
      8) Mining spoil piles and mine dumps
      9) Quarry(s)
      10) Sand and gravel pits
      11) Gas and oil wells
      12) Diversion ditch(s)
      13) Agricultural drainage ditch(s)
      14) Occupied dwellings, including industrial and commercial establishments
      15) Landfills or dumps
      16) Other unlined impoundments
      17) Septic tanks and drainfields
      18) Injection wells
      19) Rock outcrops
   b. A topographic map of sufficient detail to clearly show the following information:
      1) Maximum and minimum percent slopes
      2) Depressions on the site that may collect water
      3) Drainageways that may attribute to rainfall run-on to or runoff from this site
      4) Portions of the site (if any) which are located with the 100-year floodplain and how the storage facility will be protected from flooding
   c. Data and specifications for the storage facility lining material.
   d. Plan and cross-sectional views of the storage facility.
   e. Depth from the bottom of the storage facility to the seasonal high water table and separation distance to the permanent water table.

9. Land Area Requirements. Provide calculations justifying the land area requirements for land application of sewage sludge taking into consideration average soil productivity group, crop(s) to be grown and most limiting factor(s) of the sewage sludge, specifically Plant Available Nitrogen (PAN), Calcium Carbonate Equivalence (CCE), and metal loadings (CPLR sewage sludge only), where applicable. Relate PAN, CCE, and metal loadings to demonstrate the most limiting factor for land application.

10. Landowner Agreement Forms. Provide a properly completed Sewage Sludge Application Agreement Form (attached) for each landowner if sewage sludge is to be applied onto land not owned by the applicant.

11. Ground Water Monitoring.
Are any ground water monitoring data available for this land application site? __Yes __No
If yes, submit the ground water monitoring data with this permit application. Also submit a written description of the well locations, approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

12. Land Application Site Information.
(Complete Items a-d for sites receiving infrequent application - land application of sewage sludge up to the agronomic rate at a frequency of once in a 3 year period; complete Items a-h for sites receiving frequent application - land application of sewage sludge in excess of 70% the agronomic rate at a frequency greater than once in a 3 year period)

a. Provide a general location map for each county which clearly indicates the location of all the land application sites.

b. For each land application site provide a site plan of sufficient detail to clearly show the concerned landscape features and associated buffer zones (See instructions). Provide a legend for each landscape feature and the net acreage for each field taking into account the proposed buffer zones.

c. In order to ensure that land application of bulk sewage sludge will not impact federally listed threatened or endangered species or federally designated critical habitat, the applicant must notify the field office of the U. S. Department of the Interior, Fish and Wildlife Service (FWS), by a letter, the proposed land application activities with the identification of the land application sites. The address and phone number of FWS are provided below.

U. S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061
TEL: (804)693-6694

Provide a copy of the notification letter with this application form.

d. Provide a soil survey map, preferably photographically based, with the field boundaries clearly marked. (A USDA-SCS soil survey map should be provided, if available.)
Provide a detailed legend for each soil survey map which uses accepted USDA-SCS descriptions of the typifying pedon for each soil series (soil type). Complex associations may be described as a range of characteristics. Soil descriptions shall include as a minimum the following information.

1) Soil symbol
2) Soil series, textural phase and slope range
3) Depth to seasonal high water table
4) Depth to bedrock
5) Estimated soil productivity group (for the proposed crop rotation)

Item e - h are required for sites receiving frequent application of sewage sludge

e. In order to verify the information provided in item d, characterize the soil at each land application site. Representative soil borings or test pits to a depth of five feet or to bedrock if shallower, are to be coordinated for the typifying pedon of each soil series (soil type). Soil descriptions shall include as a minimum the following information:

1). Soil symbol
2). Soil series, textural phase and slope range
3). Depth to seasonal high water table
4). Depth to bedrock
5). Estimated soil productivity group (for the proposed crop rotation)

f. Collect and analyze soil samples from each field, weighted to best represent each of the soil borings performed for Item e. Using the table below or a separate attachment, provide at least one analysis per sample for each of the following parameters.

Soil Organic Matter (%)	_____
Soil pH (std. units)	_____
Cation Exchange Capacity (meq/100g)	_____
Total Nitrogen (ppm)	_____
Organic Nitrogen (ppm)	_____
Ammonia Nitrogen (ppm)	_____
Nitrate Nitrogen (ppm)	_____
Available Phosphorus (ppm)	_____
Exchangeable Potassium (mg/100g)	_____
Exchangeable Sodium (mg/100g)	_____
Exchangeable Calcium (mg/100g)	_____
Exchangeable Magnesium (mg/100g)	_____
Arsenic (ppm)	_____
Cadmium (ppm)	_____
Copper (ppm)	_____
Lead (ppm)	_____
Mercury (ppm)	_____
Molybdenum (ppm)	_____
Nickel (ppm)	_____
Selenium (ppm)	_____
Zinc (ppm)	_____
Manganese (ppm)	_____
Particle Size Analysis or USDA Textural Estimate (%)	_____

g. Relate the crop nutrient needs to anticipated yields, soil productivity rating and the various fertilizer or nutrient sources from sludge and chemical fertilizers. Describe any specialized agronomic management practices which may be required as a result of high soil pH. If the sludge is expected to possess an unusually high CCE or other unusual properties, provide a description of any plant tissue testing, supplemental fertilization or intensive agronomic management practices which may be necessary.

h. Using a narrative format and referencing any related charts, describe the proposed cropping system. Show how the crop rotation and management will be coordinated with the design of the land application system. Include any supplemental fertilization program, soil testing and the coordination of tillage practices, planting and harvesting schedules and timing of land application.

FACILITY NAME: Dominion - North Anna Power Station VPDES PERMIT NUMBER: VA0052451

SEWAGE SLUDGE APPLICATION AGREEMENT

N/A

This sewage sludge application agreement is made on this date _____ between _____, referred to here as "landowner", and _____, referred to here as the "Permittee".

Landowner is the owner of agricultural land shown on the map attached as Exhibit A and designated there as _____ ("landowner's land"). Permittee agrees to apply and landowner agrees to comply with certain permit requirements following application of sewage sludge on landowner's land in amounts and in a manner authorized by VPDES permit number _____ which is held by the Permittee.

Landowner acknowledges that the appropriate application of sewage sludge will be beneficial in providing fertilizer and soil conditioning to the property. Moreover, landowner acknowledges having been expressly advised that, in order to protect public health, the following site restrictions must be adhered to when sewage sludge receives Class B treatment for pathogen reduction:

1. Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge;

2. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for four months or longer prior to incorporation into the soil;

3. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than four months prior to incorporation into the soil;

4. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge;

5. Animals shall not be grazed on the land for 30 days after application of sewage sludge;

6. Turf grown on land where sewage sludge is applied shall not be harvested for one year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the State Water Control Board;

7. Public access to land with a high potential for public exposure shall be restricted for one year after application of sewage sludge;

8. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.

9. Tobacco, because it has been shown to accumulate cadmium, should not be grown on landowner's land for three years following the application of sewage sludge borne cadmium equal to or exceeding 0.5 kilograms/hectare (0.45 pounds/acre).

Permittee agrees to notify landowner or landowner's designee of the proposed schedule for sewage sludge application and specifically prior to any particular application to landowner's land. This agreement may be terminated by either party upon written notice to the address specified below.

Landowner:	Permittee:
_____	_____
Signature	Signature
_____	_____
Mailing Address	Mailing Address

FACILITY NAME: Dominion - North Anna Power Station VPDES PERMIT NUMBER: VA0052451

SECTION D. SURFACE DISPOSAL

N/A

Complete this section only if you own or operate a surface disposal site. Provide the information for each active sewage sludge unit.

1. Information on Active Sewage Sludge Units.
   a. Unit name or number: _____
   b. Unit location
      i. Street or Route#: _____
         County: _____
         City or Town: _____ State: _____ Zip: _____
      ii. Latitude: _____ Longitude: _____
         Method of latitude/longitude determination
         _____ USGS map _____ Filed survey _____ Other
   c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.
   d. Total dry metric tons of sewage sludge placed on the active sewage sludge unit per 365-day period: _____ dry metric tons.
   e. Total dry metric tons of sewage sludge placed on the active sewage sludge unit over the life of the unit: _____ dry metric tons.
   f. Does the active sewage sludge unit have a liner with a minimum hydraulic conductivity of 1×10^{-7} cm/sec? __Yes __No If yes, describe the liner or attach a description.
      _____
      _____
   g. Does the active sewage sludge unit have a leachate collection system? __Yes __No
      If yes, describe the leachate collection system or attach a description. Also, describe the method used for leachate disposal and provide the numbers of any federal, state or local permits for leachate disposal:
      _____
      _____
      _____
   h. If you answered no to either f or g, answer the following:
      Is the boundary of the active sewage sludge unit less than 150 meters from the property line of the surface disposal site? __Yes __No If yes, provide the actual distance in meters: _____
   i. Remaining capacity of active sewage sludge unit, in dry metric tons: _____ dry metric tons
      Anticipated closure date for active sewage sludge unit, if known: _____ (MM/DD/YYYY)
      Provide with this application a copy of any closure plan developed for this active sewage sludge unit.

2. Sewage Sludge from Other Facilities.
   Is sewage sludge sent to this active sewage sludge unit from any facilities other than yours? __Yes __No
   If yes, provide the following information for each such facility, attach additional sheets as necessary.
   a. Facility name: _____
   b. Facility contact: _____
      Title: _____
      Phone: ( ) _____
   c. Mailing address.
      Street or P.O. Box: _____
      City or Town: _____ State: _____ Zip: _____
   d. List, on this form or an attachment, the facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the facility's sewage sludge management practices:

Permit Number:	Type of Permit:
_____	_____
_____	_____

   e. Which class of pathogen reduction is achieved before sewage sludge leaves the other facility?
      __Class A __Class B __Neither or unknown
   f. Describe, on this form or on another sheet of paper, any treatment processes used at the other facility to reduce pathogens in sewage sludge: _____
      _____
      _____

g. Which vector attraction reduction option is achieved before sewage sludge leaves the other facility?
___ Option 1 (Minimum 38 percent reduction in volatile solids)
___ Option 2 (Anaerobic process, with bench-scale demonstration)
___ Option 3 (Aerobic process, with bench-scale demonstration)
___ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
___ Option 5 (Aerobic processes plus raised temperature)
___ Option 6 (Raise pH to 12 and retain at 11.5)
___ Option 7 (75 percent solids with no unstabilized solids)
___ Option 8 (90 percent solids with unstabilized solids)
___ None or unknown

h. Describe, on this form or another sheet of paper, any treatment processes used at the other facility to reduce vector attraction properties of sewage sludge:_____

i. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities performed by the other facility that are not identified in e - h above:_____

3. Vector Attraction Reduction.

a. Which vector attraction reduction option, if any, is met when sewage sludge is placed on this active sewage sludge unit?
___ Option 9 (Injection below land surface)
___ Option 10 (Incorporation into soil within 6 hours)
___ Option 11 (Covering active sewage sludge unit daily)

b. Describe, on this form or another sheet of paper, any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge: _____

4. Ground Water Monitoring.

a. Is ground water monitoring currently conducted at this active sewage sludge unit or are ground water monitoring data otherwise available for this active sewage sludge unit? ___Yes ___No
If yes, provide a copy of available ground water monitoring data. Also provide a written description of the well locations, the approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

b. Has a ground water monitoring program been prepared for this active sewage sludge unit?
___Yes ___No If yes, submit a copy of the ground water monitoring program with this application.

c. Have you obtained a certification from a qualified ground water scientist that the aquifer below the active sewage sludge unit has not been contaminated? ___Yes ___No
If yes, submit a copy of the certification with this application.

5. Site-Specific Limits.
Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?
___Yes ___No If yes, submit information to support the request for site-specific pollutant limits with this application.

APPENDIX IV

NOTICE AND NECESSARY INFORMATION

This form is to assist compliance with the bulk sewage sludge notification requirements (9 VAC 25-31-530 F and/or H). Please note, however, that if the sewage sludge meets the exceptional quality criteria, then the notification requirements do not apply. This form can be used by preparers of sewage sludge to transmit information to land appliers and also by land appliers to transmit information to land owners or lease holders.

Part I - To Be Completed by PREPARERS of Sewage Sludge

A. Please provide pollutant concentrations

Name	Concentration (mg/kg) Dry Weight	Pollutant Concentrations (Table 3, 9 VAC 25-31-540) (Monthly Average)	Ceiling Concentrations (Table 1, 9 VAC 25-31-540) (Daily Maximum)
Arsenic	3.07 mg/kg	41 mg/kg	75 mg/kg
Cadmium	3.7 mg/kg	39 mg/kg	85 mg/kg
Copper	946 mg/kg	1500 mg/kg	4300 mg/kg
Lead	90 mg/kg	300 mg/kg	840 mg/kg
Mercury	2.01 mg/kg	17 mg/kg	57 mg/kg
Molybdenum	5.0 mg/kg	-	75 mg/kg
Nickel	45 mg/kg	420 mg/kg	420 mg/kg
Selenium	6.7 mg/kg	100 mg/kg	100 mg/kg
Zinc	1440 mg/kg	2800 mg/kg	7500 mg/kg
Total Nitrogen	52500 mg/kg	N/A	N/A

- Sludge may not be land applied if any pollutant exceeds these values.

B. Pathogen Reduction (9 VAC 25-31-710)

__ Class A X Class B

C. Vector Attraction Reduction (9 VAC 25-31-720)

__ Option 1 __ Option 2 __ Option 3 X Option 4
__ Option 5 __ Option 6 __ Option 7 __ Option 8
__ No vector attraction reduction options were performed

D. 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 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.

Name and official title H. Barlow Delk - General Manager

Signature H. Barlow Delk Date Signed 06/23/05

Telephone number 540-967-1122

Part II - To Be Completed by LAND APPLIER of Sewage Sludge

A. If the pollutant levels in the sewage sludge do not meet the pollutant concentration limits in Table 3, then the land applier must provide the land owner with the following information:

1. Location of land application site _____
2. Number of hectares where the sewage sludge was applied
3. Date and time bulk sewage sludge was applied _____ n/a
4. Amount of bulk sewage sludge applied _____
5. Record the amount of each metal and nitrogen applied in pounds per acre or kilogram per hectare _____

B. If the preparer did not perform vector attraction reduction options (see Part I), then either option 9 or 10 must be performed by the land applier. Please indicate if option 9 or 10 was performed.

__ Option 9 - Subsurface Injection
__ Option 10 - Incorporated into the soil
_X_ N/A

C. 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 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.

Name and official title H. Barlow Delk - General Manager

Signature _____ Date Signed 06/23/05

Telephone number 540-967-1122

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

MUNICIPAL MINOR

03/05/04

PERMITTEE NAME/ADDRESS (INCLUDE FACILITY NAME/LOCATION IF DIFFERENT)

Name: Louisa Regional Sewage Treatment Plant
Address: P.O. 9
Louisa, VA 23093

Facility Location: 0.8 mile South of SR 22/US Rt 33 intersection

VA0067954	SO1
Permit Number	Discharge Number

Monitoring Period:

YY.MM.DD	YY.MM.DD
2004/02/01	2005/01/31

DEPT OF ENVIRONMENTAL QUALITY
Northern Va. Regional Office
13901 Crown Court

Woodbridge, VA 22193

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

PARAMETER		Quantity or Loading Average	Quantity or Loading Maximum	Units	Quality or Concentration Minimum	Quality or Concentration Average	Quality or Concentration Maximum	Units	NO. EX	Sample Frequency	Sample Type
682 ZINC, SLUDGE	REPORTED	**********	**********		*********	1440	1440	MG/KG	0	1/YR	COMP
	Permit Requirement	**********	**********		*********	2800	7500			1/YR	COMP
683 LEAD, SLUDGE	REPORTED	*********	*******		*********	90	90.0	MG/KG	0	1/YR	COMP
	Permit Requirement	*********	********		*********	300	840			1/YR	COMP
684 NICKEL, SLUDGE	REPORTED	*******	*******		*********	45	45.0	MG/KG	0	1/YR	COMP
	Permit Requirement	*******	*******		*********	420	420			1/YR	COMP
685 MERCURY, SLUDGE	REPORTED	*********	******		*********	2.01	2	MG/KG	0	1/YR	COMP
	Permit Requirement	*********	*******		*********	17	57			1/YR	COMP
686 COPPER, SLUDGE	REPORTED	*********	******		*********	946	946	MG/KG	0	1/YR	COMP
	Permit Requirement	*********	*******		*********	1500	4300			1/YR	COMP
687 CADMIUM, SLUDGE	REPORTED	*******	*******		********	3.7	3.7	MG/KG	0	1/YR	COMP
	Permit Requirement	*********	******		********	39	85			1/YR	COMP
688 LEVEL OF PATHOGEN REQUIREMENTS ACHIEVED	REPORTED	*******	*******		*********	*********	1		0	1/YR	
	Permit Requirement	*********	*********		********	*********	NL			1/YR	*********
689 DESCRIPTION OF PATHOGEN OPTION USED	REPORTED	*******	*******		*********	*********	2		0	1/YR	
	Permit Requirement	**********	**********		********	**********	NL			1/YR	*********

Additional Permit Requirements Or Comments:

Bypasses and Overflows	Occurrences	Total Flow (M.G.)	Total BOD5 (K.G.)	

Operator In Responsible Charge

Typed or Printed Name	Signature	Certificate No.	Date
David L. Jones		1909 000489	04/01/05

Principle executive officer

Typed or Printed Name	Signature	Telephone	Date
H. Barlow Delk		(540)967-1122	04/04/05

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. See 18 U.S.C. Section 1001 & 33 U.S.C. Section 1319. (Penalties under these statutes may include fines up to $10,000 and a maximum imprisonment of between months and 5 years.)

DEQ NPDES FORM 5

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

MUNICIPAL MINOR

03/05/04

PERMITTEE NAME/ADDRESS (INCLUDE FACILITY NAME/LOCATION IF DIFFERENT)

Name: Louisa Regional Sewage Treatment Plant
Address: P.O. 9
Louisa, VA 23093

Facility Location: 0.8 mile South of SR 22/US Rt 33 Intersection

VA0067954	SO1
Permit Number	Discharge Number

Monitoring Period:

YY.MM.DD	YY.MM.DD
2004/02/01	2005/01/31

DEPT OF ENVIRONMENTAL QUALITY
Northern Va. Regional Office
13901 Crown Court

Woodbridge, VA 22193

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

PARAMETER		Quantity or Loading Average	Maximum	Units	Quality or Concentration Minimum	Average	Maximum	Units	NO. EX	Sample Frequency	Sample Type
672 SOLIDS,TOTAL, SLUDGE AS PERCENT	REPORTED	*********	*********		*********	13.4	*********		0	1/YR	COMP
	Permit Requirement	*********	*********		*********	NL	*********			1/YR	COMP
673 TKN, SLUDGE, DRY WEIGHT (MG/KG)	REPORTED	*********	*******		*********	*********	52500		0	1/YR	COMP
	Permit Requirement	*********	********		*********	*********	NL	MG/KG		1/YR	COMP
674 AMMONIUM-N, SLUDGE, DRY WEIGHT	REPORTED	*******	*******		*********	*********	1900.0		0	1/YR	COMP
	Permit Requirement	*******	*******		*********	*********	NL	MG/KG		1/YR	COMP
676 PHOSPHOROUS, TOTAL SLUDGE	REPORTED	*********	******		*********	*********	21200		0	1/YR	COMP
	Permit Requirement	*********	*******		*********	*********	NL	MG/KG		1/YR	COMP
677 POTASSIUM, TOTAL SLUDGE	REPORTED	*********	******		*********	*******	3500		0	1/YR	COMP
	Permit Requirement	*********	*******		*********	********	NL	MG/KG		1/YR	COMP
678 ALKALINITY, SLUDGE	REPORTED	*******	*******		********	*********	39200		0	1/YR	COMP
	Permit Requirement	*********	******		********	*********	NL	MG/KG		1/YR	COMP
680 ARSENIC, SLUDGE	REPORTED	*******	*******		*********	3.07	3.07		0	1/YR	COMP
	Permit Requirement	*********	*********		********	41	75	MG/KG		1/YR	COMP
681 MOLYBDENUM, SLUDGE	REPORTED	*******	*******		*********	5.0	*********		0	1/YR	COMP
	Permit Requirement	*********	*********		********	75	*********	MG/KG		1/YR	COMP

Additional Permit Requirements Or Comments:

Bypasses and Overflows	Occurrences	Total Flow (M.G.)	Total BOD5 (K.G.)	

Operator In Responsible Charge			Date
David L. Jones		1909 000489	04/01/05
Typed or Printed Name	Signature	Certificate No.	
Principle executive officer			Date
H. Barlow Delk		(540)967-1122	04/04/05
Typed or Printed Name	Signature	Telephone	

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DEQ NPDES FORM 5

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
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MUNICIPAL MINOR

03/05/04

PERMITTEE NAME/ADDRESS (INCLUDE FACILITY NAME/LOCATION IF DIFFERENT)

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Facility Location: 0.8 mile South of SR 22/US Rt 33 Intersection

VA0067954	SO1
Permit Number	Discharge Number

Monitoring Period:

YY.MM.DD	YY.MM.DD
2004/02/01	2005/01/31

DEPT OF ENVIRONMENTAL QUALITY
Northern Va. Regional Office
13901 Crown Court

Woodbridge, VA 22193

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

PARAMETER		Quantity or Loading Average	Maximum	Units	Quality or Concentration Minimum	Average	Maximum	Units	NO. EX	Sample Frequency	Sample Type
690 VECTOR ATTRACTION REDUCTIO OPTION USED	REPORTED	*********	*********		*********	*********	4		0	1/YR	
	Permit Requirement	*********	*********		*********	*********	NL			1/YR	
697 SELENIUM, SLUDGE	REPORTED	*********	*******		*********	6.7	6.7		0	1/YR	COMP
	Permit Requirement	*********	********		*********	100	100.0	MG/KG		1/YR	COMP
698 pH, SLUDGE	REPORTED	*******	*******		*********	*********	6.9		0	1/YR	COMP
	Permit Requirement	*******	*******		*********	*********	NL	SU		1/YR	COMP
699 PLANT AVAILABLE NITROGEN	REPORTED				*********	*********	34.2		0	1/YR	COMP
	Permit Requirement	*********	*******		*********	*********	NL	LBS/DT		1/YR	COMP
	REPORTED										
	Permit Requirement										
	REPORTED	*******	*******								
	Permit Requirement										
	REPORTED	*******	*******								
	Permit Requirement										
	REPORTED	*******	*******								
	Permit Requirement										

Additional Permit Requirements Or Comments:

Bypasses and Overflows	Occurrences	Total Flow (M.G.)	Total BOD5 (K.G.)		Operator In Responsible Charge			Date
					David L. Jones		1909 000489	04/01/05
					Typed or Printed Name	Signature	Certificate No.	
					Principle executive officer			Date
					H. Barlow Delk		(540)967-1122	04/04/05
					Typed or Printed Name	Signature	Telephone	

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. See 18 U.S.C. Section 1001 & 33 U.S.C. Section 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between months and 5 years)

DEQ NPDES FORM 5

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

MUNICIPAL MINOR

03/05/04

PERMITTEE NAME/ADDRESS (INCLUDE FACILITY NAME/LOCATION IF DIFFERENT)

Name: Louisa Regional Sewage Treatment Plant
Address: P.O. 9
Louisa, VA 23093

Facility Location: 0.8 mile South of SR 22/US Rt 33 Intersection

VA0067954	SP1
Permit Number	Discharge Number

Monitoring Period:

YY.MM.DD	YY.MM.DD
2004/02/01	2005/01/31

DEPT OF ENVIRONMENTAL QUALITY
Northern Va. Regional Office
13901 Crown Court

Woodbridge, VA 22193

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

PARAMETER		Quantity or Loading Average	Maximum	Units	Quality or Concentration Minimum	Average	Maximum	Units	NO. EX	Sample Frequency	Sample Type
693 ANNUAL SLUDGE PRODUCTION TOTAL	REPORTED	*********	54.7100		*********	*********	*******	DRY TONS	0	1/YR	
	Permit Requirement	*********	NL		*********	*********	*******			1/YR	
694 ANNUAL AMT SLUDGE	REPORTED	*********	54.7		*********	*********	*******	DRY TONS	0	1/YR	
	Permit Requirement	*********	NL		*********	*********	*******			1/YR	CALC
	REPORTED	*******	*******								
	Permit Requirement	*******	*******								
	REPORTED										
	Permit Requirement										
	REPORTED										
	Permit Requirement										
	REPORTED	*******	*******								
	Permit Requirement										
	REPORTED	*******	*******								
	Permit Requirement										
	REPORTED	*******	*******								
	Permit Requirement										

Additional Permit Requirements Or Comments.

Bypasses and Overflows	Occurrences	Total Flow (M.G.)	Total BOD5 (K.G.)	

Operator In Responsible Charge			Date
David L. Jones		1909 000489	04/01/05
Typed or Printed Name	Signature	Certificate No.	
Principle executive officer			Date
H. Barlow Delk		(540)967-1122	04/04/05
Typed or Printed Name	Signature	Telephone	

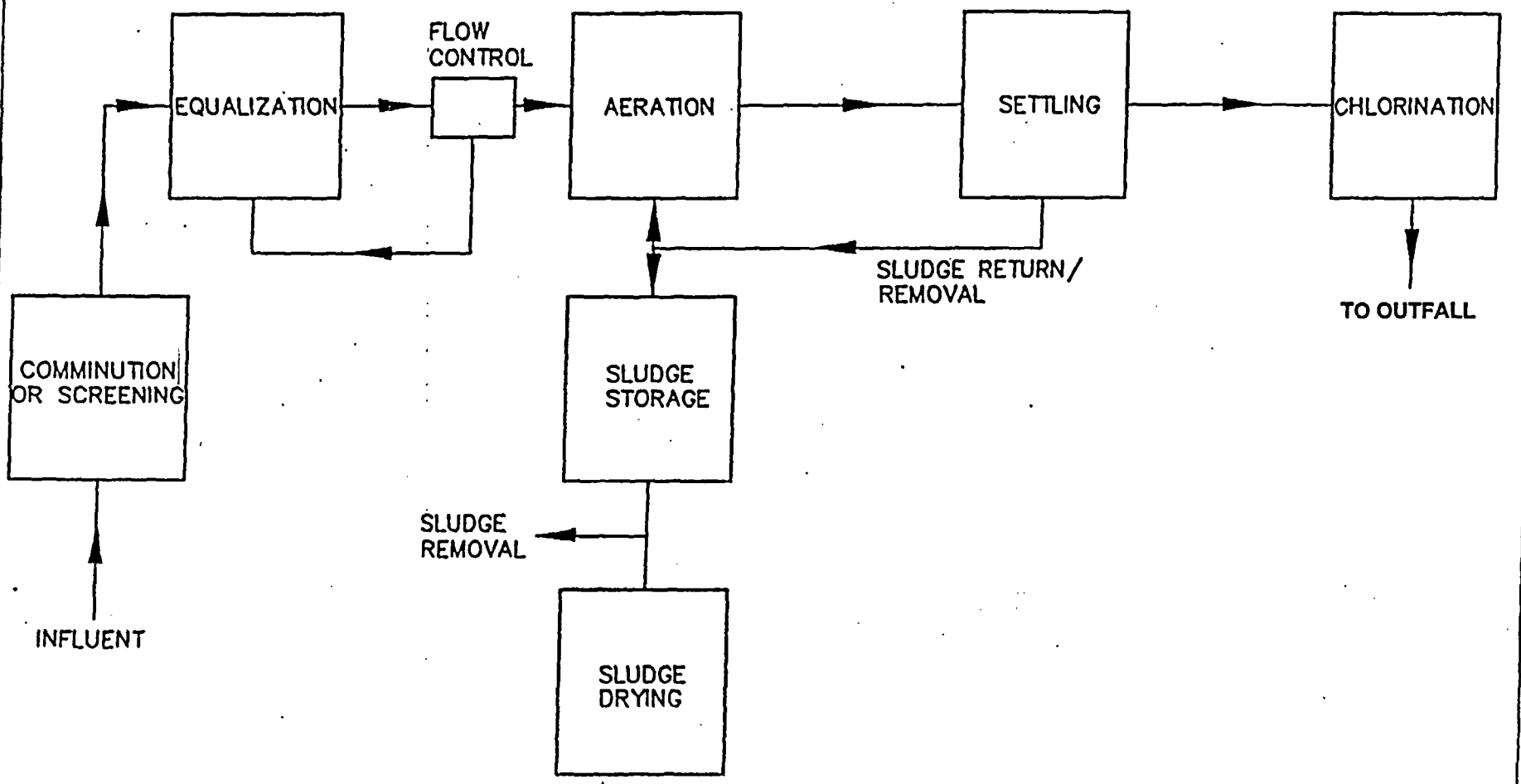
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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. See 18 U.S.C. Section 1001 & 33 U.S.C. Section 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between months or 4 3 years)

DEQ NPDES FORM 5

Topographic Map
(required by Sewage Sludge Permit Application,
Section A.5)

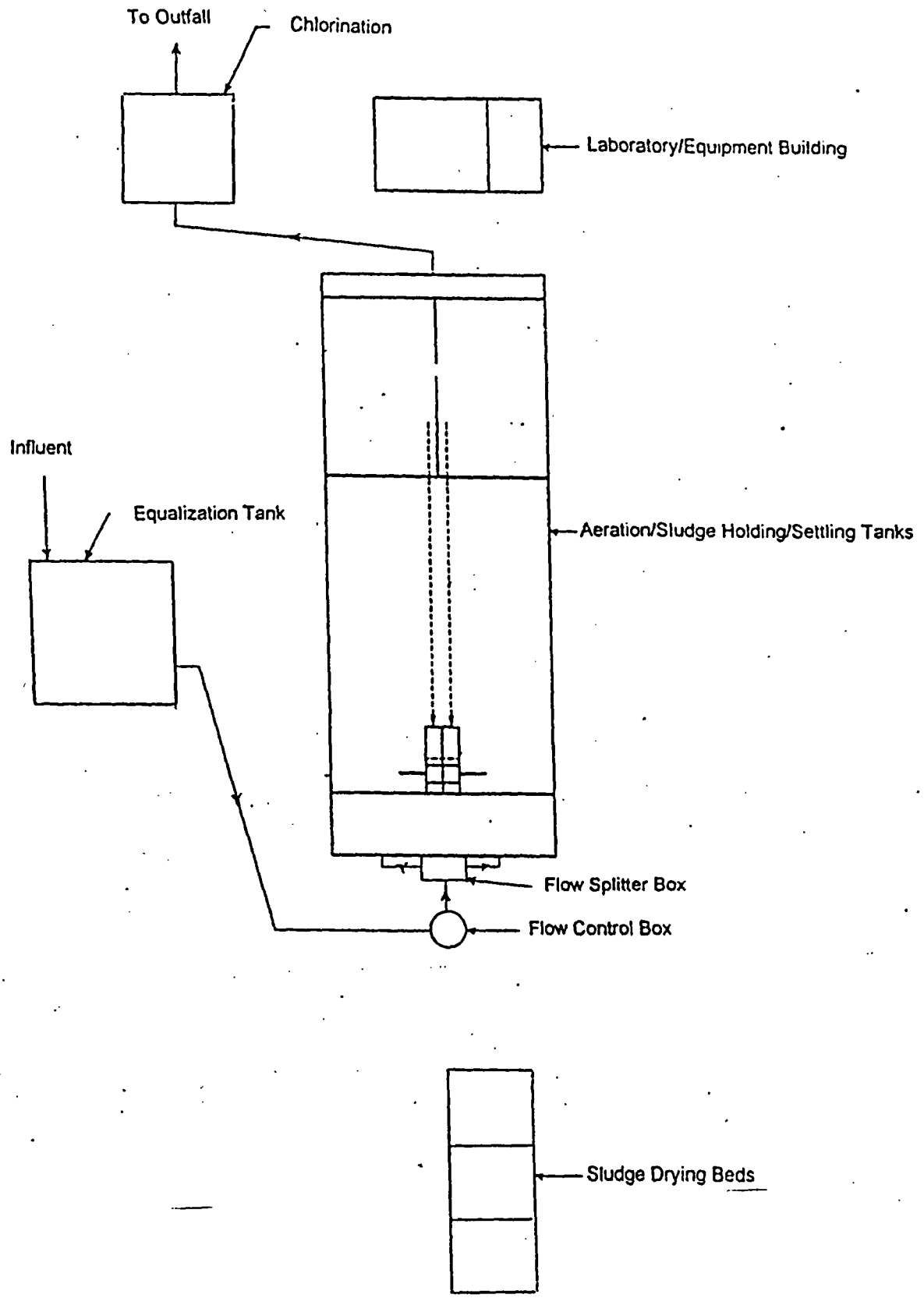
See Attachment 5

Flow Diagram WWTP
(required by Sewage Sludge Permit Application, Section A.6)



NORTH ANNA NUCLEAR POWER PLANT WWTP
PROCESS DIAGRAM

FIGURE 1.



SITE PLAN

FIGURE 2

Sludge Management Plan
Revised 10/23/97
Reviewed by Ed Stuart 12/15/04

Pamela F. Faggert
Vice President and Chief Environmental Officer
5000 Dominion Boulevard, Glen Allen, VA 23060
Phone: 804-273-3467

Dominion

Certified Mail
Return Receipt Requested

April 13, 2005

Mr. E. L. Stuart
DEQ – Northern Regional Office
13901 Crown Court
Woodbridge, VA 22193-1453

RE: North Anna Power Station – Facility and Laboratory Inspection

Dear Mr. Stuart:

On December 15, 2004, you conducted an inspection of the wastewater treatment facilities and laboratory at North Anna Power Station. No deficiencies were noted during the laboratory portion of the inspection. However, you made two recommendations concerning the operation of the wastewater treatment facilities. Each recommendation will be addressed.

1. **The Sludge Management Plan needs to be updated to include information on the generation and disposal of non-WWTP radioactive sludge. The current operations strategy includes the application of radioactive sludge from outside the WWTP to the drying beds at the WWTP. Once the radioactive sludge has dried, it is properly disposed of.**

   As Carter Cooke, Senior Environmental Compliance Coordinator for North Anna Power Station, discussed with you via telephone on March 9, 2005, the placement of bearing cooling sludge in the WWTP drying beds was a one time occurrence due to the demolition of the bearing cooling tower. As a result, you agreed that it was not necessary to revise the Sludge Management Plan.

2. **The Power Station staff should consider the feasibility of installing an emergency generator to provide an alternative source of electricity for the WWTP.**

   A portable generator is maintained at the power station. Should the WWTP loose power, the portable generator is brought to the plant. A Request for Engineering Assistance has been submitted to Station Engineering to evaluate the feasibility of permanently installing an emergency generator at the WWTP.

If you have any questions or desire addition information, please call Ron Birckhead of my staff at (804) 273-2992 or Mr. Cooke at (540) 894-2856.

Sincerely,

Pamela F. Faggert

Pamela F. Faggert

cc:
U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

Mr. J. T. Reece
NRC Senior Resident Inspector
North Anna Power Station

bc:
J. M. Davis
G. T. Bischof
P. A. Kemp
K. N. Kappatos – ODEC
C. C. Taylor
R. M. Bisha
R. L. Birckhead
J. B. Livingstone
A. C. Cooke
Power Records Management – IN/GW
North Anna/ENV35/Agency Inspection

Concurrence:

Mr. J. M. Davis_____

Mr. G. T. Bischof_____

Mr. A. C. Cooke _____

bc:
J. M. Davis
G. T. Bischof
P. A. Kemp - PK
K. N. Kappatos – ODEC
C. C. Taylor
R. M. Bisha
R. L. Birckhead
J. B. Livingstone
A. C. Cooke
Power Records Management – IN/GW
North Anna/ENV35/Agency Inspection

Concurrence:

Mr. J. M. Davis _____

Mr. G. T. Bischof _____

Mr. A. C. Cooke _____

COMMONWEALTH of VIRGINIA

RANDOLPH L. GORDON, M.D., M.P.H.
COMMISSIONER

Department of Health
Office of Water Programs
Environmental Engineering Field Office

ROCKBRIDGE SQUARE SHOPPING CENTER
131 WALKER STREET
LEXINGTON, VIRGINIA 24450-2431
PHONE: (540) 463-7136
FAX: (540) 463-3892

October 28, 1997

SUBJECT: Louisa County
Sewerage - North Anna Power Station

Mr. R. Bradley Chewning, P.E., Regional Director
Department of Environmental Quality
Water Regional Office
P.O. Box 268
Bridgewater, VA 22812

Dear Mr. Chewning:

A revised sludge management plan for Virginia Power's North Anna Power Station wastewater treatment works, located in Louisa County, as prepared by Virginia Power, has been received by this Department. The sludge management plan is titled "Sludge Disposal Plan for the North Anna Power Station Sewage Treatment Plant" and is dated received October 23, 1997. The original sludge management plan was transmitted to your office with our letter report dated June 5, 1996.

The North Anna Power Station is served by one main 30,000 gpd extended aeration wastewater treatment plant. The proposed method of sludge handling is to pump liquid sludge from the sludge holding tank for transport to an approved municipal wastewater treatment works capable of handling liquid sludge. The plan includes the Louisa Regional wastewater treatment works and the Hanover wastewater treatment works. The original sludge management plan has been revised to reflect the abandonment of the three small extended aeration package wastewater treatment plants. The method of sludge disposal has not been changed.

The review of this revised sludge management plan has been confined to technical requirements and design criteria as stipulated in the Commonwealth of Virginia *Sewerage Regulations.*

In accordance with the Virginia Water Control Law, *Code of Virginia* 1950, as amended, Title 62.1, Chapter 3.1, Article 4, Section 62.1-44.19, Paragraph 3, this letter report is to advise that the previously mentioned revised sludge management plan is technically adequate and is recommended for approval by this Department.

SUBJECT: Louisa County
Sewerage – North Anna Power Station

Final approval or any further action or decision is a matter for your office.

This office is forwarding, along with a copy of this letter, one copy of the previously described revised sludge management plan with a State Health Department sticker indicating approval, to Virginia Power. An additional copy is enclosed for your use.

Notification of Department of Environmental Quality action should be transmitted to the owner, Mr. Ron Birckhead, Staff Engineer, Virginia Power, Innsbrook Technical Center, 5000 Dominion Boulevard, Glen Allen, VA 23060; and this office.

Enclosed is a copy of the letter of transmittal dated October 20, 1997 for your information.

By direction of the State Health Commissioner.

Sincerely,

ORIGINAL SIGNED BY:
Douglas M. Caldwell, P.E.

for Ronald E. Conner, P.E.
Engineering Field Director

JWM/mep
cc Virginia Power – Attn: Mr. Ron Birckhead ✓
Louisa County Health Department – Attn: Dr. Susan McLeod
VDH – Richmond Central

OCT 1997
RECEIVED
VDH/Water Programs
Lexington Field
Office

Revised 1/9/97

SLUDGE DISPOSAL PLAN FOR NORTH ANNA POWER STATION SEWAGE TREATMENT PLANT

General Description

North Anna Power Station is served by one large extended aeration package sewage treatment plant having a capacity of 30,000 gpd.

Sludge Holding Tanks

The North Anna sewage treatment plant has two sludge holding tanks with a capacity of 2,100 gallons each. Sludge is aerated by diffused air supplied by an air drop pipe and two diffusers in each tank.

Quantity and Quality of Sludge Wasted

Approximately five days per week, sludge is wasted to the aerated sludge holding tanks. The volume of the sludge wasted ranges from 1,000 - 5,000 gallons per week. Visual inspection and internal process monitoring by the operator will determine when wasting must be accomplished.

Sludge Removal and Handling

Prior to the disposal of liquid sludge from the sewage treatment plant, the waste will be analyzed to determine if it is free of radioactive material. Liquid sludge containing radioactive material will be wasted to the drying beds and will be handled and disposed of under the regulatory control of the Nuclear Regulatory Commission at an out of state, licensed radioactive waste disposal facility. The NRC requirements are inherently more strict than those for handling and disposal of conventional sewage sludge and should provide assurances to the Virginia agencies that such sludge would be properly disposed without detrimental impacts to human health or the environment. The exact day of sludge wasting will be noted in plant records.

Liquid sludge from the plant with no radioactive contamination would be pumped from the STP to a tank truck operated by a properly approved and licensed contractor, and transported directly to a septage receiving facility capable of, and licensed or permitted for, adequate treatment of the liquid sludge. The septage receiving facilities presently being utilised are the Louisa and Hanover sewage treatment plants.

During the transfer of sludge from the holding tank, special care would be taken to ensure that an overfill does not occur. A full-time, on-site operator is dedicated to the STP with the requirements that all pump and haul activities be coordinated through him and subject to his approval and immediate oversight. In the unlikely event of an on-site spill, the station is prepared to provide localized containment and disinfection using absorbent material and liquid sodium hypochlorite.

Only those licensed pump and haul vendors and associated off-site treatment facilities approved by the State will be utilized. The vendor shall be responsible for obtaining all the necessary sludge handling and disposal permits, and providing verification of such permits to the on-site operator.

COMMONWEALTH OF VIRGINIA
Department of Health
Office of Water Programs
Lexington Field Office

( ) Plans & Specifications
( ) Operations & Maintenance Manual
( ) Addendum
( ) Change Order
( ) Revised Plan Sheet(s)
( ) Revised Specification Sheet(s)
(✓) Sludge Management Plan (revised)

(✓) Approved
( ) Conditionally Approved
( ) Disapproved

10/28/97 Douglas M. Caldwell, for REC
Date Engineering Field Director

FILE COPY

North Anna/ENV42/Sewerage Treatment

October 20, 1997

Mr. James W. Moore III, P. E.
District Engineer
Virginia Department of Health
Rockbridge Square Shopping Center
131 Walker Street
Lexington, Va. 24450-2431

RE: North Anna Power Station – Sludge Disposal Plan

Dear Mr. Moore:

As Jim Puckett previously discussed with you, North Anna Power Station is now served by a single 30,000 gpd extended aeration package sewage treatment plant. All of the smaller sewage treatment plants have been removed from service. Therefore, enclosed for your approval is a revised sludge disposal plan that accurately reflects the current mode of operation.

If you have any questions or desire additional information, please call me at (804)273-2992.

Sincerely,

Ron Birckhead
Staff Engineer

bc: (w/attach)
W. R. Matthews
D. A. Heacock
P. F. Faggert
R. L. Birckhead
A. C. Cooke ACC per recv

Revised 1/9/97

SLUDGE DISPOSAL PLAN FOR NORTH ANNA POWER STATION SEWAGE TREATMENT PLANT

General Description

North Anna Power Station is served by one large extended aeration package sewage treatment plant having a capacity of 30,000 gpd.

Sludge Holding Tanks

The North Anna sewage treatment plant has two sludge holding tanks with a capacity of 2,100 gallons each. Sludge is aerated by diffused air supplied by an air drop pipe and two diffusers in each tank.

Quantity and Quality of Sludge Wasted

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Sludge Removal and Handling

Prior to the disposal of liquid sludge from the sewage treatment plant, the waste will be analyzed to determine if it is free of radioactive material. Liquid sludge containing radioactive material will be wasted to the drying beds and will be handled and disposed of under the regulatory control of the Nuclear Regulatory Commission at an out of state, licensed radioactive waste disposal facility. The NRC requirements are inherently more strict than those for handling and disposal of conventional sewage sludge and should provide assurances to the Virginia agencies that such sludge would be properly disposed without detrimental impacts to human health or the environment. The exact day of sludge wasting will be noted in plant records.

Liquid sludge from the plant with no radioactive contamination would be pumped from the STP to a tank truck operated by a properly approved and licensed contractor, and transported directly to a septage receiving facility capable of, and licensed or permitted for, adequate treatment of the liquid sludge. The septage receiving facilities presently being utilised are the Louisa and Hanover sewage treatment plants.

During the transfer of sludge from the holding tank, special care would be taken to ensure that an overfill does not occur. A full-time, on-site operator is dedicated to the STP with the requirements that all pump and haul activities be coordinated through him and subject to his approval and immediate oversight. In the unlikely event of an on-site spill, the station is prepared to provide localized containment and disinfection using absorbent material and liquid sodium hypochlorite.

Only those licensed pump and haul vendors and associated off-site treatment facilities approved by the State will be utilized. The vendor shall be responsible for obtaining all the necessary sludge handling and disposal permits, and providing verification of such permits to the on-site operator.

NAPS/Env 42/Sewage Trtmnt

May 29, 1996

Janardan R. Pandey
Virginia Department of Environmental Quality
Valley Regional Water Office
P. O. Box 268
Bridgewater, VA 22812

Dear Mr. Pandey:

RE: NORTH ANNA POWER STATION - SLUDGE DRYING BED MATERIAL

As we discussed with Ms. Sue Maupin of your office on April 25, North Anna Power Station is planning to reconstruct the sludge drying beds at the sewage treatment plant. The sand and gravel to be removed from the drying beds will be land applied on-site at the power station in the large flat area referred to as the "Northwest Laydown Area". Mr. James Moore of the Virginia Department of Health (VDH) has visited the site and approved the proposal, as described in the attached letter from his office.

This proposal is consistent with the Sludge Disposal Plan for North Anna Power Station. Virginia Power will comply with the conditions in the attached letter from the VDH. Attached as you requested are copies of the radiological and TCLP analyses. Your approval of this activity would be appreciated. If you have any questions, please contact me at (804) 273-2995.

Sincerely,

Jim Puckett

J. K. Puckett, P. E.

Attachments

bc: A. W. Hadder
W. R. Matthews - NAPS
W. A. Thornton - IN/2SE
D. A. Heacock - NAPS
A. H. Stafford - NAPS
K. N. Kappatos - ODEC w/attachment
P. A. Kemp - NAPS
A. C. Cooke - NAPS ok 5/29/96 gkp
H. L. Yowell - NAPS
E. J. Wheeler
J. W. White
Power Records Management - IN/GW w/attachment

NOTED MAY 2 8 1996 J.K.P.

COMMONWEALTH of VIRGINIA

RANDOLPH L. GORDON, M.D., M.P.H.
State Health Commissioner

Department of Health
Office of Water Programs
Environmental Engineering Field Office

ROCKBRIDGE SQUARE SHOPPING CENTER
131 WALKER STREET
LEXINGTON, VIRGINIA 24450-2431
PHONE: (540) 463-7136
FAX: (540) 463-3892

May 24, 1996

SUBJECT: Louisa County
Sewerage - North Anna Power Station

Mr. J. K. Puckett, P.E.
Virginia Power
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Puckett:

We are in receipt of your letter dated May 7, 1996 concerning disposal of sand and gravel from the existing sludge drying beds at the wastewater treatment works serving the North Anna Power Station, located in Louisa County. Your letter also transmitted radiological and metals analysis results performed on samples of the sand and gravel and requested approval to land apply this material on-site at the power station property.

On May 21, 1996, Mr. James W. Moore III, P.E., of this office, met with Mr. Carter Cooke at the North Anna Power Station and evaluated the proposed application area. The area chosen is referred to as the "Northwest Laydown Area" and consists of a flat, approximately 3 acre area that is partially covered with stone. The area is remote and located behind a normally locked gate.

Please be advised that the Department has no objection to the land application of the sand and gravel from the existing sludge drying beds at the North Anna Power Station as requested in your letter dated May 7, 1996. The material should be disposed of as follows:

1. All sludge should be removed from the drying beds prior to removal of the sand and gravel.

2. The removed sand and gravel should be transported to the "Northwest Laydown Area" at the North Anna Power Station and immediately spread over the flat area to a maximum depth of 2- 3 inches.

3. This office should be notified upon completion of the disposal.

SUBJECT: Louisa County
Sewerage - North Anna Power Station

If you have any questions or if we can be of additional assistance please contact Mr. James W. Moore III, P.E., District Engineer at 540/463-7136.

Very truly yours,

Ronald E. Conner

Ronald E. Conner, P.E.
Engineering Field Director

REC/JWM/mep
cc North Anna Power Station - Attn: Mr. A. Carter Cooke
Louisa County Health Department - Attn: Dr. Susan McLeod
Department of Environmental Quality - Bridgewater
VDH - Richmond Central

VA POWER SYSTEM LABORATORY

REPORT PRODUCED ON 04/30/96 11:20:30 PAGE

ENV 50

TCLP TOXICITY TEST RESULTS

The TCLP Procedure simulates the leaching a waste will undergo if disposed of in an improperly designed sanitary landfill. In this test a representative sample is extracted with extraction fluid in a rotary agitation device for 20 hours. The extract obtained from the TCLP extraction procedure is then digested and analyzed for the eight (8) metals; arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. If the TCLP extract contains any one of the eight metals in an amount equal to or exceeding the levels set in 40 CFR 261.24, then the waste has the characteristics of Extraction Procedure Toxicity, and is a hazardous waste.

The TCLP Toxicity maximum for the eight (8) metals is as follows

Arsenic as As	5.0 ppm	Lead as Pb	5.0 ppm
Barium as Ba	100.0 ppm	Mercury as Hg	0.2 ppm
Cadmium as Cd	1.0 ppm	Selenium as Se	1.0 ppm
Chromium as Cr	5.0 ppm	Silver as Ag.	5.0 ppm

SAMPLE DATA

LOCATION : NORTH ANNA SUBMITTER : H. YOWELL

UNIT :
SAMPLE DATE : 04/22/96
SAMPLE DESCRIPTION : SAND FROM S.T.P. DRYING BEDS

SYSTEM LABORATORY NO : 21944

AS PPM	Ba PPM	Cd PPM	Cr PPM	Pb PPM	Hg PPM	Se PPM	Ag PPM
<0.010	<0.20	<0.05	<0.15	<0.65	<0.001	<0.010	<0.0004

POW 24-05-15-08

MISCELLANEOUS ACTIVITY DETERMINATION FOR ENVIRONMENTAL LLD COUNTS

SAMPLE DATE: 4-16-96 SAMPLE TIME: N/A

SAMPLE IDENTIFICATION: SAND FROM DEYING BED "C"

REASON FOR SAMPLE: Disposal

REQUESTED BY: D. HOFFMAN EXT: 2803

SAMPLE RESULTS		
NUCLIDE	µCi/mL	REMARKS
	N/D	

RESULTS:

REPORTED BY: JBB

RECEIVED BY: D. Hoffman (via telephone)

REMARKS:

```
*****************************************************************************
                          North Anna Power Station
                  Analysis Report Generated 16-APR-1996 18:54:43.22
*****************************************************************************
rchive File: SYS$SYSDEVICE:[USER.SCUSR.ARCHIVE]SAMPLE_ENVLLD_997.CNF:1
*****************************************************************************

ample Title : SAND BED "C"

ample Date  : 16-APR-1996 17:54:00.      Analyzed By : DS
ample Identification : SAND BED "C"      Geometry : Liquid Marinelli
ample Quantity : 1.00000E+03             Units : mL

*****************************************************************************
                                         *
cquire Date : 16-APR-1996 17:54:14       * Sensitivity : 5.00000
reset Live Time  : 0 01:00:00.00         * Iterations  : 10
lapsed Real Time : 0 01:00:00.71         * Gaussian : 20.00000
lapsed Live Time : 0 01:00:00.00         * Variable Peak Width : 3.00000
DC Deadtime      : 0.0%                  * Sample Decay Time :    0 00:00:14.32
                                         *
*****************************************************************************
                                         *
etector    : Detector #4                 * Library : Effluent Master
nergy Cal : 16-APR-1996 14:57:05         * Energy Tolerance (KeV) : 1.50000
l (KeV/Channel) : 1.00128E+00            * Half-Life Ratio : 8.00000
f t (keV)       : 2.04099E-01            * Abundance Limit (%) : 80.00000
                                         *
*****************************************************************************
```

ost-NID Peak Search Report

t	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	76.79	286	733	3.52	76.50	73	8	33.6		
0	185.60	133	571	2.11	185.19	181	9	67.2		
4	238.63	617	206	1.46	238.18	234	15	10.5	1.49E+00	PB-212
4	241.65	178	361	2.63	241.19	234	15	50.9		PB-214
0	269.97	58	225	1.54	269.50	267	6	89.7		
0	295.79	186	419	1.88	295.30	291	11	45.1		PB-214
0	338.55	117	232	1.72	338.04	334	8	49.2		
0	351.82	272	198	1.91	351.30	347	8	22.5		PB-214
0	510.79	180	166	2.38	510.21	505	12	34.7		TL-208
0	583.30	169	161	1.91	582.71	579	10	32.5		TL-208
0	609.02	232	125	1.60	608.43	603	10	23.2		
0	726.75	63	122	3.00	726.18	721	10	74.1		
0	911.53	160	83	2.28	911.06	908	9	25.9		
0	968.44	123	119	2.36	968.00	962	13	41.4		
0	20.74	67	48	1.56	1120.46	1118	7	46.1		
0	1460.29	2236	29	2.59	1460.51	1454	13	4.3		K-40
0	1728.97	8	8	2.50	1729.77	1724	9	121.5		
0	1762.76	46	6	2.19	1763.65	1758	12	40.8		

ference Report

o interference correction performed

Sample ID : SAND BED "C" Acquisition date : 16-APR-1996 17:54:14

Brief Report

Nuclide	Activity uCi/mL	2-Sigma Error
K-40	2.258E-05	9.813E-07
TL-208	9.868E-08	3.207E-08
PB-212	3.704E-07	3.889E-08
PB-214	2.504E-07	5.637E-08
Total Activity :	2.330E-05	

ide Line Activity Report
e ID : SAND BED "C"

Acquisition date : 16-APR-1996 17:54:14

luclide Type: natural

uclide	Energy	Area	%Abn	%Eff	Uncorrected uCi/mL	Decay Corr uCi/mL	2-Sigma %Error
-40	1460.81	2236	10.67*	6.967E-01	2.258E-05	2.258E-05	4.35
L-208	277.35	------	6.80	6.967E+01	------ Line Not Found		------
	510.84	180	21.60	1.689E+00	3.707E-07	3.707E-07	34.69
	583.14	169	84.20*	1.528E+00	9.868E-08	9.868E-08	32.50
	860.37	------	12.46	1.528E+02	------ Line Not Found		------
B-212	238.63	617	44.60*	2.804E+00	3.704E-07	3.704E-07	10.50
	300.09	------	3.41	2.804E+02	------ Line Not Found		------
B-214	241.98	178	7.49	2.781E+00	6.398E-07	6.398E-07	50.93
	295.21	186	19.20	2.461E+00	2.961E-07	2.961E-07	45.15
	351.92	272	37.20*	2.193E+00	2.504E-07	2.504E-07	22.51

lag: "*" = Keyline

May 29, 1996

Mr. James W. Moore III, P.E.
Department of Health
Rockbridge Square Shopping Center
131 Walker Street
Lexington, VA 24450

Dear Mr. Moore:

RE: NORTH ANNA POWER STATION - STP SLUDGE DISPOSAL PLAN

Attached are the letters you requested, indicating acceptance by the wastewater treatment facilities of the sewage treatment plant sludge and wastewater from North Anna Power Station, in compliance with our Sludge Disposal Plan. Only those types of wastes identified in the attached letters from Louisa and Hanover Counties will be disposed of at the respective facilities. Also attached is a map of the routes to the two facilities.

If you have any questions please call me at (804) 273-2995.

Sincerely,

J. K. Puckett, P.E.

Attachments

bc: A. W. Hadder
W. R. Matthews - NAPS
W. A. Thornton - IN/2SE
D. A. Heacock - NAPS
A. H. Stafford - NAPS
K. N. Kappatos - ODEC w/attachment
P. A. Kemp - NAPS
A. C. Cooke - NAPS OK 5/29/96 JKP
H. L. Yowell - NAPS
E. J. Wheeler
J. W. White
Power Records Management - IN/GW w/attachment

BOARD OF SUPERVISORS

R.J. KLOTZ, JR., CHAIRMAN
HENRY DISTRICT

J.T. "JACK" WARD, VICE-CHAIRMAN
MECHANICSVILLE DISTRICT

TIMOTHY E. ERNST
ASHLAND DISTRICT

TOM GILES
CHICKAHOMINY DISTRICT

JOHN E. GORDON, JR.
SOUTH ANNA DISTRICT

AUBREY M. STANLEY, JR.
BEAVERDAM DISTRICT

ELTON J. WADE, SR.
COLD HARBOR DISTRICT

HANOVER COUNTY
P. O. BOX 470
HANOVER, VIRGINIA 23069-0470

JACK BERRY
COUNTY ADMINISTRATOR

RICHARD R. JOHNSON
DEPUTY COUNTY ADMINISTRATOR

STERLING E. RIVES, III
COUNTY ATTORNEY

May 15, 1996

NOTED MAY 20 1996 J.K.P.

Mr. J. K. Puckett, P.E.
Virginia Power
5000 Dominion Blvd.
Glen Allen, VA 23060

SUBJECT: NORTH ANNA POWER STATION

Dear Mr. Puckett:

Your request for wastewater disposal at the Harris Excavating discharge site has been approved by Hanover and Henrico Countys respectively, pending the following conditions:

- The discharge will be domestic wastewater only. Laboratory or Radioactive waste is prohibited.
- Grease trap waste will be recorded separately since the discharge rates are higher for grease.
- The vehicle control wash pit wastewater will be pumped from the solids. The solids must be disposed of elsewhere.
- Provide a letter stating that there is no cross contaminantion or no potential for the cross contamination of domestic, laboratory or radioactive wastes.

If you have any questions, please contact me at (804) 537-6020.

Sincerely,

DEPARTMENT OF PUBLIC UTILITIES

Glenn A. Smith
Utility Services Manager

/aml

LOUISA COUNTY WATER AUTHORITY
P.O. BOX 9
LOUISA, VIRGINIA 23093
(703) 967-1122

April 26, 1996

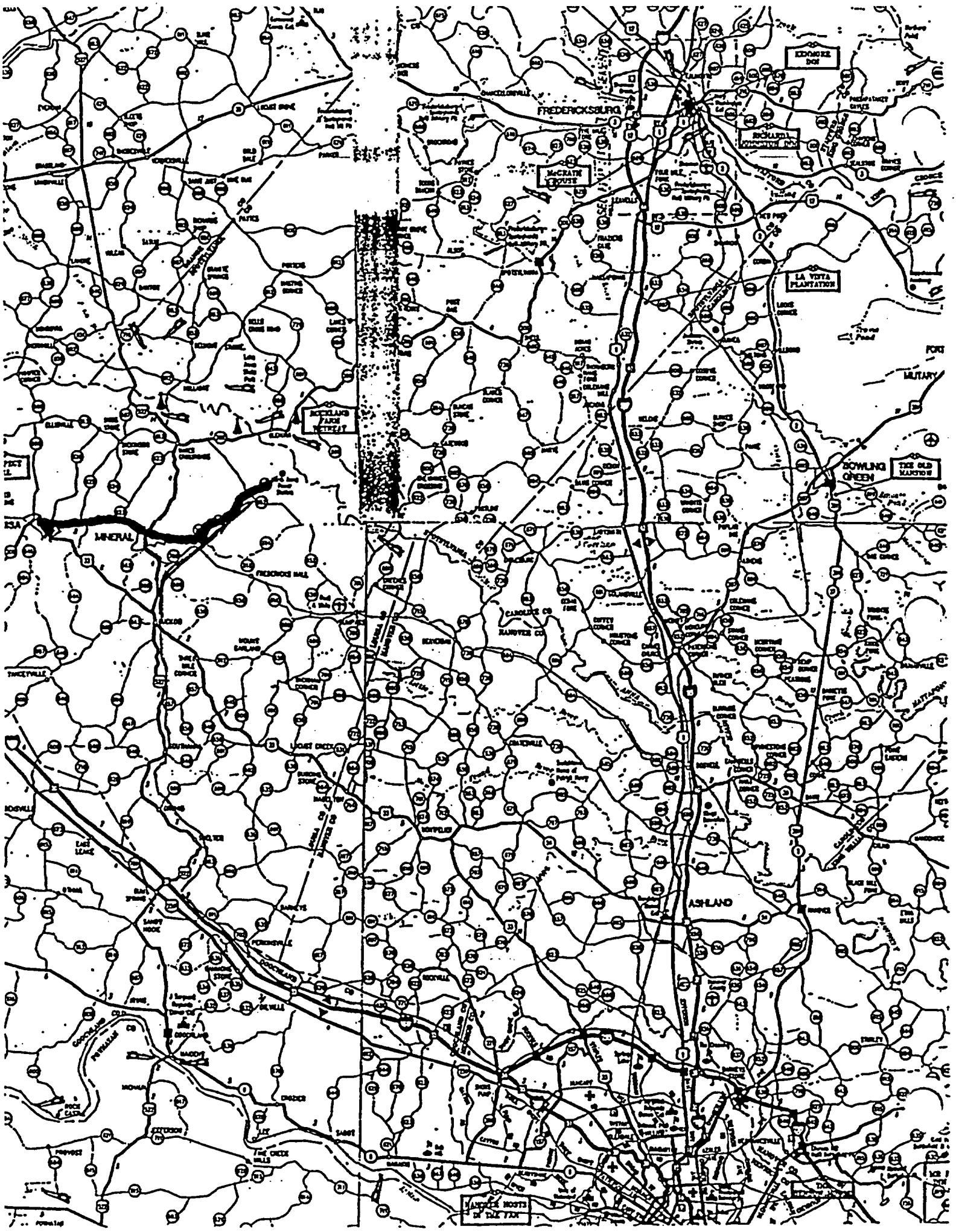
Mr. Hudson Yowell
North Anna Power Station
P. O. Box 402
Mineral, VA 23117

Dear Mr. Yowell:

This is to reaffirm our agreement that the Louisa County Water Authority will continue to accept domestic sewer waste from your station if the wastewater qualities remain within acceptable parameters and other requirements of delivery and payments are met.

If I can be of any further assistance please let me know.

H. Barlow Delk
General Manager


FREDERICKSBURG
McCRATE ROUTE
LA VISTA PLANTATION
MILITARY
BOWLING GREEN
MINERAL
ASHLAND

NOTED JUN 13 1996 J.K.P.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

George Allen
Governor

Valley Regional Office

Thomas L. Hopkins
Director

Street Address: 116 North Main Street, Bridgewater, Virginia 22812
Mailing Address: P.O. Box 268, Bridgewater, Virginia 22812
Fax (540)828-4016

Becky Norton Dunlop
Secretary of Natural Resources

R. Bradley Chewning, P.E.
Valley Regional Director
(540)828-2595

Mr. J. W. White, Director
Environmental Compliance - Water/Waste
Virginia Power
Innsbrook Technical Center
5000 Dominion Blvd.
Glen Allen, VA 23060

Re: Sludge Disposal Plan for the North Anna Power Station Sewage Treatment Plants, Louisa County

Dear Mr. White:

The referenced sludge management plan is approved. This action is in accordance with the enclosed memorandum dated June 10, 1996 and a letter from the Virginia Department of Health recommending approval of this project.

The Department of Environmental Quality approval does not relieve you of your responsibility to:

1. operate the facility in a manner to consistently meet the facility's performance requirements,

2. correct design and/or operation deficiencies, or

3. comply with all other applicable laws and regulations.

If you have any questions, please contact Janardan R. Pandey of this office.

Sincerely,

Donald G. Kain

Donald G. Kain
Water Permits Manager

ng
Enclosure
cc: Mr. Glenn A. Smith, County of Hanover
Mr. H. Barlow Delk, Louisa County Water Authority
VDH - Lexington

MEMORANDUM
DEPARTMENT OF ENVIRONMENTAL QUALITY
VALLEY REGIONAL OFFICE

116 N. Main St. - P.O. Box 268 Bridgewater, VA 22812

SUBJECT: Sludge Management Plan

TO: Water Permits Manager

FROM: Janardan R. Pandey Janardan Raj

DATE: June 10, 1996

COPIES: VPDES Correspondence File
Mr. Glenn A. Smith, County of Hanover
Mr. H. Barlow Delk, Louisa County Water Authority
VDH - Lexington

Project Name: Sludge Disposal Plan for the North Anna Power Station Sewage Treatment Plants

Project Owner: Virginia Power

Project Scope: Pump and haul of liquid sludge for transport to an approved municipal wastewater treatment works capable of handling liquid sludge.

Previous Agency Action: VPDES Permit No. VA0052451 was reissued on October 2, 1995.

Virginia Department of Health Action: By letter dated June 5, 1996, the Virginia Department of Health recommended approval of the Sludge Management Plan.

STAFF RECOMMENDATIONS:

The staff recommends that the Sludge Management Plan be approved.

bg

JWW
FILE

NAPS / ENV 42 / Sewage Treatment

COMMONWEALTH of VIRGINIA

RANDOLPH L. GORDON, M.D., M.P.H.
State Health Commissioner

Department of Health
Office of Water Programs
Environmental Engineering Field Office

ROCKBRIDGE SQUARE SHOPPING CENTER
131 WALKER STREET
LEXINGTON, VIRGINIA 24450-2431
PHONE: (540) 463-7136
FAX: (540) 463-3892

June 5, 1996 NOTED JUN 10 1996 J.K.P.

SUBJECT: Louisa County
Sewerage - North Anna Power Station

Mr. R. Bradley Chewning, P.E., Regional Director
Department of Environmental Quality
Water Regional Office
P.O. Box 268
Bridgewater, VA 22812

Dear Mr. Chewning:

A sludge management plan for Virginia Power's North Anna Power Station wastewater treatment works, located in Louisa County, as prepared by Virginia Power, has been received by this Department. The sludge management plan is titled "Sludge Disposal Plan for the North Anna Power Station Sewage Treatment Plants" and is dated received December 18, 1995.

The North Anna Power Station is served by one main 30,000 gpd and three smaller (two at 10,000 gpd and one at 20,000 gpd) extended aeration package wastewater treatment plants. Each plant is provided with sludge holding tanks with sand drying beds located at the main treatment works. The proposed method of sludge handling is to pump liquid sludge from the sludge holding tanks of each respective treatment works for transport to an approved municipal wastewater treatment works capable of handling liquid sludge. The plan includes the Louisa regional wastewater treatment works and the Hanover wastewater treatment works. Pump and haul services are under contract with Stamie E. Lyttle Company in Richmond. This company is permitted by the Richmond Health Department.

The review of this sludge management plan has been confined to technical requirements and design criteria as stipulated in the Commonwealth of Virginia *Sewerage Regulations.*

In accordance with the Virginia Water Control Law, *Code of Virginia* 1950, as amended, Title 62.1, Chapter 3.1, Article 4, Section 62.1-44.19, Paragraph 3, this letter report is to advise that the previously mentioned sludge management plan is technically adequate and is recommended for approval by this Department.

SUBJECT: Louisa County
Sewerage - North Anna Power Station

Final approval or any further action or decision is a matter for your office.

This office is forwarding, along with a copy of this letter, one (1) copy of the previously described sludge management plan with a State Health Department sticker indicating approval, to Virginia Power. An additional copy is enclosed for your use.

Notification of Department of Environmental Quality action should be transmitted to the owner, Mr. J. W. White, Director, Environmental Compliance-Water/Waste, Virginia Power, Innsbrook Technical Center, 5000 Dominion Boulevard, Glen Allen, VA 23060; with copies to Mr. Glenn A. Smith, Utilities Services Manager, County of Hanover, P.O. Box 470, Hanover, VA 23089; Mr. H. Barlow Delk, General Manager, Louisa County Water Authority, P.O. Box 9, Louisa, VA 23093; and this Office.

Enclosed are copies of the letters of transmittal dated December 14, 1995 and May 29, 1996 for your information.

By direction of the State Health Commissioner.

Sincerely,

ORIGINAL SIGNED BY:
Douglas M. Caldwell, P.E.

for Ronald E. Conner, P.E.
Engineering Field Director

JWM/mep
cc Virginia Power - Attn: Mr. J. W. White
Louisa County Water Authority - Attn: Mr. H. Barlow Delk
Hanover County Department of Public Utilities - Attn: Mr. Glenn A. Smith
Louisa County Health Department - Attn: Dr. Susan McLeod
VDH - Richmond Central

COMMONWEALTH OF VIRGINIA
Department of Health
Office of Water Programs
Lexington Field Office

( ) Plans & Specifications
( ) Operations & Maintenance Manual
( ) Addendum
( ) Change Order
( ) Revised Plan Sheet(s)
( ) Revised Specification Sheet(s)
(✓) Sludge Management Plan

(✓) Approved
( ) Conditionally Approved
( ) Disapproved

6/5/96
Date

Douglas M. Caldwell for REC
Engineering Field Director

DEC 1995
RECEIVED
OFFICE OF
FIELD OFFICE-
LEXINGTON

SLUDGE DISPOSAL PLAN FOR NORTH ANNA POWER STATION SEWAGE TREATMENT PLANTS

General Description

North Anna Power Station is served by one large extended aeration package sewage treatment plant having a capacity of 30,000 gpd and three smaller package plants with capacities of (2) @ 10,000 gpd and one @ 20,000 gpd. One 10,000 gpd plant is set up next to the 20,000 gpd plant. These plants treat the same influent and they have a common discharge point. Normally, only one of these plants is in operation at a time. The main sewage plant is the only one which handles sewage from inside the restricted power station area, ie; the only plant which could receive radioactively contaminated sewage.

Aerated Sludge Holding Tanks

The main sewage treatment plant has two sludge holding tanks with a capacity of 2,100 gallons each. The 20,000 gpd plant has a sludge holding tank which will hold 1,800 gallons and the two small plants will hold 1,200 gallons each. In all cases, sludge is aerated by diffused air supplied by an air drop pipe and two diffusers in each tank.

Quantity and Quality of Sludge Wasted

Approximately five days per week, sludge is wasted to the aerated sludge holding tanks. The volume of the sludge wasted ranges from 1,000 - 5,000 gallons per week for the main plant, 1,000 to 3,000 gallons per week for the 10,000/20,000 gpd plant and 25 to 75 gallons per week for the other 10,000 gpd plant. Visual inspection and internal process monitoring by the operator will determine when wasting must be accomplished.

Sludge Removal and Handling

Prior to the disposal of liquid sludge from the main sewage treatment plant, the waste will be analyzed to determine if it is free of radioactive material. Liquid sludge containing radioactive material will be wasted to the drying beds and will be handled and disposed of under the regulatory control of the Nuclear Regulatory Commission at an out of state, licensed radioactive waste disposal facility. The NRC requirements are inherently more strict than those for handling and disposal of conventional sewage sludge and should provide assurances to the Virginia agencies that such sludge would be properly disposed without detrimental impacts to human health or the environment. The exact day of sludge wasting will be noted in plant records.

Liquid sludge from the three smaller package plants and liquid sludge from the main plant with no radioactive contamination would be pumped from the STP's to a tank truck operated by a properly approved and licensed contractor, and transported directly to a

septage receiving facility capable of, and licensed or permitted for, adequate treatment of the liquid sludge.

During the transfer of sludge from the holding tank, special care would be taken to ensure that an overfill does not occur. A full-time, on-site operator is dedicated to the STP with the requirements that all pump and haul activities be coordinated through him and subject to his approval and immediate oversight. In the unlikely event of an on-site spill, the station is prepared to provide localized containment and disinfection using absorbent material and liquid sodium hypochlorite.

Only those licensed pump and haul vendors and associated off-site treatment facilities approved by the State will be utilized. The vendor shall be responsible for obtaining all the necessary sludge handling and disposal permits, and providing verification of such permits to the on-site operator.

BOARD OF SUPERVISORS

KLOTZ, JR., CHAIRMAN
HENRY DISTRICT

J.T. "JACK" WARD, VICE-CHAIRMAN
MECHANICSVILLE DISTRICT

TIMOTHY E. ERNST
ASHLAND DISTRICT

TOM GILES
CHICKAHOMINY DISTRICT

JOHN E. GORDON, JR.
SOUTH ANNA DISTRICT

AUBREY M. STANLEY, JR.
BEAVERDAM DISTRICT

ELTON J. WADE, SR.
COLD HARBOR DISTRICT

HANOVER COUNTY
P. O. BOX 470
HANOVER, VIRGINIA 23069-0470

JACK BERRY
COUNTY ADMINISTRATOR

RICHARD R. JOHNSON
DEPUTY COUNTY ADMINISTRATOR

STERLING E. RIVES, III
COUNTY ATTORNEY

NOTED MAY 20 1996 J.K.P.

May 15, 1996

Mr. J. K. Puckett, P.E.
Virginia Power
5000 Dominion Blvd.
Glen Allen, VA 23060

SUBJECT: NORTH ANNA POWER STATION

Dear Mr. Puckett:

Your request for wastewater disposal at the Harris Excavating discharge site has been approved by Hanover and Henrico Countys respectively, pending the following conditions:

- The discharge will be domestic wastewater only. Laboratory or Radioactive waste is prohibited.
- Grease trap waste will be recorded separately since the discharge rates are higher for grease.
- The vehicle control wash pit wastewater will be pumped from the solids. The solids must be disposed of elsewhere.
- Provide a letter stating that there is no cross contaminantion or no potential for the cross contamination of domestic, laboratory or radioactive wastes.

If you have any questions, please contact me at (804) 537-6020.

Sincerely,

DEPARTMENT OF PUBLIC UTILITIES

Glenn A. Smith
Utility Services Manager

/aml

LOUISA COUNTY WATER AUTHORITY
P.O. BOX 9
LOUISA, VIRGINIA 23093
(703) 967-1122

April 26, 1996

Mr. Hudson Yowell
North Anna Power Station
P. O. Box 402
Mineral, VA 23117

Dear Mr. Yowell:

This is to reaffirm our agreement that the Louisa County Water Authority will continue to accept domestic sewer waste from your station if the wastewater qualities remain within acceptable parameters and other requirements of delivery and payments are met.

If I can be of any further assistance please let me know.

H. Barlow Delk
General Manager

SELCO

STAMIE E. LYTTLE CO., INC.

2210 Belt Blvd. at Hopkins Rd. • P.O. Box 24205 • Richmond, Virginia 23224 • Phone 232-5774

August 2, 1994

Mr. Kenny Williamson
Chemistry Department
Virginia Power Company
North Anna Power Station
Post Office Box 402
Mineral, Virginia 23117

Dear Kenny:

Per your request, the following is the route our trucks take when discharging from North Anna:

1. From Virginia Power to Treatment Plant (Louisa), take main road, Rt. 700, right on Rt. 618, right on Rt. 208, left on Rt. 33, right on Pine Ridge Road

2. From Treatment Plant to Dump Site (Louisa), left on Rt. 33, right on Rt. 208, right on Rt. 780, right on rt. 781 to manhole

3. From Virginia Power to Hanover Dump, take main road to Rt. 700 to left on Rt. 522, to Rt. 33, left – ½ mile – right on Rt. 522 to 64 East, 295 South to Rt. 301 (Rt. 2) south to Richfood Road, left on Old Richfood

Please call if you have further questions.

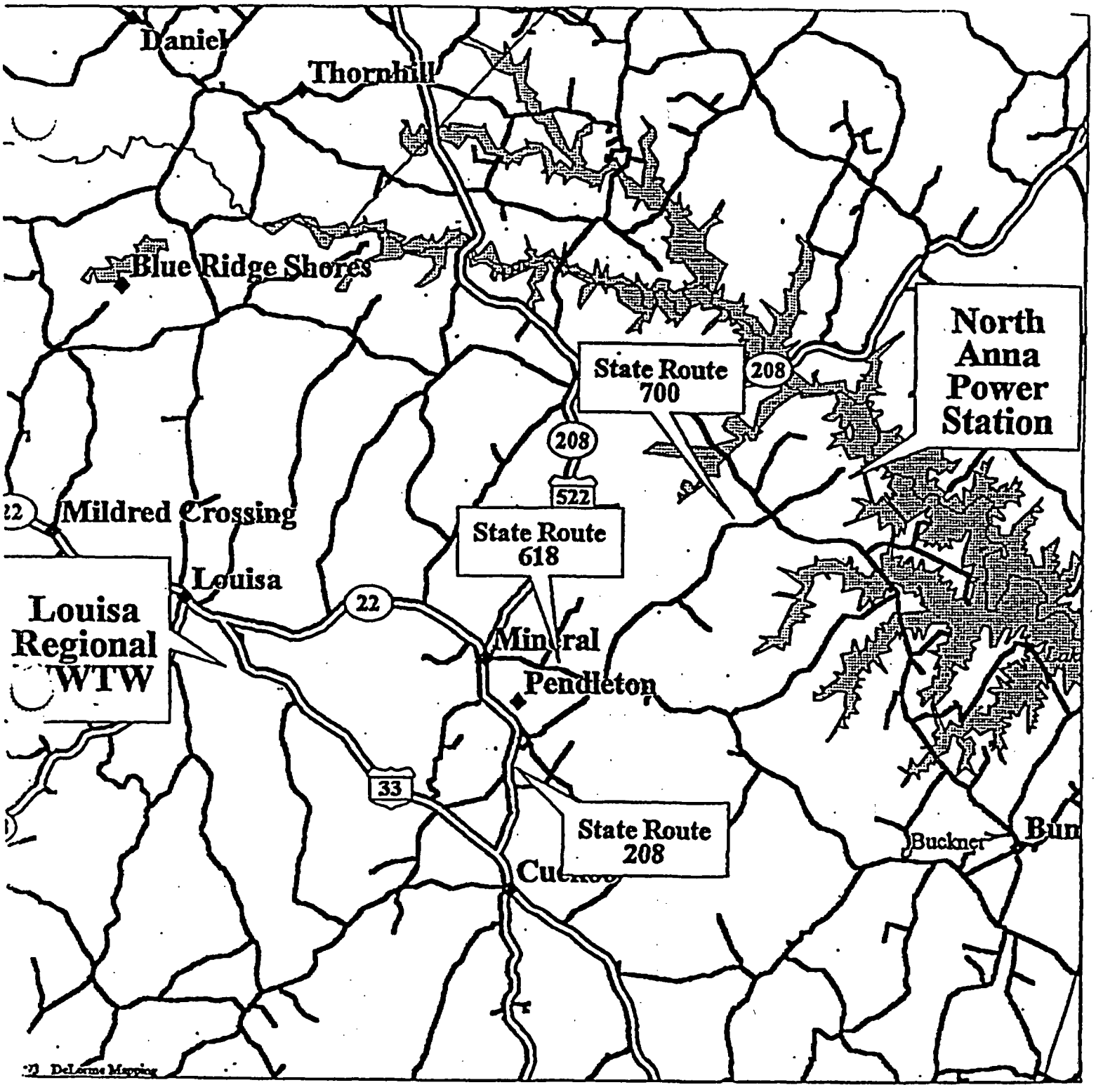
Sincerely,

STAMIE E. LYTTLE CO., INC.

Buck Accashian
Manager – Service Department

BA/srd

94-0621.sel



GEND

- State Route
- Geo Feature
- Town, Small City
- S Highway
- unty Boundary
- Population Center
- Major Street/Road
- Interstate Highway
- State Route

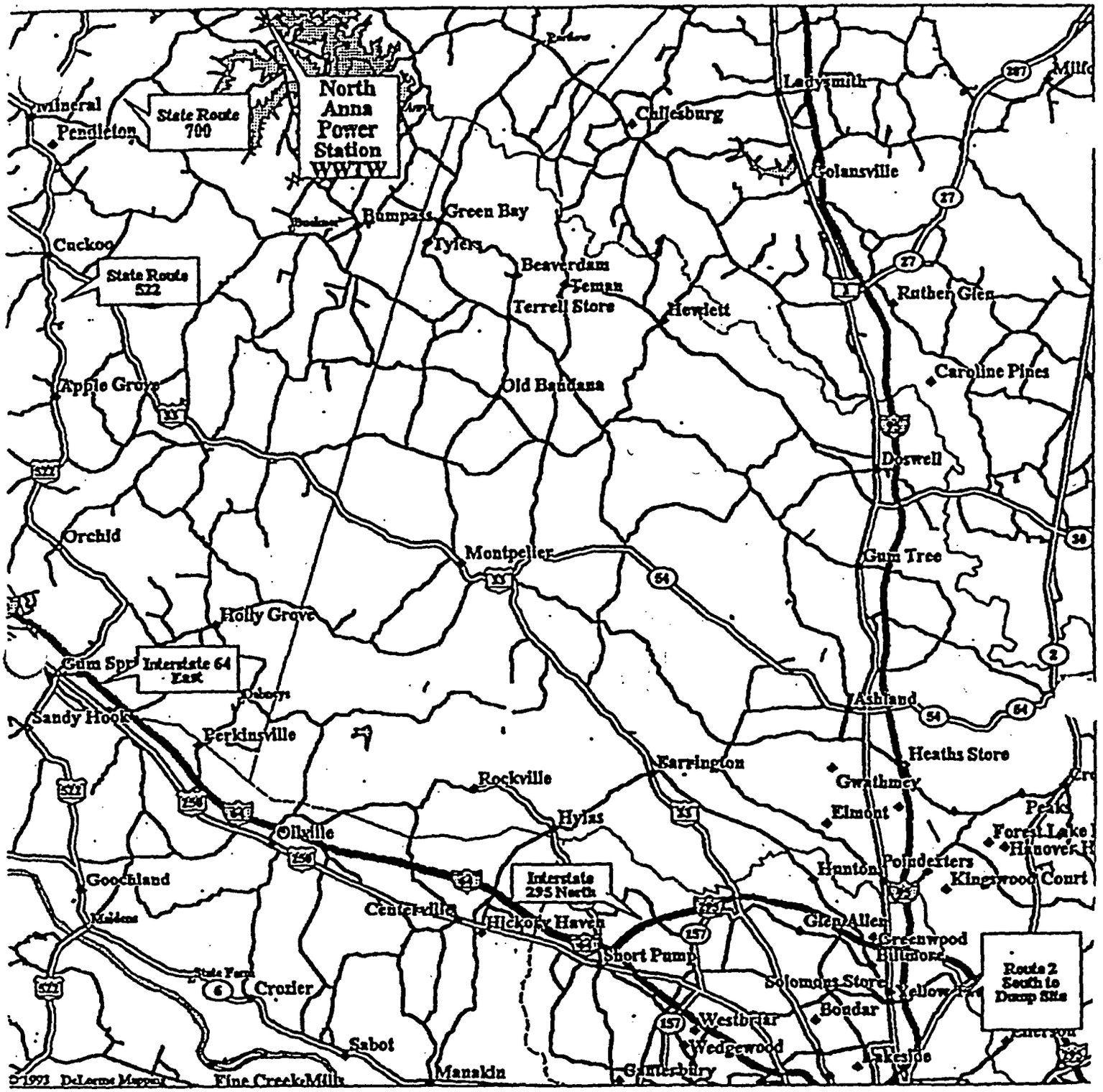
Open Water

Scale 1:150,000 (at center)

2 Miles

5 KM

Mag 11.00
Mon Jun 03 10:03:10 1996


North Anna Power Station WWTW
State Route 700
State Route 522
Interstate 64 East
Interstate 295 North
Route 2 South to Dump Site
Mineral
Pendleton
Cuckoo
Apple Grove
Orchid
Gum Spr
Sandy Hook
Perkinsville
Holly Grove
Montpelier
Bumpass
Green Bay
Tylers
Beaverdam
Yeman
Terrell Store
Hewlett
Chilesburg
Ladysmith
Golansville
Ruther Glen
Caroline Pines
Old Bandana
Doswell
Gum Tree
Ashland
Heaths Store
Gwathmey
Elmont
Forest Lake
Hanover
Kingswood Court
Pointdexters
Hunton
Glen Allen
Greenwood
Biltmore
Yellow
Solomons Store
Bondar
Lakeside
Rockville
Hylas
Earrington
Ollville
Goochland
Maidens
Centerville
Hickory Haven
Short Pump
Westbrier
Wedgewood
Canterbury
Manakin
Fine Creek Mills
Sabot
Crozier
State Farm
Peak
Scale 1:250,000 (at center)
5 Miles
5 KM
Mag 11.00
Mon Jun 03 12:27:34 1996
LEGEND
State Route
Geo Feature
Town, Small City
Interstate, Turnpike
US Highway
County Boundary
Population Center
Major Street/Road
Airfield
Land Mass
Open Water

REPORT NO. PRD12805 DOMINION RESOURCES, INC. 06.28.54 04/23/95

REQUISITIONER'S BLANKET ORDER REPORT
COMPANY 0001
VIRGINIA ELECTRIC AND POWER COMPANY REC'D./ APR 24 1995 S.L.H.

BLANKET ORDER NUMBER BNT 460661 REVISION 001 BLANKET TYPE PA

VENDOR: 122552002 STANIE E LYTTLE CO INC
2210 E BELT BLVD
PO BOX 24205
RICHMOND VA 23224

RC: 0 SHIP TO: 001056 NORTH ANNA POWER STATION
VIRGINIA POWER STRM B500
WAREHOUSE 5, ROUTE 700
MINERAL, VA 23117

RC: 0 TAX MESSAGE: N/T VA DIRECT PMT PERMIT 998106

RC: 0 PAYMENT TERMS: SEE BELOW
RC: 0 F.O.B.: SEE BELOW
RC: 0 SHIP VIA: SEE BELOW
RC: 0 FREIGHT CODE: 002 OTHER, SEE BELOW
RC: 0 REFER TO: E. K. DOWNER
AREA OF RESPONSIBILITY: 120 NUCLEAR PURCHASING
RC: 0 BUYER: 139 E. A. RAWLS PHONE: 804-273-3

RC: 0 HEADER DESCRIPTION: SUPPRESS

REVISION 1 IS ISSUED AGAINST R8518-00036707 Y
Y
Y

REVISION 1 IS HEREBY ISSUED TO EXERCISE THE EXTENTION OPTION NOTED IN SECTION C OF THIS ORDER. THE EXTENTION SHALL COMMENCE MAY 1,1995 AND EXPIRE APRIL 30,1996. Y
N
N
N
N
N
N
N

THE RATES NOTED IN THE COMPENSATION SECTION OF THIS ORDER SHALL REMAIN FIRM THROUGH APRIL 30, 1996. N
N
N
N

THE PURCHASE ORDER TOTAL VALUE REMAINS UNCHANGED. N
N
N
N
N
Y

ORIGINAL ORDER FOLLOWS: Y
Y
Y

M/R : 8518-00025758 Y
DA CODE : NS Y
STRG LVL: B Y
Y

SUPERSEDES ORDER NO: BNS 426103 Y
RELEASES ISSUED BY: SEE SECTION B Y
Y
Y

A: SCOPE OF WORK Y
Y

PROVIDE THE SEWAGE REMOVAL SERVICES Y
DESCRIBED HEREIN IN ACCORDANCE WITH: Y
Y

REQUISITIONER'S BLANKET ORDER REPORT
COMPANY 0001
VIRGINIA ELECTRIC AND POWER COMPANY

BLANKET ORDER NUMBER BNT 460661 REVISION 001 BLANKET TYPE PA

RC: 0 HEADER DESCRIPTION:	SUPPRESS
ATTACHMENT IA	Y
GENERAL TERMS AND CONDITIONS -	Y
GENERAL SERVICES, DATED 1/1/94.	Y
	Y
ATTACHMENT IB	Y
SUPPLEMENTAL TERMS AND CONDITIONS FOR	Y
NUCLEAR SITE SERVICES, DATED 1/1/94.	Y
	Y
AND THE SPECIAL TERMS AND CONDITIONS	Y
CONTAINED HEREIN. THE TERMS AND	Y
CONDITIONS PREPRINTED ON THE REVERSE	Y
SIDE HEREOF DO NOT APPLY.	Y
	Y
THIS BLANKET ORDER IS TO ESTABLISH THE	Y
PRICING, TERMS, AND CONDITIONS FOR	Y
PURCHASING THE SERVICES DESCRIBED HEREIN	Y
WITHOUT IT BEING A COMMITMENT TO	Y
PURCHASE ANY OF THE INCLUDED SERVICES	Y
FROM THE SUPPLIER. NO MINIMUM PAYMENT	Y
SHALL BE DUE THE SUPPLIER UNDER THIS	Y
BLANKET ORDER AND THE COMPANY RESERVES	Y
THE RIGHT TO OBTAIN THESE SAME SERVICES	Y
FROM OTHER SUPPLIERS.	Y
	Y
INDIVIDUAL RELEASES ISSUED IN ACCORDANCE	Y
WITH THE PROVISIONS OF SECTION C OF THIS	Y
ORDER WILL BE THE METHOD OF COMMITTING	Y
PURCHASES FROM THE SUPPLIER. ALL	Y
PROVISIONS OF THIS BLANKET ORDER,	Y
COMMERCIAL, TECHNICAL, AND QUALITY	Y
RELATED, SHALL APPLY TO EACH RELEASE	Y
ISSUED.	Y
	Y
THE SERVICES THAT THE SUPPLIER IS	Y
AUTHORIZED TO PROVIDE UNDER THIS BLANKET	Y
ORDER ARE LIMITED TO THOSE DESCRIBED	Y
HEREIN. NO SUBSTITUTIONS OR ADDITIONS	Y
ARE TO BE PROVIDED WITHOUT A WRITTEN	Y
REVISION TO THIS BLANKET ORDER.	Y
	Y
NO PERMANENT EQUIPMENT OR REPLACEMENT	Y
PARTS ARE TO BE PROVIDED AS PART OF A	Y
REQUEST FOR SERVICES UNDER THIS BLANKET	Y
ORDER.	Y
	Y
	Y
	Y
	Y
	N

REQUISITIONER'S BLANKET ORDER REPORT
COMPANY 0001
VIRGINIA ELECTRIC AND POWER COMPANY

BLANKET ORDER NUMBER BNT 460661 REVISION 001 BLANKET TYPE PA

RC: 0 HEADER DESCRIPTION: SUPPRESS

B: METHOD OF ORDER RELEASE

THIS IS A USER RELEASE BLANKET ORDER.

AUTHORITY TO AUTHORIZE SERVICES IS LIMITED TO THE COMPANY'S PURCHASING PERSONNEL AND THE INDIVIDUALS NAMED BELOW. THE SUPPLIER IS AUTHORIZED TO PROVIDE SERVICES BASED UPON ORAL REQUEST AND NO CONFIRMING DOCUMENTATION MUST BE ISSUED. ANY SERVICES PROVIDED AT THE DIRECTION OF UNAUTHORIZED PERSONNEL SHALL BE DONE AT THE SUPPLIER'S SOLE RISK.

THE FOLLOWING OPERATIONS PERSONNEL ARE AUTHORIZED TO RELEASE THE SUPPLIER TO PROVIDE SERVICES UNDER THIS BLANKET ORDER:

E. K. DOWNER	703/894-2805
M. R. BOATWRIGHT	2805
S. L. CRAMLING	2801
C. R. HENSON	2802

THIS AUTHORIZATION SHALL NOT BE CONSTRUED BY THE SUPPLIER TO CONFER UPON THESE PERSONNEL ANY ACTUAL OR APPARENT AUTHORITY TO ACT AS AN AGENT FOR THE COMPANY EXCEPT TO ISSUE SAID RELEASES CONSISTENT WITH THE TERMS OF THIS BLANKET ORDER. THESE PERSONNEL SHALL HAVE NO AUTHORITY TO AMEND, ALTER OR OTHERWISE MODIFY THE SCOPE OF WORK OR ANY OF THE TERMS AND CONDITIONS OF THIS BLANKET ORDER.

SUPPLIER'S PRIMARY CONTACT FOR SERVICES REQUESTED UNDER THIS ORDER IS MR. BUCK ACCASHIAN WHO MAY BE CONTACTED AT (804) 232-6774.

C: TERM OF AGREEMENT

THIS BLANKET ORDER SHALL BE EFFECTIVE ON MAY 1, 1994, AND SHALL EXPIRE ON

REQUISITIONER'S BLANKET ORDER REPORT
COMPANY 0001
VIRGINIA ELECTRIC AND POWER COMPANY

BLANKET ORDER NUMBER BNT 460661 REVISION 001 BLANKET TYPE PA

		SUPPRESS
: D	HEADER DESCRIPTION:	
	APRIL 30, 1995. COMPANY MAY, AT ITS SOLE	Y
	DISCRETION, EXTEND THE TERM OF THIS	Y
	ORDER FOR TWO ADDITIONAL TERMS OF ONE	Y
	YEAR EACH. ANY SUCH EXTENSION SHALL BE	Y
	AUTHORIZED BY WRITTEN REVISION TO THIS	Y
	ORDER.	Y
		Y
	IF WORK IS IN PROGRESS OR AUTHORIZED TO	Y
	BE PERFORMED UNDER ANY RELEASES ISSUED	Y
	PRIOR TO THE EXPIRATION DATE, THEN THIS	Y
	ORDER SHALL BE AUTOMATICALLY EXTENDED	Y
	FOR SUCH RELEASES, WITHOUT ISSUANCE OF A	Y
	WRITTEN REVISION, UNTIL THE WORK	Y
	AUTHORIZED THEREUNDER IS COMPLETE.	Y
		Y
	D: FREIGHT TERMS	Y
		Y
	SINCE NO MATERIALS ARE TO BE PROVIDED BY	Y
	THE SUPPLIER UNDER THE TERMS OF THIS	Y
	ORDER, FREIGHT TERMS ARE NOT APPLICABLE.	Y
		Y
	E: TERMS OF PAYMENT	Y
		Y
	ONE HUNDRED PERCENT (100%) BILLABLE UPON	Y
	COMPLETION OF EACH AUTHORIZED SERVICE	Y
	PROVIDING IT CONFORMS TO THE TERMS OF	Y
	THIS BLANKET ORDER. PAYMENT SHALL BE	Y
	MADE BY CHECK AND MAILED THIRTY (30)	Y
	DAYS AFTER RECEIPT OF AN ACCEPTABLE	Y
	INVOICE BY THE COMPANY.	Y
		Y
	ALL DOCUMENTATION REQUIRED TO SUPPORT	Y
	THE COMPENSABLE EXPENSES, TIME SHEETS,	Y
	EXPENSES REPORTS, TRAVEL RECEIPTS, PRICE	Y
	SHEETS, SUBSUPPLIER INVOICES, ETC.,	Y
	MUST BE SUBMITTED WITH THE RESPECTIVE	Y
	INVOICE.	Y
		Y
		Y
	F: SALES AND USE TAXES	Y
		Y
	VIRGINIA SALES AND USE TAXES ARE NOT TO	Y
	BE INCLUDED IN THE PRICE FOR ANY GOODS	Y
	AND MATERIALS PURCHASED HEREUNDER AND	Y
	SUPPLIER SHALL NOT PAY ANY VIRGINIA	Y
	SALES OR USE TAXES. THE COMPANY, UPON	Y
	REQUEST, WILL FURNISH SUPPLIER WITH	Y
	EVIDENCE OF EXEMPTION FROM SUCH TAXES	Y
	ACCEPTABLE TO THE TAXING AUTHORITIES.	Y

REQUISITIONER'S BLANKET ORDER REPORT
COMPANY 0001
VIRGINIA ELECTRIC AND POWER COMPANY

BLANKET ORDER NUMBER BNT 460661 REVISION 001 BLANKET TYPE PA

RC: D HEADER DESCRIPTION:	SUPPRESS
WITH EXCEPTION OF VIRGINIA SALES AND USE	Y
TAXES, PRICES MUST INCLUDE ALL	Y
APPLICABLE TAXES	Y
	Y
	Y
G: QUALITY ASSURANCE	Y
	Y
ALL SERVICES PROVIDED ON-SITE AT THE	Y
POWER STATION SHALL BE PERFORMED IN	Y
ACCORDANCE WITH AND UNDER THE POWER	Y
STATION'S QUALITY ASSURANCE PROGRAM AND	Y
WILL BE SUBJECT TO REVIEW BY THE	Y
COMPANY'S QUALITY ASSURANCE PERSONNEL.	Y
	Y
ALL SERVICES PROVIDED OFF-SITE SHALL BE	Y
PERFORMED UNDER THE SUPPLIER'S	Y
APPROPRIATE QUALITY ASSURANCE PROGRAM.	Y
	Y
	Y
H: JOBSITE REQUIREMENTS	Y
	Y
THE SUPPLIER'S PERSONNEL SHALL REPORT TO	Y
AND DIRECT ALL JOBSITE/WORK RELATED	Y
QUESTIONS TO THE COMPANY'S JOBSITE	Y
REPRESENTATIVE DESIGNATED AT THE TIME	Y
THE SERVICES ARE REQUESTED.	Y
	Y
ESCORTED ACCESS IS REQUIRED. THE	Y
SUPPLIER'S PERSONNEL SHALL REMAIN WITH	Y
THEIR DESIGNATED ESCORT AT ALL TIMES	Y
WHILE THEY ARE WITHIN THE SECURED AREA.	Y
	Y
I: INSURANCE	Y
	Y
THE SUPPLIER SHALL OBTAIN AND MAINTAIN	Y
THROUGHOUT THE LIFE OF THIS ORDER,	Y
INSURANCE THAT MEETS OR EXCEEDS THE	Y
LIMITS SPECIFIED IN THE GENERAL TERMS	Y
AND CONDITIONS. CERTIFICATE EVIDENCING	Y
THIS COVERAGE, INDUSTRY ACCORD FORM 25	Y
OR OTHER FORMS ACCEPTABLE TO THE COMPANY	Y
IS TO BE PROVIDED BY THE SUPPLIER.	Y
	Y
J: CORRESPONDENCE	Y
	Y
ALL CORRESPONDENCE ON COMMERCIAL OR	Y
CONTRACTUAL CONSIDERATIONS, INCLUDING	Y
BUT NOT LIMITED TO NOTICES, CHANGES,	Y
PRICING, CLAIMS, ETC., RELATIVE TO THIS	Y

REQUISITIONER'S BLANKET ORDER REPORT
COMPANY 0001
VIRGINIA ELECTRIC AND POWER COMPANY

BLANKET ORDER NUMBER BNT 460661 REVISION 001 BLANKET TYPE PA

RC: 0 HEADER DESCRIPTION:	SUPPRESS
ORDER SHALL BE DIRECTED TO THE ORDER	Y
ADMINISTRATOR AND ADDRESSED TO:	Y
	Y
MR A. J. TREECE	Y
SUPERVISOR PURCHASING	Y
VIRGINIA POWER	Y
5000 DOMINION BLVD	Y
GLEN ALLEN, VA 23060	Y
ATTN: MR D. R. SMITH	Y
804/273-2417	Y
	Y
ALL CORRESPONDENCE RELATIVE TO TECHNICAL	Y
MATTERS OR THE SPECIFICALLY AUTHORIZED	Y
SERVICES, INCLUDING BUT NOT LIMITED TO	Y
THE SUBMITTAL OF TECHNICAL DATA,	Y
REPORTS, ETC., SHALL BE DIRECTED TO THE	Y
TECHNICAL REPRESENTATIVE AND ADDRESSED	Y
TO:	Y
	Y
VIRGINIA POWER	Y
NORTH ANNA POWER STATION	Y
P. O. BOX 402	Y
MINERAL, VA 23117	Y
ATTN: MS. E. K. DOWNER	Y
(703) 894-2805	Y
	Y
A COPY OF EACH TECHNICAL CORRESPONDENCE,	Y
WITHOUT ATTACHMENTS, IS TO BE SENT TO	Y
THE ORDER ADMINISTRATOR NOTED ABOVE.	Y
	Y
K. JOINT OWNERSHIP	Y
	Y
++19 NEXT 20 LINES ****BUYERS-MESSAGE***	Y
OLD DOMINION ELECTRIC COOPERATIVE (OLD	N
DOMINION), A VIRGINIA GENERATION AND	N
TRANSMISSION COOPERATIVE, OWNS APPROXI-	N
MATELY 11.6% OF THE NORTH ANNA POWER	N
STATION (NORTH ANNA). OLD DOMINION IS	N
A PARTY TO THIS PURCHASE ORDER TO THE	N
EXTENT THAT THIS PURCHASE ORDER RELATES	N
TO NORTH ANNA. OLD DOMINION HAS APPOIN-	N
TED BUYER TO BE ITS AGENT FOR ALL AC-	N
TIONS RELATING TO ITS INTEREST IN NORTH	N
ANNA. ACCORDINGLY, SUPPLIER SHALL LOOK	N
SOLELY TO BUYER FOR PAYMENT, AND IT WILL	N
BE BUYER'S RESPONSIBILITY TO COLLECT RE-	N
IMBURSEMENT FROM OLD DOMINION FOR OLD	N
DOMINION'S PROPORTIONATE SHARE OF PAY-	N
MENTS UNDER THIS AGREEMENT. ALL MATTERS	N

REQUISITIONER'S BLANKET ORDER REPORT
COMPANY 0001
VIRGINIA ELECTRIC AND POWER COMPANY

BLANKET ORDER NUMBER BNT 460661 REVISION 001 BLANKET TYPE PA

RC: 0 HEADER DESCRIPTION:

	SUPPRESS
OF CONTRACT ADMINISTRATION WILL BE HAN-	N
DLED BY BUYER.	N
**********	N
++19-LAST-20-LINES-****BUYERS-MESSAGE***	Y
	N
	N
L: ACCEPTANCE	N
	N
THE SUPPLIER SHALL ACKNOWLEDGE	N
ACCEPTANCE OF THIS ORDER BY RETURNING	N
THE SIGNED ACCEPTANCE COPY TO THE ORDER	N
ADMINISTRATOR NOT LATER THAN MAY 2,1995.	N
	N
	Y
	Y

MESSAGES: DESCRIPTION

RC: 0 PA THE FIELD ACCOUNTING SERVICES DEPARTMENT WILL CREATE ALL BLANKET RELEASES FOR THIS ORDER. THIS WILL BE BASED ON RECEIPT OF AN INVOICE AND ALL SUPPORTING DOCUMENTATION. THIS IS AN ACCOUNTING RELEASE BLANKET PURCHASE ORDER.
****

BLANKET DOLLAR LIMIT: 100000 DOLLAR LIMIT PER RELEASE: 100000
MAX NO OF RELEASES: 999 EXPIRE DATE: 043095

NO.	QUANTITY REQUIRED	UNIT	STOCK NUMBER RC: 0	DETAIL DESCRIPTION RC: 0	SUPPRESS PRINT	UNIT PRICE RC: 0	E I
0001	1.0000	LT	8512	SUPPLIER SHALL PROVIDE PERSONNEL AND	N	TO BE DETERMINED	
				EQUIPMENT TO REMOVE AND PROPERLY DISPOSE	N		
				OF SEWAGE FORM NORTH ANNA POWER STATION.	N		
				SUCH REMOVAL SHALL INCLUDE, BUT NOT BE	N		
				LIMITED TO, THE FOLLOWING AREAS;	N		
				TREATMENT PLANTS 005, 006, 007, 008 AND	N		
				011; SHUBBER SHOP, DAM AREA, 9 LIFT	N		
				STATIONS.	N		
					N		
				SUPPLIER SHALL BE AVAILABLE TO REMOVE	N		
				SEWAGE ON A 24 HOUR, 7 DAYS PER WEEK	N		
				BASIS.	N		
					N		
				SUPPLIER SHALL BE CAPABLE OF HAULING	N		
				VARIOUS AMOUNTS OF SEWAGE FROM 850	N		
				GALLONS TO 2000 GALLONS.	N		

REQUISITIONER'S BLANKET ORDER REPORT
COMPANY 0001
VIRGINIA ELECTRIC AND POWER COMPANY

BLANKET ORDER NUMBER BNT 460661 REVISION 001 BLANKET TYPE PA

ITEM NO.	QUANTITY REQUIRED	UNIT	STOCK NUMBER	DETAIL DESCRIPTION	SUPPRESS PRINT	UNIT PRICE	E I
					N		
				SUPPLIER'S TRUCK SHALL BE KEPT CLEAN AT	N		
				ALL TIMES AND IN GOOD WORKING CONDITION.	N		
					N		
				SUPPLIER SHALL HAUL AND DISPOSE OF	N		
				SEWAGE IN ACCORDANCE WITH ALL APPLICABLE	N		
				LOCAL, STATE, AND FEDERAL REGULATIONS	N		
				AND SHALL CARRY PROPER LICENSING FOR	N		
				DISPOSAL AT THE DUMP SITES.	N		
					N		
				COMPENSATION	N		
					N		
				$ 0.13 PER GALLON FOR SEWAGE REMOVAL AND	N		
				DISPOSAL. SUCH PRICE IS ALL-INCLUSIVE	N		
				AND INCLUDES ALL COSTS ASSOCIATED WITH	N		
				THE REMOVAL AND DISPOSAL OF SEWAGE FROM	N		
				NORTH ANNA POWER STATION TO THE DUMP	N		
				SITE.	N		
					N		
				$ 70.00 PER HOUR IF SUPPLIER IS	N		
				REQUIRED BY COMPANY TO STANDBY PRIOR TO	N		
				ENTERING THE PROTECTED AREA OF THE	N		
				STATION. SUCH TIME SHALL BE DOCUMENTED	N		
				BY SUPPLIER.	N		
					N		
				THE ABOVE RATES ARE FIRM THROUGH APRIL	N		
				30, 1995.	N		
					N		
				TOTAL COMPENSATION PAYABLE TO SUPPLIER	N		
				SHALL NOT EXCEED $100,000.00 WITHOUT	N		
				WRITTEN REVISION TO THIS ORDER.	N		
					N		
					Y		
				04/12/94DRS RECEIVED CERTIFICATION OF	Y		
				INSURANCE EXPIRING 04/01/95.	Y		
					Y		
				03/23/94DRS RECEIVED SIGNED ACCEPTANCE	Y		
				COPY OF P.O. DATED 03/21/94. NO	Y		
				EXCEPTIONS NOTED. SENT TO FILE.	Y		
					Y		
					Y		

REPORT.NO. PR012805 DOMINION RESOURCES, INC. 06.28.54 04/23/95

REQUISITIONER'S BLANKET ORDER REPORT
COMPANY 0001
VIRGINIA ELECTRIC AND POWER COMPANY

BLANKET ORDER NUMBER BNT 460661 REVISION 001 BLANKET TYPE PA

REQUISITION NUMBER: R851800025758 LINE: 0001

RC: R ACCOUNTING INFORMATION:

IND	ACCOUNT	DISTRIBUTION PCT: 100

RC: SHIP TO: 000000

MAX DOLLARS: 100000 DOLLARS PER RELEASE: 100000
MAX QUANTITY: 999 QTY PER RELEASE: 999

BLANKET ORDER TOTAL: $ 0.00

No. 95-222-0003

PERMIT

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HEALTH

THIS PERMIT EXPIRES ON 12-31-95

DATE OF ISSUE 04-18-95

License TM88927

OPERATOR: Stanin E. Lyttle Co.
ADDRESS: Post Office Box 24205
Richmond, VA 23224

The above operator has made application and in accordance with the regulations of the Board of Health of the Commonwealth of Virginia is authorized by the Richmond *Health Department to operate a* Pump Truck

HEALTH OFFICIAL

[illegible] TO NOT TRANSFERABLE FROM ONE INDIVIDUAL OR LOCATION TO ANOTHER

No. 95-222-0004

PERMIT

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HEALTH

THIS PERMIT EXPIRES ON 12-31-95

DATE OF ISSUE 04-10-95

License TT25398

OPERATOR:
ADDRESS:

Stanie E. Lyttle Co.
Post Office Box 24205
Richmond, VA 23224

The above operator has made application and in accordance with the regulations of the Board of Health of the Commonwealth of Virginia is authorized by the Richmond *Health Department to operate a* Pump Truck

HEALTH OFFICIAL

No. 95-222-0005

PERMIT

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HEALTH

THIS PERMIT EXPIRES ON 12-31-95

DATE OF ISSUE 04-10-95

License TN96342

OPERATOR: Stanie E. Lyttle Co.
ADDRESS: Post Office Box 24295
Richmond, VA 23224

The above operator has made application and in accordance with the regulations of the Board of Health of the Commonwealth of Virginia is authorized by the Richmond *Health Department to operate a* Pump Truck

HEALTH OFFICIAL

THIS PERMIT IS NOT TRANSFERABLE FROM ONE INDIVIDUAL OR LOCATION TO ANOTHER

No. 95-222-0006

PERMIT

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HEALTH

THIS PERMIT EXPIRES ON 12-31-95

DATE OF ISSUE 04-10-95

License VA2776

OPERATOR: Stanie E. Lytle Co.
ADDRESS: Post Office Box 24205
Richmond, VA 23224

The above operator has made application and in accordance with the regulations of the Board of Health of the Commonwealth of Virginia is authorized by the Richmond *Health Department to operate a* Pump Truck

HEALTH OFFICIAL

THIS PERMIT IS NOT TRANSFERABLE FROM ONE INDIVIDUAL OR LOCATION TO ANOTHER

No. 95-222-0007

PERMIT

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HEALTH

THIS PERMIT EXPIRES ON 12-31-95

DATE OF ISSUE 04-18-95

License TL64450

OPERATOR: Stanie E. Lyttle Co.
ADDRESS: Post Office Box 26205
Richmond, VA 23224

The above operator has made application and in accordance with the regulations of the Board of Health of the Commonwealth of Virginia is authorized by the Richmond *Health Department to operate a* Pump Truck

HEALTH OFFICIAL

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Operation & Maintenance Manual
Revised 6/23/05

OPERATIONS & MAINTENANCE MANUAL

NORTH ANNA POWER STATION

Permit Number VA0052451

Revision 1 – June 23, 2005
A. Carter Cooke
Environmental Compliance Coordinator
North Anna Power Station
Mineral, Virginia

Operations & Maintenance Manual

Table of Contents

Introduction....3
Emergency Phone Numbers....4
Outfall 001 Discharge of Condenser Cooling Water from WHTF at Dike 3....5
Outfall 009 Settling Pond....6
Outfall 013 Turbine Bldg Sump #1 & Turbine Bldg Sump #2 & Storm Water only....7
Outfall 014 Storm Water only....8
Outfall 016 Intake Screen Wash Water....9
Outfall 020 Reverse Osmosis Reject....10
Outfall 021 Reverse Osmosis Drain Line....11
Outfall 022 Drainage Area #2A (storm water only)....12
Outfall 023 Drainage Area #2B (storm water only)....13
Outfall 024 Drainage Area #3 (storm water only)....14
Outfall 025 Drainage Area #18 (storm water only)....15
Outfall 026 Drainage Area #25 (storm water only)....16
Outfall 103 Process Waste Clarifier....17
Outfall 104 Oil/Water Separator & Storm Water....18
Outfall 105 Bearing Cooling Tower Blowdown....20
Outfall 107 Bearing Cooling System Discharge - Lake to Lake Operation....21
Outfall 108 Service Water Overflow....22
Outfall 109 Hot Well Drain Unit 1....23
Outfall 110 Hot Well Drain Unit 2....24
Outfall 111 Main Sewage Treatment Plant....25
Outfall 112 Steam Generator Blowdown Unit 1....26
Outfall 113 Steam Generator Blowdown Unit 2....27
Outfall 114 Service Water Pipe Vault Drain....28
Outfall 115 Service Water System Blowdown....29
TABLE 1 – Sampling/Methodology Permit Requirements Performed by Site Personnel - North Anna Power Station Permit # VA0052541....30
TABLE 2 – VPDES Effluent Sampling Permit Requirements Performed by Dominion's Environmental Biology Group....31
FIGURE 1 - North Anna Power Station Location....32
FIGURE 2 - VPDES Outfall Location Map/Site Drainage - North Anna Power Station....33
FIGURE 3 - One Line Diagram - Station Water Flow - North Anna Power Station....34
APPENDIX A - North Anna Power Station VPDES Permit No. VA0052451....35

North Anna/ENV 55/
NPDES Correspondence

Certified Mail
Return Receipt Requested

March 7, 2001

Dr. Janardan R. Pandey, P.E.
Department of Environmental Quality
P.O. Box 3000
Harrisonburg, Va. 22801-3000

Re: Operation & Maintenance Manual
North Anna Power Station - VPDES Permit No. VA0052451

Dear Dr. Pandey:

Enclosed is the North Anna Power Station Operation and Maintenance Manual prepared in accordance with Part I.E.14 of VPDES Permit No. VA0052451. This is a required submittal within 90 days of the permit effective date of January 11, 2001. Thank you for your preliminary review, and please note that this plan includes the revisions you requested by email.

If you have any questions concerning this document, please direct your call to Joyce Livingstone at (804) 273-2985.

Sincerely,

Pamela F. Faggert

Pamela F. Faggert
Vice President and Chief Environmental Officer

Attachment

Operations & Maintenance Manual

Introduction

General

This manual has been prepared specifically to meet the requirements set out in VPDES Permit No. VA0052451 Part I, Section E, Number 15. This manual will address:

- treatment system design
- operation and preventative maintenance of units within the treatment system
- critical spare parts inventory
- techniques to be employed in the collection, preservation and analysis of wastewater and groundwater samples
- recordkeeping
- solids handling and disposal
- Best Management Practices which insure compliance with practices and procedures

It is important that affected station team members are familiar with and understand the contents of this Manual. Each discharge facility must be operated and maintained as described in this Manual to provide minimal protection for surface and ground waters under the stewardship of the station. Any changes to treatment facilities must be revised in this Manual and submitted to the DEQ. This Manual is a regulatory document that may be used to enforce compliance with the VPDES permit.

All effluent monitoring sample types, containers, preservation and analytical methods are summarized in Tables 1 and 2 when not discussed in the actual procedure.

Site Specific

North Anna Power Station is a two unit nuclear station supplying Dominion Virginia Power with more than 20 percent of its total generation. It is the largest nuclear station in Virginia and can generate almost two million kilowatts of electric power. North Anna is located on the shore of Lake Anna in Louisa County. Lake Anna is composed of a 9,600 acre main lake and a 3,400 acre Waste Heat Treatment Facility (mixing Zone), and was created in the early 70's for the sole purpose of providing cooling water for the power station.

Emergency Phone Numbers

Notification Procedure

In the event of a facility emergency, the following list of emergency contacts may be necessary.

The initial contact should be made to the Control Room by telephone at **540-894-2541.**

Station personnel in responsible charge will then evaluate the situation and determine the remainder of contacts that need to be made.

Person or Agency	Telephone Number
Environmental Compliance Coordinator	(540) 967-2794
Va Department of Environmental Quality (DEQ)	(703) 583-3800 daytime
Va. Department of Emergency Services	(800) 468-8892 24-hour
Louisa County Sheriff's Office	(540) 967-1234

Outfall 001 Discharge of Condenser Cooling Water from WHTF at Dike 3

Treatment design, operation and maintenance	No treatment occurs to the effluent in this outfall.
Outfall description	This outfall continuously discharges non-contact, once through cooling water withdrawn from Lake Anna back into the Lake.
Critical spare parts inventory	Not applicable. Multiple pumps provide for system reliability.
Effluent sampling procedures	The heat rejection for the outfall is calculated using heat rejection curves for each unit. The pH and chlorine samples are collected in 100 ml clean polyethylene containers and analyzed immediately. The samples are collected as the cooling water leaves the third lagoon and enters Lake Anna. The total flow for the month is calculated by reading automated pump timers and using maximum flow rate design for each circulating water pump. Log sheets are kept to determine the maximum number of pumps running on any given day for maximum flows. See Table 1 for additional information.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	Debris removed from the trash racks are land disposed and not returned to the Lake.

Outfall 009 Settling Pond

Treatment design, operation and maintenance	The settling pond actually consists of two ponds separated by an earthern dike. The first pond flows into the second by means of a standpipe in the corner farthest from the inflow area (northwest corner). The second pond is pumped intermittently up over a taller earthern dike into Lake Anna when the water level in the pond reaches a depth of approximately seven feet, the second pump (backup) will start if the pond reaches a depth of approximately ten feet. Treatment is by means of natural settling in both ponds. Dike integrity is maintained by periodic cutting of vegetation and monitoring of erosion. Pumps are observed daily and checked monthly to determine operability.
Outfall description	The outfall intermittently discharges storm water/groundwater and filter backwash/cleaning water from the Ionics water purification units to Lake Anna.
Critical spare parts inventory	Not applicable. A backup pump is in place for system reliability.
Effluent sampling procedures	Samples are collected as water from the pond enters Lake Anna. Grab samples for pH and TSS are collected in a 1000 ml (approximately) plastic bottle. The O&G sample is collected in another 1000 ml glass bottle. The pH sample is analyzed immediately on site and the TSS and O&G refrigerated and sent to Dominion Laboratory Services for analysis within one day.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	Waste water from the Ionics water purification system is neutralized during the media cleaning operation before being discharged into the settling pond.

Outfall 013 Turbine Bldg Sump #1 & Turbine Bldg Sump #2 & Storm Water only

Treatment design, operation and maintenance	Water flows into a concrete two stage catchment basin before being released into Lake Anna. The first section is separated from the next section by a concrete wall which rises to about six inches below the water level, to collect sediment. The water then flows under a concrete barrier (subsurface release) to trap oil and floating debris before being released to flow over the lip of the basin. Sediment/storm water debris is removed periodically when it builds up too high in the basin.
Outfall description	The Outfall periodically releases storm water runoff and turbine building sump water via the high volume sump pumps, which are used only for emergency releases, to Lake Anna.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Samples are collected as water passes over the lip of the catchment basin. Grab samples for pH and TSS are collected in a 1000 ml (approximately) plastic bottle. The O&G sample is collected in another 1000 ml glass bottle. The pH sample is analyzed immediately on site and the TSS and O&G refrigerated and sent to Dominion Laboratory Services for analysis within one day.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Debris removed from the catchment basin are checked for radioactivity and disposed of on site if not radioactive, if radioactive the debris are disposed of as radioactive waste.
Best management practices	The catchment basin is designed to contain any sediment or oil inadvertently discharged so it is not released into Lake Anna, and can be easily removed from the basin.

Outfall 014 Storm Water only

Treatment design, operation and maintenance	Water flows into a concrete two stage catchment basin before being released into Lake Anna. The first section is separated from the next section by a concrete wall which rises to about six inches below the water level, to collect sediment. The water then flows under a concrete barrier (subsurface release) to trap oil and floating debris before being released to flow over the lip of the basin. Sediment/storm water debris is removed periodically when it builds up too high in the basin.
Outfall description	The Outfall periodically releases storm water runoff to Lake Anna.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	No samples normally collected.
Recordkeeping	Maintenance records are kept on site for a minimum of five years.
Solids handling and disposal	Debris removed from the catchment basin are checked for radioactivity and disposed of on site if not radioactive, if radioactive the debris are disposed of as radioactive waste.
Best management practices	The catchment basin is designed to contain any sediment or oil inadvertently discharged so it is not released into Lake Anna, and can be easily removed from the basin.

Outfall 016 Intake Screen Wash Water

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	This outfall discharges non-process Lake water used to wash the traveling screens back to the Lake.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Flow is estimated once per year.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Solids from the screen backwash are collected in a wire mesh basket approximately 5 ft x 8 ft x 4 ft and disposed in the Louisa County Landfill.
Best management practices	The discharge trough is kept clean of any contaminants that might enter the Lake.

Outfall 020 Reverse Osmosis Reject

Treatment design, operation and maintenance	There is no treatment at the point of discharge.
Outfall description	This outfall discharges the waste from a reverse osmosis treatment operation that purifies Lake water back to Lake Anna.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Samples are collected as water leaves the discharge pipe. Grab samples for pH, chlorine and TSS are collected in a 1000ml (approximately) glass bottle. The pH and chlorine are analyzed immediately on site and the TSS normally (kept refrigerated) and sent to Dominion Laboratory Services for analysis within 24 hours.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	Reverse osmosis is one the best available and least intrusive methods used to obtain purified water.

Outfall 021 Reverse Osmosis Drain Line

Treatment design, operation and maintenance	There is no treatment at the point of discharge.
Outfall description	This is a line drain for the pipe carrying untreated Lake water to the reverse osmosis trailers. It would only be used if both Nuclear units were down during the winter and no water was being purified, to keep the water in the line from freezing and splitting the pipe. The water is released back to the Lake.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Flow would be estimated when the drain was opened.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	Drain for non-treated Lake water back into the Lake.

Outfall 022 Drainage Area #2A (storm water only)

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	The outfall discharges storm water from the area behind several Nuclear Site Services (NSS) workshops and NSS parking areas to Lake Anna.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Quarterly visual examination of the storm water quality will be conducted as specified by the permit. Samples for total recoverable iron will be collected in pre-acidified containers during the second and fourth years of the permit as required.
Recordkeeping	Quarterly visual exam records will be maintained with the Storm water Pollution Prevention Plan for a minimum of five years after the permit expires.
Solids handling and disposal	Not applicable.
Best management practices	See Storm Water Pollution Prevention Plan.

Outfall 023 Drainage Area #2B (storm water only)

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	This outfall discharges storm water primarily from the switchyard to Lake Anna.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Quarterly visual examination of the storm water quality will be conducted as specified by the permit. Samples for total recoverable iron will be collected in pre-acidified containers during the second and fourth years of the permit as required.
Recordkeeping	Quarterly visual exam records will be maintained with the Storm water Pollution Prevention Plan for a minimum of five years after the permit expires.
Solids handling and disposal	Not applicable.
Best management practices	See Storm Water Pollution Prevention Plan.

Outfall 024 Drainage Area #3 (storm water only)

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	The outfall discharges storm water primarily from a former materials laydown area to Lake Anna.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Quarterly visual examination of the storm water quality will be conducted as specified by the permit. Samples for total recoverable iron will be collected in pre-acidified containers during the second and fourth years of the permit as required.
Recordkeeping	Quarterly visual exam records will be maintained with the Storm water Pollution Prevention Plan for a minimum of five years after the permit expires.
Solids handling and disposal	Not applicable.
Best management practices	See Storm Water Pollution Prevention Plan.

Outfall 025 Drainage Area #18 (storm water only)

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	The outfall discharges storm water primarily from the areas around the materials warehouses and storage areas to the first lagoon of the waste Heat Treatment Facility.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Quarterly visual examination of the storm water quality will be conducted as specified by the permit. Samples for total recoverable iron will be collected in pre-acidified containers during the second and fourth years of the permit as required.
Recordkeeping	Quarterly visual exam records will be maintained with the Storm water Pollution Prevention Plan for a minimum of five years after the permit expires.
Solids handling and disposal	Not applicable.
Best management practices	See Storm Water Pollution Prevention Plan.

Outfall 026 Drainage Area #25 (storm water only)

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	The outfall discharges storm water primarily from a materials storage area (mostly materials needed only during station outages) to Lake Anna.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Quarterly visual examination of the storm water quality will be conducted as specified by the permit. Samples for total recoverable iron will be collected in pre-acidified containers during the second and fourth years of the permit as required.
Recordkeeping	Quarterly visual exam records will be maintained with the Storm water Pollution Prevention Plan for a minimum of five years after the permit expires.
Solids handling and disposal	Not applicable.
Best management practices	See Storm Water Pollution Prevention Plan.

Outfall 103 Process Waste Clarifier

Treatment design, operation and maintenance	The main treatment for this outfall is ion exchange via resin beds. Resin beds are changed out as they become loaded. The resin is tested for radioactivity and either disposed of as a radioactive waste or sent to an industrial landfill.
Outfall description	This is an internal outfall, discharging to the Circulating Water Tunnel, and may contain water from the ion exchange system, steam generator blowdown (secondary release point), mat sump system (groundwater), and service water (secondary release point).
Critical spare parts inventory	Large amounts of ion exchange resin are stored in the station warehouses.
Effluent sampling procedures	Samples are collected from a sample tap in the clarifier building before the water is discharged to the tunnel. Grab samples for TSS and O&G are collected in 1000 ml. (approximately) plastic bottles. TSS and O&G are analyzed by BWXT Laboratory in Lynchburg, VA and are normally sent refrigerated on the same day as collected and are kept refrigerated. Water for the pH sample is collected at the end of the Discharge Canal in a 100 ml polyethylene container and analyzed immediately on site.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	Ion exchange is one of the best methods available for removing pollutants from waste streams.

Outfall 104 Oil/Water Separator & Storm Water

Treatment design, operation and maintenance	Treatment for water from the station is by a mechanical oil/water separator. The separator is cleaned out periodically, the oil removed is sent to an underground used oil storage tank that is pumped out periodically. Storm water does not go through the oil separator but combines with water from the oil separator and flows into a concrete, two-stage catchment basin before being released into the head of the Discharge Canal. The first section of the catchment basin is separated from the next section by a concrete wall that rises to about six inches below the water level, to collect sediment. The water then flows under a concrete barrier (subsurface release) to trap oil and floating debris, before being released to flow over the lip of the basin. Sediment/storm water debris is removed periodically when it builds up too high in the basin.
Outfall description	This outfall releases storm water runoff and turbine building sump water via the low volume sump pumps (primary release path) to the Waste Heat Treatment Facility.
Critical spare parts inventory	Spare parts for the oil separator are either available at the warehouse or can be fabricated by the mechanics.
Effluent sampling procedures	Samples are collected as water passes over the lip of the catchment basin. Water for the pH sample is collected at the end of the Discharge Canal in a 100 ml polyethylene container and analyzed immediately on site. Grab samples for pH and TSS are collected in a 1000 ml (approximately) plastic bottle. The O&G sample is collected in another 1000 ml glass bottle. The pH sample is analyzed immediately on site and the TSS and O&G refrigerated and sent to Dominion Laboratory Services for analysis within one day.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Debris removed from the catchment basin is checked for radioactivity and is disposed on site if not radioactive. If radioactive, then the debris is disposed as a radioactive waste.

Continued on next page

Best management practices	The mechanical oil separator will remove oil from the station waste stream. The catchment basin is designed to contain any sediment or oil contained in the storm water or inadvertently released from the oil separator.

Outfall 105 Bearing Cooling Tower Blowdown

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	The outfall continuously discharges bearing cooling water to the circulating water tunnel.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Samples are collected from a sample point in the Turbine Building Basement prior to discharge to the circulating water tunnel. Grab samples for free available chlorine are collected in a 500 ml polyethylene bottle and analyzed on site immediately. Grab samples for zinc and chromium are collected quarterly in a 500 ml polyethylene tissue culture flask acidified with 1:1 nitric acid at one ml per liter and delivered to Dominion Laboratory Services for analysis. Water for the pH sample is collected at the end of the Discharge Canal in a 100 ml polyethylene container and analyzed immediately on site. Flow is estimated based on make-up minus evaporation.
Recordkeeping	The Discharge Monitoring Report and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	The chemical parameters of the bearing cooling water are kept within strict limits to best protect the components cooled by this system and the environment.

Outfall 107 Bearing Cooling System Discharge - Lake to Lake Operation

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	The outfall discharges untreated lake water used in the bearing cooling system in a once through mode of operation with the bearing cooling tower valved out. The water is discharged to the circulating water tunnel (internal discharge).
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Samples are collected from a sample tap in the turbine building basement before the water enters the tunnel. Samples to be analyzed for total residual chlorine are collected in a 500 ml polyethylene bottle and analyzed immediately on site. Flow is determined from pump capacitites.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	Discharge consists of untreated Lake water.

Outfall 108 Service Water Overflow

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	The outfall discharges water from the Service Water Reservoir to the circulating water tunnel (internal discharge).
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Water for pH samples is collected at the end of the Discharge Canal in a 100 ml polyethylene container and analyzed immediately on site. Flow is measured by a flowmeter.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	The chemical parameters of the Service Water Reservoir are kept within strict limits to protect the components cooled by this system and the environment.

Outfall 109 Hot Well Drain Unit 1

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	This outfall discharges condensate water from the secondary system, which is in the hot well of Unit 1, to the circulating water tunnel. This is only used when the Unit will be in cold shutdown, normally every eighteen months for re-fueling purposes.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Samples are collected from a sample tap in the Turbine Building Basement (Unit 1 side) before the water is discharged to the tunnel. A grab sample for TSS is collected in a 1000 ml (approximately) plastic bottle. The O&G sample is collected in another 1000 ml glass bottle. . The TSS and O&G samples are refrigerated and sent to Dominion Laboratory Services for analysis within one day. Water for the pH sample is collected at the end of the Discharge Canal in a 100 ml polyethylene container and analyzed immediately on site.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	The chemical parameters of the secondary system are kept within strict limits to protect the components served by this system and the environment.

Outfall 110 Hot Well Drain Unit 2

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	This outfall discharges condensate water from the secondary system, which is in the hot well of Unit 2, to the circulating water tunnel. This is only used when the Unit will be in cold shutdown, normally every eighteen months for re-fueling purposes.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Samples are collected from a sample tap in the Turbine building Basement (Unit 2 side) before the water is discharged to the tunnel. A grab sample for TSS is collected in a 1000 ml (approximately) plastic bottle. The O&G sample is collected in another 1000 ml glass bottle. . The TSS and O&G samples are refrigerated and sent to Dominion Laboratory Services for analysis within one day. Water for the pH sample is collected at the end of the Discharge Canal in a 100 ml polyethylene container and analyzed immediately on site.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	The chemical parameters of the secondary system are kept within strict limits to protect the components served by this system and the environment.

Outfall 111 Main Sewage Treatment Plant

Treatment design, operation and maintenance	Primary treatment occurs in two parallel aeration tanks with secondary effluent chlorination occurring in a chlorine contact tank. Only one side is used during normal operation with both sides in operation during refueling outages. For more detailed information see the Sewage Treatment Plant Operations and Maintenance Manual approved on March 17,1999.
Outfall description	The sewage treatment plant discharges to the head of the Discharge Canal by means of a subsurface discharge pipe. Samples are collected after the discharge water goes over the v-notch weir at the end of the chlorine contact tank before entering the underground piping.
Critical spare parts inventory	Spare parts - pumps, chlorine tablets, etc. - are stored in a storage shed on site or in the station warehouse.
Effluent sampling procedures	Instantaneous flow is determined by a totalizer that records on a secondary chart. All samples are taken with a 4 liter cubetainer. Chlorine and pH are analyzed immediately on site. The sample for BOD is poured into a 1000 ml polyethylene container and refrigerated at 4 degrees Centigrade, or less, until picked up by the contract laboratory within four hours and placed on ice, accompanied by a chain of custody form, which is returned with the sample results. TSS is collected in a 1000 ml plastic bottle and sent to Dominion Laboratory Services (refrigerated) for analysis.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept for a minimum of five years.
Solids handling and disposal	Waste solids are taken periodically to the Louisa County Treatment Plant for further processing. If the solids are determined to be radioactive, the sludge is placed in drying beds and ultimately disposed as low level radioactive waste.
Best management practices	Lift stations are inspected daily and preventative maintenance performed as needed. Chlorine tablets are used for disinfection instead of hazardous chlorine gas.

Outfall 112 Steam Generator Blowdown Unit 1

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	This outfall continuously discharges blowdown (high purity water) from the Unit 1 steam generators, to the circulating water tunnel.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Samples are collected from a sample tap in the Turbine Building Basement (Unit 1 side) before the water is discharged to the tunnel. Grab samples for pH and TSS are collected in a 1000 ml (approximately) plastic bottle. The O&G sample is collected in another 1000 ml glass bottle. The TSS and O&G samples are refrigerated and sent to Dominion Laboratory Services for analysis within one day. Water for the pH sample is collected at the end of the Discharge Canal in a 100 ml polyethylene container and analyzed immediately on site.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	The chemical parameters of the secondary system are kept within strict limits to protect the components served by this system and the environment.

Outfall 113 Steam Generator Blowdown Unit 2

Treatment design, operation and maintenance	No treatment occurs to effluent from this outfall.
Outfall description	This outfall continuously discharges blowdown (high purity water) from the Unit 2 steam generators, to the circulating water tunnel.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Samples are collected from a sample tap in the Turbine Building Basement (Unit 2 side) before the water is discharged to the tunnel Grab samples for pH and TSS are collected in a 1000 ml (approximately) plastic bottle. The O&G sample is collected in another 1000 ml glass bottle. The TSS and O&G samples are refrigerated and sent to Dominion Laboratory Services for analysis within one day. Water for the pH sample is collected at the end of the Discharge Canal in a 100 ml polyethylene container and analyzed immediately on site.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	The chemical parameters of the secondary system are kept within strict limits to protect the components served by this system and the environment.

Outfall 114 Service Water Pipe Vault Drain

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	The outfall periodically discharges water from the Service Water Reservoir, which has leaked into the pipe vault, to the discharge canal.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Flow is determined by pump capacity and run time.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	The chemical parameters of the Service Water Reservoir are kept within strict limits to protect the components cooled by the system and the environment.

Outfall 115 Service Water System Blowdown

Treatment design, operation and maintenance	No treatment occurs to the effluent from this outfall.
Outfall description	This outfall periodically discharges water from the Service Water Reservoir to the discharge canal.
Critical spare parts inventory	Not applicable.
Effluent sampling procedures	Flow is determined by pump capacities and run time.
Recordkeeping	The Discharge Monitoring Reports and supporting data are kept on site for a minimum of five years. Maintenance records are also kept on site for a minimum of five years.
Solids handling and disposal	Not applicable.
Best management practices	The chemical parameters of the Service Water Reservoir are kept within strict limits to protect the components cooled by this system and the environment.

TABLE 1 – Sampling/Methodology Permit Requirements Performed by Site Personnel - North Anna Power Station Permit # VA0052541

TABLE 1 – Sampling/Methodology Permit Requirements Performed by Site Personnel
North Anna Power Station Permit # VA0052541 1/17/2001-1/17/2006

Outfall	Parameter	Frequency	Sample Type/ Cont.*	Preservation	Holding Time	Analysis Method	Permit Limits
001	Flow	1/month	Calc.	N/A	N/A	N/A	NL
	pH	1/year	Grab/P	N/A	Analyze Immediately	SM 4500H+B	6.0-9.0 SU
	Chlorine (TRC)	1/month	Grab/G	N/A	Analyze Immediately	SM 4500CL G	<=0.2mg/l
	Heat Rejected	1/day	Calc.	N/A	N/A	N/A	$13.54x10^9$ BTU/Hr
009	Flow	1/month	Est.	N/A	N/A	N/A	NL
	pH	2/month	Grab/G	N/A	Analyze Immediately	SM 4500H+B	6.0-9.0 SU
	TSS	1/3month	Grab/G	Cool to 4 deg C	7 days	2540 D	Avg<=30mg/l Max<=100mg/l
013& 014	Flow	1/month	Est.	N/A	N/A	N/A	NL
	pH	1/month	Grab/G	N/A	Analyze Immediately	SM 4500H+B	6.0-9.0 SU
	TSS	1/month	Grab/G	Cool to 4 deg. C	7 days	2540 D	Avg.<=30mg/l Max<=100mg/l
	O & G	1/month	Grab/G	Cool to 4 deg. C Acidify w/HCL<2	28 days	EPA 4131	Avg<=15mg/l Max<=20mg/l
016	Flow	1/year	Est.	N/A	N/A	N/A	NL
020	Flow	2/month	Est.	N/A	N/A	N/A	NL
	pH	2/month	Grab/G	N/A	Analyze Immediately	SM 4500H+B	6.0-9.0 SU
	TSS	1/3months	Grab/G	Cool to 4 deg. C	7 days	2540 D	Avg<=30mg/l Max<=100mg/l
	Chlorine (TRC)	2/month	Grab/G	N/A	Analyze Immediately	SM 4500CL G	<=4.0mg/l
021	Flow	1/month	Est.	N/A	N/A	N/A	NL
022,023 024,025 026	Fe**	2/2nd year& 2/4th year As req.	Grab/P	Acidify W/HNO3<2	6 months	EPA 236.1	<=1mg/l
103	Flow	2/month	Est.	N/A	N/A	N/A	NL
	pH	2/month	Grab/P	N/A	Analyze Immediately	SM 4500H+B	6.0-9.0 SU
	TSS	1/3months	Grab/G	Cool to 4 deg. C	7 days	2540 D	Avg<=30mg/l Max<=100mg/l
	O & G	1/3months	Grab/G	Cool to 4 deg. C Acidify w/HCL<2	28 days	EPA 4131	Avg<=15mg/l Max<=20mg/l
104	Flow	2/month	Est.	N/A	N/A	N/A	NL
	pH	2/month	Grab/G	N/A	Analyze Immediately	SM 4500H+B	6.0-9.0 SU
	TSS	1/3months	Grab/G	Cool to 4 deg. C	7 days	2540 D	Avg<=30mg/l Max<=100mg/l
	O & G	1/3months	Grab/G	Cool to 4 deg. C Acidify w/HCL<2	28 days	EPA 4131	Avg<=15mg/l Max<=20mg/l

*G=Glass Container; P=Polyethylene Container
**Iron (Fe) samples are hand caried to System Lab with an analysis form attached.

TABLE 1 (contd.)– Sampling/Methodology Permit Requirements Performed by Site Personnel
North Anna Power Station Permit # VA0052541 1/17/2001-1/17/2006

Outfall	Parameter	Frequency	Sample Type/ Cont.*	Preservation	Holding Time	Analysis Method	Permit Limits
105	Flow	1/month	Est.	N/A	N/A	N/A	NL
	pH	1/month	Grab/P	N/A	Analyze Immediately	SM 4500H+B	6.0-9.0 SU
	Cr**	1/3months	Grab/P	Acidify w/HNO3<2	6 months	EPA 218.1	<=0.2mg/l
	Zn**	1/3months	Grab/P	Acidify w/HNO3<2	6 months	EPA 289.1	<=1.0mg/l
	Chlorine (free avail.)	1/month	Grab/G	N/A	Analyze Immediately	SM 4500CL G	Avg<=0.2 Max<=0.5
107	Flow	1/month	Est.	N/A	N/A	N/A	NL
	Chlorine (TRC)	1/month	Grab/P	N/A	Analyze Immediately	SM 4500CL G	<=4.0mg/l
108	Flow	1/month	Est.	N/A	N/A	N/A	NL
	pH	1/month	Grab/P	N/A	Analyze Immediately	SM 4500H+B	6.0-9.0 SU
109 & 110	Flow	1/month	Est.	N/A	N/A	N/A	NL
	pH	1/month	Grab/P	N/A	Analyze Immediately	SM 4500H+B	6.0-9.0 SU
	TSS	1/month	Grab/P	Cool to 4 deg. C	7days	2540 D	Avg<=30mg/l Max<=100mg/l
	O & G	1/month	Grab/P	Cool to 4 deg. C Acidify w/HCL<2	28days	EPA 4131	Avg<=15mg/l Max<=20mg/l
111	Flow	1/day	Est.	N/A	N/A	N/A	NL
	pH	1/month	Grab/P	N/A	Analyze Immediately	SM 4500H+B	6.0-9.0 SU
	TSS	1/3months	Grab/G	Cool to 4 deg. C	7 days	2540 D	MAvg<=30mg/l WAvg<=45mg/l
	BOD_5***	1/6months	Grab/P	Cool to 4 deg. C	24 hours	5210	Mavg<=30mg/l WAvg<=45mg/l
	Chlorine (TRC)	1/day	Grab/G	N/A	Analyze Immediately	SM 4500CL G	MAvg<=2.0mg/l WAvg<=2.4mg/l
112 & 113	Flow	1/month	Est.	N/A	N/A	N/A	NL
	pH	1/month	Grab/P	N/A	Analyze Immediately	SM 4500H+B	6.0-9.0 SU
	TSS	1/6months	Grab/G	Cool to 4 deg. C	7 days	2540 D	Avg<=30mg/l Max<=100mg/l
	O & G	1/6months	Grab/G	Cool to 4 deg. C Acidify w/HCL<2	28 days	EPA 4131	Avg<=15mg/l Max<=20mg/l
114	Flow	1/month	Est.	N/A	N/A	N/A	NL
115	Flow	1/month	Est.	N/A	N/A	N/A	NL

*G=Glass Container; P=Plastic Container
** Chromium and Zinc samples are hand carried to System Lab with an analysis request form attached.
*** BOD samples are picked up by contract lab personnel and transported on ice with a chain of custody form.

TABLE 2 – VPDES Effluent Sampling Permit Requirements Performed by Dominion's Environmental Biology Group.

TABLE 2 – Sampling/Methodology Requirements Performed by Environmental Biology
North Anna Power Station Permit #VA52451
1/11/2001 – 1/11/2006

Location	Anticipated Collection date	VPDES Report Date	Bioassay Acute Tests	Bioassay Chronic Tests	Sample/ Container Type	Preservation	Holding Time	Chemical Tests	Methodology
001	8 or 9/2003 or 2004	8 weeks after testing	Cerio, 48 hr, static	Cerio, 48 static renewal	Grab/P	Cool to 4 deg C	36 hrs	N/A	A:EPA/600/4-90/027I C:EPA/600/4-91/002
Lake	2qu/yr	Annual	Temp.	Studies*					
001	1/5 Yr.	Permit Reappl.	N/A	N/A	Grab/P	Acidify w/ HNO3<2	6 month	Copper	EPA 220.1
001	1/5 Yr.	Permit Reappl.	N/A	N/A	Grab/P	Acidify w/ HNO3<2	6 month	Nickel	EPA 249.1

*See VPDES Permit (Part I, E, 6) for additional instructions

In Methodology Column A: Means for Acute
In Methodology Column C: Means for Chronic
P = Polyethylene Container

FIGURE 1 - North Anna Power Station Location

7.5 Minute Series USGS Quadrangles -
Lake Anna West, Va.; Buckner, Va.; Lake Anna East, Va.; Beaverdam, Va

FIGURE 2 - VPDES Outfall Location Map/Site Drainage - North Anna Power Station

(Drawing# N-2646-3-C-001)

FIGURE 3 - One Line Diagram - Station Water Flow - North Anna Power Station

(Drawing# VPDES-083199-001)

APPENDIX A - North Anna Power Station VPDES Permit No. VA0052451

EPA Form 2F
Application for Permit to Discharge Storm Water Associated with Industrial Activity
Previously submitted 3/31/00

Please print or type in the unshaded areas only

EPA ID Number *(copy from Item I of Form 1)*
VAD065376279

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

Form 2F NPDES

EPA

United States Environmental Protection Agency
Washington, DC 20460

Application for Permit To Discharge Stormwater Discharges Associated with Industrial Activity

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

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)*
022	38	03	55	77	47	55	Lake Anna
023	38	03	53	77	47	58	Lake Anna
024	38	03	58	77	47	44	Lake Anna
025	38	03	08	77	47	25	Waste Heat Treatment Facility
026	38	03	50	77	48	05	Lake Anna

II. Improvements

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

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	number	source of discharge		a. req.	b. proj.
None					

B. You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

III. Site Drainage Map

See Attached VPDES Outfall Locations Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility.

IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of impervious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)	Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)
022	7.1 acres	52 acres	025	4 acres	56 acres
023	0.09 acres	6 acres	026	none	61 acres
024	0.08 acres	9 acres			

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

OUTFALLS 022 - 026 See Attachment "Storm Water Deainage Area Description"

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
22 - 026	No treatment - Discharge to Surface Water	4-A

V. Nonstormwater Discharges

A. I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharges from these outfall(s) are identified in either an accompanying Form 2C or Form 2E application for the outfall.

Name and Official Title (type or print)	Signature	Date Signed
W.R.MATTHEWS VICE PRESIDENT AND STATION MANAGER	W R Matthews	3/30/00

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

Dry day observations of all surface conveyances during annual inspections on dates - 2/26/96, 9/23/97, 9/24/98, 8/19/99

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

None.

EPA ID Number *(copy from Item I of Form 1)*
VAD065376279

Continued from Page 2

VII. Discharge Information

A, B, C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Tables VII-A, VII-B, and VII-C are included on separate sheets numbered VII-1 and VII-2.

E: Potential discharges not covered by analysis - Is any pollutant listed in table 2F-2, 2F-3 or 2F-4, 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 Section IX)*

VIII. 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?

☒ Yes *(list all such pollutants below)* ☐ No *(go to Section IX)*

Outfall 001 (Discharge of Condenser Cooling Water from WHTF at Dike 3) has been tested for toxicity. See Form 3510-2C.

IX. Contract Analysis Information

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

☐ Yes *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☒ No *(go to Section X)*

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed

X. 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. Area Code and Phone No.
W. R. MATTHEWS, VICE PRESIDENT - STATION MANAGER	(540) 894-2101
C. Signature: W R Matthews	D. Date Signed: 3/30/00

EPA ID Number *(copy from Item I of Form 1)*	Form Approved. OMB No. 2040-0086
VAD065376279	OUTFALL 022 Approval expires 5-31-92

VII. Discharge Information *(Continued from page 3 of Form 2F)*

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.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease	<5.00 ppm	N/A			1	
Biological Oxygen Demand (BOD5)	3.64 ppm	4.23 ppm			1	
Chemical Oxygen Demand (COD)	<5.00 ppm	18.00 ppm			1	
Total Suspended Solids (TSS)	6.5 ppm	88.0 ppm			1	
Total Nitrogen	0.62 ppm	0.64 ppm			1	
Total Phosphorus	0.04 ppm	0.07 ppm			1	
pH	Minimum 6.9	Maximum 6.9	Minimum	Maximum	1	

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
					1	
					1	
(continued	from page	VII-2)				
Titanium	<10 ppb	228 ppb			1	
Zinc	0.190 ppm	0.150 ppm			1	

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Ammonia	0.16 ppm	0.17 ppm			1	
Boron	0.03 ppm	0.04 ppm			1	
Bromide	0.58 ppm	<0.20 ppm			1	
Color	40	80			1	
Fluoride	0.133 ppm	0.134 ppm			1	
MBAS as LAS	0.046 ppm	0.065 ppm			1	
NO3+NO2	0.79 ppm	0.78 ppm			1	
Sulfate	6.99 ppm	17.36 ppm			1	
Sulfide	<0.01 ppm	0.17 ppm			1	
Aluminum	0.32 ppm	5.07 ppm			1	
Antimony	<2 ppb	<2 ppb			1	
Arsenic	<3 ppb	<3 ppb			1	
Barium	87 ppb	72 ppb			1	
Beryllium	<0.2 ppb	<0.2 ppb			1	
Cadmium	<0.3 ppb	0.4 ppb			1	
Chromium	4 ppb	8 ppb			1	
Cobalt	<3 ppb	<3 ppb			1	
Copper	1 ppb	12 ppb			1	
Iron	1.81 ppm	5.38 ppm			1	
Lead	1 ppb	7 ppb			1	
Magnesium	5.79 ppm	3.56 ppm			1	
Manganese	0.43 ppm	0.21 ppm			1	
Mercury	<0.2 ppb	<0.2 ppb			1	
Molybdenum	<1 ppb	7 ppb			1	
Nickel	<5 ppb	<5 ppb			1	
Selenium	<3 ppb	<3 ppb			1	
Silver	<0.1 ppb	<0.1 ppb			1	
Thallium	<2 ppb	<2 ppb			1	
Tin	<5 ppb	<5 ppb			1	
(continued on page VII-1)						

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallons/minute or specify units)	6. Total flow from rain event (gallons or specify units)
10/4 1999	180 minutes	0.26 inches	90 hrs	50 gallons/minute estimated	15,000 gallons estimated during sampling

9. Provide a description of the method of flow measurement or estimate.

Timed bucket collection - 5 gallon

EPA ID Number *(copy from Item I of Form 1)*	Form Approved. OMB No. 2040-0086
VAD065376279	OUTFALL 023 Approval expires 5-31-92

VII. Discharge Information *(Continued from page 3 of Form 2F)*

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.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease	<5.00 ppm	N/A			1	
Biological Oxygen Demand (BOD5)	7.41 ppm	4.19 ppm			1	
Chemical Oxygen Demand (COD)	<5.00 ppm	300 ppm			1	
Total Suspended Solids (TSS)	160.0 ppm	287.0 ppm			1	
Total Nitrogen	1.30 ppm	0.92 ppm			1	
Total Phosphorus	0.12 ppm	0.04 ppm			1	
pH	Minimum 7.11	Maximum 7.11	Minimum	Maximum	1	

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
(continued	from page	VII-2)				
Titanium	1268 ppb	1105 ppb			1	
Zinc	2.550 ppm	0.561 ppm			1	

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Ammonia	0.13 ppm	0.06 ppm			1	
Boron	0.04 ppm	0.04 ppm			1	
Bromide	<0.20 ppm	<0.20 ppm			1	
Color	140	300			1	
Fluoride	0.060 ppm	0.118 ppm			1	
MBAS as LAS	<0.025 ppm	<0.025 ppm			1	
NO3+NO2	0.09 ppm	0.40 ppm			1	
Sulfate	5.76 ppm	5.94 ppm			1	
Sulfide	0.11 ppm	0.02 ppm			1	
Aluminum	24.17 ppm	18.97 ppm			1	
Antimony	<2 ppb	<2 ppb			1	
Arsenic	<3 ppb	<3 ppb			1	
Barium	275 ppb	176 ppb			1	
Beryllium	2.0 ppb	1.2 ppb			1	
Cadmium	3.3 ppb	0.9 ppb			1	
Chromium	14 ppb	13 ppb			1	
Cobalt	15 ppb	6 ppb			1	
Copper	78 ppb	42 ppb			1	
Iron	30.30 ppm	19.80 ppm			1	
Lead	46 ppb	23 ppb			1	
Magnesium	7.32 ppm	4.79 ppm			1	
Manganese	1.13 ppm	0.33 ppm			1	
Mercury	<0.2 ppb	<0.2 ppb			1	
Molybdenum	2 ppb	2 ppb			1	
Nickel	19 ppb	10 ppb			1	
Selenium	<3 ppb	<3 ppb			1	
Silver	<0.1 ppb	<0.1 ppb			1	
Thallium	<2 ppb	<2 ppb			1	
Tin	<5 ppb	<5 ppb			1	
(continued on page VII-1)						

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallons/minute or specify units)	6. Total flow from rain event (gallons or specify units)
11/2 1999	300 minutes	0.91 inches	240 hours	4 gallons/minute	5,820 gallons estimated during sampling

9. Provide a description of the method of flow measurement or estimate.

Timed bucket collection, 5-gallon

EPA ID Number *(copy from Item I of Form 1)*	Form Approved. OMB No. 2040-0086
VAD065376279	OUTFALL 024 Approval expires 5-31-92

VII. Discharge Information *(Continued from page 3 of Form 2F)*

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.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease	5.00 ppm	N/A			1	
Biological Oxygen Demand (BOD5)	5.38 ppm	4.24 ppm			1	
Chemical Oxygen Demand (COD)	<5.00 ppm	<5.00 ppm			1	
Total Suspended Solids (TSS)	602 ppm	222 ppm			1	
Total Nitrogen	0.63 ppm	1.12 ppm			1	
Total Phosphorus	0.10 ppm	0.09 ppm			1	
pH	Minimum 7.06	Maximum 7.06	Minimum	Maximum	1	

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
(continued	from page	VII-2)				
Titanium	2499 ppb	442 ppb			1	
Zinc	0.414 ppm	0.135 ppm			1	

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Ammonia	0.06 ppm	0.03 ppm			1	
Boron	<0.02 ppm	0.03 ppm			1	
Bromide	<0.20 ppm	<0.20 ppm			1	
Color	400	150			1	
Fluoride	0.129 ppm	0.107 ppm			1	
MBAS as LAS	<0.025 ppm	<0.025 ppm			1	
NO3+NO2	0.02 ppm	0.07 ppm			1	
Sulfate	10.86 ppm	7.61 ppm			1	
Sulfide	0.08 ppm	0.03 ppm			1	
Aluminum	33.75 ppm	5.12 ppm			1	
Antimony	<2 ppb	<2 ppb			1	
Arsenic	<3 ppb	<3 ppb			1	
Barium	221 ppb	57 ppb			1	
Beryllium	3.0 ppb	0.5 ppb			1	
Cadmium	1.3 ppb	<0.3 ppb			1	
Chromium	20 ppb	6 ppb			1	
Cobalt	14 ppb	<3 ppb			1	
Copper	50 ppb	18 ppb			1	
Iron	35.10 ppm	5.78 ppm			1	
Lead	43 ppb	13 ppb			1	
Magnesium	10.5 ppm	2.47 ppm			1	
Manganese	0.65 ppm	0.14 ppm			1	
Mercury	<0.2 ppb	<0.2 ppb			1	
Molybdenum	2 ppb	<1 ppb			1	
Nickel	22 ppb	<5 ppb			1	
Selenium	<3 ppb	<3 ppb			1	
Silver	1.0 ppb	<0.1 ppb			1	
Thallium	<2 ppb	<2 ppb			1	
Tin	<5 ppb	<5 ppb			1	
(continued on page VII-1)						

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallons/minute or specify units)	6. Total flow from rain event (gallons or specify units)
11/2 1999	300 minutes	0.91 inches	240 hours	5 gallons/minute	1,500 gallons estimated during sampling

9. Provide a description of the method of flow measurement or estimate.

Timed bucket collection, 5-gallon

EPA ID Number *(copy from Item I of Form 1)*	Form Approved. OMB No. 2040-0086
VAD065376279	OUTFALL 025 Approval expires 5-31-92

VII. Discharge Information *(Continued from page 3 of Form 2F)*

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.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease	<5.00 ppm	N/A			1	
Biological Oxygen Demand (BOD5)	4.87 ppm	2.64 ppm			1	
Chemical Oxygen Demand (COD)	32.00 ppm	10.00 ppm			1	
Total Suspended Solids (TSS)	12.9 ppm	4.7 ppm			1	
Total Nitrogen	0.68 ppm	1.90 ppm			1	
Total Phosphorus	0.08 ppm	0.06 ppm			1	
pH	Minimum 7.0	Maximum 7.0	Minimum	Maximum	1	

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
(continued	from page	VII-2)				
Titanium	15 ppb	<10 ppb			1	
Zinc	0.200 ppm	0.150 ppm			1	

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Ammonia	0.14 ppm	0.13 ppm			1	
Boron	<0.02 ppm	0.02 ppm			1	
Bromide	<0.20 pp	<0.20 ppm			1	
Color	40	30			1	
Fluoride	0.205 ppm	0.104 ppm			1	
MBAS as LAS	0.097 ppm	0.082 ppm			1	
NO3+NO2	0.72 ppm	0.54 ppm			1	
Sulfate	22.34 ppm	8.11 ppm			1	
Sulfide	<0.01 ppm	<0.01 ppm			1	
Aluminum	0.67 ppm	0.38 ppm			1	
Antimony	<2 ppb	<2 ppb			1	
Arsenic	<3 ppb	<3 ppb			1	
Barium	25 ppb	15 ppb			1	
Beryllium	<0.2 ppb	<0.2 ppb			1	
Cadmium	0.6 ppb	<0.3 ppb			1	
Chromium	4 ppb	1 ppb			1	
Cobalt	<3 ppb	<3 ppb			1	
Copper	7 ppb	5 ppb			1	
Iron	1.55 ppm	0.40 ppm			1	
Lead	4 ppb	<1 ppb			1	
Magnesium	1.02 ppm	0.58 ppm			1	
Manganese	0.08 ppm	0.03 ppm			1	
Mercury	<0.2 ppb	<0.2 ppb			1	
Molybdenum	153 ppb	75 ppb			1	
Nickel	<5 ppb	<5 ppb			1	
Selenium	<3 ppb	<3 ppb			1	
Silver	0.1 ppb	<0.1 ppb			1	
Thallium	<2 ppb	< 2 ppb			1	
Tin	<5 ppb	< 5 ppb			1	
(continued on page VII-1)						

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallons/minute or specify units)	6. Total flow from rain event (gallons or specify units)
10/4 1999	180 minutes	0.26 inches	90 hours	35 gallons/minute estimated	11,160 gallons estimated during sampling

9. Provide a description of the method of flow measurement or estimate.

Timed bucket collection, 5-gallon

EPA ID Number (copy from Item I of Form 1)	Form Approved. OMB No. 2040-0086
VAD065376279	OUTFALL 026 Approval expires 5-31-92

VII. Discharge Information *(Continued from page 3 of Form 2F)*

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.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease	<5.00 ppm	N/A			1	
Biological Oxygen Demand (BOD5)	4.49 ppm	5.21 ppm			1	
Chemical Oxygen Demand (COD)	<5.00 ppm	<5.00 ppm			1	
Total Suspended Solids (TSS)	320 ppm	280 ppm			1	
Total Nitrogen	0.85 ppm	1.20 ppm			1	
Total Phosphorus	0.11 ppm	0.13 ppm			1	
pH	Minimum 6.95	Maximum 6.95	Minimum	Maximum	1	

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
(continued	from page	VII-2)				
Titanium	1525 ppb	955 ppb			1	
Zinc	0.354 ppm	0.236 ppm			1	

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Ammonia	0.10 ppm	0.07 ppm			1	
Boron	0.03 ppm	0.03 ppm			1	
Bromide	0.22 ppm	<0.20 ppm			1	
Color	200	350			1	
Fluoride	0.101 ppm	0.130 ppm			1	
MBAS as LAS	<0.025 ppm	<0.025 ppm			1	
NO3+NO2	0.10 ppm	0.30 ppm			1	
Sulfate	12.06 ppm	7.69 ppm			1	
Sulfide	0.03 ppm	0.05 ppm			1	
Aluminum	22.85 ppm	17.51 ppm			1	
Antimony	<2 ppb	<2 ppb			1	
Arsenic	<3 ppb	<3 ppb			1	
Barium	170 ppb	143 ppb			1	
Beryllium	1.3 ppb	0.8 ppb			1	
Cadmium	<0.3 ppb	0.9 ppb			1	
Chromium	15 ppb	11 ppb			1	
Cobalt	8 ppb	7 ppb			1	
Copper	31 ppb	26 ppb			1	
Iron	21.20 ppm	16.30 ppm			1	
Lead	26 ppb	24 ppb			1	
Magnesium	5.09 ppm	4.40 ppm			1	
Manganese	0.33 ppm	0.26 ppm			1	
Mercury	<0.2 ppb	<0.2 ppb			1	
Molybdenum	2 ppb	2 ppb			1	
Nickel	13 ppb	9 ppb			1	
Selenium	<3 ppb	<3 ppb			1	
Silver	<0.1 ppb	<0.1 ppb			1	
Thallium	<2 ppb	<2 ppb			1	
Tin	<5 ppb	<5 ppb			1	
(continued on page VII-1)						

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallons/minute or specify units)	6. Total flow from rain event (gallons or specify units)
11/2 1999	300 minutes	0.91 inches	240 hours	2 gallons/minute	540 gallons estimated during sampling

9. Provide a description of the method of flow measurement or estimate.

Timed bucket collection, 5-gallon

Storm Water Drainage Area Description
(to support EPA Form 3510-2F, Section IV-B)

APPENDIX 1

NORTH ANNA POWER STATION
Storm Water Drainage Area Description
Narrative Discussion of Pollutants Sources

Characterization of the North Anna Power Station stormwater drainage areas was accomplished through the combined efforts of station personnel and corporate Civil?Mechanical Engineering and Water Quality Department staffs to ensure a comprehensive evaluation of potential impacts on stromwater discharges. Delineation of drainage areas was determined by field inspection with the aid of topographic maps and existing site drawings. Evaluation of industrial activities in each drainage area and potential for contamination of stormwater runoff was conducted by compilation of information from records, station drawings, and knowledge of station personnel, and verification by field inspection.

Except as indicated in the individual drainage area characterizations below, all industrial activities and materials at the station are conducted, handled or stored in enclosures which prevent exposure to stormwater or runoff. The majority of the drainage areas have no industrial activity, which includes storage of materials, use of pesticides, herbicides, or fertilizers, disposal of significant materials, etc., past or present.

Areas 2A (Outfall 022), 2B (Outfall 023), 3 (Outfall 024), 18 (Outfall 025), and 25 (Outfall 026) were determined to include stormwater only discharges draining vicinities associated with industrial activities, although those activities are not generally exposed to stormwater, were included in the sampling and analysis efforts for this application. These drainage areas are discussed in more detail below.

Stormwater discharges which are combined with process discharges are those in the main part of the station which were included in the existing VPDES permit outfalls. These are identified and discussed below in the section regarding "evaluation of other drainage areas". Stormwater sampling of these discharges was conducted for the current VPDES permit application.

Station herbicide usage is limited to minor spot applications of Roundup, as needed, around the main station buildings and adjacent parking lots and roadways. System herbicide use occurs periodically under transmission lines on the site using Accord, Arsenal, and/or Roundup. No pesticides are used at the station. Controlled amounts of fertilizers are applied twice per year, Spring and Fall, as follows:

- To seven (7) acres of lawn around the Training Building (Area 14 on the site maps).
- To three (3) acres of a grassed field south of the warehouse area and across the roadway (Area 17).
- To eighteen (18) acres of lawn in the triangular section between the roadways at the northernmost end of area 19.
- To four (4) acres of lawn at the North Anna Nuclear Information Center (NANIC) in the north end of Area 20.
- To fourteen (14) acres of grassed fields across the roadway from the NANIC in the southern ends of areas 24 and 25.

OUTFALLS COVERED BY THIS PERMIT

Area 2A (Outfall 022): This is an area of approximately 52 acres, with approximately 7.1 acres of impervious area. Stormwater collected in the higher portion to the south, contractor shops, parking lots and the switch yard, flows into a drop grating to a culvert near the northeast corner of the switch yard and discharges into Lake Anna at outfall 022. The lower, more level portion includes a vehicle maintenance shop, a paint shop and part of an outdoor equipment laydown area. Stormwater runoff from the grassed portions of this area adjacent to the lake shore is generally sheet flow. Runoff form the graveled lots around the shops and laydown areas is collected in a swale which discharges at the 022 outfall along with flows from the culvert.

Area 2B (Outfall 023): This is a small area of approximately 6.0 acres. The only impervious area is the 0.09 acre storage building which is used for hazardous waste accumulation, with other miscellaneous storage. This storage building is constructed with a curbed foundation to contain any spillage and prevent any discharge outside the structure. Stormwater collected in the higher portion to the south flows into Lake Anna at Outfall 023. Stormwater runoff from the grassed portions of this area adjacent to the lake shore is generally sheet flow.

Area 3 (Outfall 024): A small drainage area of 9 acres with primarily sheet flow runoff of stormwater to Lake Anna. About 0.08 acre of paved impervious area. A portion of the laydown area, shared with Area 2A, has runoff through a drop culvert (sample point 024) under the roadway and into Lake Anna at Outfall 024.

Area 18 (Outfall 025): This 56 acre drainage area, with 4 acres of impervious area, includes a portion of the warehouse facilities, an outdoor laydown area, and some small utility buildings. Stormwater from the northern portion of this drainage area is conveyed-

under the paved roadway via two culverts. The culvert to the west carries the smaller amount of stormwater flow which drains from open, grassed fields with no industrial activity. The culvert to the east was chosen as the sample point for Area 18 because it carries the collected drainage from the larger portion of the area, from the warehouse and laydown facilities, and would be more likely to contain any contaminants. Outfall 025 discharges stormwater from this drainage into the Waste Heat Treatment Facility.

Area 25 (Outfall 026): A 61 acre drainage with no impervious surface area. In the northern portion of Area 25, there is a site (labeled "slabs" on map) used for temporary exposed storage of miscellaneous material such as large concrete "dead weight" blocks for crane weight testing, small movable buildings, etc. This portion of the drainage area has runoff through a culvert under the roadway and into Lake Anna at Outfall 026. This culvert was selected as the sample point for Area 25; no industrial activities occur downstream. As with other lakeside areas, sections adjacent to the shoreline, north of the graveled roadway, have sheet flow runoff of stormwater.

Evaluation of other drainage areas

Area 1: All stormwater drainage is into the settling pond which discharges via Outfall 009 of the current VPDES permit.

Areas 4, 6, 7, 8, and 9: Predominantly impervious areas with administrative buildings, enclosed storage facilities, a cooling tower for bearing cooling water (in Area 4) and parking lots. No industrial activities or materials exposed to stormwater. No stormwaters with pollutants associated with industrial activity are expected to be discharged from these areas. Stormwater discharges flow into Lake Anna.

Area 5: A small area with sheet flow drainage to Lake Anna. The only activity in this area is the main sewage treatment plant which discharges into the discharge canal via Outfall 111.

Area 10 and 11: Predominantly impervious areas with administrative buildings, enclosed storage facilities, and parking lots. No industrial activities or materials exposed to stormwater. No stormwaters with pollutants associated with industrial activity are expected to be discharged from these areas. Stormwater drainage is into the discharge canal.

Area 12: No industrial activity exposed to stormwater. Drains into the discharge canal.

Area 13: Includes a portion of the warehouse area and maintenance shops. No industrial activity exposed to stormwater. Drains into the discharge canal.

Area 14: A predominantly natural, wooded area with some training buildings, recreational facilities, parking lots, roadways, a helicopter pad, and grassed areas in the northernmost section. No industrial activity. Drainage is into Lake Anna.

Area 15: A predominantly natural, wooded area with an instrument laboratory and small storage facilities. No industrial activity. Drainage is into Lake Anna.

Area 16: An area of generally sheet slow drainage into the discharge canal of Lake Anna. The area included recreational facilities, a security training facility with a firing range, parking lots, roadways, wooded areas, and grassed areas. No industrial activity.

Area 17: This area includes a portion of the warehouse facilities. No stormwaters with pollutants associated with industrial activity are expected to be discharged from this area. Stormwater drainage is primarily into the Waste Heat Treatment Facility with some sheet flow along the discharge canal.

Area 19: This area is mostly a natural, wooded area with a grassed portion in the northern section above the roadway. This section includes a storage structure for retired steam generators which is totally enclosed with no exposure to stormwater. No industrial activity. The spent nuclear fuel storage facility is presently under construction in this area. See the attached construction stormwater pollution prevention plan for this activity (Appendix 5).

Area 20: This area is mostly a natural, wooded area which includes the North Anna Nuclear Information Center (NANIC) in the northern section adjacent to the roadway. No industrial activity.

Area 24: This area is mostly a natural, wooded area which includes a landfill and a borrow pit in the northern portion. The landfill receives only sandblast materials, gravel, soil, and broken concrete and is not used for disposal of other wastes. An area adjacent to the landfill is used for the temporary storage of logs and mulch. No industrial activity.

Area 21, 22, 23, 26, 27, 28, and 29: These are wooded, undisturbed areas with natural drainage. No industrial activity.

Area 30: Stormwater at the main portion of the station encompassing the major components is collected and discharged to the discharge canal via Outfall 104 of the

current VPDES permit.

Area 31: Stormwater is collected and discharged to Lake Anna via Outfall 014 of the current VPDES permit.

Area 32: Stormwater is collected and discharged to Lake Anna via Outfall 013 of the current VPDES permit.

Exclusion Boundary: The Exclusion Boundary marks an established zone of owner control around the nuclear power units and was chosen as the limit of the area of consideration for this application. Although Virginia Power owns considerable amounts of property outside this boundary, there are no industrial activities or other sources of industrial stormwater contamination outside of those discussed above.

Heat Rejection Derivation

4/14/05

Joyce Livingstone
06/27/2005 03:25 PM

To:
cc:
Subject: RE: North Anna VPDES Permit Application

"Faha,Thomas" <tafaha@deq.virginia.gov>
04/05/2005 08:02 AM

To: <Joyce_Livingstone@dom.com>
cc: <Arthur_C_Cooke@dom.com>, <Robert_M_Bisha@dom.com>, <David_Yaworsky@dom.com>, <Glenn_Bishop@dom.com>, <Cathy_C_Taylor@dom.com>, "Joyce,Christine" <chjoyce@deq.virginia.gov>
Subject: RE: North Anna VPDES Permit Application

Joyce,

Good morning and thanks for your email.

1. Draft submittal - That will be fine.

2. Bearing Cooling Tower - Thank you for explaining in advance and it is acceptable.

3. Sludge Application - If the 1996 data is the most recent and believed to be representative, then it is fine for reporting. Did you submit this same data with the 2000 application?

4. Site Visit - As you know this is our (NVRO's) first permit action for N. Anna. I would like Christine, and perhaps an inspector and maybe myself, to visit each outfall as part of the application review and "learning curve."

5. Heat Rejection limits - Christine has checked our files and we do not believe we have a derivation of the limits. Would you include with the application a copy of the calculations/derivation. Thanks.

6. 316 - Christine has reviewed the N Anna and Possum Pt PICs. She has some questions and I asked her to give you a call today or tomorrow.

- For N Anna the questions will be about the recent fishery studies; i.e. are the findings in the 1985 study still representative; are the fish populations of the lake the same today as they were in 1985.

- For Possum Pt she will be asking about confirmation that Capacity Utilization is <15%.

Tom

Arthur C Cooke
04/14/2005 12:37 PM

Joyce,

This information is from two memos dated 1984 and 1986 concerning the core upgrade which occurred about that time, with additional information from the 316 (a) report.

The heat rejection rate to the Lake is approximately 13.3 x 10 to the ninth BTU/HR for two unit operation (with the core uprate). This is less than the station NPDES permit limit of 13.54 x 10 to the ninth BTU/HR, which was based on two unit operation at 2% above the stretch power rating of 2910 MWt which was set to allow for normal variations in plant efficiency while operating at the uprated conditions.

*NSSS Rating of 2968 MWt (2% above 2910 MWt)
Data based on a Circulating Water Temperature of 95 degrees F.

$$\text{Heat Rejection Rate} = \text{Unit NSSS Output} - \text{Gross Elec Output} \times \text{Conversion Factor} \times 2 \text{ Units}$$

$$= \frac{2968}{\text{Unit}} - \frac{988.45}{\text{Unit}} \times \frac{3.4192 \times 10 \text{ to the sixth BTU}}{\text{MW/HR}} \times 2 \text{ Units}$$

$$= 13.537 \times 10 \text{ to the ninth BTU/HR}$$

*The NSS rating recognizes the total amount of heat produced in the steam system and is the sum of the electrical energy produced plus the waste heat that has not been converted to electricity. The efficiency at which the station can generate electrical energy (nuclear stations average 32.7% conversion) is primarily dependent upon the temperature and pressure of the steam generated and directly affects the amount of energy lost as waste heat to the environment. When a unit is operating at a specific load and at a specific efficiency, the waste heat load remains virtually constant.