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**Environmental Protection Agency**

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

RECEIVED
AUG 30 2011
OHIO EPA NEDO

August 8, 2011

Re: Ohio EPA Permit No.3IB00002*KD
Application No.OH0001112
Facility Name: Avon Lake Power Plant

Robert Laeng, Environmental LPO
Orion Power Midwest, L.P.
121 Champion Way, Suite 200
Canonsburg, PA 15317

Rec kep DSW
8-29-11

Ladies and Gentlemen:

We propose to make to following minor modification to the above referenced permit.

Correction

Add Part I, C. - Schedule of Compliance and renumber remaining pages

If you consent to this change, please sign below and incorporate the corrected page into your permit. The proposed minor modification will become effective on the date we receive this signed letter from you at the following address: Ohio Environmental Protection Agency, Division of Surface Water, Permit Administration Section, P. O. Box 1049, Columbus, Ohio 43266-0149.

Sincerely,

Patti L. Smith

Patti L. Smith, Supervisor
Permit Processing Unit
Division of Surface Water

PLS/ kep

Enclosure

**CERTIFIED MAIL**

*I consent to the minor modification.*

Nathan J. Rozic
*Name*

Manager Environmental Operations & Compliance
*Title*

8-22-11
*Date*

50 West Town Street, Suite 700
P.O. Box 1049
Columbus, OH 43216-1049

614 | 644 3020
614 | 644 3184 (fax)
www.epa.ohio.gov

## Part I, C. SCHEDULE OF COMPLIANCE

1. Thermal Mixing Zone Study

a. Within 9 Months after the effective date of the permit, the permittee shall submit two copies of a Plan of Study to determine the extent of the impact of the thermal discharge from outfall 3IB00002001. The Plan, at a minimum, shall define the requirements of the study necessary to characterize the size, areal extent, and depth of the discharge plume from outfall 3IB00002001 for temperature during the summer and winter seasons. Additionally, the Plan of Study shall include the following components (Event Code: 34099):

i. A proposed sampling schedule for temperature at the intake station 3IB00002800, the outfall 3IB00002001, and within and along the discharge plume and mixing zone for outfall 3IB00002001.

ii. Sampling shall occur during months which will allow characterization of the thermal mixing zone during summer and winter seasons under a range of conditions, including wet and dry rainfall conditions, high and low background water temperatures, and variable wind patterns;

iii. A description of the process that will be used to determine and justify the sampling locations and the number of sampling locations within and along the discharge plume and mixing zone for outfall 3IB00002001. The mixing zone is defined as the area and depth within which the effluent discharge and the receiving waters mix, and the extent or edge of the mixing zone is the area in which the water temperatures have decreased sufficiently to meet ambient or background temperatures;

iv. A description of procedures which will be used to evaluate of the impact of weather conditions on the size and areal extent of the discharge plume, the mixing zone, and the area in which temperature returns to background levels. The size and areal extent of the discharge plume and mixing zone shall also be determined based upon the plant operating at peak capacity;

v. A description of the procedures which will be used to determine the location where discharge induced mixing ceases; and

vi. If applicable, a description of a U.S. EPA-approved (or equivalent) model which will be used to characterize the mixing zone.

b. A copy of the Plan of Study shall be submitted for review and comment to the Northeast District Office and to the Central Office of Ohio EPA at Lazarus Government Center, P.O. Box 1049, Columbus, Ohio 43216-1049.

c. The permittee shall modify the Plan of Study in accordance with Ohio EPA comments. Ohio EPA comments shall not include adding more parameters for sampling, or increases in the range of conditions under which sampling must occur, unless Ohio EPA demonstrates that additional sampling is necessary to characterize the thermal mixing zone properly. Also, Ohio EPA comments shall not expand the number of proposed sampling events or sampling stations to numbers greater than that which would be considered sufficient and reasonable based upon previous studies of this type in similar bodies of water. The permittee shall implement the modified Plan of Study.

d. Within 20 Months after the effective date of the permit, the permittee shall submit a status report which describes the progress being made in implementing the Plan of Study. (Event code 95999)

e. Within 30 Months after the effective date of the permit, the permittee shall submit a status report which describes the progress being made in implementing the Plan of Study. (Event code 95999)

f. Within 36 Months after the effective date of the permit, the permittee shall submit a final report to the Northeast District Office and the Central Office of Ohio EPA which includes the following information (Event Code 21599):

i. A summary and conclusions of the findings of this study;

ii. All sampling data for all locations;

iii. Sampling data for the intake station compared to sampling data for outfall 3IB00002001 and the discharge plume and mixing zone;

iv. A graphical representation of the discharge plume and the mixing zone for outfall 3IB00002001 under wet and dry weather, as well as high and low background water temperatures, and variable wind patterns, and the area in which temperature returns to background levels as determined by the study; and

v. An evaluation of the impact of weather conditions on the size, depth, and areal extent of the discharge plume and the mixing zone, and results of modeling efforts for both summer and winter seasons.

2. Reports and plans required by this Schedule of Compliance must be submitted to the Ohio EPA, Division of Surface Water, Permit and Compliance Section, P.O. Box 1049, Columbus, OH 43216-1049. A copy of the report shall also be sent to the Northeast District Office, Division of Surface Water, 2110 East Aurora Road, Twinsburg, Ohio, 44087.

Application No. OH0001112

Issue Date: June 28, 2011

Effective Date: August 1, 2011

Expiration Date: July 31, 2015

Ohio Environmental Protection Agency
Authorization to Discharge Under the
National Pollutant Discharge Elimination System

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq., hereinafter referred to as the "Act"), and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111),

NRG Power Midwest LP
Avon Lake Generating Station

is authorized by the Ohio Environmental Protection Agency, hereinafter referred to as "Ohio EPA," to discharge from the Avon Lake Generating Station wastewater treatment works located at 33570 Lake Road, Avon Lake, Ohio, Lorain County and discharging to Lake Erie in accordance with the conditions specified in Parts I, II, III, IV, V, and VI of this permit.

This permit is conditioned upon payment of applicable fees as required by Section 3745.11 of the Ohio Revised Code.

This permit and the authorization to discharge shall expire at midnight on the expiration date shown above. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information and forms as are required by the Ohio EPA no later than 180 days prior to the above date of expiration.

Craig W. Butler
Director

Total Page: 47

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GenOn Power Midwest, L.P.
Avon Lake Power Plant

is authorized by the Ohio Environmental Protection Agency, hereinafter referred to as "Ohio EPA," to discharge from the wastewater treatment works located at 33570 Lake Road, Avon Lake, Ohio, Lorain County and discharging to Lake Erie in accordance with the conditions specified in Parts I, II, III, IV, V, and VI of this permit.

This permit is conditioned upon payment of applicable fees as required by Section 3745.11 of the Ohio Revised Code.

This permit and the authorization to discharge shall expire at midnight on the expiration date shown above. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information and forms as are required by the Ohio EPA no later than 180 days prior to the above date of expiration.

Scott J. Nally
Director

Total Page: 47

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002001. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 001 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | Measuring | Sampling | Monitoring |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Frequency | Type | Months |
| 00011 - Water Temperature - F | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 00400 - pH - S.U. | 9.0 | 6.0 | - | - | - | - | - | 1/Month | Grab | All |
| 34044 - Oxidants, Total Residual - mg/l | 0.05 | - | - | - | - | - | - | 1/Day | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 50060 - Chlorine, Total Residual - mg/l | 0.2 | - | - | - | - | - | - | 1/Day | Grab | All |
| 78739 - Chlorination/Bromination Duration - Minutes | 120 | - | - | - | - | - | - | 1/Day | Total | All |

Note for station 3IB00002001:

- The Total Residual Chlorine (TRC) and Total Residual Oxidants (TRO) limits are the maximum allowed at the outfall at any time. TRC and TRO may not be discharged from this outfall for more than two hours per day. Simultaneous multi-unit chlorination and/or bromination is permitted. Analyses are to be performed by amperometric titration, Orion Residual Chlorine Electrode, or other EPA approved methods during chlorination and/or bromination. The daily grab samples for TRC and TRO shall represent the maximum concentration discharged during chlorination and/or bromination.

- Water temperature requires intake (3IB00002800) monitoring for outfall 3IB00002001. Report intake/outfall temperature estimated to correspond to a maximum temperature differential sustained for one hour.

- Total Residual Oxidants reflects the use of bromine compounds. Bromine can be used separately or in combination with chlorine. These limits are effective when bromine is used. Discharge limitations for TRO may be met using a dehalogenation agent, if necessary. Dehalogenation shall then be achieved by using stoichiometric calculations to determine the amount of dehalogenating agent necessary to completely estimate the residual.

- Total Residual Oxidants are to be reported on days when bromine compounds are used with or without chlorine. Report "AH" on the monthly operating report on days when no bromine compounds are used and explain in the remarks section.

- For total residual chlorine, report on days when only chlorine compounds are used (i.e. no bromine compounds). Report "AH" on the monthly operating report if bromine (or a combination of bromine and chlorine) is used and explain in remarks section.

- For chlorination/bromination duration, monitoring is to be performed only on days when using chlorine and/or bromine treatment. On days when treatment is not used, report "AH" on the monthly operating report and explain in remarks section.

- Sampling shall be performed when discharging. If NO DISCHARGE OCCURS DURING THE ENTIRE MONTH, eDMR users should select the " No Discharge " check box on the data entry form. PIN the eDMR.

- Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning on the first day of the the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002002. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 002 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | Measuring | Sampling | Monitoring |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Frequency | Type | Months |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 1279 | - | 384 | 1/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 256 | - | 192 | 1/Month | Grab | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 50092 - Mercury, Total (Low Level) - ng/l | 3400 | - | - | 8.0 | 0.043 | - | 0.00010 | 1/Month | Grab | All |
| 51600 - pH Range Excursion, Maximum Duration - Minutes | 60. | - | - | - | - | - | - | 1/Day | Total | All |
| 61941 - pH, Maximum - S.U. | - | - | - | - | - | - | - | Continuous | Continuous | All |
| 61942 - pH, Minimum - S.U. | - | - | - | - | - | - | - | Continuous | Continuous | All |
| 82581 - pH Range Excursions, > 60 Minutes - Number/Day | 0 | - | - | - | - | - | - | 1/Day | Total | All |
| 82582 - pH Range Excursions, Monthly Total Duration - Minutes | 446 | - | - | - | - | - | - | 1/Month | Total | All |

Notes for station 3IB00002002:

* Effluent loadings based on average design flow of 3.38 MGD.

- Spray down waters from the new synthetic fuel facility is permitted to be discharged through this outfall.

- Sampling shall be performed when discharging. If NO DISCHARGE OCCURS DURING THE ENTIRE MONTH, eDMR users should select the " No Discharge " check box on the data entry form. PIN the eDMR.

- See Part II, Item I. for Mercury monitoring. Samples for mercury at this station shall be collected 18 hours (approximately one detention time) after samples collected for Station 601.

- Bimonthly sampling requires sample collection in January, March, May, July, September, and November.

- Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

- For pH, the maximum limit is 9.0 and the minimum limit is 6.0 S.U. Violations will occur if:

1) total minutes of excursions from these limits exceed 7 hours and 26 minutes (or 446 minutes) during a single month. See pH Range Excursions, Monthly Total Duration (in minutes), Reporting Code 82582. If no excursions occurred during the month, report "0"; or

2) an individual excursion event continues uninterrupted for more than 60 minutes. See:
a) pH Range Excursions, Maximum Duration (in minutes), Reporting Code 51600. If no excursions occurred, report "0";
b) pH Range Excursions, > 60 Minutes (Number/Day), Reporting Code 82581. Enter the number of excursions each day which exceeded 60 minutes in duration.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002004. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 004 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | Measuring | Sampling | Monitoring |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Frequency | Type | Months |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 1268 | - | 380 | 2/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 254 | - | 190 | 2/Week | Grab | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Week | Grab | All |
| 34044 - Oxidants, Total Residual - mg/l | 0.01 | - | - | - | - | - | - | 1/Day | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 50060 - Chlorine, Total Residual - mg/l | 0.038 | - | - | - | - | - | - | 1/Day | Grab | All |
| 51600 - pH Range Excursion, Maximum Duration - Minutes | 60 | - | - | - | - | - | - | 1/Day | Total | All |
| 61941 - pH, Maximum - S.U. | - | - | - | - | - | - | - | Continuous | Continuous | All |
| 61942 - pH, Minimum - S.U. | - | - | - | - | - | - | - | Continuous | Continuous | All |
| 82581 - pH Range Excursions, > 60 Minutes - Number/Day | 0 | - | - | - | - | - | - | 1/Day | Total | All |
| 82582 - pH Range Excursions, Monthly Total Duration - Minutes | 446 | - | - | - | - | - | - | 1/Month | Total | All |

Notes for station 3IB00002004:

* Effluent loadings based on average design flow of 3.35 MGD.

- The Total Residual Chlorine (TRC) and Total Residual Oxidants (TRO) limits are the maximum allowed at the outfall at any time. Analyses are to be performed by amperometric titration, Orion Residual Chlorine Electrode, or other EPA approved methods during chlorination and/or bromination. The daily grab samples for TRC and TRO shall represent the maximum concentration discharged during chlorination and/or bromination.

- Total Residual Oxidants and Total Residual Chlorine are to be sampled during the treatment event.

- Total Residual Oxidants reflects the use of bromine compounds. Bromine can be used separately or in combination with chlorine. These limits are effective when bromine is used. Discharge limitations for TRO may be met using a dehalogenation agent, if necessary. Dehalogenation shall then be achieved by using stoichiometric calculations to determine the amount of dehalogenating agent necessary to completely estimate the residual.

- Total Residual Oxidants are to be reported on days when bromine compounds are used with or without chlorine. Report "AH" on the monthly operating report on days when no bromine compounds are used and explain in the remarks section.

- Total Residual Chlorine is to be reported on days when only chlorine compounds are used (i.e. no bromine compounds). Report "AH" on the monthly operating report if bromine (or a combination of bromine and chlorine) is used and explain in the remarks section.

- Sampling shall be performed when discharging. If NO DISCHARGE OCCURS DURING THE ENTIRE MONTH, eDMR users should select the " No Discharge " check box on the data entry form. PIN the eDMR.

- Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

- For pH, the maximum limit is 9.0 and the minimum limit is 6.0 S.U. Violations will occur if:

1) total minutes of excursions from these limits exceed 7 hours and 26 minutes (or 446 minutes) during a single month. See pH Range Excursions, Monthly Total Duration (in minutes), Reporting Code 82582. If no excursions occurred during the month, report "0"; or

2) an individual excursion event continues uninterrupted for more than 60 minutes. See:

a) pH Range Excursions, Maximum Duration (in minutes), Reporting Code 51600. If no excursions occurred, report "0";

b) pH Range Excursions, > 60 Minutes (Number/Day), Reporting Code 82581. Enter the number of excursions each day which exceeded 60 minutes in duration.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

4. During the period beginning on the effective date of the permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002601. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 601 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | Measuring | Sampling | Monitoring |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Frequency | Type | Months |
| 50092 - Mercury, Total (Low Level) - ng/l | - | - | - | - | - | - | - | 1/2 months | Grab | Bimonthly |

Notes for station 3IB00002601:
- See Part II, Item K for mercury monitoring requirements. Samples for mercury at this station shall be collected one detention time before samples collected for Outfall 002.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

5. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002604. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 604 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | Measuring | Sampling | Monitoring |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Frequency | Type | Months |
| 00400 - pH - S.U. | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | - | - | - | 1/Month | Grab | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | - | - | - | 1/Month | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | 24hr Total Estimate | All |

Notes for station 3IB00002604:

- Flowrate monitoring is required daily when discharging boiler blowdown water. If no boiler blowdown water is discharged during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required. If there is at least one discharge during the month, report "AH" for flow rate for each day when there is no discharge.

- Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

6. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002610. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 610 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | Measuring | Sampling | Monitoring |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Frequency | Type | Months |
| 00400 - pH - S.U. | - | - | - | - | - | - | - | 1/Week | Grab | All |
| 00530 - Total Suspended Solids - mg/l | 50 | - | - | - | - | - | - | 1/Week | 24hr Composite | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | 24hr Total | All |

Notes for station 3IB00002610:

- This facility is designed, constructed and operated to treat a volume of coal pile runoff associated with a 10-year, 24-hour rainfall event. Any untreated overflow from this facility resulting from a rainfall event greater than a 10-year, 24-hour storm shall not be subject to the above effluent limitations.

- Sampling shall be performed when discharging. If no discharge occurs during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required. If there is at least one discharge during the month, report "AH" for each day when there is no discharge.

- Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

7. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002611. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 611 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | Measuring | Sampling | Monitoring |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Frequency | Type | Months |
| 00400 - pH - S.U. | - | - | - | - | - | - | - | 3/Week | Grab | All |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | - | - | - | 1/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | - | - | - | 1/Week | Grab | All |
| 00980 - Iron, Total Recoverable - ug/l | 1000 | - | - | 1000 | - | - | - | 1/Week | 24hr Composite | All |
| 01119 - Copper, Total Recoverable - ug/l | 1000 | - | - | 1000 | - | - | - | 1/Week | 24hr Composite | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | 24hr Total | All |

Notes for station 3IB00002611:

- Samples collected for this outfall shall be collected prior to metal cleaning wastes being discharged into the coal pile runoff treatment system.

- Sampling shall be performed when discharging. If no wastewater is discharged during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required. If there is at least one discharge during the month, report "AH" for each day when there is no discharge.

- Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

8. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002612. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 612 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | Measuring | Sampling | Monitoring |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Frequency | Type | Months |
| 00550 - Oil and Grease, Total - mg/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Month | 24hr Total | All |

Notes for station 3IB00002612:

- Sampling shall be performed when discharging. If no wastewater is discharged during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required.

- Samples taken in compliance with monitoring requirements specified above shall be taken at sampling stations described in Part II, OTHER REQUIREMENTS.

Part I, B. - INTAKE MONITORING REQUIREMENTS

1. Intake Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor the Intake at Station Number 3IB00002800, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - Intake Monitoring - 800 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | Measuring | Sampling | Monitoring |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Frequency | Type | Months |
| 00011 - Water Temperature - F | - | - | - | - | - | - | - | 1/Day | Continuous | All |

Notes for station 3IB00002800:

- Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part II, OTHER REQUIREMENTS

A. Description of the location of the required sampling stations are as follows:

| Sampling Station | Description of Location |
|---|---|
| 3IB00002001 | Condenser cooling water and boiler blowdown representative of station 3IB00002604. At combined discharge into discharge channel to Lake Erie. (Lat: 41 N 30 ' 15 "; Long: 82 W 03 ' 00 ") |
| 3IB00002002 | Combined wastewater treatment system at discharge from filters prior to Lake Erie, includes 3IB00002610 and 3IB00002611. |
| 3IB00002004 | Low volume wastewater treatment system. At discharge of low volume wastewater system prior to Lake Erie. |
| 3IB00002601 | Internal monitoring station for influent to ash pond. |
| 3IB00002604 | Boiler blowdown water. At points representative of boiler blowdown. |
| 3IB00002610 | Coal pile runoff treatment system prior to discharge to combined treatment basin (outfall 3IB00002002). |
| 3IB00002611 | Treated metal cleaning wastewater prior to mixing with any other wastewater. |
| 3IB00002612 | At the discharge of Unit # 9 heat exchanger non-contact cooling water prior to entering outfall 3IB00002001. |
| 3IB00002800 | Intake water at inlet to plant from Lake Erie. |

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

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

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

C. In the event that the permittee's operation requires the use of cooling or boiler water treatment additives that are discharged to surface waters of the state, written permission must be obtained from the director of the Ohio EPA prior to use. Discharges of these additives must meet Ohio Water Quality Standards and shall not be harmful or inimical to aquatic life. Reporting and testing requirements to apply for permission to use additives can be obtained from the Ohio EPA, Central Office, Division of Surface Water, Industrial Permits Unit. This information is also available on the DSW website:

http://www.epa.ohio.gov/portals/35/policy/01_22u2.pdf.

D. Permit limitations may be revised in order to meet water quality standards after a stream use determination and waste load allocation are completed and approved. This permit may be modified, or alternatively, revoked and reissued, to comply with any applicable water quality effluent limitations.

E. Best Management Plan: Bottom Ash Transport System

The Avon Lake ash recycle system shall be operated in a manner consistent with the following:

1. The permittee will maintain in good working order and operate as efficiently as possible the bottom ash transport recycle system installed and used at the Avon Lake generating station. The bottom ash transport recycle system shall be operated to prevent overflow of the combined wastewater treatment basin and solids overload of the combined wastewater treatment system filters, except as provided in the paragraph of Part III, General Conditions, entitled, "UNAUTHORIZED DISCHARGE"

2. Bypasses or shutdown of the bottom ash transport recycle system in excess of 48 hours duration shall be reported as specified in the paragraph of Part III, General Conditions, entitled "UNAUTHORIZED DISCHARGE"

3. All bypasses or shutdowns of the bottom ash transport recycle system that result in overflow of the combined wastwater treatment basin or the low volume wastewater treatment basin shall be reported as per the paragraph of Part III, General Conditions, entitled, "UNAUTHORIZED DISCHARGE".

4. All bypasses or shutdowns of the bottom ash transport recycle system that result in noncompliance with effluent limitations of Part I shall be reported as per the paragraph of Part III, General Conditions, entitled, "NONCOMPLIANCE NOTIFICATION".

F. There shall not be a discharge of any polychlorinated biphenyl compounds attributable to the permittee's operations.

G. The parameters below have had effluent limitations established that are below the Ohio EPA Quantification Level (OEPA QL) for the 40 CFR 136 promulgated analytical procedure for those parameters. In accordance with the ORC Section 6111.13 and OAC Rule 3745-33-07(C), if a discharge limit is set below the OEPA QL, any analytical result reported less than the OEPA QL shall be considered to be in compliance with that limit. OEPA QLs may be expressed as Practical Quantification Levels (PQL) or Minimum Levels (ML).

The permittee must utilize the lowest available detection method currently approved under 40 CFR Part 136 for monitoring these parameters.

REPORTING:

All analytical results, even those below the OEPA QL (listed below), shall be reported. Analytical results are to be reported as follows:

1. Results above the QL: Report the analytical result for the parameter of concern.

2. Results above the MDL, but below the QL: Report the analytical result, even though it is below the QL.

3. Results below the MDL: Analytical results below the method detection limit shall be reported as "below detection" using the reporting code "AA".

The following table of quantification levels will be used to determine compliance with NPDES permit limits:

| Parameter | PQL | ML |
|---|---|---|
| Chlorine, Total Residual | 0.050 mg/l | -- |
| Total Residual Oxidants | 0.050 mg/l | -- |

This permit may be modified, or alternatively, revoked and reissued, to include more stringent effluent limits or conditions if information generated as a result of the conditions of this permit indicate the presence of these pollutants in the discharge at levels above the water quality based effluent limit (WQBEL).

H. Analytical Detection Levels

The permittee shall use analytical procedures approved under 40 CFR 136 with MDL (method detection levels) less than or equal to one-third of the most stringent applicable waste load allocations for each parameter.

I. Section 316(b) Requirements

The permittee shall comply with Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326) and any rules promulgated to implement Section 316(b).

J. All parameters, except flow, need not be monitored on days when the plant is not normally staffed (Saturdays, Sundays, and Holidays). On those days, report "AN" on the monthly report form.

K. General Mercury Variance

The permittee is granted a general mercury variance under the provisions of Rule 3745-33-07(D)(10) of the Ohio Administrative Code. The Avon Lake Power Plant has demonstrated that the facility is currently unable to comply with the monthly average water quality based effluent limit of 1.3 ng/l without construction of expensive end-of-pipe controls more stringent than those required by sections 301(b) and 306 of the Clean Water Act. The Avon Lake Power Plant is currently able to achieve or projects it can achieve an annual average mercury concentration of 12 ng/l within 5 years. For general mercury variance purposes, the annual average mercury effluent concentration is defined as the average of the most recent 12 months of effluent data.

One of the conditions of the general mercury variance is that the permittee make reasonable progress towards attaining the water quality based effluent limits for mercury (1.b, below). To accomplish this the permittee is required to implement a pollutant minimization program (PMP) for mercury. The elements of a PMP include: a control strategy to locate, identify and, where cost-effective, reduce levels of mercury that contribute to discharge levels; periodic monitoring of sources and the treatment system; and annual reporting of results.

The plan of study that was part of the permittee's application for coverage under the general mercury variance includes items associated with developing a control strategy and initial implementation of a PMP. Condition 1.d, below, requires the permittee to implement the plan of study. By implementing the plan of study and meeting other conditions of this NPDES permit, the permittee is taking actions consistent with a PMP for mercury.

1. As conditions of this variance, the permittee shall meet the following requirements:

a. The permittee shall comply with the effluent limitations for mercury at outfall 3IB00002002 given in Part I, A of this permit.

b. The permittee shall make reasonable progress towards attaining the monthly average water quality based effluent limit for mercury by complying with the general mercury variance conditions included in this NPDES permit.

c. The permittee shall use EPA Method 1631 to comply with the influent and effluent mercury monitoring requirements of this permit.

d. The permittee shall implement the plan of study as included in the permittee's mercury variance application submitted initially in April 2010 and a revision submitted in December 2010, including the following summary of requirements:

i. Within 12 months of the effective date of the permit, submit the results of a comprehensive evaluation of mercury sources;

ii. Evaluation of of ash ponds treatment system, including maximizing settling efficiency, maximizing hydraulic retention time, and minimizing transport of dissolved or particulate mercury from the ash ponds;

iii. Optimization of ash ponds filters;

iv. Within 24 months of the effective date of the permit, submit results of wastewater sampling and engineering study, including survey of potential treatment technology;

v. Within 42 months of the effective date of the permit, all recommendations from surveys and studies associated with the plan of study shall be implemented.

e. The permittee shall assess the impact of the mercury variance on public health, safety, and welfare by, as a minimum, monitoring for mercury in the facility's influent and effluent as required by this NPDES permit.

f. The permittee shall achieve an annual average mercury effluent concentration equal to or less than 12 ng/l, as specified in the plan of study submitted with the permittee's mercury variance application.

g. On or prior to March 1st of each year, the permittee shall submit two copies of an annual PMP report to Ohio EPA, Division of Surface Water, Pretreatment Unit, P.O. Box 1049, Columbus, OH, 43216-1049. The annual PMP report shall include:

i. All minimization program monitoring results for the year

ii. A list of potential sources of mercury

iii. A summary of all actions taken to meet the effluent limits for mercury

iv. Any updates of the control strategy, including actions planned to reduce the levels of mercury in the treatment plant's final effluent.

h. Upon completion of the actions identified in the plan of study as required in Part II, Item K.1.d. of this permit or upon submittal of the permittee's NPDES permit renewal application, whichever comes first, the permittee shall submit to Ohio EPA's Northeast District Office a certification stating that all permit conditions imposed to implement the plan of study and the PMP have been satisfied and whether compliance with the monthly average water quality based effluent limit for mercury has been achieved and can be maintained. This certification shall be accompanied by the following:

i. All available mercury influent and effluent data for the most recent 12 month period.

ii. Data documenting all known significant sources of mercury and the steps that have been taken to reduce or eliminate those sources; and

iii. A determination of the lowest mercury concentration that currently available data indicate can be reliably achieved through implementation of the PMP.

2. Exceedance of annual average limit of 12 ng/l.

a. If at any time after the date specified in this variance by which the permittee must meet an average annual mercury effluent concentration of 12 ng/l or after the Director's final approval of a variance renewal, whichever is earlier, the permittee's annual average mercury effluent concentration exceeds 12 ng/l, the permittee shall:

i. Notify Ohio EPA's Northeast District Office not later than 30 days from the date of the exceedance.

ii. Submit an individual variance application, if a variance is desired, not later than 6 months from the date of the exceedance; or

iii. Request a permit modification not later than 6 months from the date of the exceedance for a compliance schedule to attain compliance with the water quality based effluent limits for mercury.

b. If the permittee complies with either 2.a.ii or 2.a.iii, above, the general mercury variance conditions included in this NPDES permit will remain in effect until the date that the Director acts on the individual variance application or the date that the permit modification becomes effective.

c. If the permittee does not comply with either 2.a.ii or 2.a.iii, above, a monthly water-quality based effluent limit for mercury of 1.3 ng/l shall apply at outfall 3IB00002002 beginning 6 months from the date of the exceedance.

3. The requirements of Part II, Item K.2 shall not apply if the permittee demonstrates to the satisfaction of the Director that the mercury concentration in the permittee's effluent exceeds 12 ng/l due primarily to the presence of mercury in the permittee's intake water.

L. Permit Reopener for Mercury Variance Revisions

Ohio EPA may reopen and modify this permit at any time based upon Ohio EPA water quality standard revisions to the mercury variance granted in Part II, Item K of this permit.

M. Renewal of Mercury Variance

For renewal of the mercury variance authorized in this permit, the permittee shall include the following information with the submittal of the subsequent NPDES permit renewal application:

1. the certification described under Part II, Item K.1.h., and all information required under Part II, Item K.1.h.i. through Part II, Item K.1.h.iii;

2. a status report on the progress being made implementing the pollutant minimization program (PMP). This information may be included in the annual PMP report required under Part II, Item K.1.g;

3. a listing of the strategies and/or programs in the PMP which will be continued under the next renewal of this permit; and

4. a statement requesting the renewal of the mercury variance.

N. Outfall Signage

Not later than 4 months from the effective date of this permit, the permittee shall post a permanent marker on the shoreline at each outfall that is regulated under this NPDES permit where a marker does not currently exist. This includes final outfalls, bypasses, and combined sewer overflows. The marker shall consist at a minimum of the name of the establishment to which the permit was issued, the Ohio EPA permit number, and the outfall number and a contact telephone number. The information shall be printed in letters not less than two inches in height. The marker shall be a minimum of 2 feet by 2 feet and shall be a minimum of 3 feet above ground level. The sign shall not be obstructed such that persons in boats or persons swimming on the river or someone fishing or walking along the shore cannot read the sign. Vegetation shall be periodically removed to keep the sign visible. If the outfall is normally submerged the sign shall indicate that. If the outfall is a combined sewer outfall, the sign shall indicate that untreated human sewage may be discharged from the outfall during wet weather and that harmful bacteria may be present in the water. When an existing marker is replaced or reset, the new marker shall comply with the requirements of this section.

O. Notification to Public Water Supply Operators.

1. As required by the Ohio Administrative Code 3745-33-08(F), permits for facilities designated by the director as major discharges, in the following locations, shall require the permittee to notify the public water supply operator as soon as practicable after a discharge begins that results from a spill, separate sewer overflow, bypass, upset, or combined sewer overflow that reaches waters of the state:

a. Discharges within three thousand feet of a public water supply intake located in a lake; or

b. Discharges within ten stream miles upstream of a public water supply intake located in a reservoir or any other surface water of the state.

2. Public water supply operators meeting the criteria in Part II, Item O.1 above for the Avon Lake Power Plant are:

City of Avon Lake Public Water Supply
Avon Lake Municipal Utilities
201 Miller Road
Avon Lake, Ohio 44012

3. Within 6 months of the effective date of this permit, the permittee shall develop notification procedures between the wastewater system operator and public water supply operator[s] listed above in Part II, Item O.2 that defines the specific notification requirements to the public water supply operator and what constitutes notification "as soon as practicable".

PART III - GENERAL CONDITIONS

1. DEFINITIONS

"Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

"Average weekly" discharge limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week. Each of the following 7-day periods is defined as a calendar week: Week 1 is Days 1 - 7 of the month; Week 2 is Days 8 - 14; Week 3 is Days 15 - 21; and Week 4 is Days 22 - 28. If the "daily discharge" on days 29, 30 or 31 exceeds the "average weekly" discharge limitation, Ohio EPA may elect to evaluate the last 7 days of the month as Week 4 instead of Days 22 - 28. Compliance with fecal coliform bacteria or E coli bacteria limitations shall be determined using the geometric mean.

"Average monthly" discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. Compliance with fecal coliform bacteria or E coli bacteria limitations shall be determined using the geometric mean.

"85 percent removal" means the arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

"Absolute Limitations" Compliance with limitations having descriptions of "shall not be less than," "nor greater than," "shall not exceed," "minimum," or "maximum" shall be determined from any single value for effluent samples and/or measurements collected.

"Net concentration" shall mean the difference between the concentration of a given substance in a sample taken of the discharge and the concentration of the same substances in a sample taken at the intake which supplies water to the given process. For the purpose of this definition, samples that are taken to determine the net concentration shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"Net Load" shall mean the difference between the load of a given substance as calculated from a sample taken of the discharge and the load of the same substance in a sample taken at the intake which supplies water to given process. For purposes of this definition, samples that are taken to determine the net loading shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"MGD" means million gallons per day.

"mg/l" means milligrams per liter.

"ug/l" means micrograms per liter.

"ng/l" means nanograms per liter.

"S.U." means standard pH unit.

"kg/day" means kilograms per day.

"Reporting Code" is a five digit number used by the Ohio EPA in processing reported data. The reporting code does not imply the type of analysis used nor the sampling techniques employed.

"Quarterly (1/Quarter) sampling frequency" means the sampling shall be done in the months of March, June, August, and December, unless specifically identified otherwise in the Effluent Limitations and Monitoring Requirements table.

"Yearly (1/Year) sampling frequency" means the sampling shall be done in the month of September, unless specifically identified otherwise in the effluent limitations and monitoring requirements table.

"Semi-annual (2/Year) sampling frequency" means the sampling shall be done during the months of June and December, unless specifically identified otherwise.

"Winter" shall be considered to be the period from November 1 through April 30.

"Bypass" means the intentional diversion of waste streams from any portion of the treatment facility.

"Summer" shall be considered to be the period from May 1 through October 31.

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

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

"Sewage sludge" means a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works as defined in section 6111.01 of the Revised Code. "Sewage sludge" includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes. "Sewage sludge" does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator, grit and screenings generated during preliminary treatment of domestic sewage in a treatment works, animal manure, residue generated during treatment of animal manure, or domestic septage.

"Sewage sludge weight" means the weight of sewage sludge, in dry U.S. tons, including admixtures such as liming materials or bulking agents. Monitoring frequencies for sewage sludge parameters are based on the reported sludge weight generated in a calendar year (use the most recent calendar year data when the NPDES permit is up for renewal).

"Sewage sludge fee weight" means the weight of sewage sludge, in dry U.S. tons, excluding admixtures such as liming materials or bulking agents. Annual sewage sludge fees, as per section 3745.11(Y) of the Ohio Revised Code, are based on the reported sludge fee weight for the most recent calendar year.

2. GENERAL EFFLUENT LIMITATIONS

The effluent shall, at all times, be free of substances:

A. In amounts that will settle to form putrescent, or otherwise objectionable, sludge deposits; or that will adversely affect aquatic life or water fowl;

B. Of an oily, greasy, or surface-active nature, and of other floating debris, in amounts that will form noticeable accumulations of scum, foam or sheen;

C. In amounts that will alter the natural color or odor of the receiving water to such degree as to create a nuisance;

D. In amounts that either singly or in combination with other substances are toxic to human, animal, or aquatic life;

E. In amounts that are conducive to the growth of aquatic weeds or algae to the extent that such growths become inimical to more desirable forms of aquatic life, or create conditions that are unsightly, or constitute a nuisance in any other fashion;

F. In amounts that will impair designated instream or downstream water uses.

3. FACILITY OPERATION AND QUALITY CONTROL

All wastewater treatment works shall be operated in a manner consistent with the following:

A. At all times, the permittee shall maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee necessary to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with conditions of the permit.

B. The permittee shall effectively monitor the operation and efficiency of treatment and control facilities and the quantity and quality of the treated discharge.

C. Maintenance of wastewater treatment works that results in degradation of effluent quality shall be scheduled during non-critical water quality periods and shall be carried out in a manner approved by Ohio EPA as specified in the Paragraph in the PART III entitled, "UNAUTHORIZED DISCHARGES".

4. REPORTING

A. Monitoring data required by this permit shall be submitted on Ohio EPA 4500 Discharge Monitoring Report (DMR) forms using the electronic DMR (e-DMR) internet application. e-DMR allows permitted facilities to enter, sign, and submit DMRs on the internet. e-DMR information is found on the following web page:

http://www.epa.ohio.gov/dsw/edmr/eDMR.aspx

Alternatively, if you are unable to use e-DMR due to a demonstrated hardship, monitoring data may be submitted on paper DMR forms provided by Ohio EPA. Monitoring data shall be typed on the forms. Please contact Ohio EPA, Division of Surface Water at (614) 644-2050 if you wish to receive paper DMR forms.

B. DMRs shall be signed by a facility's Responsible Official or a Delegated Responsible Official (i.e. a person delegated by the Responsible Official). The Responsible Official of a facility is defined as:

1. For corporations - a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For partnerships - a general partner;

3. For a sole proprietorship - the proprietor; or,

4. For a municipality, state or other public facility - a principal executive officer, a ranking elected official or other duly authorized employee.

For e-DMR, the person signing and submitting the DMR will need to obtain an eBusiness Center account and Personal Identification Number (PIN). Additionally, Delegated Responsible Officials must be delegated by the Responsible Official, either on-line using the eBusiness Center's delegation function, or on a paper delegation form provided by Ohio EPA. For more information on the PIN and delegation processes, please view the following web page:

http://www.epa.ohio.gov/dsw/edmr/eDMRpin.aspx

C. DMRs submitted using e-DMR shall be submitted to Ohio EPA by the 20th day of the month following the month-of-interest. DMRs submitted on paper must include the original signed DMR form and shall be mailed to Ohio EPA at the following address so that they are received no later than the 15th day of the month following the month-of-interest:

Ohio Environmental Protection Agency
Lazarus Government Center
Division of Surface Water - PCU
P.O. Box 1049
Columbus, Ohio 43216-1049

D. Regardless of the submission method, a paper copy of the submitted Ohio EPA 4500 DMR shall be maintained onsite for records retention purposes (see Section 7. RECORDS RETENTION). For e-DMR users, view and print the DMR from the Submission Report Information page after each original or revised DMR is submitted. For submittals on paper, make a copy of the completed paper form after it is signed by a Responsible Official or a Delegated Responsible Official.

E. If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in Section 5. SAMPLING AND ANALYTICAL METHODS, the results of such monitoring shall be included in the calculation and reporting of the values required in the reports specified above.

F. Analyses of pollutants not required by this permit, except as noted in the preceding paragraph, shall not be reported to the Ohio EPA, but records shall be retained as specified in Section 7. RECORDS RETENTION.

5. SAMPLING AND ANALYTICAL METHOD

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored flow. Test procedures for the analysis of pollutants shall conform to regulation 40 CFR 136, "Test Procedures For The Analysis of Pollutants" unless other test procedures have been specified in this permit. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to insure accuracy of measurements.

6. RECORDING OF RESULTS

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

A. The exact place and date of sampling; (time of sampling not required on EPA 4500)

B. The person(s) who performed the sampling or measurements;

C. The date the analyses were performed on those samples;

D. The person(s) who performed the analyses;

E. The analytical techniques or methods used; and

F. The results of all analyses and measurements.

7. RECORDS RETENTION

The permittee shall retain all of the following records for the wastewater treatment works for a minimum of three years except those records that pertain to sewage sludge disposal, use, storage, or treatment, which shall be kept for a minimum of five years, including:

A. All sampling and analytical records (including internal sampling data not reported);

B. All original recordings for any continuous monitoring instrumentation;

C. All instrumentation, calibration and maintenance records;

D. All plant operation and maintenance records;

E. All reports required by this permit; and

F. Records of all data used to complete the application for this permit for a period of at least three years, or five years for sewage sludge, from the date of the sample, measurement, report, or application.

These periods will be extended during the course of any unresolved litigation, or when requested by the Regional Administrator or the Ohio EPA. The three year period, or five year period for sewage sludge, for retention of records shall start from the date of sample, measurement, report, or application.

8. AVAILABILITY OF REPORTS

Except for data determined by the Ohio EPA to be entitled to confidential status, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the appropriate district offices of the Ohio EPA. Both the Clean Water Act and Section 6111.05 Ohio Revised Code state that effluent data and receiving water quality data shall not be considered confidential.

9. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

10. RIGHT OF ENTRY

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

A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit.

B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit.

C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit.

D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11. UNAUTHORIZED DISCHARGES

A. Bypass Not Exceeding Limitations - The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 11.B and 11.C.

B. Notice

1. Anticipated Bypass - If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

2. Unanticipated Bypass - The permittee shall submit notice of an unanticipated bypass as required in paragraph 12.B (24 hour notice).

C. Prohibition of Bypass

1. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under paragraph 11.B.

2. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 11.C.1.

12. NONCOMPLIANCE NOTIFICATION

A. Exceedance of a Daily Maximum Discharge Limit

1. The permittee shall report noncompliance that is the result of any violation of a daily maximum discharge limit for any of the pollutants listed by the Director in the permit by e-mail or telephone within twenty-four (24) hours of discovery.

The permittee may report to the appropriate Ohio EPA district office e-mail account as follows (this method is preferred):

Southeast District Office: sedo24hournpdes@epa.state.oh.us
Southwest District Office: swdo24hournpdes@epa.state.oh.us
Northwest District Office: nwdo24hournpdes@epa.state.oh.us
Northeast District Office: nedo24hournpdes@epa.state.oh.us
Central District Office: cdo24hournpdes@epa.state.oh.us
Central Office: co24hournpdes@epa.state.oh.us

The permittee shall attach a noncompliance report to the e-mail. A noncompliance report form is available on the following web site:

http://www.epa.ohio.gov/dsw/permits/permits.aspx

Or, the permittee may report to the appropriate Ohio EPA district office by telephone toll-free between 8:00 AM and 5:00 PM as follows:

Southeast District Office: (800) 686-7330
Southwest District Office: (800) 686-8930
Northwest District Office: (800) 686-6930
Northeast District Office: (800) 686-6330
Central District Office: (800) 686-2330
Central Office: (614) 644-2001

The permittee shall include the following information in the telephone noncompliance report:

a. The name of the permittee, and a contact name and telephone number;

b. The limit(s) that has been exceeded;

c. The extent of the exceedance(s);

d. The cause of the exceedance(s);

e. The period of the exceedance(s) including exact dates and times;

f. If uncorrected, the anticipated time the exceedance(s) is expected to continue; and,

g. Steps taken to reduce, eliminate or prevent occurrence of the exceedance(s).

B. Other Permit Violations

1. The permittee shall report noncompliance that is the result of any unanticipated bypass resulting in an exceedance of any effluent limit in the permit or any upset resulting in an exceedance of any effluent limit in the permit by e-mail or telephone within twenty-four (24) hours of discovery.

The permittee may report to the appropriate Ohio EPA district office e-mail account as follows (this method is preferred):

Southeast District Office: sedo24hournpdes@epa.state.oh.us
Southwest District Office: swdo24hournpdes@epa.state.oh.us
Northwest District Office: nwdo24hournpdes@epa.state.oh.us
Northeast District Office: nedo24hournpdes@epa.state.oh.us
Central District Office: cdo24hournpdes@epa.state.oh.us
Central Office: co24hournpdes@epa.state.oh.us

The permittee shall attach a noncompliance report to the e-mail. A noncompliance report form is available on the following web site:

http://www.epa.ohio.gov/dsw/permits/permits.aspx

Or, the permittee may report to the appropriate Ohio EPA district office by telephone toll-free between 8:00 AM and 5:00 PM as follows:

Southeast District Office: (800) 686-7330
Southwest District Office: (800) 686-8930
Northwest District Office: (800) 686-6930
Northeast District Office: (800) 686-6330
Central District Office: (800) 686-2330
Central Office: (614) 644-2001

The permittee shall include the following information in the telephone noncompliance report:

a. The name of the permittee, and a contact name and telephone number;

b. The time(s) at which the discharge occurred, and was discovered;

c. The approximate amount and the characteristics of the discharge;

d. The stream(s) affected by the discharge;

e. The circumstances which created the discharge;

f. The name and telephone number of the person(s) who have knowledge of these circumstances;

g. What remedial steps are being taken; and,

h. The name and telephone number of the person(s) responsible for such remedial steps.

2. The permittee shall report noncompliance that is the result of any spill or discharge which may endanger human health or the environment within thirty (30) minutes of discovery by calling the 24-Hour Emergency Hotline toll-free at (800) 282-9378. The permittee shall also report the spill or discharge by e-mail or telephone within twenty-four (24) hours of discovery in accordance with B.1 above.

C. When the telephone option is used for the noncompliance reports required by A and B, the permittee shall submit to the appropriate Ohio EPA district office a confirmation letter and a completed noncompliance report within five (5) days of the discovery of the noncompliance. This follow up report is not necessary for the e-mail option which already includes a completed noncompliance report.

D. If the permittee is unable to meet any date for achieving an event, as specified in a schedule of compliance in their permit, the permittee shall submit a written report to the appropriate Ohio EPA district office within fourteen (14) days of becoming aware of such a situation. The report shall include the following:

1. The compliance event which has been or will be violated;

2. The cause of the violation;

3. The remedial action being taken;

4. The probable date by which compliance will occur; and,

5. The probability of complying with subsequent and final events as scheduled.

E. The permittee shall report all other instances of permit noncompliance not reported under paragraphs A or B of this section on their monthly DMR submission. The DMR shall contain comments that include the information listed in paragraphs A or B as appropriate.

F. If the permittee becomes aware that it failed to submit an application, or submitted incorrect information in an application or in any report to the director, it shall promptly submit such facts or information.

13. RESERVED

14. DUTY TO MITIGATE

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

15. AUTHORIZED DISCHARGES

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than, or at a level in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such violations may result in the imposition of civil and/or criminal penalties as provided for in Section 309 of the Act and Ohio Revised Code Sections 6111.09 and 6111.99.

16. DISCHARGE CHANGES

The following changes must be reported to the appropriate Ohio EPA district office as soon as practicable:

A. For all treatment works, any significant change in character of the discharge which the permittee knows or has reason to believe has occurred or will occur which would constitute cause for modification or revocation and reissuance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Notification of permit changes or anticipated noncompliance does not stay any permit condition.

B. For publicly owned treatment works:

1. Any proposed plant modification, addition, and/or expansion that will change the capacity or efficiency of the plant;

2. The addition of any new significant industrial discharge; and

3. Changes in the quantity or quality of the wastes from existing tributary industrial discharges which will result in significant new or increased discharges of pollutants.

C. For non-publicly owned treatment works, any proposed facility expansions, production increases, or process modifications, which will result in new, different, or increased discharges of pollutants.

Following this notice, modifications to the permit may be made to reflect any necessary changes in permit conditions, including any necessary effluent limitations for any pollutants not identified and limited herein. A determination will also be made as to whether a National Environmental Policy Act (NEPA) review will be required. Sections 6111.44 and 6111.45, Ohio Revised Code, require that plans for treatment works or improvements to such works be approved by the Director of the Ohio EPA prior to initiation of construction.

D. In addition to the reporting requirements under 40 CFR 122.41(l) and per 40 CFR 122.42(a), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant which is not limited in the permit. If that discharge will exceed the highest of the "notification levels" specified in 40 CFR Sections 122.42(a)(1)(i) through 122.42(a)(1)(iv).

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" specified in 122.42(a)(2)(i) through 122.42(a)(2)(iv).

17. TOXIC POLLUTANTS

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

18. PERMIT MODIFICATION OR REVOCATION

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

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

2. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

3. Change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

B. Pursuant to rule 3745-33-04, Ohio Administrative Code, the permittee may at any time apply to the Ohio EPA for modification of any part of this permit. The filing of a request by the permittee for a permit modification or revocation does not stay any permit condition. The application for modification should be received by the appropriate Ohio EPA district office at least ninety days before the date on which it is desired that the modification become effective. The application shall be made only on forms approved by the Ohio EPA.

19. TRANSFER OF OWNERSHIP OR CONTROL

This permit may be transferred or assigned and a new owner or successor can be authorized to discharge from this facility, provided the following requirements are met:

A. The permittee shall notify the succeeding owner or successor of the existence of this permit by a letter, a copy of which shall be forwarded to the appropriate Ohio EPA district office. The copy of that letter will serve as the permittee's notice to the Director of the proposed transfer. The copy of that letter shall be received by the appropriate Ohio EPA district office sixty (60) days prior to the proposed date of transfer;

B. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current and new permittee (including acknowledgement that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on) shall be submitted to the appropriate Ohio EPA district office within sixty days after receipt by the district office of the copy of the letter from the permittee to the succeeding owner;

At anytime during the sixty (60) day period between notification of the proposed transfer and the effective date of the transfer, the Director may prevent the transfer if he concludes that such transfer will jeopardize compliance with the terms and conditions of the permit. If the Director does not prevent transfer, he will modify the permit to reflect the new owner.

20. OIL AND HAZARDOUS SUBSTANCE LIABILITY

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

21. SOLIDS DISPOSAL

Collected grit and screenings, and other solids other than sewage sludge, shall be disposed of in such a manner as to prevent entry of those wastes into waters of the state, and in accordance with all applicable laws and rules.

22. CONSTRUCTION AFFECTING NAVIGABLE WATERS

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

23. CIVIL AND CRIMINAL LIABILITY

Except as exempted in the permit conditions on UNAUTHORIZED DISCHARGES or UPSETS, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

24. STATE LAWS AND REGULATIONS

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

25. PROPERTY RIGHTS

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

26. UPSET

The provisions of 40 CFR Section 122.41(n), relating to "Upset," are specifically incorporated herein by reference in their entirety. For definition of "upset," see Part III, Paragraph 1, DEFINITIONS.

27. SEVERABILITY

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

28. SIGNATORY REQUIREMENTS

All applications submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR 122.22.

All reports submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR Section 122.22.

29. OTHER INFORMATION

A. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

B. ORC 6111.99 provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $25,000 per violation.

C. ORC 6111.99 states that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $25,000 per violation.

D. ORC 6111.99 provides that any person who violates Sections 6111.04, 6111.042, 6111.05, or division (A) of Section 6111.07 of the Revised Code shall be fined not more than $25,000 or imprisoned not more than one year, or both.

30. NEED TO HALT OR REDUCE ACTIVITY

40 CFR 122.41(c) states that it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with conditions of this permit.

31. APPLICABLE FEDERAL RULES

All references to 40 CFR in this permit mean the version of 40 CFR which is effective as of the effective date of this permit.

32. AVAILABILITY OF PUBLIC SEWERS

Not withstanding the issuance or non-issuance of an NPDES permit to a semi-public disposal system, whenever the sewage system of a publicly owned treatment works becomes available and accessible, the permittee operating any semi-public disposal system shall abandon the semi-public disposal system and connect it into the publicly owned treatment works.

## Part IV. STORM WATER POLLUTION PREVENTION PLANS

A storm water pollution prevention plan (plan) shall be developed to address each outfall that discharges to waters of the state that contains storm water associated with industrial activity. Storm water pollution prevention plans shall be prepared in accordance with good engineering practices. The plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit. Facilities must implement the provisions of the storm water pollution prevention plan required under this part as a condition of this permit.

### A. Deadlines for Plan Preparation and Compliance.

1. The plan for a storm water discharge associated with industrial activity:

   a. shall be prepared within six months of the effective date of this permit (and updated as appropriate);
   b. shall provide for implementation and compliance with the terms of the plan within twelve months of the effective date of this permit.

2. Upon a showing of good cause, the Director may establish a later date for preparing and compliance with a plan for a storm water discharge associated with industrial activity.

### B. Signature and Plan Review.

1. The plan shall be signed in accordance with Part VI, and be retained on-site at the facility which generates the storm water discharge.

2. The permittee shall make plans available upon request to the Ohio EPA Director, or authorized representative, or Regional Administrator of U.S. EPA, or in the case of a storm water discharge associated with industrial activity which discharges through a municipal separate storm sewer system, to the operator of the municipal system.

3. The Director may notify the permittee at any time that the plan does not meet one or more of the minimum requirements of this Part. Within 30 days of such notification from the Director, the permittee shall make the required changes to the plan and shall submit to the Director a written certification that the requested changes have been made.

4. All storm water pollution prevention plans required under this permit are considered reports that shall be available to the public under Section 308(b) of the Act. The permittee may claim any portion of a storm water pollution plan as confidential in accordance with 40 CFR Part 2 and does not have to release any portion of the plan describing facility security measures (such as provided for in Part IV.D.7.b.(8) of this permit). An interested party wishing a copy of a discharger's SWP3 will have to contact the Ohio EPA to obtain a copy.

### C. Keeping Plans Current.

The permittee shall amend the plan whenever there is a change in design, construction, operation, or maintenance, that has a significant effect on the potential for the discharge of pollutants to the waters of the State or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified under Part IV.D.2 of this permit, or otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Amendments to the plan may be reviewed by Ohio EPA in the same manner as Part IV.B above.

**D. Contents of Plan.** The plan shall include, at a minimum, the following items:

1. Pollution Prevention Team - Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

2. Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

## Part IV. STORM WATER POLLUTION PREVENTION PLANS (continued)

D. (continued)

a. Drainage.

(1) A site map indicating an outline of the drainage area of each storm water outfall, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part IV.D.2.c of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle

and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas.

(2) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an estimate of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Flows with a significant potential for causing erosion shall be identified.

b. Inventory of Exposed Materials. An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of three years prior to the date of the issuance of this permit and the present; method and location of on-site storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of three years prior to the date of the issuance of this permit and the present; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

c. Spills and Leaks. A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at the facility after the date of three years prior to the effective date of this permit.

d. Sampling Data. A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility.

e. Risk Identification and Summary of Potential Pollutant Sources. A narrative description of the potential pollutant sources at the following areas: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and on-site waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g. biochemical oxygen demand, etc.) of concerns shall be identified.

3. Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

a. Good Housekeeping - Good housekeeping requires the maintenance of a clean, orderly facility.

b. Preventive Maintenance - A preventive maintenance program shall involve inspection and maintenance of storm water management devices (e.g. cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

c. Spill Prevention and Response Procedures - Areas where potential spills can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

**Part IV. STORM WATER POLLUTION PREVENTION PLANS** (continued)

D. (continued)

d. Inspections - In addition to or as part of the comprehensive site evaluation required under Part IV.4. of this permit, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

e. Employee Training - Employee training programs shall inform personnel at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The plan shall identify periodic dates for such training.

f. Recordkeeping and Internal Reporting Procedures - A description of incidents such as spills, or other discharges, along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

g. Non-Storm Water Discharges

(1) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the on-site drainage points that were directly observed during the test. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify in accordance with Part IV.A of this permit.

(2) Except for flows from fire fighting activities, sources of non-storm water listed in Part VI of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

h. Sediment and Erosion Control - The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify measures to limit erosion.

i. Management of Runoff - The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the source of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures determined to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity (see Parts IV.D.2.(b), (d) and (e) of this permit) shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: including vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

4. Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but, except as provided in paragraph IV.D.4.d, in no case less than once a year. Such evaluations shall provide:

a. Material handling areas and other potential sources of pollution identified in the plan in accordance with paragraph IV.D.2 of this permit shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Structural storm water management measures, sediment and control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

D. (continued)

b. Based on the results of the inspection, the description of potential pollutant sources identified in the plan in accordance with paragraph IV.D.2 of this permit and pollution prevention measures and controls identified in the plan in accordance with paragraph IV.D.3 of this permit shall be revised as appropriate within two weeks of such inspection and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than twelve weeks after the inspection.

c. A report summarizing the scope of the inspection, personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph IV.D.4.b of the permit shall be made and retained as part of the storm water pollution prevention plan for at least three years. The report shall be signed in accordance with Part VI.B of this permit.

5. Additional requirements for storm water discharges associated with industrial activity through municipal separate storm sewer systems serving a population of 100,000 or more.

In addition to the applicable requirements of this permit, facilities covered by this permit must comply with applicable requirements in municipal storm water management programs developed under NPDES permits issued for the discharge of the municipal separate storm sewer system that receives the facility's discharge, provided the discharger has been notified of such conditions.

6. Consistency with other plans. Storm water pollution prevention plans may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans developed for the facility under section 311 of the Act or Best Management Practices (BMP) Programs otherwise required by a NPDES permit for the facility as long as such requirement is incorporated into the storm water pollution prevention plan.

7. Additional requirements for storm water discharges associated with industrial activity from facilities subject to SARA Title III, Section 313 requirements are not applicable to Section 313 water priority chemicals in gaseous or non-soluble liquid or solid [at atmospheric pressure and temperature] forms. In addition to the requirements of Parts IV.D.1 through 4 of this permit and other applicable conditions of this permit, storm water pollution prevention plans for facilities subject to reporting requirements under SARA Title III, Section 313 for chemicals which are classified as "Section 313 water priority chemicals" in accordance with the definition in Part VI of this permit, shall describe and ensure the implementation of practices which are necessary to provide for conformance with the following guidelines:

a. In areas where Section 313 water priority chemicals are stored, processed or otherwise handled, appropriate containment, drainage control and/or diversionary structures shall be provided. At a minimum, one of the following preventive systems or its equivalent shall be used:

(1) Curbing, culverting, gutters, sewers or other forms of drainage control to prevent or minimize the potential for storm water run-on to come into contact with significant sources of pollutants; or
(2) Roofs, covers or other forms of appropriate protection to prevent storage piles from exposure to storm water, and wind blowing.

b. In addition to the minimum standards listed under Part IV.D.7.a of this permit, the storm water pollution prevention plan shall include a complete discussion of measures taken to conform with the following applicable guidelines, other effective storm water pollution prevention procedures, and applicable State rules, regulations and guidelines:

(1) Liquid storage areas where storm water comes into contact with any equipment, tank, container, or other vessel used for Section 313 water priority chemicals.

(a) No tank or container shall be used for the storage of a Section 313 water priority chemical unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature, etc.

(b) Liquid storage areas for Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 chemicals. Appropriate measures to minimize discharges of Section 313 chemicals may include secondary containment provided for at least the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation, a strong spill contingency and integrity testing plan, and/or other equivalent measures.

**Part IV. STORM WATER POLLUTION PREVENTION PLANS** (continued)

D. (continued)

(2) Material storage areas for Section 313 water priority chemicals other than liquids. Material storage areas for Section 313 water priority chemicals other than liquids which are subject to runoff, leaching, or wind blowing shall incorporate drainage or other control features which will minimize the discharge of Section 313 water priority chemicals by reducing storm water contact with Section 313 water priority chemicals.

(3) Truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 water priority chemicals. Appropriate measures to minimize discharges of Section 313 chemicals may include: the placement and maintenance of drip pans where spillage may occur (such as hose connections, hose reels and filler nozzles) for use when making and breaking hose connections; a strong spill contingency and integrity testing plan; and/or other equivalent measures.

(4) In facility areas where Section 313 water priority chemicals are transferred, processed or otherwise handled. Processing equipment and materials handling equipment shall be operated so as to minimize discharges of Section 313 water priority chemicals. Materials used in piping and equipment shall be compatible with the substances handled. Drainage from process and materials handling areas shall be designed as described in paragraphs (a), (b) and (c) of this section. Additional protection such as covers or guards to prevent wind blowing, spraying or releases from pressure relief vents from causing a discharge of Section 313 water priority chemicals to the drainage system, and overhangs or door skirts to enclose trailer ends at truck loading/unloading docks shall be provided as appropriate. Visual inspections or leak tests shall be provided for overhead piping conveying Section 313 water priority chemicals without secondary containment.

(5) Discharges from areas covered by paragraphs (1), (2), (3) or (4).

(a) Drainage from areas covered by paragraphs (1), (2), (3) or (4) of this part should be restrained by valves or other positive means to prevent the discharge of a spill or other excessive leakage of Section 313 water priority chemicals. Where containment units are employed, such units may be emptied by pumps or ejectors; however, these shall be manually activated.

(b) Flapper-type drain valves shall not be used to drain containment areas. Valves used for the drainage of containment areas should, as far as is practical, be of manual, open-and-closed design.

(c) If facility drainage is not engineered as above, the final discharge of all in-facility storm sewers shall be equipped to be equivalent with a diversion system that could, in the event of an uncontrolled spill of Section 313 water priority chemicals, return the spilled material to the facility.

(d) Records shall be kept of the frequency and estimated volume (in gallons) of discharges from containment areas.

(6) Facility site runoff other than from areas covered by (1), (2), (3) or (4). Other areas of the facility (those not addressed in paragraphs (1), (2), (3) or (4)), from which runoff which may contain Section 313 water priority chemicals or spills of Section 313 water priority chemicals could cause a discharge shall incorporate the necessary drainage or other control features to prevent discharge of spilled or improperly disposed material and ensure the mitigation of pollutants in runoff or leachate.

**Part IV. STORM WATER POLLUTION PREVENTION PLANS** (continued)

D. (continued)

(7) Preventive maintenance and housekeeping. All areas of the facility shall be inspected at specific intervals for leaks or conditions that could lead to discharges of Section 313 water priority chemicals or direct contact of storm water with raw materials, intermediate materials, waste materials or products. In particular, facility piping, pumps, storage tanks and bins, pressure vessels, process and material handling equipment, and material bulk storage area shall be examined for any conditions or failures which could cause a discharge. Inspection shall include examination for leaks, wind blowing, corrosion, support or foundation failure, or other forms of deterioration or non-containment. Inspection intervals shall be specified in the plan and shall be based on design and operational experience. Different areas may require different inspection intervals. Where a leak or other condition is discovered which may result in significant releases of Section 313 water priority chemicals to the drainage system, corrective action shall be immediately taken or the unit or process shut down until corrective action can be taken. When a leak or non-containment of a Section 313 water priority chemical has occurred, contaminated soil, debris, or other material must be promptly removed and disposed in accordance with Federal, State, and local requirements and as described in the plan.

(8) Facility security. Facilities shall have the necessary security systems to prevent accidental or intentional entry which could cause a discharge. Security systems described in the plan shall address fencing, lighting, vehicular traffic control, and securing of equipment and buildings.

(9) Training. Facility employees and contractor personnel using the facility shall be trained in and informed of preventive measures at the facility. Employee training shall be conducted at intervals specified in the plan, but not less than once per year, in matters of pollution control laws and regulations, and in the storm water pollution prevention plan and the particular features of the facility and its operation which are designed to minimize discharges of Section 313 water priority chemicals. The plan shall designate a person who is accountable for spill prevention at the facility and who will set up the necessary spill emergency procedures and reporting requirements so that spills and emergency releases of Section 313 water priority chemicals can be isolated and contained before a discharge of a Section 313 water priority chemical can occur. Contractor or temporary personnel shall be informed of facility operation and design features in order to prevent discharges or spills from occurring.

8. Additional Requirements for Salt Storage. Storage piles of salt used for deicing or other commercial or industrial purposes and which generate a storm water discharge associated with industrial activity which is discharged to surface waters of the State shall be enclosed or covered to prevent exposure to precipitation, except for exposure resulting from adding or removing materials from the pile within two years of the effective date of this permit. Piles do not need to be enclosed or covered where storm water from the pile is not discharged to surface waters of the State.

## Part V. NUMERIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

### A. RESERVED.

**B. Monitoring Requirements.** Only the activities described in the following matrix and associated definitions are required to conduct monitoring. The monitoring required in the following matrix shall be conducted annually. Monitoring shall be initiated within twelve months of the effective date of this permit and henceforth on an annual basis, weather conditions permitting. A permittee may, in lieu of annual monitoring, certify that industrial materials are not exposed to storm water; such certification shall be submitted to the Ohio EPA upon request of the Director.

1. MONITORING REQUIREMENTS MATRIX

| Reporting Units | Parameter | INDUSTRIAL ACTIVITY CATEGORIES | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b[1,3] | c | d | e | f | g | h | i[2] | j | k | l[1] |
| mg/l | Oil and Grease | | X | X | X | X | X | X | X | X | X | X | X |
| mg/l | 5-day Biochemical Oxygen Demand | | X | | | | | | | X | | X | |
| mg/l | Chemical Oxygen Demand | | X | X | X | X | X | | X | X | | | X |
| mg/l | Total Suspended Solids | | X | | X | X | X | X | X | X | X | X | X |
| mg/l | Total Kjeldahl Nitrogen | | | X | | | | | | | | X | |
| mg/l | Phosphorus | | | | | | | | | | | X | |
| S.U. | pH | | X | X | X | X | X | X | X | X | X | X | X |
| TU, | Acute Toxicity | | | | | | | | | | | | |
| Hours | Duration of Storm Event | | X | X | X | X | X | X | X | X | X | X | X |
| Inches | Precipitation | | X | X | X | X | X | X | X | X | X | X | X |
| Hours | Duration Between Storm Events* | | X | X | X | X | X | X | X | X | X | X | X |
| Gallons | Volume (est) | | X | X | X | X | X | X | X | X | X | X | X |
| mg/l | Nitrate-Nitrogen | | | | | | | | | | | | |
| mg/l | Nitrite-Nitrogen | | | | | | | | | | | | |
| ug/l | Lead, Total | | X | X | | | | | X | | | | |
| ug/l | Cadmium, Total | | X[2] | X | | | | | | | | | |
| ug/l | Copper, Total | | X[2] | | | | X | X | X | | X | | |
| ug/l | Arsenic, Total | | X[2] | X | | | X | | | | | | |
| ug/l | Chromium, Total | | X[2] | X | | | X | | | | | | |
| mg/l | Ammonia | | | | | | | | | | | | |
| ug/l | Magnesium, Total | | | X | | | | | | | | | |

## Part V. NUMERIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

B. (continued)

| Reporting Units | Parameter | INDUSTRIAL ACTIVITY CATEGORIES | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b[1,3] | c | d | e | f | g | h | i[2] | j | k | l[1] |
| µg/l | Magnesium, Dissolved | | | X | | | | | | | | | |
| mg/l | Total Dissolved Solids | | | X | | | | | | | | | |
| mg/l | Total Organic Carbon | | | X | | | | | | | | | |
| µg/l | Barium, Total | | | X | | | | | | | | | |
| mg/l | Cyanide, Total | | | X | | | | | | | | | |
| µg/l | Mercury, Total | | | X | | | | | | | | | |
| µg/l | Selenium, Total | | | X | | | | | | | | | |
| µg/l | Silver, Total | | | X | | | | | | | | | |
| µg/l | Pentachlorophenol | | | | X | | | | | | | | |
| µg/l | Nickel, Total | | | | | | | X | | | X | | |
| µg/l | Zinc, Total | | | | | | | X | | | X | | |
| #/100ml | Fecal Coliform | | | | | | | | | | | X | |

* Time between the storm event when sampling is being conducted and the last storm event producing rainfall greater than 0.1 inches.
(1) and any pollutant limited in an effluent guideline or categorical pretreatment standard which the facility is subject.
(2) and the primary ingredient used in the deicing materials used at the site (e.g., ethylene glycol, urea, etc.).
(3) Facilities that are classified as SIC 33 only because they manufacture pure silicon and/or semiconductor grade silicon are not required to monitor for this parameter.

2. Industrial Activity Categories Definitions

a. Section 313 of SARA Title III Facilities. As of the effective date of this permit, facilities with storm water discharges associated with industrial activity that are subject to requirements to report releases into the environment under Section 313 of SARA Title III for chemicals which are classified as 'Section 313 water priority chemicals' are not (as they may have been in a previous permit) required to monitor storm water that is discharged from the facility unless required by paragraphs V.B.2.b through B.2.l.

b. Primary Metal Industries. Facilities with storm water discharges associated with industrial activity classified as Standard Industrial Classification (SIC) 33 (Primary Metal Industry) are required to monitor such storm water that is discharged from the facility.

c. Land Disposal Units/Incinerators/BIFs. Facilities with storm water discharges associated with industrial activity from any active or inactive landfill, land application sites or open dump without a stabilized final cover that has received any industrial wastes from a facility with a Standard Industrial Classification (SIC) of between 20-39 (manufacturing); and incinerators (including Boilers and Industrial Furnaces (BIFs)) that burn hazardous waste and operate under interim status or a permit under Subtitle C of RCRA, are required to monitor such storm water that is discharged from the facility.

d. Wood Treatment Using Chlorophenolic Formulations. Facilities with storm water discharges associated with industrial activity from areas that are used for wood treatment, wood surface application or storage of treated or surface protected wood at any wood preserving or wood surface facilities are required to monitor such storm water that is discharged from the facility.

e. Wood Treatment Using Creosote Formulations. Facilities with storm water discharges associated with industrial activity from areas that are used for wood treatment, wood surface application or storage of treated or surface protected wood at any wood preserving or wood surface facilities are required to monitor such storm water that is discharged from the facility.

**Part V. NUMERIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS** (continued)

B. (continued)

f. Wood Treatment Using Chromium-Arsenic Formulations. Facilities with storm water discharges associated with industrial activity from areas that are used for wood treatment, wood surface application or storage of treated or surface protected wood at any wood preserving or wood surface facilities are required to monitor such storm water that is discharged from the facility.

g. Coal Pile Runoff. Facilities with storm water discharges associated with industrial activity from coal pile runoff are required to monitor such storm water that is discharged from the facility.

h. Battery Reclaimers. Facilities with storm water discharges associated with industrial activity from areas used for storage of lead acid batteries, reclamation products, or waste products, and areas used for lead acid battery reclamation (including material handling activities) at facilities that reclaim lead acid batteries are required to monitor such storm water that is discharged from the facility.

i. Airports. At airports with over 50,000 flight operations per year, facilities with storm water discharges associated with industrial activity from areas where aircraft or airport deicing operations occur (including runways, taxiways, ramps, and dedicated aircraft deicing stations) are required to monitor such storm water that is discharged from the facility.

j. Coal-fired Steam Electric Facilities. Facilities with storm water discharges associated with industrial activity from coal handling sites at coal fired steam electric power generating facilities (other than discharges in whole or in part from coal piles subject to storm water effluent guidelines at 40 CFR 423 - which are not eligible for coverage under this permit) are required to monitor such storm water that is discharged from the facility.

k. Animal Handling / Meat Packing. Facilities with storm water discharges associated with industrial activity from animal handling areas, manure management (or storage) areas, and production waste management (or storage) areas that are exposed to precipitation at meat packing plants, poultry packing plants, and facilities that manufacture animal and marine fats and oils, are required to monitor such storm water that is discharged from the facility.

l. Additional Facilities. Facilities with storm water discharges associated with industrial activity that:

(1) come in contact with storage piles for solid chemicals used as raw materials that are exposed to precipitation at facilities classified as SIC 30 (Rubber and Miscellaneous Plastics Products) or SIC 28 (Chemicals and Allied Products);

(2) are from those areas at automobile junkyards with any of the following: (A) over 250 auto/truck bodies with drivelines (engine, transmission, axles, and wheels), 250 drivelines, or any combination thereof (in whole or in parts) are exposed to storm water; (B) over 500 auto/truck units (bodies with or without drivelines in whole or in parts) are stored exposed to storm water; or (C) over 100 units per year are dismantled and drainage or storage of automotive fluids occurs in areas exposed to storm water;

(3) come into contact with lime storage piles that are exposed to storm water at lime manufacturing facilities;

(4) are from oil handling sites at oil fired steam electric power generating facilities;

(5) are from cement manufacturing facilities and cement kilns (other than discharges in whole or in part from material storage piles subject to storm water effluent guidelines at 40 CFR 411 - which are not eligible for coverage under this permit);

(6) are from ready-mixed concrete facilities; or

(7) are from ship building and repairing facilities;

are required to monitor such storm water discharged from the facility.

**Part V. NUMERIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS** (continued)

B. (continued)

3. Sample Type. Take a minimum of one grab sample from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The grab sample shall be taken during the first thirty minutes of the discharge. If the collection of a grab sample during the first thirty minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first thirty minutes was impracticable.

4. Sampling Waiver. When a discharger is unable to collect samples due to adverse climatic conditions, the discharger must submit in lieu of sampling data a description of why samples could not be collected, including available documentation of the event. Adverse climatic conditions which may prohibit the collection of samples includes weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

5. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of features and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfalls. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g. low (under 40%), medium (40% to 65%) or high (above 65%)) shall be provided.

**C. Toxicity Testing.** Not Required.

**D. Alternative Certification of "Not Present or No Exposure."** You are not subject to the analytical monitoring requirement of this part provided: you make a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of monitoring required under this part, that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period; and your certification is signed in accordance with Attachment VI.G and retained in the SWP3. If you cannot certify for an entire period, you must note the date exposure was eliminated and perform any monitoring required up until that date.

## Part VI. OTHER STORM WATER REQUIREMENTS, DEFINITIONS AND AUTHORIZATION

**A. Failure to Certify.** Any facility that is unable to provide the certification required under paragraph IV.D.3.g.(1) (testing for non-storm water discharges), must notify the Director within 180 days of the effective date of this permit. Such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible.

**B. Signatory Requirements.** See Part III.28.

**C. Definitions.**

"Section 313 water priority chemical" means a chemical or chemical categories which are: 1) are listed at 40 CFR 372.65 pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, also titled the Emergency Planning and Community Right-to-Know Act of 1986; 2) are present at or above threshold levels at a facility subject to SARA Title III, Section 313 reporting requirements; and 3) that meet at least one of the following criteria: (i) are listed in Appendix D of 40 CFR 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances); (ii) are listed as a hazardous substance pursuant to section 311(b)(2)(A) of the Act at 40 CFR 116.4; or (iii) are pollutants for which EPA has published acute or chronic water quality criteria.

"Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

"Significant spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (see 40 CFR 110.10 and CFR 117.21) or section 102 of CERCLA (see 40 CFR 302.4).

"Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

"Definition of Storm Water Associated with Industrial Activity" means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program. For the categories of industries identified in subparagraphs (i) through (x) of this subsection, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in subparagraph (xi), the term includes only storm water discharges from all areas listed in the previous sentence (except access roads) where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the: storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally or municipally owned or operated that meet the description of the facilities listed in this paragraph (i)-(xi)) include those facilities designated under 40 CFR 122.26(a)(1)(v). The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) of this paragraph);

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285) 29, 311, 32 (except 323), 33, 3441, 373;

**Part VI. OTHER STORM WATER REQUIREMENTS, DEFINITIONS AND AUTHORIZATION** (continued)

C. (continued)

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations meeting the definition of a reclamation area under 40 CFR 434.11(l)) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator;

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under Subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but not limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (i)-(vii) or (ix)-(xi) of this subsection are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with 40 CFR 503;

(x) Construction activity - This category of industrial activity is not regulated under this permit.

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25, (and which are not otherwise included within categories (ii)-(x)).

"SWPPP" means storm water pollution prevention plan to be completed as a condition of this permit (see Part IV of this permit).

"Time-weighted composite" means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.

"Waste pile" means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

"10-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable reoccurrence interval of once in 10 years. This information is available in "Weather Bureau Technical Paper No. 40,", May 1961 and "NOAA Atlas 2," 1973 for the 11 Western States, and may be obtained from the National Climatic Center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

"Bypass" means the intentional diversion of waste streams from any portion of the treatment facility.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

National Pollutant Discharge Elimination System (NPDES) Permit Program

# FACT SHEET

Regarding an NPDES Permit To Discharge to Waters of the State of Ohio
for **the Orion Power Midwest, L.P. – Avon Lake Power Plant**

Public Notice No.: 11-03-062
Public Notice Date: March 25, 2011
Comment Period Ends: April 25, 2011

OEPA Permit No.: **3IB00002*KD**
Application No.: (OH #) **OH0001112**

Name and Address of Applicant:

**Orion Power Midwest, L.P.**
**121 Champion Way, Suite 200**
**Canonsburg, Pennsylvania 15317**

Name and Address of Facility Where Discharge Occurs:

**Avon Lake Power Plant**
**33570 Lake Road**
**Avon Lake, Ohio 44012**
**Lorain County**

Receiving Water: **Lake Erie**

Subsequent Stream Network: --

## Introduction

Development of a Fact Sheet for NPDES permits is required by Title 40 of the Code of Federal Regulations, Section 124.8 and 124.56. This document fulfills the requirements established in those regulations by providing the information necessary to inform the public of actions proposed by the Ohio Environmental Protection Agency, as well as the methods by which the public can participate in the process of finalizing those actions.

This Fact Sheet is prepared in order to document the technical basis and risk management decisions that are considered in the determination of water quality based NPDES Permit effluent limitations. The technical basis for the Fact Sheet may consist of evaluations of promulgated effluent guidelines and other treatment-technology based standards, existing effluent quality, instream biological, chemical and physical conditions, and the allocations of pollutants to meet Ohio Water Quality Standards. This Fact Sheet details the discretionary decision-making process empowered to the director by the Clean Water Act and Ohio Water Pollution Control Law (ORC 6111). Decisions to award variances to Water Quality Standards or promulgated effluent guidelines for economic or technological reasons will also be justified in the Fact Sheet where necessary.

Effluent limits based on available treatment technologies are required by Section 301(b) of the Clean Water Act. Many of these have already been established by U.S. EPA in the effluent guideline regulations (a.k.a. categorical regulations) for industry categories in 40 CFR Parts 405-499. Technology-based regulations for publicly-owned treatment works are listed in the Secondary Treatment Regulations (40 CFR Part 133). If regulations have not been established for a category of dischargers, the director may establish technology-based limits based on best professional judgment (BPJ).

Ohio EPA reviews the need for water-quality-based limits on a pollutant-by-pollutant basis. Wasteload allocations are used to develop these limits based on the pollutants that have been detected in the discharge, and the receiving water's assimilative capacity. The assimilative capacity depends on the flow in the water receiving the discharge, and the concentration of the pollutant upstream. The greater the upstream flow, and the lower the upstream concentration, the greater the assimilative capacity is. Assimilative capacity may represent dilution (as in allocations for metals), or it may also incorporate the break-down of pollutants in the receiving water (as in allocations for oxygen-demanding materials).

The need for water-quality-based limits is determined by comparing the wasteload allocation for a pollutant to a measure of the effluent quality. The measure of effluent quality is called PEQ - Projected Effluent Quality. This is a statistical measure of the average and maximum effluent values for a pollutant. As with any statistical method, the more data that exists for a given pollutant, the more likely that PEQ will match the actual observed data. If there is a small data set for a given pollutant, the highest measured value is multiplied by a statistical factor to obtain a PEQ; for example if only one sample exists, the factor is 6.2, for two samples - 3.8, for three samples - 3.0. The factors continue to decline as samples sizes increase. These factors are intended to account for effluent variability, but if the pollutant concentrations are fairly constant, these factors may make PEQ appear larger than it would be shown to be if more sample results existed.

## Summary of Proposed Permit Conditions

Monitoring requirements for water temperature, total residual oxidants (TRO), pH, flow rate, total residual chlorine (TRC), and chlorination/bromination duration is proposed to continue at outfall 001. In addition, limits for TRO, TRC, and chlorination/bromination duration are also proposed to remain in the permit. Monitoring requirements for thallium have been removed.

For outfall 002, monitoring requirements are proposed to continue from the existing permit for total suspended solids (TSS), oil and grease, copper, flow rate, mercury, and pH. Limits are proposed to continue for TSS, oil and grease, and pH. Monitoring for chlorine has been added to the draft permit. Based upon an application submitted by the permittee, the permit includes a variance-based limit for mercury at outfall 002 for the average criterion. Three new parameters have been added to the effluent table for this outfall to report exceedances of pH limits.

At outfall 004, all the existing monitoring requirements and limits are proposed to continue with the exception of selenium and toxicity which have been removed. Permit requirements at other monitoring stations are proposed to continue from the existing permit. In addition, the permittee must comply with the requirements of Section 316(b) of the Clean Water Act and any rules promulgated to implement Section 316(b) regarding the use of the best technology available to minimize adverse environmental impact (i.e., fish impingement and entrainment). Finally, Part II of the permit includes a requirement to install signs at all outfalls discharging to Lake Erie, and also a requirement to develop notification procedures with regard to the City of Avon Lake since their public water supply intakes are within 3000 feet of Avon Lake Power Plant discharge locations.

This permit renewal is proposed for a term of approximately **four and one-half years**, expiring on **July 31, 2015**. This schedule will allow the Avon Lake Power Plant permit to be on a similar schedule with the other facilities within the same watershed basin.

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## Procedures for Participation in the Formulation of Final Determinations

The draft action shall be issued as a final action unless the Director revises the draft after consideration of the record of a public meeting or written comments, or upon disapproval by the Administrator of the U.S. Environmental Protection Agency.

Within thirty days of the date of the Public Notice, any person may request or petition for a public meeting for presentation of evidence, statements or opinions. The purpose of the public meeting is to obtain additional evidence. Statements concerning the issues raised by the party requesting the meeting are invited. Evidence may be presented by the applicant, the state, and other parties, and following presentation of such evidence other interested persons may present testimony of facts or statements of opinion.

Requests for public meetings shall be in writing and shall state the action of the Director objected to, the questions to be considered, and the reasons the action is contested. Such requests should be addressed to:

**Legal Records Section**
**Ohio Environmental Protection Agency**
**Lazarus Government Center**
**P.O. Box 1049**
**Columbus, Ohio 43216-1049**

Interested persons are invited to submit written comments upon the discharge permit. Comments should be submitted in person or by mail no later than 30 days after the date of this Public Notice. Deliver or mail all comments to:

**Ohio Environmental Protection Agency**
**Attention: Division of Surface Water**
**Permits and Compliance Section**
**Lazarus Government Center**
**P.O. Box 1049**
**Columbus, Ohio 43216-1049**

The OEPA permit number and Public Notice numbers should appear on each page of any submitted comments. All comments received no later than 30 days after the date of the Public Notice will be considered.

Citizens may conduct file reviews regarding specific companies or sites. Appointments are necessary to conduct file reviews because requests to review files have increased dramatically in recent years. The first 250 pages copied are free. For requests to copy more than 250 pages, there is a five-cent charge for each page copied. Payment is required by check or money order, made payable to Treasurer State of Ohio.

For additional information about this fact sheet or the draft permit, contact Mike Stevens [phone: (330) 963-1143; email: mike.stevens@epa.state.oh.us ] in Ohio EPA's Northeast District Office, or Mike McCullough [phone: (614) 644-4824; email: mike.mccullough@epa.state.oh.us ] in Ohio EPA's Central Office.

## Location of Discharge/Receiving Water Use Classification

The Avon Lake Power Plant owned by Orion Power Midwest discharges directly to Lake Erie through outfalls 001, 002, and 004. This segment of Lake Erie is described by Ohio EPA River Code 24-500, U.S. EPA River Reach # NA, and the Erie-Ontario Lake Plain (EOLP) Ecoregion. Lake Erie is presently designated for the following uses: Exceptional Warmwater Habitat (EWH), Superior High Quality Water (SHQW), Public Water Supply (PWS), Agricultural Water Supply (AWS), Industrial Water Supply (IWS), and Bathing Waters (BW). The approximate location of this facility is shown in Figure 1.

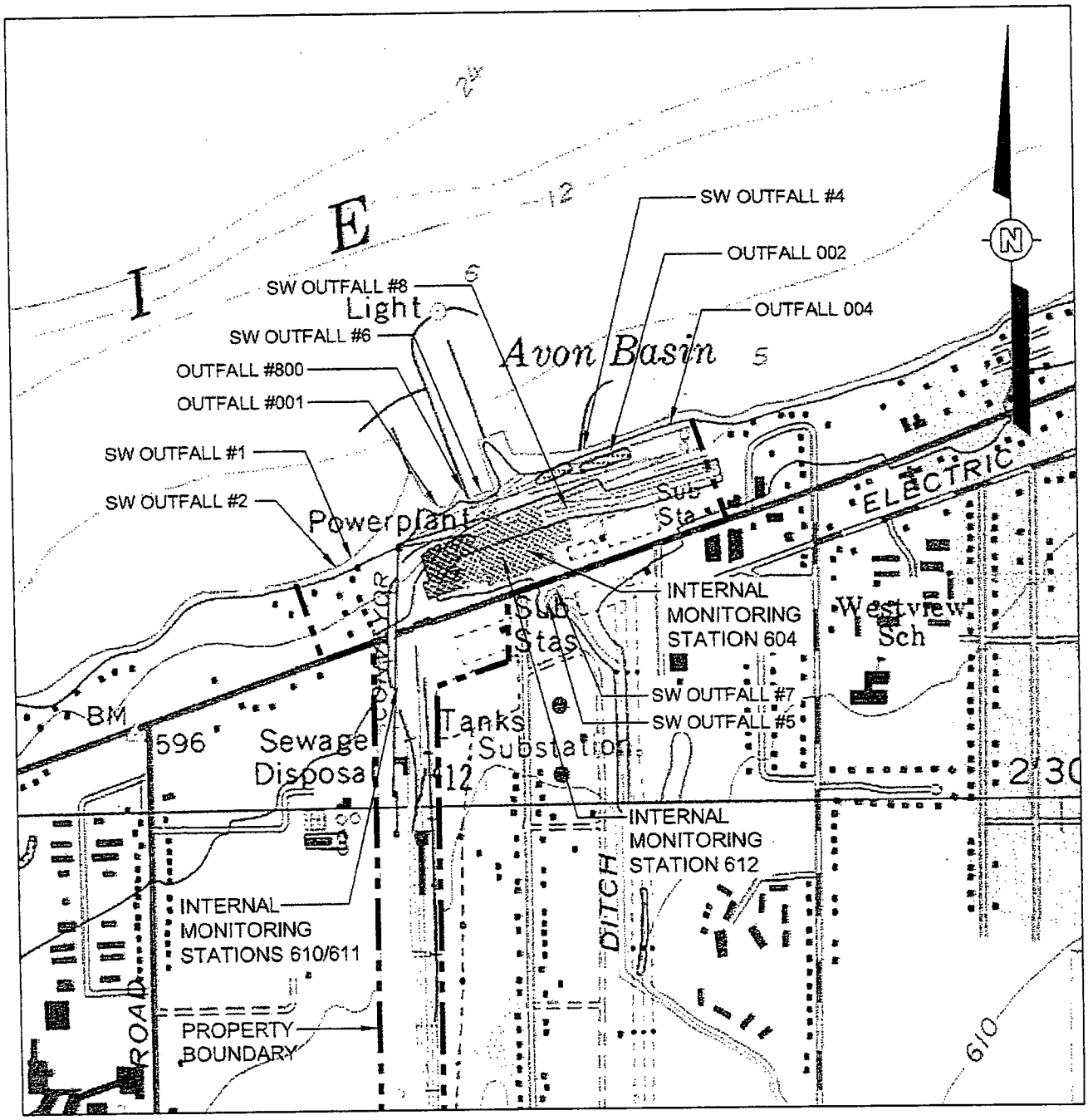



Figure 1. Location of Avon Lake Power Plant

Use designations define the goals and expectations for a waterbody. These goals are set for aquatic life protection, recreation use and water supply use, and are defined in the Ohio Water Quality Standards, or the Ohio Administrative Code (OAC 3745-1-07). The use designations for individual waterbodies are listed in rules -08 through -32 of the OAC. Once the goals are set, numeric water quality standards are developed to protect these uses; higher quality uses typically have more protective water quality criteria.

Use designations for aquatic life protection include habitats for coldwater fish and macroinvertebrates, warmwater aquatic life and waters with exceptional communities of warmwater organisms. These uses all meet the goals of the federal Clean Water Act. Ohio Water Quality Standards (WQS) also include aquatic life use designations for waterbodies which can not meet the Clean Water Act goals because of human-caused conditions that can not be remedied without causing fundamental changes to land use and widespread economic impact. The dredging and clearing of some small streams to support agricultural or urban drainage is the most common of these conditions. These streams are given Modified Warmwater or Limited Resource Water designations.

Recreation uses are defined by the depth of the waterbody and the potential for wading or swimming. Uses are defined for bathing waters, swimming/canoeing (Primary Contact) and wading only (Secondary Contact - generally waters too shallow for swimming or canoeing). Water supply uses are defined by the actual or potential use of the waterbody. Public Water Supply designations apply near existing water intakes so that waters are safe to drink with standard treatment. Most other waters are designated for agricultural and industrial water supply.

## Facility Description

The Avon Lake Plant is a coal-fired steam-electric generating station. This facility is involved in the generation, transmission, and distribution of electric power. The daily production rate is approximately 800 megawatts of electricity.

The Avon Lake Plant's processes generate wastewaters which are regulated by the federal effluent guidelines (FEGs) listed in 40 CRF Part 423, Steam Electric Power Generating Point Source Category. The process operations at this facility are also defined by the standard industrial classification (SIC) category 4911 - Electric Services.

## Discharges from the Avon Lake Power Plant

Outfall 001 discharges directly to Lake Erie at the rate of approximately 387 million gallons per day (MGD) based upon the permit renewal application. The wastewater flowing from this outfall consists of the once-through condenser cooling water and boiler blowdown.

**Table 1.** **Description of Avon Lake Power Plant Outfalls**

| Outfall # | Type of Wastewater | Treatment System Used | Discharge Point | Ave. Discharge (in MGD)* |
|---|---|---|---|---|
| 001 | Cooling water discharge, boiler blowdown, heat exchanger | - Disinfection | Lake Erie | 387 |
| 002 | Ash transport water, coal pile runoff, metal cleaning | - Sedimentation<br>- Chemical precipitation<br>- Gravity filtration | Lake Erie | 0.94 |
| 004 | Low volume waste system, oily water separator, floor drains | - Sedimentation<br>- Neutralization<br>- Gravity filtration<br>- Disinfection | Lake Erie | 1.17 |

*Flow rates are based upon the NPDES permit renewal application.

Outfall 002 is designed to discharge the ash transport water from the ash settling basin. This basin receives fly ash and bottom ash as well as wastewater from the metal cleaning processes and coal pile run-off. Wastewater is treated by sedimentation and gravity filtration prior to being discharged into Lake Erie. The average discharge from this outfall is 0.94 MGD according to the NPDES application.

Oily wastewater which is a constituent of the low-volume waste system is discharged through outfall 004. Prior to being discharged to Lake Erie, this wastewater is treated by sedimentation and gravity filtration. The average daily flow at this outfall has been 1.17 MGD based upon the NPDES renewal application.

Several internal outfalls contribute flow to outfalls 001 and 002. Boiler blowdown from internal outfall 604 and non-contact cooling water from the unit #9 heat exchanger (internal outfall 612) flow through external outfall 001. In addition to coal pile runoff, metal

**Table 2.** **Flows for Outfalls 001, 002, and 004**

| Year | Flow in MGD | | |
|---|---|---|---|
| | 50th Percentile | 95th Percentile | Maximum |
| *Outfall 001* | | | |
| 2005 | 379. | 599. | 599. |
| 2006 | 379. | 599. | 599. |
| 2007 | 391. | 599. | 599. |
| 2008 | 379. | 548. | 599. |
| 2009 | 317. | 478. | 599. |
| 2010 | 379. | 599. | 599. |
| Overall | 379. | 599. | 599. |
| *Outfall 002* | | | |
| 2005 | 0.91 | 2.31 | 4.5 |
| 2006 | 1.06 | 1.39 | 1.96 |
| 2007 | 0.77 | 1.35 | 1.98 |
| 2008 | 0.83 | 1.24 | 9.88 |
| 2009 | 0.92 | 1.45 | 6.7 |
| 2010 | 0.84 | 1.28 | 1.82 |
| Overall | 0.89 | 1.4 | 9.88 |
| *Outfall 004* | | | |
| 2005 | 1.08 | 2.43 | 2.76 |
| 2006 | 1.21 | 1.70 | 2.15 |
| 2007 | 1.24 | 1.87 | 2.42 |
| 2008 | 1.08 | 1.78 | 2.14 |
| 2009 | 1.03 | 1.49 | 2.23 |
| 2010 | 0.76 | 1.36 | 1.85 |
| Overall | 1.07 | 1.9 | 2.76 |

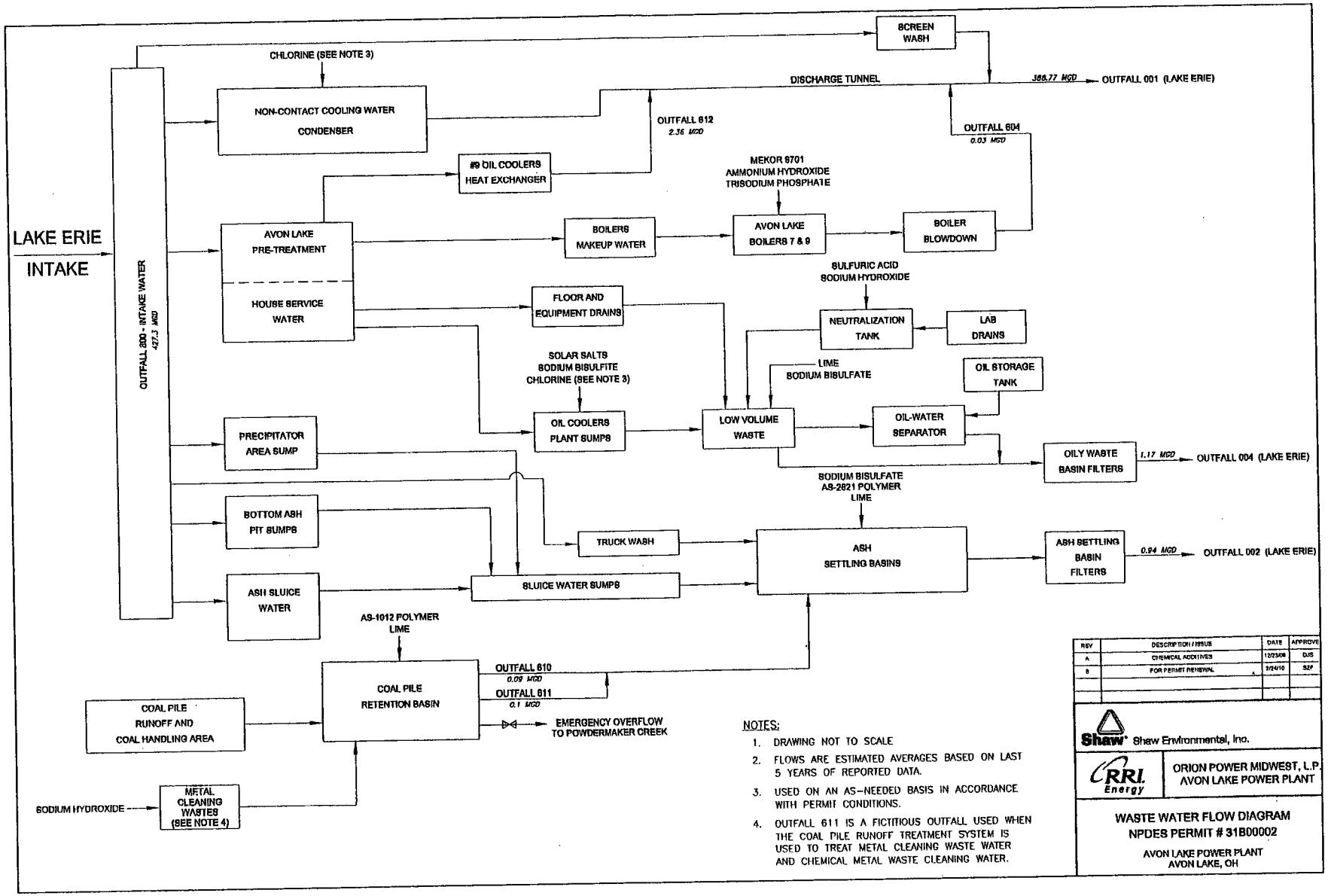



Figure 2. Wastewater Flow Diagram

cleaning wastewater is discharged into the coal pile retention basin and is treated by neutralization, chemical precipitation, and pressure filtration prior to flowing through internal monitoring station 610. Flow from internal station 610 enters the ash settling basin for ultimate discharge through external outfall 002.

The Avon Lake Plant obtains its water for cooling purposes from an intake located in Lake Erie. This water is disinfected with chlorine prior to its use in the plant. The NPDES renewal application states that the average daily flow value for intake station 800 is 427 MGD. See Figure 2 for a flow diagram of the facility outfalls and treatment systems.

**Table 3. Reported Effluent Limit Violations at Avon Lake Power Plant: 2005 – July 2010**

| Parameter | Concentration | Loadings |
|---|---|---|
| *Outfall 002* | | |
| Total suspended solids | 2 | -- |
| pH, Minimum | 8 | |
| pH, Maximum | 8 | |
| *Outfall 004* | | |
| pH, Minimum | 6 | |
| pH, Maximum | 8 | |
| *Outfall 604* | | |
| Total suspended solids | -- | 1 |
| *Outfall 610* | | |
| Total suspended solids | 2 | 10 |
| *Outfall 611* | | |
| Total suspended solids | 2 | 18 |

The wastewater discharge flow rates from 2005 through July 2010 for outfalls 001, 002, and 004 are shown in Table 2 on page 8. Reported 50$^{th}$ percentile flow rates for these outfalls have remained constant throughout this period. The 95$^{th}$ percentile discharge amounts have shown somewhat more variability.

From January 2005 through July 2010, the Avon Lake Power Plant has reported a number of sample results which were numeric violations of permit limits. (See Table 3.) Many of these violations involved the limits for total suspended solids (TSS) at internal stations 604, 610, and 611. However, numerous pH violations were reported as well at outfalls 002 and 004. The majority of the TSS violations occurred in 2005 and 2006, while pH violations occurred throughout the time period.

## Assessment of Impact on Receiving Waters

Recent biological data for Lake Erie is not available to assess the water quality impact of permitted discharges from the Avon Lake Power Plant. Figure 3 on page 11 shows the assessment of water quality based upon information in Ohio EPA's *2010 Integrated Report*.

## Impingement and Entrainment

In order to fulfill requirements under federal regulations adopted in 2004 associated with large, existing power plants[1], the Avon Lake Power Plant conducted sampling in 2006 at their cooling water intake structure (CWIS) to determine the number of fish impinged on the screens and entrained through the facility. Based upon this study, Orion Power estimated impingement to be approximately 12.2 million fish using actual flows rates to extrapolate to an annualized value. The annual rate of impingement is 21.9 million when the design flow rate (or the maximum withdrawal flow rate for the facility which is possible) is used for extrapolation. The majority of the impinged fish were identified as emerald shiner and gizzard shad.

[1] These regulations, which were adopted to implement Section 316(b) of the Clean Water Act, were suspended by U.S. EPA in 2007 after a federal court overturned significant provisions. States have been directed by U.S. EPA to use best professional judgement (BPJ) to implement the requirements of Section 316(b) in the absence of federal regulations.

Based upon actual withdrawal flow rates, the annual estimates for entrainment were approximately 25.8 million larval and juvenile-size fish. (No fish eggs were reported for the entrainment sampling.) Annual entrainment is estimated at 33 million when extrapolation is done using the design flow. Emerald shiner, yellow perch, and gizzard shad characterized the dominant species which were entrained at the Avon Lake Power Plant during 2006.

The cooling water intake structure (CWIS) at the Avon Lake Power Plant includes vertical traveling screens for nine of ten operating intake bays. The screens consist of 3/8 inch openings, and through-screen intake flow velocity is 1.5 feet per second at maximum capacity.

Ohio EPA has determined that the current intake structure does not represent "best technology available" (or BTA) as required by the Clean Water Act. However, at this time, Ohio EPA has decided to defer imposing a solution for meeting BTA for this facility, awaiting: 1) further information from the permittee regarding technical and economic analyses of possible technological and/or operational changes to reduce impingement and entrainment (I/E); 2) publication of draft federal rules addressing cooling water intake structures applicable to large power plants; and 3) possible comments and suggestions from U.S EPA for reducing I/E.

## Assessment Unit Name: Lake Erie Central Basin Shoreline

Monitoring Scheduled: 2012
TMDL Scheduled: 2015

### Aquatic Life Use Assessment

Reporting Category: 5
Sampling Years: 1999, 2000, 2002
Total Shoreline Miles: 132.4
Shoreline Miles Monitored: 72.7
Sites Monitored: 17
Sites Full Attainment: 3 (17.7%)
Sites Partial Attainment: 4 (23.5%)
Sites Non Attainment: 10 (58.8%)

***Causes of Impairment***:

- nutrients
- siltation
- direct habitat alterations
- exotic species

***Sources of Impairment***:

- municipal point sources
- combined sewer overflows
- non-irrigated crop production
- urban runoff/storm sewers
- streambank modification/destabilization
- habitat modifications other than hydromodification

Comments: No nearshore Lake Erie monitoring by the Ohio EPA has occurred since 2002.

### Recreation Use Assessment

Reporting Category: 5

### Public Drinking Water Supply Assessment

Reporting Category: 1
Nitrate Watch List: No
Pesticide Watch List: No

### Fish Tissue Assessment

Reporting Category: 5x

Figure 3. Central Basin of Lake Erie Water Quality Assessment (*Ohio EPA 2010 Integrated Report*)

## Development of Water Quality-Based Effluent Limits

Determining appropriate effluent concentrations is a multiple-step process in which parameters are identified as likely to be discharged by a facility, evaluated with respect to Ohio water quality criteria, and examined to determine the likelihood that the existing effluent could violate the calculated limits. Although the locations of the external outfalls for the Avon Lake Plant are relatively near one another, the discharges have not been modeled interactively; given the methodology which must be used to develop waste load allocations for a lake discharger, considering these outfalls to be interactive would not change the parameter assessment results. (See the section below entitled, "Waste Load Allocation".)

### *Parameter Selection*

Effluent data for the Avon Lake Power Plant were used to determine what parameters should undergo wasteload allocation. The sources of effluent data are as follows:

| | |
|---|---|
| Self-monitoring data (Discharge Monitoring Reports) | January 2005 - August 2010 |
| NPDES permit renewal application | 2010 |

The effluent data were checked for outliers and one value for copper (286 ug/l) was removed in the dataset for outfall 004. The remaining data was evaluated statistically, and Projected Effluent Quality (PEQ) values were calculated for each pollutant. $PEQ_{avg}$ values represent the 95$^{th}$ percentile of monthly average data, and $PEQ_{max}$ values represent the 95$^{th}$ percentile of all data points. The average and maximum projected effluent quality (PEQ) values are presented in Table 6. For a summary of the screening results, refer to the parameter groupings on pages 30 through 32.

PEQ values are used according to Ohio rules to compare to applicable WQS and allowable WLA values for each pollutant evaluated. Initially, PEQ values are compared to the applicable average and maximum WQS. If both PEQ values are less than 25 percent of the applicable WQS, the parameter does not have the reasonable potential to cause or contribute to exceedances of WQS, and no wasteload allocation is done for that parameter. If either the $PEQ_{avg}$ or $PEQ_{max}$ is greater than 25 percent of the applicable WQS, a wasteload allocation is conducted to determine whether the parameter exhibits reasonable potential (and needs to be limited) or if monitoring is required.

### *Wasteload Allocation*

For those parameters that require a wasteload allocation (WLA), the results are based on the uses assigned to the receiving waterbody in OAC 3745-1. Dischargers are allocated pollutant loadings/concentrations based on the Ohio Water Quality Standards (WQS - OAC 3745-1). Most pollutants are allocated by a mass-balance method because they do not degrade in the receiving water. Wasteload allocations for average criteria using this method are done using the following general equation for direct dischargers to Lake Erie: Discharger WLA = (11 x WQS) - (10 x background concentration).

For direct dischargers to lakes, the waste load allocations for maximum criteria (or Outside Mixing Zone Maximum, OMZM) are set equal to the Inside Mixing Zone Maximum criteria. The values for the OMZM are left blank in Table 8 to indicate that any limits based upon a maximum WLA are actually represented by the Inside Mixing Zone Maximum criteria. The wasteload allocation values in Table 9 would allow the Avon Lake Station to maintain all applicable water quality criteria. Allocations cannot exceed the Inside Mixing Zone Maximum criteria.

The data used in the WLA are listed in Tables 7 and 8. The wasteload allocation results to maintain all applicable criteria are presented in Table 9.

***Reasonable Potential***

After appropriate effluent limits are calculated by wasteload allocation, the lowest most restrictive average and maximum values are selected from Table 8 and are referred to as Preliminary Effluent Limits ($PEL_{avg}$ and $PEL_{max}$ respectively). The reasonable potential of the discharger to exceed the wasteload allocation (PEL values) is determined by comparing the $PEQ_{avg}$ (Table 5) to the $PEL_{avg}$ and the $PEQ_{max}$ to the $PEL_{max}$ for each parameter. Based on this comparison, each parameter is placed in a defined "group". Parameters that do not have a water quality standard (WQS) or do not require a WLA based on the initial screening are assigned to either group 1 or 2. Parameters are assigned to group 3, 4, or 5 depending on how close the PEQ value is to the allocated value or PEL. The groupings listed in Tables 9-001 and 9-003 reflect the reasonable potential hazard assessment done according to WLA procedures.

***Whole Effluent Toxicity WLA***

Whole effluent toxicity or "WET" is the total toxic effect of an effluent on aquatic life measured directly with a toxicity test. Acute WET measures short term effects of the effluent while chronic WET measures longer term and potentially more subtle effects of the effluent.

Water Quality Standards for WET are expressed in Ohio's narrative "free from" WQS rule (OAC 3745-1-04(D)). These "free froms" are translated into toxicity units (TUs) by the associated WQS Implementation Rule (OAC 3745-2-09). Wasteload allocations can then be calculated using TUs as if they were water quality criteria.

The wasteload allocation calculations for WET are similar to those for aquatic life criteria - using the chronic toxicity unit ($TU_c$) and 7Q10 flow for the average and the acute toxicity unit ($TU_a$) and 1Q10 flow for the maximum for flowing streams. However, in accordance with the Rule 3745-2-09 of the OAC, the AET for acute toxicity is set equal to 1.0 $TU_a$ for lake dischargers. For the Avon Lake Power Plant, the wasteload allocations are 1.0 $TU_a$ and 11.0 $TU_c$ for outfalls 001, 002, and 004.

## Effluent Limits/Hazard Management Decisions

The final effluent limits are determined by evaluating the groupings in conjunction with other applicable rules and regulations. Tables 11-001, 11-002, 11-004, 11-604, 11-610, 11-611 and 11-612 show the draft NPDES permit limits and monitoring requirements for the Avon Lake Power Plant.

Federal and State laws/regulation require that dischargers meet both treatment-technology-based limits and any more stringent standards needed to comply with state WQS. Permit limits are based on the more restrictive of the two. Treatment-technology-based limits for the Avon Lake Power Plant, found in 40 CFR Part 423, Steam Electric Power Generating Point Source Category, are based on the milligrams of pollutant allowed to be discharged per liter. (See Attachment A for technology-based limits applicable to the Avon Lake Power Plant.)

The limits and monitoring requirements for each outfall are discussed in detail below and the corresponding "Final Effluent Limits" table is referenced.

## Outfall 001: Table 11-001

The Ohio EPA risk assessment (Table 10-001) places total residual chlorine in Group 5, and recommends limits to protect water quality. However, the maximum daily limit of 0.038 mg/l for chlorine has not been included in the permit since the Avon Lake Power Plant restricts the use of chlorine at this outfall to less than two hours per day. (See the discussion below.)

Monitoring for water temperature, total residual oxidants, flow rate, total residual chlorine, pH, and duration of chlorination/bromination have been continued in the draft permit. Since the discharge from this outfall is non-contact cooling water, it is important to monitor the temperature of the wastewater as it enters Lake Erie. Total residual chlorine includes a limit of 0.2 milligrams per liter (mg/l), which allows chlorination at this outfall for not more than two hours each day, and is based upon the Federal Effluent Guidelines for steam-electric power plants. The limit of 0.05 mg/l for total residual oxidants, which is based upon best professional judgement regarding the relative toxicity of bromine, allows the Avon Lake Power Plant to discharge bromine, or bromine and chlorine compounds for not more than two hours per day. Limits for pH are also proposed to continue.

Figure 4 shows that the discharge temperature at outfall 001 ranges from approximately 30 °F to slightly more than 100 °F. The maximum differential between the intake and outfall temperatures is approximately 25 °F. Based upon this information, Ohio EPA believes that reasonable potential for temperature is not triggered at outfall 001 by this discharge.

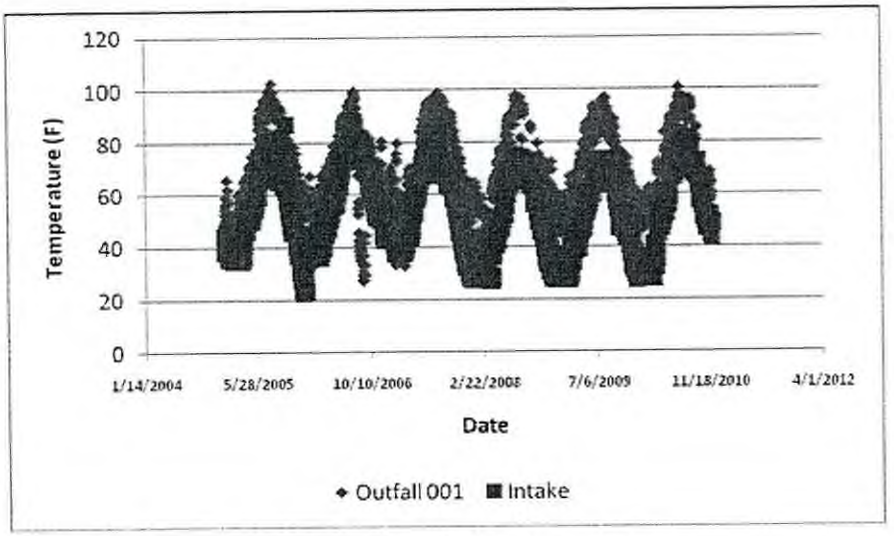



Figure 4. Temperature: Intake vs. Outfall 001 (2005 – 2010)

Several additional parameters with water quality criteria (aluminum, ammonia, barium, chromium, copper, iron, manganese, nickel, and titanium) were detected in the effluent from outfall 001, but were not allocated since the concentration of the pollutant was less than 110 percent of its concentration in the intake water.[2] This determination has been made in accordance with Rule 3745-2-06 of the Ohio Administrative Code, and has been based upon the data reported in the NPDES permit renewal application.

## Outfall 002: Table 11-002

***Total Residual Chlorine.*** The Ohio EPA risk assessment (Table 10-002) places total residual chlorine in Group 5, and recommends limits to protect water quality. However, this assessment is based upon only one sample which may not be representative of effluent quality. Based on the discretion which is

[2] A threshold of 110 percent has been used in order to allow for possible sampling and/or analytical error.

granted to the Director under rule 3745-33-07(A) of the Ohio Administrative Code, monitoring only has been proposed for this parameter.

***Mercury***. Mercury has also been placed in Group 5, and in anticipation of receiving a limit for this pollutant, the permittee has applied for coverage under the general mercury variance, Rule 3745-33-07(D)(10) of the Ohio Administrative Code. Based on the results of low-level mercury monitoring, the permittee has determined that its wastewater treatment plant cannot meet the 30-day average water quality-based effluent limit (WQBEL) of 1.3 nanograms per liter (ng/l). However, the permittee believes that the plant will be able to achieve an annual average mercury effluent concentration of 12 ng/l. The variance application also demonstrated to the satisfaction of Ohio EPA that there is no readily apparent means of complying with the WQBEL without constructing prohibitively expensive end-of-pipe controls for mercury. Based on these factors, the permittee is eligible for coverage under the general mercury variance.

Ohio EPA has reviewed the mercury variance application and has determined that it meets the requirements of the Ohio Administrative Code. Items K and L in Part II of the draft NPDES permit list the provisions of the mercury variance, and includes the following requirements:

- A variance-based monthly average effluent limit of 8.0 ng/l, which was developed from sampling data submitted by the permittee;
- A requirement that the permittee make reasonable progress to meet the water-quality-based effluent limit for mercury by implementing the plan of study, which has been developed as part of the Pollutant Minimization Program (PMP);
- Low-level mercury monitoring of the plant's influent and effluent;
- A requirement that the annual average mercury effluent concentration is less than or equal to 12 ng/l as specified in the plan of study;
- A summary of the elements of the plan of study;
- A requirement to submit an annual report on implementation of the PMP; and
- A requirement for submittal of a certification stating that all permit conditions related to implementing the plan of study and the PMP have been satisfied, but that compliance with the monthly average water quality-based effluent limit for mercury has not been achieved.

The permit also includes a new monitoring station (Station 601) to record the mercury concentration of the influent of the wastewater to the ash settling basin prior to any treatment. Mercury samples for station 601 must be collected one detention time prior to samples collected for outfall 002 in order to provide data which is appropriate for determining the mercury removal rate in the ash settling basin. The Avon Lake Power Plant is required to continue using EPA Method 1631 for mercury analysis due to the phase-out of the use of mixing zones for development of wasteload allocations for pollutants such as mercury.[3]

***Copper.*** The Ohio EPA risk assessment places copper in group 4. This placement as well as the data in Tables 5 and 6 indicate that this pollutant should not pose environmental hazards and limits are not necessary to protect water quality. Monitoring for Group 4 parameters is required in accordance with the Ohio Administrative Code and has been included in the draft permit.

[3] As of November 15, 2010, the use of mixing zones to determine the waste load allocation for bioaccumulative chemicals of concern (BCCs) was no longer allowed. This means that limits for BCCs after November 2010 must meet water quality standards with no allowances for dilution. Since mercury is considered a BCC, discharges must comply with water quality standards at that time.

***pH.*** Three new parameters have been added to the effluent table for this outfall to report exceedances of pH limits. The addition of these parameters replaces the language in Part II of the permit for reporting pH exceedances.

***Total Suspended Solids and Oil & Grease.*** Limits for total suspended solids (TSS) and oil & grease at this outfall have been continued from the existing permit, and are based upon the Federal Effluent Guidelines for steam-electric generating stations. Loading limits are based upon a flow rate of 3.38 MGD.

**Outfall 004: Table 11-004**

***Total Residual Chlorine and Total Residual Oxidants***. The Ohio EPA risk assessment places total residual chlorine in Group 5. This placement as well as the data in Tables 5 and 6 indicate that limits are necessary to protect water quality. The parameter assessment for this pollutant is based upon only one sample which would not normally result in a permit limit. However, limits for both total residual chlorine and total residual oxidants were included in the existing permit to allow the discharge of additives which contain chlorine and/or bromine, and these limits are proposed to continue in this permit.

***Copper***. The Ohio EPA risk assessment places copper in group 4. This placement as well as the data in Tables 5 and 6 indicate that this pollutant should not pose environmental hazards and limits are not necessary to protect water quality. Monitoring for Group 4 parameters is required in accordance with the Ohio Administrative Code and has been included in the draft permit.

***Total Suspended Solids, Oil & Grease, pH, and Flow Rate***. Limits for total suspended solids (TSS), oil and grease, and pH have been continued at this outfall from the existing permit, and are based upon the Federal Effluent Guidelines for steam-electric generating stations. Three new parameters have been added to the effluent table for this outfall to report exceedances of pH limits. The addition of these parameters replaces the language in Part II of the permit for reporting pH exceedances. Loading limits for TSS and oil and grease are based upon a flow rate of 3.35 MGD. Flow rate monitoring is also required.

**Outfall 604: Table 11-604**

The draft permit includes limits for total suspended solids and oil and grease, and monitoring for pH at this outfall which discharges boiler blowdown. These requirements are based upon the Federal Effluent Guidelines. The requirements for this outfall are proposed to continue from the existing permit.

**Outfall 610: Table 11-610**

This outfall discharges wastewater from coal-pile run-off. The limits for total suspended solids and the monitoring requirements for pH are based upon the Federal Effluent Guidelines. The requirements for this outfall are proposed to continue from the existing permit.

**Outfall 611: Table 11-611**

This is a fictitious outfall which is used only when the coal-pile run-off treatment system is used to treat the metal cleaning wastes. The requirements for this outfall are proposed to continue from the existing

permit. However, in order to be consistent with the Federal Effluent Guidelines, limits have also been added to this table for iron and copper.

**Outfall 612: Table 11-612**

This outfall discharges wastewater from the heat exchanger for unit #9. Based upon best engineering judgement, the monitoring requirements for this outfall are proposed to continue from the existing permit.

## Impingement/Entrainment Reductions

The permit includes a condition in Part II requiring the Avon Lake Power Plant to comply with Section 316(b) of the Clean Water Act and any rules promulgated to implement Section 316(b).

## Other Requirements

Parts IV, V, and VI have been included in the permit in order for the facility to address all storm water management issues at the site. Also, a requirement for placement of signage at all outfall locations discharging into Lake Erie has been added to Part II of the permit in accordance with rule 3745-33-08(A) of the Ohio Administrative Code.

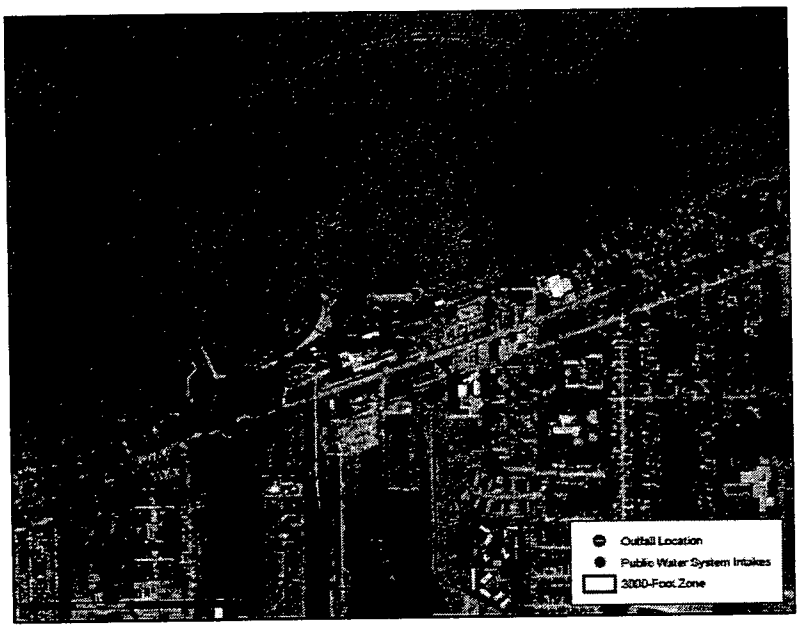


Figure 5. Avon Lake Power Plant Outfalls vs. Water Supply Intakes

An addition to rule 3745-33-08 of the Ohio Administrative Code requires that permittees discharging wastewater into a lake within 3000 feet of a public water supply intake, must develop spill (or bypass) notification procedures in conjunction with the public water supply operator. Since the City of Avon Lake operates three public water supply intakes less than 3000 feet from the power plant outfalls (see Figure , Part II, Item O of the draft permit requires the development of notification procedures within six months after the effective date of the permit.

## Whole Effluent Toxicity Reasonable Potential

During the term of the existing permit, the Avon Lake Power Plant conducted 16 acute toxicity tests using the effluent from outfall 004 using *Ceriodaphnia dubia* and fathead minnows for the test species. Only one test was reported with a value above 0.2 $TU_a$ (0.7 $TU_a$ for fathead minnows on June 20, 2007). Since the test on June 20, 2007 may not be representative of effluent quality, Ohio EPA has determined that reasonable potential for acute toxicity does not exist at this outfall, and additional toxicity monitoring is not recommended at this time.

**Table 4. Effluent Characterization Based Upon Permit Renewal Application**

| Parameter | No. of Samples | Concentration |
|---|---|---|
| | | |
| ***Outfall 001*** | | |
| Aluminum (ug/l) | 1 | 423. |
| Ammonia (mg/l) | 1 | 0.119 |
| Barium (ug/l) | 1 | 23.2 |
| Biochemical Oxygen Demand (mg/l) | 1 | 1.0 |
| Boron (ug/l) | 1 | 64.3 |
| Bromide (mg/l) | 1 | 0.017 |
| Chemical Oxygen Demand (mg/l) | 1 | 11.5 |
| Chlorine, Total Residual (mg/l) | 1 | 0.09 |
| Chromium (ug/l) | 1 | 1.1 |
| Copper (ug/l) | 1 | 7.2 |
| Fluoride (mg/l) | 1 | < 0.003 |
| Iron (ug/l) | 1 | 614 |
| Magnesium (mg/l) | 1 | 8.8 |
| Manganese (ug/l) | 1 | 20. |
| Methylene Chloride (ug/l) | 1 | 1.67 |
| Molybdenum (ug/l) | 1 | < 2.44 |
| Nickel (ug/l) | 1 | 2.35 |
| Nitrate-Nitrite as N (mg/l) | 1 | 0.132 |
| Nitrogen, Total Organic as N (mg/l) | 1 | 0.7 |
| Phosphorus (mg/l) | 1 | 0.042 |
| Sulfate (mg/l) | 1 | 42.6 |
| Thallium (ug/l) | 1 | 2.5 |
| Titanium (mg/l) | 1 | 5.85 |
| Total Orgainc Carbon (mg/l) | 1 | 3.63 |
| Total Suspended Solids (mg/l) | 1 | 18. |
| Zinc (ug/l) | 1 | 15.5 |
| | | |
| | | |
| ***Outfall 002*** | | |
| Aluminum (ug/l) | 1 | 327. |
| Ammonia (mg/l) | 1 | 0.18 |
| Arsenic (ug/l) | 1 | 3.35 |
| Barium (ug/l) | 1 | 78.8 |
| Biochemical Oxygen Demand (mg/l) | 1 | 8. |
| Boron (ug/l) | 1 | 104. |
| Bromide (mg/l) | | |
| Chemical Oxygen Demand (mg/l) | 1 | 20.8 |
| Chlorine, Total Residual (mg/l) | 1 | 0.33 |
| Chromium (ug/l) | 1 | 1.2 |
| Copper (ug/l) | 1 | 1.8 |
| Dimethyl Phthalate (ug/l) | 1 | 11.6 |
| Fluoride (mg/l) | 1 | 0.256 |
| Iron (ug/l) | 1 | 278. |

**Table 4. Effluent Characterization Based Upon Permit Renewal Application**

| Parameter | No. of Samples | Concentration |
|---|---|---|
| | | |
| Magnesium (mg/l) | 1 | 9.58 |
| Manganese (ug/l) | 1 | 7.5 |
| Molybdenum (ug/l) | 1 | 4.4 |
| Nickel (ug/l) | 1 | 1.55 |
| Nitrate-Nitrite as N (mg/l) | 1 | 2.27 |
| Nitrogen, Total Organic as N (mg/l) | 1 | 2.74 |
| Phosphorus (mg/l) | 1 | 0.076 |
| Sulfate (mg/l) | 1 | 40. |
| Titanium (mg/l) | 1 | 6.45 |
| Total Organic Carbon (mg/l) | 1 | 4.04 |
| Total Suspended Solids (mg/l) | 1 | 4. |
| | | |
| | | |
| ***Outfall 004*** | | |
| Aluminum (ug/l) | 1 | 213. |
| Barium (ug/l) | 1 | 23.2 |
| Biochemical Oxygen Demand (mg/l) | 1 | 1. |
| Boron (ug/l) | 1 | 26.4 |
| Chemical Oxygen Demand (mg/l) | 1 | 20.2 |
| Chlorine, Total Residual (mg/l) | 1 | 0.03 |
| Copper (ug/l) | 1 | 2.25 |
| Dimethyl Phthalate (ug/l) | 1 | 11.8 |
| Fluoride (mg/l) | 1 | 0.364 |
| Iron (ug/l) | 1 | 293. |
| Magnesium (mg/l) | 1 | 9.28 |
| Manganese (ug/l) | 1 | 6.35 |
| Methyl Chloride (ug/l) | 1 | 1.71 |
| Molybdenum (ug/l) | 1 | 2.6 |
| Nickel (ug/l) | 1 | 1.7 |
| Nitrate-Nitrite as N (mg/l) | 1 | 1.44 |
| Nitrogen, Total Organic as N (mg/l) | 1 | 0.61 |
| Phosphorus (mg/l) | 1 | 0.025 |
| Sulfate (mg/l) | 1 | 32.5 |
| Titanium (mg/l) | 1 | 3.3 |
| Total Organic Carbon (mg/l) | 1 | 3.26 |
| | | |
| | | |
| ***Intake Station 800*** | | |
| Aluminum (ug/l) | 1 | 650. |
| Ammonia (mg/l) | 1 | 0.16 |
| Arsenic (ug/l) | 1 | 2.1 |
| Barium (ug/l) | 1 | 23.9 |
| Biochemical Oxygen Demand (mg/l) | 1 | 1. |
| Boron (ug/l) | 1 | 24.4 |

**Table 4. Effluent Characterization Based Upon Permit Renewal Application**

| Parameter | No. of Samples | Concentration |
|---|---|---|
| | | |
| Chemical Oxygen Demand (mg/l) | 1 | 21.8 |
| Chlorine, Total Residual (mg/l) | 1 | 0.08 |
| Chromium (ug/l) | 1 | 1.15 |
| Copper (ug/l) | 1 | 7.9 |
| Dimethyl Phthalate (ug/l) | 1 | 11.7 |
| Fluoride (mg/l) | 1 | 0.195 |
| Iron (ug/l) | 1 | 1020. |
| Lead (ug/l) | 1 | 2.45 |
| Magnesium (mg/l) | 1 | 8.36 |
| Manganese (ug/l) | 1 | 38.6 |
| Nickel (ug/l) | 1 | 2.15 |
| Nitrate-Nitrite as N (mg/l) | 1 | 0.808 |
| Nitrogen, Total Organic as N (mg/l) | 1 | 0.3 |
| Phosphorus (mg/l) | 1 | 0.021 |
| Sulfate (mg/l) | 1 | 23.5 |
| Titanium (mg/l) | 1 | 9.8 |
| Total Organic Carbon (mg/l) | 1 | 3.33 |
| Total Suspended Solids (mg/l) | 1 | 35. |
| Zinc (ug/l) | 1 | 10.8 |
| | | |

**Table 5.** **Effluent Characterization and Decision Criteria: January 2005 – August 2010**

Summary of analytical results for Outfalls 001, 002, and 004, and Intake Station 800. All values are in µg/l unless otherwise indicated. ND = below detection (detection limit); NA = not analyzed. Decision Criteria: $PEQ_{avg}$ = monthly averages; $PEQ_{max}$ = daily maximum analytical results.

| Parameter | Season | Units | Current Permit Limits | | # Obs. | Percentiles | | Data Range | Decision Criteria | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 30 day | Daily | | 50th | 95th | | # Obs. | $PEQ_{avg}$ | $PEQ_{max}$ |
| **Outfall 001** | | | | | | | | | | | |
| Water Temperature | Annual | F | Monitor only | | 2069 | 68.1 | 95.1 | 27.3-200 | | | |
| pH | Annual | S.U. | 6.0 <= pH <= 9.0 | | 68 | 7.87 | 8.2 | 7.48-8.49 | | | |
| Selenium, Total Recoverable | Annual | ug/l | | | 19 | 0 | 0 | 0-0 | 19 | -- | -- |
| Selenium, Total Recoverable | Annual | kg/day | | | 19 | 0 | 0 | 0-0 | | | |
| Thallium, Total Recoverable | Annual | ug/l | Monitor only | | 68 | 0 | 0 | 0-0 | 68 | -- | -- |
| Thallium, Total Recoverable | Annual | kg/day | | | 68 | 0 | 0 | 0-0 | | | |
| Copper, Total Recoverable | Annual | ug/l | | | 19 | 0 | 0.00139 | 0-0.0139 | 10 | 0.01725 | 0.02363 |
| Copper, Total Recoverable | Annual | kg/day | | | 19 | 0 | 0.00199 | 0-0.0199 | | | |
| Flow Rate | Summer | MGD | | | 1043 | 475 | 599 | 0-599 | | | |
| Flow Rate | Winter | MGD | | | 1026 | 379 | 440 | 3.42-599 | | | |
| Flow Rate | Annual | MGD | Monitor only | | 2069 | 379 | 599 | 0-599 | | | |
| **Outfall 002** | | | | | | | | | | | |
| Total Suspended Solids | Annual | mg/l | 30 | 100 | 826 | 5 | 28 | 0-139 | 826 | 14.018 | 28.779 |
| Total Suspended Solids | Annual | kg/day | 384 | 1279 | 824 | 14.8 | 106 | 0-332 | | | |
| Oil and Grease, Total | Annual | mg/l | 15 | 20 | 275 | 0 | 0 | 0-3.22 | 37 | 2.586 | 3.542 |
| Oil and Grease, Total | Annual | kg/day | 192 | 256 | 275 | 0 | 0 | 0-12.9 | | | |
| Copper, Total Recoverable | Annual | ug/l | Monitor only | | 69 | 0 | 0 | 0-31.2 | 69 | 22.78 | 31.2 |
| Copper, Total Recoverable | Annual | kg/day | | | 69 | 0 | 0 | 0-0.1 | | | |
| Flow Rate | Summer | MGD | | | 1043 | 0.85 | 1.34 | 0.08-6.7 | | | |
| Flow Rate | Winter | MGD | | | 1022 | 0.95 | 1.52 | 0.09-9.88 | | | |
| Flow Rate | Annual | MGD | Monitor only | | 2065 | 0.89 | 1.4 | 0.08-9.88 | | | |

**Table 5.** **Effluent Characterization and Decision Criteria: January 2005 – August 2010**

Summary of analytical results for Outfalls 001, 002, and 004, and Intake Station 800. All values are in µg/l unless otherwise indicated. ND = below detection (detection limit); NA = not analyzed. Decision Criteria: $PEQ_{avg}$ = monthly averages; $PEQ_{max}$ = daily maximum analytical results.

| Parameter | Season | Units | Current Permit Limits | | # Obs | Percentiles | | Data Range | Decision Criteria | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 30 day | Daily | | 50th | 95th | | # Obs | $PEQ_{avg}$ | $PEQ_{max}$ |
| **Outfall 001** | | | | | | | | | | | |
| Mercury, Total (Low Level) | Annual | ng/l | Monitor only | | 24 | 0.967 | 6.3 | 0-15.2 | 24 | 8.0029 | 13.16 |
| Mercury, Total (Low Level) | Annual | kg/day | | | 24 | 3.84E-06 | 1.28E-05 | 0-0.0000575 | | | |
| pH, Maximum | Annual | S.U. | Not more than 9.0 | | 2057 | 8 | 8.48 | 7.34-11.8 | | | |
| pH, Minimum | Annual | S.U. | Not less than 6.0 | | 2056 | 7.5 | 7.5 | 3-7.98 | | | |
| **Outfall 004** | | | | | | | | | | | |
| Total Suspended Solids | Annual | mg/l | 30 | 100 | 549 | 4 | 28.2 | 0-86 | 549 | 18.262 | 31.455 |
| Total Suspended Solids | Annual | kg/day | 380 | 1268 | 549 | 16.4 | 120 | 0-376 | | | |
| Oil and Grease, Total | Annual | mg/l | 15 | 20 | 546 | 0 | 0 | 0-13.3 | 546 | 1.4273 | 2.011 |
| Oil and Grease, Total | Annual | kg/day | 190 | 254 | 546 | 0 | 0 | 0-99.2 | | | |
| Selenium, Total Recoverable | Annual | ug/l | Monitor only | | 68 | 0 | 0 | 0-1.34 | 11 | 1.663 | 2.278 |
| Selenium, Total Recoverable | Annual | kg/day | | | 68 | 0 | 0 | 0-0.0108 | | | |
| Copper, Total Recoverable | Annual | ug/l | Monitor only | | 274 | 0 | 16.7 | 0-286 | 273 | 20.318 | 26.317 |
| Copper, Total Recoverable | Annual | kg/day | | | 274 | 0 | 0.0683 | 0-0.671 | | | |
| Flow Rate | Summer | MGD | | | 1043 | 1.16 | 2.14 | 0.04-2.76 | | | |
| Flow Rate | Winter | MGD | | | 1026 | 1 | 1.54 | 0.01-1.86 | | | |
| Flow Rate | Annual | MGD | Monitor only | | 2069 | 1.07 | 1.9 | 0.01-2.76 | | | |
| Acute Toxicity, Ceriodaphnia dubia | Annual | TUa | | 1.0 | 16 | 0 | 0.05 | 0-0.2 | | | |
| Acute Toxicity, Pimephales promelas | Annual | TUa | | 1.0 | 16 | 0 | 0.325 | 0-0.7 | | | |
| pH, Maximum | Annual | S.U. | Not more than 9.0 | | 2062 | 7.74 | 8.39 | 7.45-12 | | | |
| pH, Minimum | Annual | S.U. | Not less than 6.0 | | 2055 | 7.34 | 7.5 | 3-7.5 | | | |

**Table 5.** **Effluent Characterization and Decision Criteria: January 2005 – August 2010**

Summary of analytical results for Outfalls 001, 002, and 004, and Intake Station 800. All values are in µg/l unless otherwise indicated. ND = below detection (detection limit); NA = not analyzed. Decision Criteria: $PEQ_{avg}$ = monthly averages; $PEQ_{max}$ = daily maximum analytical results.

| Parameter | Season | Units | Current Permit Limits | | # Obs. | Percentiles | | Data Range | Decision Criteria | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 30 day | Daily | | 60th | 95th | | # Obs. | $PEQ_{ave}$ | $PEQ_{max}$ |
| **Outfall 001** | | | | | | | | | | | |
| **Outfall 800** | | | | | | | | | | | |
| Water Temperature | Annual | F | | | 2047 | 52.6 | 79.2 | 22.5-88.1 | | | |
| Total Suspended Solids | Annual | mg/l | | | 298 | 9 | 85.4 | 0-222 | | | |

**Table 6.** **Effluent Data for the Avon Lake Power Plant**

| Parameter | Units | Number of Samples | Number > MDL | PEQ Average | PEQ Maximum |
|---|---|---|---|---|---|
| ***Outfall 001*** | | | | | |
| Boron * | ug/l | 1 | 1 | 291.0218 | 398.66 |
| Bromide * | mg/l | 1 | 1 | 0.076942 | 0.1054 |
| Copper – TR | ug/l | 10 | 1 | 0.0172499 | 0.02363 |
| Chlorine – Tres * | mg/l | 1 | 1 | 0.40734 | 0.558 |
| Magnesium * | mg/l | 1 | 1 | 39.8288 | 54.56 |
| Methylene chloride * | ug/l | 1 | 1 | 7.55842 | 10.354 |
| Selenium - TR | ug/l | 19 | 0 | -- | -- |
| Sulfates * | mg/l | 1 | 1 | 192.8076 | 264.12 |
| Thallium * | ug/l | 1 | 1 | 11.315 | 15.5 |
| Zinc – TR * | ug/l | 1 | 1 | 70.153 | 96.1 |
| ***Outfall 002*** | | | | | |
| Aluminum * | ug/l | 1 | 1 | 1480.002 | 2027.4 |
| Ammonia-S * | mg/l | 1 | 1 | 0.81468 | 1.116 |
| Arsenic – TR * | ug/l | 1 | 1 | 15.1621 | 20.77 |
| Barium * | ug/l | 1 | 1 | 356.6488 | 488.56 |
| Boron * | ug/l | 1 | 1 | 470.704 | 644.8 |
| Chlorine – Tres * | mg/l | 1 | 1 | 1.49358 | 2.046 |
| Copper – TR | ug/l | 69 | 2 | 22.776 | 31.2 |
| Dimethyl phthalate * | ug/l | 1 | 1 | 52.5016 | 71.92 |
| Fluoride * | mg/l | 1 | 1 | 1.158656 | 1.5872 |
| Magnesium * | mg/l | 1 | 1 | 43.35908 | 59.396 |
| Manganese – TR * | ug/l | 1 | 1 | 33.945 | 46.5 |
| Mercury - TR | ng/l | 24 | 15 | 8.0029 | 13.16 |
| Molybdenum * | ug/l | 1 | 1 | 19.9144 | 27.28 |
| Nickel – TR * | ug/l | 1 | 1 | 7.0153 | 9.61 |
| Nitrate-N + Nitrite-N * | mg/l | 1 | 1 | 10.27402 | 14.074 |
| Sulfates * | mg/l | 1 | 1 | 181.04 | 248 |
| ***Outfall 004*** | | | | | |
| Aluminum * | ug/l | 1 | 1 | 964.038 | 1320.6 |
| Barium * | ug/l | 1 | 1 | 105.0032 | 143.84 |
| Boron * | ug/l | 1 | 1 | 119.4864 | 163.68 |
| Chlorine – Tres * | mg/l | 1 | 1 | 0.13578 | 0.186 |
| Copper – TR | ug/l | 273 | 60 | 20.318 | 26.317 |
| Dimethyl phthalate * | ug/l | 1 | 1 | 53.4068 | 73.16 |

**Table 6.** **Effluent Data for the Avon Lake Power Plant**

| Parameter | Units | Number of Samples | Number > MDL | PEQ Average | PEQ Maximum |
|---|---|---|---|---|---|
| Fluoride * | mg/l | 1 | 1 | 1.647464 | 2.2568 |
| Iron – TR * | ug/l | 1 | 1 | 1326.118 | 1816.6 |
| Magnesium * | mg/l | 1 | 1 | 42.00128 | 57.536 |
| Manganese – TR * | ug/l | 1 | 1 | 28.7401 | 39.37 |
| Methyl chloride * | ug/l | 1 | 1 | 7.73946 | 10.602 |
| Molybdenum * | ug/l | 1 | 1 | 11.7676 | 16.12 |
| Nickel – TR * | ug/l | 1 | 1 | 7.6942 | 10.54 |
| Nitrate-N + Nitrite-N * | mg/l | 1 | 1 | 6.51744 | 8.928 |
| Selenium - TR | ug/l | 11 | 1 | 1.66294 | 2.278 |
| Sulfates * | mg/l | 1 | 1 | 147.095 | 201.5 |

* The dataset for this parameter is based upon the NPDES permit renewal application.

**Table 7.** **Water Quality Criteria in the Study Area**

| Parameter | Units | Outside Mixing Zone Criteria | | | | | Inside Mixing Zone Maximum |
|---|---|---|---|---|---|---|---|
| | | Average | | | | Maximum | |
| | | Wildlife | Human Health | Agri-culture | Aquatic Life | Aquatic Life | |
| Aluminum | ug/l | -- | 4500 | -- | -- | -- | -- |
| Ammonia-S | mg/l | -- | -- | -- | -- | -- | -- |
| Ammonia-W | mg/l | -- | -- | -- | -- | -- | -- |
| Arsenic - TR | ug/l | -- | 580 | 100 | 150 | 340 | 680 |
| Barium | ug/l | -- | 160000 | -- | 220 | 2000 | 4000 |
| Boron | ug/l | -- | 200000 | -- | 3900 | 33000 | 65000 |
| Bromide | mg/l | -- | -- | -- | -- | -- | -- |
| Chlorine - TRes | mg/l | -- | -- | -- | 0.011 | 0.019 | 0.038 |
| Copper - TR | ug/l | -- | 64000 | 500 | 12 | 19 | 38 |
| Dimethyl phthalate | ug/l | -- | -- | -- | 1100 | 3200 | 6400 |
| Fluoride | mg/l | -- | -- | 2 | -- | -- | -- |
| Iron - TR | ug/l | -- | -- | 5000 | -- | -- | -- |
| Lead - TR | ug/l | -- | -- | 100 | 9.9 | 190 | 380 |
| Magnesium | mg/l | -- | -- | -- | -- | -- | -- |
| Manganese - TR | ug/l | -- | 61000 | -- | -- | -- | -- |
| Mercury - TR | ng/l | 1.3 | 3.1 | 10000 | 910 | 1700 | 3400 |
| Methyl chloride | ug/l | -- | 7300[c] | -- | -- | -- | -- |
| Methylene chloride | ug/l | -- | 2600[c] | -- | 1900 | 11000 | 22000 |
| Molybdenum | ug/l | -- | 10000 | -- | 20000 | 190000 | 370000 |
| Nickel - TR | ug/l | -- | 43000 | 200 | 69 | 620 | 1200 |
| Nitrate-N + Nitrite-N | mg/l | -- | -- | 100 | -- | -- | -- |
| Selenium - TR | ug/l | -- | 3100 | 50 | 5 | -- | -- |
| Sulfates | mg/l | -- | -- | -- | -- | -- | -- |
| Thallium | ug/l | -- | -- | -- | 17 | 79 | 160 |
| Zinc - TR | ug/l | -- | 35000 | 25000 | 160 | 160 | 320 |

[c] This criterion is based upon a carcinogenic endpoint.

**Table 8. Instream Conditions and Discharger Flow**

| Parameter | Units | Season | Value | Basis |
|---|---|---|---|---|
| *Hardness* | mg/l | annual | 140 | Background Water Quality Report |
| *Avon Lake Power Plant flow* | | | | |
| Outfall 001 | cfs | annual | 612 | Previous WLA |
| Outfall 002 | cfs | annual | 5.23 | Previous WLA |
| Outfall 004 | cfs | annual | 5.18 | Previous WLA |
| *Background Water Quality* | | | | |
| Aluminum | ug/l | | 330 | n=640; 146<MDL * |
| Ammonia-S | mg/l | | 0.05 | n=3172; 1307<MDL * |
| Ammonia-W | mg/l | | 0.025 | n=740; 336<MDL * |
| Arsenic - TR | ug/l | | 0 | No representative data available. |
| Barium | ug/l | | 67 | ** |
| Boron | ug/l | | 0 | No representative data available. |
| Bromide | mg/l | | 0 | No representative data available. |
| Chlorine - TRes | mg/l | | 0 | No representative data available. |
| Copper - TR | ug/l | | 5 | n=2867; 1597<MDL * |
| Dimethyl phthalate | ug/l | | 0 | No representative data available. |
| Fluoride | mg/l | | 0 | No representative data available. |
| Iron - TR | ug/l | | 650 | n=3018; 15<MDL * |
| Lead - TR | ug/l | | 2 | n=2814; 1458<MDL * |
| Magnesium | mg/l | | 22.5 | n=2604; 3<MDL * |
| Manganese - TR | ug/l | | 0 | No representative data available. |
| Mercury - TR | ng/l | | 0 | No representative data available. |
| Methyl chloride | ug/l | | 0 | No representative data available. |
| Methylene chloride | ug/l | | 0 | No representative data available. |
| Molybdenum | ug/l | | 0 | No representative data available. |
| Nickel - TR | ug/l | | 20 | n=1259; 1105<MDL * |
| Nitrate-N + Nitrite-N | mg/l | | 0.73 | n=5852; 515<MDL * |
| Selenium - TR | ug/l | | 0 | No representative data available. |
| Sulfates | mg/l | | 0 | No representative data available. |
| Thallium | ug/l | | 0 | No representative data available. |
| Zinc - TR | ug/l | | 15 | n=2284; 1117<MDL * |

* Source of data is the 50th percentile of statewide values from the "Background Water Quality Report." Samples were collected through February 1988.

** Source of data is the 50th percentile of Erie-Ontario Ecoregion reference sites sampled from 1999 through 2001. The 50th percentile value is based upon 348 observations.

## Table 9. Summary of Effluent Limits to Maintain Applicable WQ Criteria

| Parameter | Units | Outside Mixing Zone Criteria: Average: Wildlife | Average: Human Health | Average: Agri-culture | Aquatic Life: Maximum | Aquatic Life: Maximum | Inside Mixing Zone: Maximum |
|---|---|---|---|---|---|---|---|
| ***Outfall 001*** | | | | | | | |
| Boron | ug/l | -- | 2200000 | -- | 42900 | -- | 65000 |
| Bromide | mg/l | -- | -- | -- | -- | -- | -- |
| Chlorine - TRes | mg/l | -- | -- | -- | 0.12 | -- | 0.038 |
| Magnesium | mg/l | -- | -- | -- | -- | -- | -- |
| Methylene chloride | ug/l | -- | 28600 | -- | 20900 | -- | 22000 |
| Selenium - TR | ug/l | -- | 34100 | 550 | 55 | -- | -- |
| Sulfates | mg/l | -- | -- | -- | -- | -- | -- |
| Thallium | ug/l | -- | -- | -- | 187 | -- | 160 |
| Zinc - TR | ug/l | -- | 384850 | 274850 | 1610 | -- | 320 |
| ***Outfall 002*** | | | | | | | |
| Aluminum | ug/l | -- | 46200 | -- | -- | -- | -- |
| Ammonia-S | mg/l | -- | -- | -- | -- | -- | -- |
| Ammonia-W | mg/l | -- | -- | -- | -- | -- | -- |
| Arsenic - TR | ug/l | -- | 6380 | 1100 | 1650 | -- | 680 |
| Barium | ug/l | -- | 1759330 | -- | 1750 | -- | 4000 |
| Boron | ug/l | -- | 2200000 | -- | 42900 | -- | 65000 |
| Chlorine - TRes | mg/l | -- | -- | -- | 0.12 | -- | 0.038 |
| Copper - TR | ug/l | -- | 703950 | 5450 | 82 | -- | 38 |
| Dimethyl phthalate | ug/l | -- | -- | -- | 12100 | -- | 6400 |
| Fluoride | mg/l | -- | -- | 22 | -- | -- | -- |
| Lead - TR | ug/l | -- | -- | 1080 | 89 | -- | 380 |
| Magnesium | mg/l | -- | -- | -- | -- | -- | -- |
| Manganese - TR | ug/l | -- | 671000 | -- | -- | -- | -- |
| Mercury - TR [1] | ng/l | 14 | 34 | 110000 | 10010 | -- | 3400 |
| Mercury - TR [2] | ng/l | 1.3 | 3.1 | 10000 | 910 | -- | 3400 |
| Molybdenum | ug/l | -- | 110000 | -- | 220000 | -- | 370000 |
| Nickel - TR | ug/l | -- | 472800 | 2000 | 559 | -- | 1200 |
| Nitrate-N + Nitrite-N | mg/l | -- | -- | 1093 | -- | -- | -- |
| Sulfates | mg/l | -- | -- | -- | -- | -- | -- |
| Zinc - TR | ug/l | -- | 384850 | 274850 | 1610 | -- | 320 |
| ***Outfall 004*** | | | | | | | |
| Aluminum | ug/l | -- | 46200 | -- | -- | -- | -- |
| Barium | ug/l | -- | 1759330 | -- | 1750 | -- | 4000 |
| Boron | ug/l | -- | 2200000 | -- | 42900 | -- | 65000 |
| Chlorine - TRes | mg/l | -- | -- | -- | 0.12 | -- | 0.038 |
| Copper - TR | ug/l | -- | 703950 | 5450 | 82 | -- | 38 |
| Dimethyl phthalate | ug/l | -- | -- | -- | 12100 | -- | 6400 |

**Table 9. Summary of Effluent Limits to Maintain Applicable WQ Criteria**

| Parameter | Units | Outside Mixing Zone Criteria: Average: Wildlife | Average: Human Health | Average: Agri-culture | Average: Aquatic Life | Maximum: Aquatic Life | Inside Mixing Zone Maximum |
|---|---|---|---|---|---|---|---|
| Fluoride | mg/l | -- | -- | 22 | -- | -- | -- |
| Iron - TR | ug/l | -- | -- | 48500 | -- | -- | -- |
| Magnesium | mg/l | -- | -- | -- | -- | -- | -- |
| Manganese - TR | ug/l | -- | 671000 | -- | -- | -- | -- |
| Methyl chloride | ug/l | -- | 80300 | -- | -- | -- | -- |
| Molybdenum | ug/l | -- | 110000 | -- | 220000 | -- | 370000 |
| Nickel - TR | ug/l | -- | 472800 | 2000 | 559 | -- | 1200 |
| Nitrate-N + Nitrite-N | mg/l | -- | -- | 1093 | -- | -- | -- |
| Selenium - TR | ug/l | -- | 34100 | 550 | 55 | -- | -- |
| Sulfates | mg/l | -- | -- | -- | -- | -- | -- |

[1] These wasteload allocations are in effect until November 1, 2010, when mixing zones can no longer be used for developing wasteload allocations for bioaccumulative chemicals of concern such as mercury.
[2] These wasteload allocations are in effect after November 1, 2010, when mixing zones can no longer be used for developing wasteload allocations for bioaccumulative chemicals of concern such as mercury.

**Table 10-001. Parameter Assessment for Outfall 001**

*Group 1:* Due to a lack of criteria, the following parameters could not be evaluated at this time.

| | | |
|---|---|---|
| Bromide | Magnesium | Sulfates |

*Group 2:* PEQ < 25 percent of WQS or all data below minimum detection limit. WLA not required. No limit recommended; monitoring optional.

| | | |
|---|---|---|
| Boron | Copper - TR | Selenium - TR |
| Methylene chloride (Dichloromethane) | | |

*Group 3:* $PEQ_{max}$ < 50 percent of maximum PEL and $PEQ_{avg}$ < 50 percent of average PEL. No limit recommended; monitoring optional.

| | |
|---|---|
| Thallium | Zinc - TR |

*Group 4:* $PEQ_{max}$ >= 50 percent, but < 100 percent of the maximum PEL or $PEQ_{avg}$ >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

*Group 5:* Maximum PEQ >= 100 percent of the maximum PEL or average PEQ >= 100 percent of the average PEL, or either the average or maximum PEQ is between 75 and 100 percent of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

Limits to Protect Numeric Water Quality Criteria

| | | | Recommended Effluent Limits | |
|---|---|---|---|---|
| Parameter | Units | Period | Average | Maximum |
| Chlorine - TRes | mg/l | | -- | 0.038 |

**Table 10-002.** **Parameter Assessment for Outfall 002**

*Group 1:* Due to a lack of criteria, the following parameters could not be evaluated at this time.

| | |
|---|---|
| Magnesium | Sulfates |

*Group 2:* PEQ < 25 percent of WQS or all data below minimum detection limit. WLA not required. No limit recommended; monitoring optional.

| | | |
|---|---|---|
| Arsenic - TR | Boron | Lead - TR |
| Molybdenum | Nitrate-N + Nitrite-N | Zinc - TR |
| Dimethyl phthalate | Manganese - TR | Nickel - TR |

*Group 3:* $PEQ_{max}$ < 50 percent of maximum PEL and $PEQ_{avg}$ < 50 percent of average PEL. No limit recommended; monitoring optional.

| | | |
|---|---|---|
| Barium | Fluoride | Aluminum |

*Group 4:* $PEQ_{max}$ >= 50 percent, but < 100 percent of the maximum PEL or $PEQ_{avg}$ >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

| | |
|---|---|
| Copper - TR | Mercury - TR [1] |

*Group 5:* Maximum PEQ >= 100 percent of the maximum PEL or average PEQ >= 100 percent of the average PEL, or either the average or maximum PEQ is between 75 and 100 percent of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

Limits to Protect Numeric Water Quality Criteria

| | | | Recommended Effluent Limits | |
|---|---|---|---|---|
| Parameter | Units | Period | Average | Maximum |
| Chlorine - TRes | mg/l | | -- | 0.038 |
| Mercury - TR [2] | ng/l | | 1.3 | 3400 |

[1] This grouping was in effect until November 1, 2010, when mixing zones were no longer be used for developing wasteload allocations for bioaccumulative chemicals of concern such as mercury.
[2] This grouping is in effect after November 1, 2010, when mixing zones can no longer be used for developing wasteload allocations for bioaccumulative chemicals of concern such as mercury.

**Table 10-004. Parameter Assessment for Outfall 004**

*Group 1:* Due to a lack of criteria, the following parameters could not be evaluated at this time.

Magnesium
Sulfates

*Group 2:* PEQ < 25 percent of WQS or all data below minimum detection limit. WLA not required. No limit recommended; monitoring optional.

Methyl chloride
Aluminum
Manganese - TR
Molybdenum
Boron
Nickel - TR
Nitrate-N + Nitrite-N
Dimethyl phthalate

*Group 3:* $PEQ_{max}$ < 50 percent of maximum PEL and $PEQ_{avg}$ < 50 percent of average PEL. No limit recommended; monitoring optional.

Fluoride
Iron - TR
Selenium - TR
Barium

*Group 4:* $PEQ_{max}$ >= 50 percent, but < 100 percent of the maximum PEL or $PEQ_{avg}$ >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

Copper - TR

*Group 5:* Maximum PEQ >= 100 percent of the maximum PEL or average PEQ >= 100 percent of the average PEL, or either the average or maximum PEQ is between 75 and 100 percent of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

Limits to Protect Numeric Water Quality Criteria

| | | | Recommended Effluent Limits | |
|---|---|---|---|---|
| Parameter | Units | Period | Average | Maximum |
| Chlorine - TRes | mg/l | | -- | 0.038 |

**Table 11-001. Final Effluent Limits and Monitoring Requirements for Outfall 001**

| | | Effluent Limits | | | | |
|---|---|---|---|---|---|---|
| | | Concentration | | Loading (kg/day)[a] | | |
| Parameter | Units | 30 Day Average | Daily Maximum | 30 Day Average | Daily Maximum | Basis[b] |
| Water Temperature | °F | ---------- Monitor ---------- | | | | M[c] |
| pH | S.U. | ---------- 6.0 to 9.0 ---------- | | | | EP/BPT |
| Oxidants, Total Res. | mg/l | – | 0.05 | - | - | EP/BPJ |
| Flow | MGD | ---------- Monitor ---------- | | | | M[c] |
| Chlorine, Total Residual | mg/l | -- | 0.2 | - | - | EP/BAT |
| Chlorination/Bromination Duration | minutes | – | 120 | – | – | EP/BAT |

[b,c] See page 35 for definition of terms and explanation of monitoring requirements.

**Table 11-002. Final Effluent Limits and Monitoring Requirements for Outfall 002**

| | | Effluent Limits | | | | |
|---|---|---|---|---|---|---|
| | | Concentration | | Loading (kg/day)[a] | | |
| Parameter | Units | 30 Day Average | Daily Maximum | 30 Day Average | Daily Maximum | Basis[b] |
| Suspended Solids | mg/l | 30 | 100 | 384 | 1279 | EP/BPT |
| Oil and Grease | mg/l | 15 | 20 | 192 | 256 | EP/BPT |
| Copper | µg/l | ---------- Monitor ---------- | | | | M[c] /RP/BAT |
| Flow rate | MGD | ---------- Monitor ---------- | | | | M[c] /EP |
| Chlorine, Total Res. | mg/l | ---------- Monitor ---------- | | | | |
| Mercury | ng/l | 8.0 | 3400 | 0.00010 | 0.043 | MVAR |
| pH [d] | S.U. | ---------- Monitor ---------- | | | | EP/BPT |
| pH Range Excursions, Maximum Duration | Minutes | -- | 60 | -- | -- | BEJ |
| pH Range Excursions, > 60 min. | #/Day | -- | 0 | -- | -- | BEJ |
| pH Range Excursions, Monthly Total Duration | Minutes | -- | 446 | -- | -- | BEJ |

[a] Loadings are based upon a flow rate of 3.38 MGD.
[b,c] See page 35 for definition of terms and explanation of monitoring requirements.
[d] pH must be greater than or equal to 6.0 and less than or equal to 9.0 S.U.

**Table 11-004. Final Effluent Limits and Monitoring Requirements for Outfall 004**

| | | Effluent Limits | | | | |
|---|---|---|---|---|---|---|
| | | Concentration | | Loading (kg/day)[a] | | |
| Parameter | Units | 30 Day Average | Daily Maximum | 30 Day Average | Daily Maximum | Basis[b] |
| Suspended Solids | mg/l | 30 | 100 | 380 | 1268 | EP/BPT |
| Oil and Grease | mg/l | 15 | 20 | 190 | 254 | EP/BPT |
| Copper | µg/l | ---------- Monitor ---------- | | | | M[c] / WLA |
| Oxidants, Total Res. | mg/l | -- | 0.01 | -- | -- | EP/BPJ |
| Flow rate | MGD | ---------- Monitor ---------- | | | | M[c] /EP |
| Chlorine, Total Res. | mg/l | -- | 0.038 | -- | -- | EP/WQS |
| pH[d] | S.U. | ---------- Monitor ---------- | | | | EP/BPT |
| Chlorination/Bromination Duration | minutes | ---------- Monitor ---------- | | | | M[c] |
| pH Range Excursions, Maximum Duration | Minutes | -- | 60 | -- | -- | BEJ |
| pH Range Excursions, > 60 min. | #/Day | -- | 0 | -- | -- | BEJ |
| pH Range Excursions, Monthly Total Duration | Minutes | -- | 446 | -- | -- | BEJ |

[a] Loadings are based upon a flow rate of 3.35 MGD.
[b,c] See page 35 for definition of terms and explanation of monitoring requirements.
[d] pH must be greater than or equal to 6.0 and less than or equal to 9.0 S.U.

**Table 11-604. Final Effluent Limits and Monitoring Requirements for Outfall 604**

| | | Effluent Limits | | | | |
|---|---|---|---|---|---|---|
| | | Concentration | | Loading (kg/day)[a] | | |
| Parameter | Units | 30 Day Average | Daily Maximum | 30 Day Average | Daily Maximum | Basis[b] |
| pH | S.U. | ---------- Monitor ---------- | | | | EP/BPT |
| Suspended Solids | mg/l | 30 | 100 | -- | -- | EP/BPT |
| Oil and Grease | mg/l | 15 | 20 | -- | -- | EP/BPT |
| Flow rate | MGD | ---------- Monitor ---------- | | | | M[c] /EP |

[b,c] See page 35 for definition of terms and explanation of monitoring requirements.

**Table 11-610. Final Effluent Limits and Monitoring Requirements for Outfall 610**

| | | Effluent Limits | | | | |
|---|---|---|---|---|---|---|
| | | Concentration | | Loading (kg/day)[a] | | |
| Parameter | Units | 30 Day Average | Daily Maximum | 30 Day Average | Daily Maximum | Basis[b] |
| pH | S.U. | ---------- Monitor ---------- | | | | EP/BPT |
| Suspended Solids | mg/l | 50 | 50 | -- | -- | EP/BPT |
| Flow rate | MGD | ---------- Monitor ---------- | | | | M[c] /EP |

[b,c] See page 35 for definition of terms and explanation of monitoring requirements.

**Table 11-611. Final Effluent Limits and Monitoring Requirements for Outfall 611**

| | | Effluent Limits | | | | |
|---|---|---|---|---|---|---|
| | | Concentration | | Loading (kg/day)[a] | | |
| Parameter | Units | 30 Day Average | Daily Maximum | 30 Day Average | Daily Maximum | Basis[b] |
| pH | S.U. | ---------- Monitor ---------- | | | | EP/BPT |
| Suspended Solids | mg/l | 30 | 100 | -- | -- | EP/BPT |
| Oil and Grease | mg/l | 15 | 20 | -- | -- | EP/BPT |
| Iron | µg/l | 1000 | 1000 | -- | -- | M[c] /BPT |
| Copper | µg/l | 1000 | 1000 | -- | -- | M[c] /BPT |
| Flow rate | MGD | ---------- Monitor ---------- | | | | M[c] /EP |

[b,c] See page 3 for definition of terms and explanation of monitoring requirements.

**Table 11-612. Final Effluent Limits and Monitoring Requirements for Outfall 612**

| | | Effluent Limits | | | | |
|---|---|---|---|---|---|---|
| | | Concentration | | Loading (kg/day)[a] | | |
| Parameter | Units | 30 Day Average | Daily Maximum | 30 Day Average | Daily Maximum | Basis[b] |
| Oil and Grease | mg/l | ---------- Monitor ---------- | | | | M[c] /EP/BPT |
| Flow rate | MGD | ---------- Monitor ---------- | | | | M[c] /EP |

[b,c] See below for definition of terms and explanation of monitoring requirements.

[a] Loadings based upon an effluent flow rate of 2.3 MGD.

[b] Definitions:

**ABS** = Antibacksliding Rule (OAC 3745-33-05(E) and 40 CFR Part 122.44(l));
**AD** = Antidegradation (OAC 3745-1-05);
**BAT** = Best Available Technology economically achievable, Federal Effluent Guidelines, 40 CFR Part 423;
**BPJ** = Best Professional Judgment;
**BPT** = Best Practicable control Technology currently available, Federal Effluent Guidelines, 40 CFR, Part 423;
**EP** = Existing Permit;
**M** = Division of Surface Water Guidance #2, "National Pollutant Discharge Elimination System: Determination of Sampling Frequency Formula for Industrial Waste Discharges" recommends monitoring for this parameter;
**MVAR** = Mercury Variance-based limit [OAC 3745-33-07(D)(10)];
**PD** = Plant Design Criteria;
**RP** = Reasonable Potential for exceeding water quality standards, and requiring water quality-based effluent limits and monitoring requirements in NPDES permits (3745-33-07(A));
**WET** = Whole Effluent Toxicity (OAC 3745-33-07(B)) ;
**WLA** = Wasteload Allocation procedures (OAC 3745-2);
**WLA/IMZM** = Wasteload Allocation limited by Inside Mixing Zone Maximum;
**WQS** = Ohio Water Quality Standards (OAC 3745-1).

[c] Monitoring of flow and other indicator parameters is specified to assist in the evaluation of effluent quality and treatment plant performance.

## Attachment A. Federal Effluent Guidelines Applicable to the Avon Lake Generating Station

### 40 CFR, Part 423 Steam Electric Power Generating Point Source Category

Section 423.12(b)(3) Low Volume Waste Sources

| | Best Practicable Control Technology Available (BPT) ---------- (mg/l) ---------- | |
|---|---|---|
| Parameter | Daily Maximum | 30-Day Average |
| Total Suspended Solids | 100.0 | 30.0 |
| Oil & Grease | 20.0 | 15.0 |

Section 423.12(b)(4) Fly Ash and Bottom Ash Transport Water

| | Best Practicable Control Technology Available (BPT) ---------- (mg/l) ---------- | |
|---|---|---|
| Parameter | Daily Maximum | 30-Day Average |
| Total Suspended Solids | 100.0 | 30.0 |
| Oil & Grease | 20.0 | 15.0 |

Section 423.13(b) Once-through Cooling Water

| | Best Available Technology Economically Achievable (BPT) ---------- (mg/l) ---------- | |
|---|---|---|
| Parameter | Daily Maximum | 30-Day Average |
| Total Residual Chlorine | 0.20 | -- |

| AVON LAKE CPRO STATISTICS 4/24/2012 | | |
|---|---|---|
| | | |
| ORIGINAL PERMIT | NORMAL OPERATION | 250 GPM |
| | | |
| EXISTING PERMIT | NORMAL OPERATION | 250 GPM |
| | 10 YEAR X 24 RAIN EVENT | 500 GPM |
| | | |
| EXISTING CPRO CAPABILITIY. | TREATED | 192 gpm |
| | TO CLARIFIERS | 80 GPM |
| | TOTAL | 272 GPM |
| | | |
| REQUIRED CPRO CAPABILITIES | TREATED | 300 GPM |
| | TO CLARIFIERS (600,000 GALLONS) | 200 GPM |
| | TOTAL | 500GPM |
| | | |
| EXISTING CPRO VOLUME (REW) | 274,000 CU FT | 2,000,000 GAL |
| REQUIRED CPRO VOLUME | 400,000 CUFT | 3,000,000GAL |
| | | |
| CITY INPUT (25% RAIN WATER) | | 125 GPM |
| GENON CPRO (75%) | | 375GPM |
| | | |
| WITH NEW PUMPS | TREATED | 192 gpm |
| | TO CLARIFIERS | 200 GPM |
| | TOTAL | 392 GPM > 375 GPM |
| | | |

REC'D
4-24-12
MMS

Major

Stevens

Please type. Do not complete by hand.

FORM 1 GENERAL

# EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

## GENERAL INFORMATION

*Consolidated Permits Program*

*(Read the "General Instructions" before starting)*

**I. EPA I.D. NUMBER**

31B00002

LABEL ITEMS

**PA I.D. NUMBER**

**III. FACILITY NAME**

**V. FACILITY MAILING ADDRESS**

**VI. FACILITY LOCATION**

3FB00002 * KX
OH 000 1112

Check I.D. # 521935
Revenue I.D. # 757696
Person I.D. #
Org. I.D. # 104179
Place I.D. #

Ohio EPA
NEDO Revenue

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 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 G 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) | | X | | 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) | | X | |
| 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) | X | | X | 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) | | X | |
| E. Is this a facility which does not discharge process **wastewater?** (FORM 2E) | | X | | F. Is this a facility which discharges stormwater associated with industrial activity? (FORM 2F) | X | | X |
| G. Do you generate **sewage sludge** that is ultimately regulated by Part 503? Do you generate **sewage sludge** that is sent to another **facility** for treatment or blending? Do you process or derive material from **sewage sludge** that is disposed in a manner subject to Part 503? (FORM 2S) | | X | | | | | |

**III. NAME OF FACILITY**

Avon Lake Power Plant

**IV. FACILITY CONTACT**

| A. NAME & TTILE *(last, first, title)* | B. PHONE *(area code & no.)* |
|---|---|
| Laeng, Robert, Environmental LPO | (440) 930 - 6460 |

**V. FACILITY MAILING ADDRESS**

| A. STREET OR P.O. BOX | | | |
|---|---|---|---|
| 33570 Lake Road | | | |
| **B. CITY OR TOWN** | **C. STATE** | **D. ZIP CODE** | |
| Avon Lake | OH | 44012 | |

**VI. FACILITY LOCATION**

| A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER | | | |
|---|---|---|---|
| 33570 Lake Road | | | |
| **B. COUNTY NAME** | | | |
| Lorain | | | |
| **C. CITY OR TOWN** | **D. STATE** | **E. ZIP CODE** | **F. COUNTY CODE** *(if known)* |
| Avon Lake | OH | 44012 | |

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EPA Form 3510-1 (Rev. for Ohio EPA use 2/06)

CONTINUE ON REVERSE

AMT 200.00 DATE 4/29/10 OHIO EPA NEDO

CK # 1054410 DATE 3/8/10

Click to clear all entered information (on both pages of this form) CLEAR

CONTINUED FROM THE FRONT

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

| A. FIRST | B. SECOND |
|---|---|
| (specify) 4911 | (specify) |
| **C. THIRD** | **D. FOURTH** |
| (specify) | (specify) |

**VIII. OPERATOR INFORMATION**

| A. NAME | B. Is the name listed in Item VIII-A also the owner? |
|---|---|
| Orion Power Midwest, L.P. (wholly-owned subsidiary of RRI Energy, Inc.) | ☒ Yes ☐ No |

| C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.) | | D. PHONE (area code & no.) |
|---|---|---|
| F = FEDERAL<br>S = STATE<br>P = PRIVATE<br>M = PUBLIC (other than federal or state)<br>O = OTHER (specify) | (specify) P | (724) 597 - 8630 |

**E. STREET OR P.O. BOX**

121 Champion Way, Suite 200

| F. CITY OR TOWN | G. STATE | H. ZIP CODE | IX. INDIAN LAND |
|---|---|---|---|
| Canonsburg | PA | 15317 | Is this facility located on Indian lands? ☐ Yes ☒ No |

**X. EXISTING ENVIRONMENTAL PERMITS**

| A. NPDES (Discharges to surface water) | D. PSD (Air emissions from proposed sources) | |
|---|---|---|
| 31B00002JD | | |
| **B. UIC** (Underground injection of fluids) | **E. OTHER** (specify) | |
| | P0104694 | (specify) Title IV (ARP) |
| **C. RCRA** (Hazardous waste) | **F. OTHER** (specify) | |
| )HD046629648 | Facility ID 0247030013 | (specify) Title V |

**XI. MAP**

Attach to this application a topographical 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.

**XII. NATURE OF BUSINESS** ***(provide a brief description)***

Electrical power generation plant

**XIII. CERTIFICATION** *(see instructions)*

*I certify under penatly of law that I have personally examined and am famimliar 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 belive 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 |
|---|---|---|
| Matt Greek, Vice President | | 4-13-10 |

**)MMENTS FOR OFFICIAL USE ONLY**

ORIGINAL

# Industrial Discharge Permit No. 31B00002
# NPDES Permit Renewal Application

## Orion Power Midwest, L.P.
## Avon Lake Power Plant

Submitted to:
Ohio Environmental Protection Agency
Northeast District Office
2110 East Aurora Road
Twinsburg, Ohio 44087

Prepared for:

RRI Energy
121 Champion Way, Suite 200
Canonsburg, PA 15317

Prepared by:

Shaw® Shaw Environmental, Inc.

Shaw Environmental, Inc.
2790 Mosside Boulevard
Monroeville, PA 15146

April 2010

Shaw® a world of Solutions™

RRI Energy

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OHIO EPA NEDO

121 Champion Way
Suite 200
Canonsburg, PA 15317

Writer's Direct Dial: 724-597-8630

April 28, 2010

***Via Overnight Delivery***

Mr. Mike Stevens
Ohio Environmental Protection Agency
Division of Surface Water
Northeast District Office
2110 East Aurora Road
Twinsburg, Ohio 44087

**NPDES Renewal Application with Mercury Variance Application**
**Orion Power Midwest, L.P. Avon Lake Power Plant**
**NPDES Permit No. 31B00002*JD**
**App. No. OH0001112**

Dear Mr. Stevens:

Enclosed are the original and one copy of the NPDES permit renewal application for the Avon Lake Power Plant owned and operated by Orion Power Midwest, L.P., a wholly owned subsidiary of RRI Energy, Inc (RRI). The application includes RRI's $200 application fee check and a mercury variance application per Condition II.I.2. of the above referenced NPDES permit. Wastewater sampling and analysis for the application was conducted in accordance with the sampling plan submitted to the Agency on August 14, 2009.

In addition to the application data, RRI is providing the following information updates and requests to be considered in the renewal process:

- **Change in Property Boundary** – As a result of a real-estate transaction with the City of Avon Lake, the western property boundary north of Lake Road has been extended 150 feet west (reference enclosed site location map). This new parcel consists of two inactive grass and gravel parking lots with three stormwater catch basins that discharge to Lake Erie. There is no industrial activity at this property and access is prohibited via an 8-foot high security fence. Should RRI plan for future industrial activity on this parcel, any required permit applications will be filed.

- **Removal of Monitoring Requirements for Thallium at Outfall 001** – RRI requests that the requirement to monitor Thallium at Outfall 001 be removed from the permit. As monthly data have been submitted for this parameter throughout the current permit cycle, RRI anticipates that a sufficient data set exists to allow for the Agency's review of effluent quality.

- **Reduction of Sampling Frequency for TSS at Outfall 002**– RRI requests that the sampling frequency for Total Suspended Solids (TSS) at Outfall 002 be reduced to

once per week. The current permit requires sampling three times per week. As this parameter is limited based on Federal Effluent Limit Guidelines (ELGs), there is no history of serious compliance problems, and the additional data are not expected to provide further benefit, this frequency places an unnecessary burden on the facility. A reduction to once per week is expected to be consistent with the Agency's "Permit Guidance No. 2, National Pollutant Discharge Elimination System; Determination of Sampling Frequency Formula for Industrial Waste Discharges," and supported by monthly data submitted by RRI during the current permit cycle.

- **Removal of Selenium Monitoring Requirement at Outfall 004** – RRI requests that the requirement to monitor for Selenium at Outfall 004 be removed, as data collected since the last permit renewal have demonstrated that this parameter is typically not detected at reduced method detection limits.

- **Removal of Acute Toxicity Limits at Outfall 004** – RRI is seeking confirmation that the Acute Toxicity Limits at Outfall 004 will be dropped from the permit. The Fact Sheet issued for the plant in February 2006 states that, "if monitoring shows that acute toxicity does not exist at this outfall, the limits would not take effect." As testing performed since 2006 indicates that the discharge is in compliance with the toxicity limits, RRI anticipates that the limits will not carry over into the new permit.

- **Removal of Redundant TSS Limit at Outfall 610** – RRI requests that the Agency remove the monthly average limit of 50 mg/L Total Suspended Solids (TSS) for Outfall 610, as a daily maximum limit of 50 mg/L is already imposed at this Outfall, which is consistent with the ELGs at 40 CFR §423.12(b). The redundant limit at this internal monitoring point could result in a double violation should the limit be exceeded and the pond only discharges once during a month.

Thank you for your consideration. We look forward to hearing from you regarding a draft permit. If you have any questions or comments regarding the application or the above information, please contact me at (724) 597-8630 or nrozic@rrienergy.com.

Sincerely,

Nathan J. Rozic

Nathan J. Rozic
Sr. Environmental Specialist
RRI Energy, Inc.

Enclosures

cc: B. Laeng, Avon Lake Power Plant
R. Grove, RRI Energy, Inc.
S. Zummo-Forney, Shaw Environmental, Inc.

# APPLICATION FOR PERMIT RENEWAL
# NPDES INDUSTRIAL DISCHARGE PERMIT NO. 31B00002
# Avon Lake Power Plant
# Lorain County, Ohio
# April 2010

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- Attachment
  - Sampling Plan


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**APPLICATION FEE**

# FORM 2C

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (*copy from Item 1 of Form 1*): 31B00002

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

FORM **2C** NPDES

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
**EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE 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. | |
| 001 | 41 | 30 | 30 | 82 | 03 | 28 | Lake Erie |
| 002 | 41 | 30 | 36 | 82 | 03 | 07 | Lake Erie |
| 004 | 41 | 30 | 36 | 82 | 03 | 04 | Lake Erie |
| 604 | 41 | 30 | 30 | 82 | 03 | 28 | Discharge Tunnel/Lake Erie |
| 610 | 41 | 30 | 17 | 82 | 03 | 35 | Lake Erie via Outfall 002 |

## II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

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

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

| 1. OUTFALL NO. (*list*) | 2. OPERATION(S) CONTRIBUTING FLOW | | 3. TREATMENT | | |
|---|---|---|---|---|---|
| | a. OPERATION (*list*) | b. AVERAGE FLOW (*include units*) | a. DESCRIPTION | b. LIST CODES FROM TABLE 2C-1 | |
| 001 | Cooling Water Discharge | 386.77 MGD | Disinfection (Chlorine) | 2-F | |
| | | | Discharge to Surface Water | 4-A | |
| | | | | | |
| | | | | | |
| 002 | Ash Transport Water | 0.94 MGD | Sedimentation | 1-U | |
| | | | Chemical Precipitation, Gravity Filtration | 2-C | 1-Q |
| | | | Discharge to Surface Water | 4-A | |
| | | | Solids Disposal at Landfill | 5-Q | |
| 004 | Low Volume Waste System | 1.17 MGD | Sedimentation/Disinfection (Chlorine) | 1-U | 2-F |
| | | | Neutralization, Gravity Filtration | 2-K | 1-Q |
| | | | Discharge to Surface Water | 4-A | |
| | | | Solids Disposal at Landfill | 5-Q | |
| 604 | Boiler Blowdown | 0.03 MGD | Discharge to Surface Water | 4-A | |
| | | | | | |
| | | | | | |
| | | | | | |
| 610 | Coal Pile Runoff System | 0.09 MGD | Neutralization, Chemical Precipitation | 2-K | 2-C |
| | | | Pressure Filtration | 5-R | |
| | | | Discharge to Surface Water | 4-A | |
| | | | Solids Disposal at Landfill | 5-Q | |
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OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (*copy from Item 1 of Form 1*): 31B00002

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

FORM **2C** NPDES

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
**EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE 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. | |
| 611 | 41 | 30 | 17 | 82 | 03 | 35 | Discharges to Lake Erie via Outfall 002 |
| 612 | 41 | 30 | 30 | 82 | 03 | 28 | Discharge Tunnel/Lake Erie |
| 800 | 41 | 30 | 15 | 82 | 03 | 00 | Lake Erie Intake |
| | | | | | | | |
| | | | | | | | |

## II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

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

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

| 1. OUTFALL NO. (*list*) | 2. OPERATION(S) CONTRIBUTING FLOW | | 3. TREATMENT | | |
|---|---|---|---|---|---|
| | a. OPERATION (*list*) | b. AVERAGE FLOW (*include units*) | a. DESCRIPTION | b. LIST CODES FROM TABLE 2C-1 | |
| 611 | Metal Cleaning Waste through Outfall 610 | 0 MGD | Neutralization, Chemical Precipitation | 2-K | 2-C |
| | | | Pressure Filtration | 5-R | |
| | | | Discharge to Outfall 610 | 4-A | |
| | | | Solids Disposal at Landfill | 5-Q | |
| 612 | Discharge of Unit 9 Heat Exchanger; | 2.36 MGD | Discharge to Surface Water | 4-A | |
| | Combines with Noncontact Cooling Water Discharge to Outfall 001 | | | | |
| | | | | | |
| | | | | | |
| 800 | Lake Erie Intake | 427.3 MGD | Disinfection (Chlorine) | 2-F | |
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OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

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

☑ 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*) |
|---|---|---|---|---|---|---|---|---|
| 604 | Boiler Blowdown | 1.91 | 11.2 | 0.03 | 0.71 | | | 93 |
| 610 | Coal Pile Runoff | 2.45 | 10.6 | 0.09 | 0.26 | | | 113 |
| 611 | Metal Cleaning Waste | 0.55 | 2.4 | 0.10 | 0.53 | | | 6 |

## III. PRODUCTION

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

☑ 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*) ☑ 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 | | | |

## IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operations 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*) ☑ 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 |
|---|---|---|---|---|---|
| N/A | | | | | |

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*)
31B00002

CONTINUED FROM PAGE 2

## 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 |
|---|---|---|---|
| None | | | |

## 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*)

N/A

CONTINUED FROM THE FRONT

## 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?

☑ YES (*identify the test(s) and describe their purposes below*) ☐ NO (*go to Section VIII*)

Biomonitoring is performed for Outfall 004 effluent (by EnviroScience, Inc.) in accordance with permit conditions. All toxicity tests conducted to date have indicated either no detectable effect, or whole effluent toxicity values less than 1.0 Toxicity Unit.

**Outfall 004 Whole Effluent Toxicity Test Results**

| Testing Date | *C.dubia* Acute Endpoint (TUa) | *P.promelas* Acute Endpoint (TUa) |
|---|---|---|
| December 3, 2009 | No detectable effect | No detectable effect |
| August 5, 2009 | No detectable effect | No detectable effect |
| June 4, 2009 | 0.2 | No detectable effect |
| March 5, 2009 | No detectable effect | No detectable effect |
| December 6, 2008 | No detectable effect | No detectable effect |
| August 21, 2008 | No detectable effect | No detectable effect |
| June 5, 2008 | No detectable effect | 0.2 |
| March 6, 2008 | No detectable effect | 0.2 |
| December 6, 2007 | No detectable effect | 0.2 |
| August 9, 2007 | No detectable effect | 0.2 |
| June 21, 2007 | No detectable effect | 0.7 |
| March 21, 2007 | No detectable effect | No detectable effect |
| November 16, 2006 | No detectable effect | No detectable effect |

## VIII. CONTRACT ANALYSIS INFORMATION

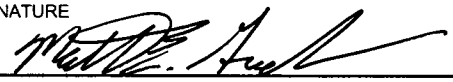
Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

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

| A. NAME | B. ADDRESS | C. TELEPHONE (*area code & no.*) | D. POLLUTANTS ANALYZED (*list*) |
|---|---|---|---|
| Precision Analytical, Inc. | 4450 Johnston Parkway, Unit B<br>Cleveland, OH 44128 | (216) 663-0808 | Inorganics, Organics, O&G, BOD5, COD, TSS, Total N, and Total P. |

## 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.*) |
|---|---|
| Matt Greek, Vice President | (832) 357-7560 |
| C. SIGNATURE  | D. DATE SIGNED April 13, 2010 |

**OUTFALL 001**

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

EPA I.D. NUMBER (*copy from Item 1 of Form 1*): 31B00002

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

OUTFALL NO.: 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.

| 1. POLLUTANT | 2. EFFLUENT a. MAX DAILY VALUE (1) CONCENTRATION | a. MAX DAILY VALUE (2) MASS | b. MAX 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAX 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 3. UNITS (*specify if blank*) a. CONCENTRATION | 3. UNITS b. MASS | 4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | 4. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand (*BOD*) | 1 | 4,329 | | | | | 1 | mg/L | lb/day | | | |
| b. Chemical Oxygen Demand (*COD*) | 11.5 | 49,787 | | | | | 1 | mg/L | lb/day | | | |
| c. Total Organic Carbon (*TOC*) | 3.63 | 15,715 | | | | | 1 | mg/L | lb/day | | | |
| d. Total Suspended Solids (*TSS*) | 18 | 77,927 | | | | | 1 | mg/L | lb/day | | | |
| e. Ammonia (*as N*) | 0.119 | 515.2 | | | | | 1 | mg/L | lb/day | | | |
| f. Flow | VALUE 519.1 | | VALUE | | VALUE | | 1 | MGD | | VALUE | | |
| g. Temperature (*winter*) | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| h. Temperature (*summer*) | VALUE 28.9 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| i. pH | MINIMUM 7.91 | MAXIMUM 7.91 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" a. BELIEVED PRESENT | 2. MARK "X" b. BELIEVED ABSENT | 3. EFFLUENT a. MAX DAILY VALUE (1) CONCENTRATION | a. MAX DAILY VALUE (2) MASS | b. MAX 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAX 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | X | | 0.017 | 73.6 | | | | | 1 | mg/L | lb/dy | | | |
| b. Chlorine, Total Residual | X | | 0.09 | 389.6 | | | | | 1 | mg/L | lb/dy | | | |
| c. Color | X | | 10 | N/A | | | | | 1 | CU | N/A | | | |
| d. Fecal Coliform | | X | | | | | | | 0 | | | | | |
| e. Fluoride (16984-48-8) | | X | <0.003 | | | | | | 1 | mg/L | | | | |
| f. Nitrate-Nitrite (*as N*) | X | | 0.132 | 571.5 | | | | | 1 | mg/L | lb/dy | | | |

ITEM V-B CC ED FROM FRONT

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. BELIEVED PRESENT | b. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCEN-TRATION | 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 | |
| g. Nitrogen, Total Organic (*as N*) | X | | 0.7 | 3,031 | | | | | 1 | mg/L | lb/dy | | | |
| h. Oil and Grease | X | | <0.43 | | | | | | 1 | mg/L | | | | |
| i. Phosphorus (as P), Total (7723-14-0) | X | | 0.042 | 181.8 | | | | | 1 | mg/L | lb/dy | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | X | | | | | | | 0 | | | | | |
| (2) Beta, Total | | X | | | | | | | 0 | | | | | |
| (3) Radium, Total | | X | | | | | | | 0 | | | | | |
| (4) Radium 226, Total | | X | | | | | | | 0 | | | | | |
| k. Sulfate (*as $SO_4$*) (14808-79-8) | X | | 42.6 | 184,428 | | | | | 1 | mg/L | lb/dy | | | |
| l. Sulfide (*as S*) | | X | 3.2 | 13,854 | | | | | 1 | mg/L | lb/dy | | | |
| m. Sulfite (*as $SO_3$*) (14265-45-3) | | X | <1.0 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | X | <0.40 | | | | | | 1 | mg/L | | | | |
| o. Aluminum, Total (7429-90-5) | X | | 423 | 1,831 | | | | | 1 | µg/L | lb/dy | | | |
| p. Barium, Total (7440-39-3) | X | | 23.2 | 100.4 | | | | | 1 | µg/L | lb/dy | | | |
| q. Boron, Total (7440-42-8) | X | | 64.3 | 278.4 | | | | | 1 | µg/L | lb/dy | | | |
| r. Cobalt, Total (7440-48-4) | | X | <1.16 | | | | | | 1 | µg/L | | | | |
| s. Iron, Total (7439-89-6) | X | | 614 | 2,658 | | | | | 1 | µg/L | lb/dy | | | |
| t. Magnesium, Total (7439-95-4) | X | | 8,800 | 38,098 | | | | | 1 | µg/L | lb/dy | | | |
| u. Molybdenum, Total (7439-98-7) | | X | <2.44 | | | | | | 1 | µg/L | | | | |
| v. Manganese, Total (7439-96-5) | X | | 20 | 86.6 | | | | | 1 | µg/L | lb/dy | | | |
| w. Tin, Total (7440-31-5) | X | | <1.54 | | | | | | 1 | µg/L | | | | |
| x. Titanium, Total (7440-32-6) | X | | 5.85 | 25.3 | | | | | 1 | µg/L | lb/dy | | | |



CONTINUE ON PAGE V-3

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 001 |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| METALS, CYANIDE, AND TOTAL PHENOLS | | | | | | | | | | | | | | | |
| 1M. Antimony, Total (7440-36-0) | X | | | <3.46 | | | | | | 1 | µg/L | | | | |
| 2M. Arsenic, Total (7440-38-2) | X | | | <1.6 | | | | | | 1 | µg/L | | | | |
| 3M. Beryllium, Total (7440-41-7) | X | | | <2.7 | | | | | | 1 | µg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | X | | | <1.24 | | | | | | 1 | µg/L | | | | |
| 5M. Chromium, Total (7440-47-3) | X | | | 1.1 | 4.76 | | | | | 1 | µg/L | lb/day | | | |
| 6M. Copper, Total (7440-50-8) | X | | | 7.2 | 31.2 | | | | | 1 | µg/L | lb/day | | | |
| 7M. Lead, Total (7439-92-1) | X | | | <1.49 | | | | | | 1 | µg/L | | | | |
| 8M. Mercury, Total (7439-97-6) | X | | | 0.00226* | 0.0098 | | | | | 1 | µg/L | lb/day | | | |
| 9M. Nickel, Total (7440-02-0) | X | | | 2.35 | 10.2 | | | | | 1 | µg/L | lb/day | | | |
| 10M. Selenium, Total (7782-49-2) | X | | | <4.11 | | | | | | 1 | µg/L | | | | |
| 11M. Silver, Total (7440-22-4) | X | | | <0.995 | | | | | | 1 | µg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | X | | | 2.5 | 10.8 | | | | | 1 | µg/L | lb/day | | | |
| 13M. Zinc, Total (7440-66-6) | X | | | 15.5 | 67.1 | | | | | 1 | µg/L | lb/day | | | |
| 14M. Cyanide, Total (57-12-5) | X | | | <0.007 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | X | | | <0.005 | | | | | | 1 | mg/L | | | | |
| DIOXIN | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6) | | | X | DESCRIBE RESULTS Not Detected | | | | | | | | | | | |



*0.00104 ug/L reported in field blank

CONTINUED THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – VOLATILE COMPOUNDS | | | | | | | | | | | | | | | |
| 1V. Accrolein (107-02-8) | X | | | <21.3 | | | | | | 1 | µg/L | | | | |
| 2V. Acrylonitrile (107-13-1) | X | | | <26.8 | | | | | | 1 | µg/L | | | | |
| 3V. Benzene (71-43-2) | X | | | <4.01 | | | | | | 1 | µg/L | | | | |
| 4V. Bis (*Chloromethyl*) Ether (542-88-1) | X | | | <5.0 | | | | | | 1 | µg/L | | | | |
| 5V. Bromoform (75-25-2) | X | | | <1.0 | | | | | | 1 | µg/L | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | X | | | <3.08 | | | | | | 1 | µg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | X | | | <1.65 | | | | | | 1 | µg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | X | | | <2.33 | | | | | | 1 | µg/L | | | | |
| 9V. Chloroethane (75-00-3) | X | | | <6.73 | | | | | | 1 | µg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | X | | | <0.67 | | | | | | 1 | µg/L | | | | |
| 11V. Chloroform (67-66-3) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | X | | | <0.33 | | | | | | 1 | µg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | X | | | <4.85 | | | | | | 1 | µg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | X | | | <3.0 | | | | | | 1 | µg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | X | | | <0.46 | | | | | | 1 | µg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | X | | | <1.77 | | | | | | 1 | µg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | X | | | <1.34 | | | | | | 1 | µg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | X | | | <4.27 | | | | | | 1 | µg/L | | | | |



CONTINUE ON PAGE V-5

| 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 | | | 1.67 | 7.23 | | | | | 1 | µg/L | lb/day | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | X | | | <1.49 | | | | | | 1 | µg/L | | | | |
| 24V. Tetrachloro-ethylene (127-18-4) | X | | | <2.75 | | | | | | 1 | µg/L | | | | |
| 25V. Toluene (108-88-3) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | X | | | <6.52 | | | | | | 1 | µg/L | | | | |
| 27V. 1,1,1-Trichloro-ethane (71-55-6) | X | | | <3.9 | | | | | | 1 | µg/L | | | | |
| 28V. 1,1,2-Trichloro-ethane (79-00-5) | X | | | <2.84 | | | | | | 1 | µg/L | | | | |
| 29V Trichloro-ethylene (79-01-6) | X | | | <2.5 | | | | | | 1 | µg/L | | | | |
| 30V. Trichloro-fluoromethane (75-69-4) | X | | | <1.63 | | | | | | 1 | µg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | X | | | <1.95 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – ACID COMPOUNDS | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | X | | | <2.29 | | | | | | 1 | µg/L | | | | |
| 2A. 2,4-Dichloro-phenol (120-83-2) | X | | | <1.84 | | | | | | 1 | µg/L | | | | |
| 3A. 2,4-Dimethyl-phenol (105-67-9) | X | | | <9.01 | | | | | | 1 | µg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | X | | | <1.4 | | | | | | 1 | µg/L | | | | |
| 5A. 2,4-Dinitro-phenol (51-28-5) | X | | | <3.5 | | | | | | 1 | µg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 9A. Pentachloro-phenol (87-86-5) | X | | | <2.03 | | | | | | 1 | µg/L | | | | |
| 10A. Phenol (108-95-2) | X | | | <8.24 | | | | | | 1 | µg/L | | | | |
| 11A. 2,4,6-Trichloro-phenol (88-05-2) | X | | | <2.08 | | | | | | 1 | µg/L | | | | |



CONTINUE ON REVERSE

CONTINUE[ THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 2B. Acenaphtylene (208-96-8) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 3B. Anthracene (120-12-7) | X | | | <2.0 | | | | | | 1 | µg/L | | | | |
| 4B. Benzidine (92-87-5) | X | | | <12.3 | | | | | | 1 | µg/L | | | | |
| 5B. Benzo (*a*) Anthracene (56-55-3) | X | | | <1.88 | | | | | | 1 | µg/L | | | | |
| 6B. Benzo (*a*) Pyrene (50-32-8) | X | | | <2.07 | | | | | | 1 | µg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | X | | | <2.63 | | | | | | 1 | µg/L | | | | |
| 8B. Benzo (*ghi*) Perylene (191-24-2) | X | | | <2.65 | | | | | | 1 | µg/L | | | | |
| 9B. Benzo (*k*) Fluoranthene (207-08-9) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1) | X | | | <2.78 | | | | | | 1 | µg/L | | | | |
| 11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4) | X | | | <2.69 | | | | | | 1 | µg/L | | | | |
| 12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1) | X | | | <2.3 | | | | | | 1 | µg/L | | | | |
| 13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 14B. 4-Bromophenyl Phenyl Ether (101-55-3) | X | | | <2.2 | | | | | | 1 | µg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | X | | | <3.65 | | | | | | 1 | µg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | X | | | <2.82 | | | | | | 1 | µg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | X | | | <2.41 | | | | | | 1 | µg/L | | | | |
| 18B. Chrysene (218-01-9) | X | | | <2.09 | | | | | | 1 | µg/L | | | | |
| 19B. Dibenzo (*a,h*) Anthracene (53-70-3) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | X | | | <3.27 | | | | | | 1 | µg/L | | | | |
| 21B. 1,3-Di-chloro-benzene (541-73-1) | X | | | <3.26 | | | | | | 1 | µg/L | | | | |



CONTINUE ON PAGE V-7

| 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 | | | <3.62 | | | | | | 1 | µg/L | | | | |
| 23B. 3,3-Dichlorobenzidine (91-94-1) | X | | | <5.63 | | | | | | 1 | µg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | X | | | <9.36 | | | | | | 1 | µg/L | | | | |
| 25B. Dimethyl Phthalate (131 -11-3) | X | | | <6.26 | | | | | | 1 | µg/L | | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | X | | | <6.43 | | | | | | 1 | µg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | X | | | <2.06 | | | | | | 1 | µg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | X | | | <2.76 | | | | | | 1 | µg/L | | | | |
| 30B. 1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7) | X | | | <1.99 | | | | | | 1 | µg/L | | | | |
| 31B. Fluoranthene (206-44-0) | X | | | <1.81 | | | | | | 1 | µg/L | | | | |
| 32B. Fluorene (86-73-7) | X | | | <1.97 | | | | | | 1 | µg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | X | | | <2.97 | | | | | | 1 | µg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | X | | | <3.06 | | | | | | 1 | µg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 36B Hexachloroethane (67-72-1) | X | | | <3.74 | | | | | | 1 | µg/L | | | | |
| 37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 38B. Isophorone (78-59-1) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 39B. Naphthalene (91-20-3) | X | | | <2.95 | | | | | | 1 | µg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | X | | | <2.87 | | | | | | 1 | µg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | X | | | <1.29 | | | | | | 1 | µg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | X | | | <2.67 | | | | | | 1 | µg/L | | | | |

CONTINUED THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*) | | | | | | | | | | | | | | | |
| 43B. N-Nitrosodiphenylamine (86-30-6) | X | | | <3.97 | | | | | | 1 | µg/L | | | | |
| 44B. Phenanthrene (85-01-8) | X | | | <1.78 | | | | | | 1 | µg/L | | | | |
| 45B. Pyrene (129-00-0) | X | | | <2.15 | | | | | | 1 | µg/L | | | | |
| 46B. 1,2,4-Trichlorobenzene (120-82-1) | X | | | <8.1 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – PESTICIDES | | | | | | | | | | | | | | | |
| 1P. Aldrin (309-00-2) | | | X | | | | | | | 0 | | | | | |
| 2P. α-BHC (319-84-6) | | | X | | | | | | | 0 | | | | | |
| 3P. β-BHC (319-85-7) | | | X | | | | | | | 0 | | | | | |
| 4P. γ-BHC (58-89-9) | | | X | | | | | | | 0 | | | | | |
| 5P. δ-BHC (319-86-8) | | | X | | | | | | | 0 | | | | | |
| 6P. Chlordane (57-74-9) | | | X | | | | | | | 0 | | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | X | | | | | | | 0 | | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | X | | | | | | | 0 | | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | X | | | | | | | 0 | | | | | |
| 10P. Dieldrin (60-57-1) | | | X | | | | | | | 0 | | | | | |
| 11P. α-Enosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 12P. β-Endosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | X | | | | | | | 0 | | | | | |
| 14P. Endrin (72-20-8) | | | X | | | | | | | 0 | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | X | | | | | | | 0 | | | | | |
| 16P. Heptachlor (76-44-8) | | | X | | | | | | | 0 | | | | | |



CONTINUE ON PAGE V-9

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 001 |

CONTINUED FROM PAGE V-8

| 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 | | | | | | | 0 | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | X | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | X | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | X | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | X | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | X | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | X | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | X | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | X | | | | | | | 0 | | | | | |

**OUTFALL 002**

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

EPA I.D. NUMBER (*copy from Item 1 of Form 1*): 31B00002

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

OUTFALL NO.: 002

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

| 1. POLLUTANT | 2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 3. UNITS (*specify if blank*) a. CONCENTRATION | 3. UNITS b. MASS | 4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 4. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand (*BOD*) | 8 | 66.7 | | | | | 1 | mg/L | lb/day | | | |
| b. Chemical Oxygen Demand (*COD*) | 20.8 | 173.5 | | | | | 1 | mg/L | lb/day | | | |
| c. Total Organic Carbon (*TOC*) | 4.04 | 33.7 | | | | | 1 | mg/L | lb/day | | | |
| d. Total Suspended Solids (*TSS*) | 4 | 33.4 | | | | | 1 | mg/L | lb/day | | | |
| e. Ammonia (*as N*) | 0.18 | 1.5 | | | | | 1 | mg/L | lb/day | | | |
| f. Flow | VALUE 1 | | VALUE | | VALUE | | 1 | MGD | | VALUE | | |
| g. Temperature (*winter*) | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| h. Temperature (*summer*) | VALUE 18.9 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| i. pH | MINIMUM 7.59 | MAXIMUM 7.59 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" a. BELIEVED PRESENT | 2. MARK "X" b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | X | | <0.01 | | | | | | 1 | mg/L | | | | |
| b. Chlorine, Total Residual | X | | 0.33 | 2.75 | | | | | 1 | mg/L | lb/dy | | | |
| c. Color | X | | 20 | N/A | | | | | 1 | CU | N/A | | | |
| d. Fecal Coliform | | X | | | | | | | 0 | | | | | |
| e. Fluoride (16984-48-8) | | X | 0.256 | 2.14 | | | | | 1 | mg/L | lb/dy | | | |
| f. Nitrate-Nitrite (*as N*) | X | | 2.27 | 18.9 | | | | | 1 | mg/L | lb/dy | | | |

ITEM V-B CC :ED FROM FRONT

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. BELIEVED PRESENT | b. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCEN-TRATION | 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 | |
| g. Nitrogen, Total Organic (*as N*) | X | | 2.74 | 22.9 | | | | | 1 | mg/L | lb/dy | | | |
| h. Oil and Grease | X | | <0.43 | | | | | | 1 | mg/L | | | | |
| i. Phosphorus (as P), Total (7723-14-0) | X | | 0.076 | 0.63 | | | | | 1 | mg/L | lb/dy | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | X | | | | | | | 0 | | | | | |
| (2) Beta, Total | | X | | | | | | | 0 | | | | | |
| (3) Radium, Total | | X | | | | | | | 0 | | | | | |
| (4) Radium 226, Total | | X | | | | | | | 0 | | | | | |
| k. Sulfate (*as $SO_4$*) (14808-79-8) | X | | 40 | 333.6 | | | | | 1 | mg/L | lb/dy | | | |
| l. Sulfide (*as S*) | | X | 3.2 | 26.7 | | | | | 1 | mg/L | lb/dy | | | |
| m. Sulfite (*as $SO_3$*) (14265-45-3) | | X | <1.0 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | X | <0.40 | | | | | | 1 | mg/L | | | | |
| o. Aluminum, Total (7429-90-5) | X | | 327 | 2.73 | | | | | 1 | µg/L | lb/dy | | | |
| p. Barium, Total (7440-39-3) | X | | 78.8 | 0.66 | | | | | 1 | µg/L | lb/dy | | | |
| q. Boron, Total (7440-42-8) | X | | 104 | 0.87 | | | | | 1 | µg/L | lb/dy | | | |
| r. Cobalt, Total (7440-48-4) | | X | <1.16 | | | | | | 1 | µg/L | | | | |
| s. Iron, Total (7439-89-6) | X | | 278 | 2.32 | | | | | 1 | µg/L | lb/dy | | | |
| t. Magnesium, Total (7439-95-4) | X | | 9,580 | 79.9 | | | | | 1 | µg/L | lb/dy | | | |
| u. Molybdenum, Total (7439-98-7) | | X | 4.4 | 0.04 | | | | | 1 | µg/L | lb/dy | | | |
| v. Manganese, Total (7439-96-5) | X | | 7.5 | 0.06 | | | | | 1 | µg/L | lb/dy | | | |
| w. Tin, Total (7440-31-5) | X | | <1.54 | | | | | | 1 | µg/L | | | | |
| x. Titanium, Total (7440-32-6) | X | | 6.45 | 0.05 | | | | | 1 | µg/L | lb/dy | | | |



CONTINUE ON PAGE V-3

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 002 |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| METALS, CYANIDE, AND TOTAL PHENOLS | | | | | | | | | | | | | | | |
| 1M. Antimony, Total (7440-36-0) | X | | | <3.46 | | | | | | 1 | µg/L | | | | |
| 2M. Arsenic, Total (7440-38-2) | X | | | 3.35 | 0.03 | | | | | 1 | µg/L | lb/day | | | |
| 3M. Beryllium, Total (7440-41-7) | X | | | <2.7 | | | | | | 1 | µg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | X | | | <1.24 | | | | | | 1 | µg/L | | | | |
| 5M. Chromium, Total (7440-47-3) | X | | | 1.2 | 0.01 | | | | | 1 | µg/L | lb/day | | | |
| 6M. Copper, Total (7440-50-8) | X | | | 1.8 | 0.02 | | | | | 1 | µg/L | lb/day | | | |
| 7M. Lead, Total (7439-92-1) | X | | | <1.49 | | | | | | 1 | µg/L | | | | |
| 8M. Mercury, Total (7439-97-6) | X | | | 0.00124* | 1.0E-5 | | | | | 1 | µg/L | lb/day | | | |
| 9M. Nickel, Total (7440-02-0) | X | | | 1.55 | 0.01 | | | | | 1 | µg/L | lb/day | | | |
| 10M. Selenium, Total (7782-49-2) | X | | | <4.11 | | | | | | 1 | µg/L | | | | |
| 11M. Silver, Total (7440-22-4) | X | | | <0.995 | | | | | | 1 | µg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | X | | | <0.885 | | | | | | 1 | µg/L | | | | |
| 13M. Zinc, Total (7440-66-6) | X | | | <1.67 | | | | | | 1 | µg/L | | | | |
| 14M. Cyanide, Total (57-12-5) | X | | | <0.007 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | X | | | <0.005 | | | | | | 1 | mg/L | | | | |
| DIOXIN | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6) | | | X | DESCRIBE RESULTS Not Detected | | | | | | | | | | | |

*0.00113 ug/L reported in field blank

CONTINUED THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – VOLATILE COMPOUNDS | | | | | | | | | | | | | | | |
| 1V. Accrolein (107-02-8) | X | | | <21.3 | | | | | | 1 | µg/L | | | | |
| 2V. Acrylonitrile (107-13-1) | X | | | <26.8 | | | | | | 1 | µg/L | | | | |
| 3V. Benzene (71-43-2) | X | | | <4.01 | | | | | | 1 | µg/L | | | | |
| 4V. Bis (*Chloromethyl*) Ether (542-88-1) | X | | | <5.0 | | | | | | 1 | µg/L | | | | |
| 5V. Bromoform (75-25-2) | X | | | <1.0 | | | | | | 1 | µg/L | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | X | | | <3.08 | | | | | | 1 | µg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | X | | | <1.65 | | | | | | 1 | µg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | X | | | <2.33 | | | | | | 1 | µg/L | | | | |
| 9V. Chloroethane (75-00-3) | X | | | <6.73 | | | | | | 1 | µg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | X | | | <0.67 | | | | | | 1 | µg/L | | | | |
| 11V. Chloroform (67-66-3) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | X | | | <0.33 | | | | | | 1 | µg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | X | | | <4.85 | | | | | | 1 | µg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | X | | | <3.0 | | | | | | 1 | µg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | X | | | <0.46 | | | | | | 1 | µg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | X | | | <1.77 | | | | | | 1 | µg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | X | | | <1.34 | | | | | | 1 | µg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | X | | | <4.27 | | | | | | 1 | µg/L | | | | |



CONTINUE ON PAGE V-5

| 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 | | | <1.59 | | | | | | 1 | µg/L | | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | X | | | <1.49 | | | | | | 1 | µg/L | | | | |
| 24V. Tetrachloroethylene (127-18-4) | X | | | <2.75 | | | | | | 1 | µg/L | | | | |
| 25V. Toluene (108-88-3) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | X | | | <6.52 | | | | | | 1 | µg/L | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | X | | | <3.9 | | | | | | 1 | µg/L | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | X | | | <2.84 | | | | | | 1 | µg/L | | | | |
| 29V Trichloroethylene (79-01-6) | X | | | <2.5 | | | | | | 1 | µg/L | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | X | | | <1.63 | | | | | | 1 | µg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | X | | | <1.95 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – ACID COMPOUNDS | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | X | | | <2.29 | | | | | | 1 | µg/L | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | X | | | <1.84 | | | | | | 1 | µg/L | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | X | | | <9.01 | | | | | | 1 | µg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | X | | | <1.4 | | | | | | 1 | µg/L | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | X | | | <3.5 | | | | | | 1 | µg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 9A. Pentachlorophenol (87-86-5) | X | | | <2.03 | | | | | | 1 | µg/L | | | | |
| 10A. Phenol (108-95-2) | X | | | <8.24 | | | | | | 1 | µg/L | | | | |
| 11A. 2,4,6-Trichlorophenol (88-05-2) | X | | | <2.08 | | | | | | 1 | µg/L | | | | |



CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 2B. Acenaphtylene (208-96-8) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 3B. Anthracene (120-12-7) | X | | | <2.0 | | | | | | 1 | µg/L | | | | |
| 4B. Benzidine (92-87-5) | X | | | <12.3 | | | | | | 1 | µg/L | | | | |
| 5B. Benzo (*a*) Anthracene (56-55-3) | X | | | <1.88 | | | | | | 1 | µg/L | | | | |
| 6B. Benzo (*a*) Pyrene (50-32-8) | X | | | <2.07 | | | | | | 1 | µg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | X | | | <2.63 | | | | | | 1 | µg/L | | | | |
| 8B. Benzo (*ghi*) Perylene (191-24-2) | X | | | <2.65 | | | | | | 1 | µg/L | | | | |
| 9B. Benzo (*k*) Fluoranthene (207-08-9) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1) | X | | | <2.78 | | | | | | 1 | µg/L | | | | |
| 11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4) | X | | | <2.69 | | | | | | 1 | µg/L | | | | |
| 12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1) | X | | | <2.3 | | | | | | 1 | µg/L | | | | |
| 13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 14B. 4-Bromophenyl Phenyl Ether (101-55-3) | X | | | <2.2 | | | | | | 1 | µg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | X | | | <3.65 | | | | | | 1 | µg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | X | | | <2.82 | | | | | | 1 | µg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | X | | | <2.41 | | | | | | 1 | µg/L | | | | |
| 18B. Chrysene (218-01-9) | X | | | <2.09 | | | | | | 1 | µg/L | | | | |
| 19B. Dibenzo (*a,h*) Anthracene (53-70-3) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | X | | | <3.27 | | | | | | 1 | µg/L | | | | |
| 21B. 1,3-Di-chloro-benzene (541-73-1) | X | | | <3.26 | | | | | | 1 | µg/L | | | | |



CONTINUE ON PAGE V-7

| 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 | | | <3.62 | | | | | | 1 | µg/L | | | | |
| 23B. 3,3-Dichlorobenzidine (91-94-1) | X | | | <5.63 | | | | | | 1 | µg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | X | | | <9.36 | | | | | | 1 | µg/L | | | | |
| 25B. Dimethyl Phthalate (131-11-3) | X | | | 11.6 | 0.10 | | | | | 1 | µg/L | lb/day | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | X | | | <6.43 | | | | | | 1 | µg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | X | | | <2.06 | | | | | | 1 | µg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | X | | | <2.76 | | | | | | 1 | µg/L | | | | |
| 30B. 1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7) | X | | | <1.99 | | | | | | 1 | µg/L | | | | |
| 31B. Fluoranthene (206-44-0) | X | | | <1.81 | | | | | | 1 | µg/L | | | | |
| 32B. Fluorene (86-73-7) | X | | | <1.97 | | | | | | 1 | µg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | X | | | <2.97 | | | | | | 1 | µg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | X | | | <3.06 | | | | | | 1 | µg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 36B Hexachloroethane (67-72-1) | X | | | <3.74 | | | | | | 1 | µg/L | | | | |
| 37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 38B. Isophorone (78-59-1) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 39B. Naphthalene (91-20-3) | X | | | <2.95 | | | | | | 1 | µg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | X | | | <2.87 | | | | | | 1 | µg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | X | | | <1.29 | | | | | | 1 | µg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | X | | | <2.67 | | | | | | 1 | µg/L | | | | |

CONTINUED THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*) | | | | | | | | | | | | | | | |
| 43B. N-Nitrosodiphenylamine (86-30-6) | X | | | <3.97 | | | | | | 1 | µg/L | | | | |
| 44B. Phenanthrene (85-01-8) | X | | | <1.78 | | | | | | 1 | µg/L | | | | |
| 45B. Pyrene (129-00-0) | X | | | <2.15 | | | | | | 1 | µg/L | | | | |
| 46B. 1,2,4-Trichlorobenzene (120-82-1) | X | | | <8.1 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – PESTICIDES | | | | | | | | | | | | | | | |
| 1P. Aldrin (309-00-2) | | | X | | | | | | | 0 | | | | | |
| 2P. α-BHC (319-84-6) | | | X | | | | | | | 0 | | | | | |
| 3P. β-BHC (319-85-7) | | | X | | | | | | | 0 | | | | | |
| 4P. γ-BHC (58-89-9) | | | X | | | | | | | 0 | | | | | |
| 5P. δ-BHC (319-86-8) | | | X | | | | | | | 0 | | | | | |
| 6P. Chlordane (57-74-9) | | | X | | | | | | | 0 | | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | X | | | | | | | 0 | | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | X | | | | | | | 0 | | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | X | | | | | | | 0 | | | | | |
| 10P. Dieldrin (60-57-1) | | | X | | | | | | | 0 | | | | | |
| 11P. α-Enosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 12P. β-Endosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | X | | | | | | | 0 | | | | | |
| 14P. Endrin (72-20-8) | | | X | | | | | | | 0 | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | X | | | | | | | 0 | | | | | |
| 16P. Heptachlor (76-44-8) | | | X | | | | | | | 0 | | | | | |


CONTINUE ON PAGE V-9

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 002 |

CONTINUED FROM PAGE V-8

| 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 | | | | | | | 0 | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | X | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | X | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | X | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | X | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | X | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | X | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | X | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | X | | | | | | | 0 | | | | | |

**OUTFALL 004**

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

EPA I.D. NUMBER (*copy from Item 1 of Form 1*): 31B00002

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

OUTFALL NO.: 004

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

| 1. POLLUTANT | 2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 3. UNITS (*specify if blank*) a. CONCENTRATION | 3. UNITS b. MASS | 4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 4. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand (*BOD*) | 1 | 3.84 | | | | | 1 | mg/L | lb/day | | | |
| b. Chemical Oxygen Demand (*COD*) | 20.2 | 77.5 | | | | | 1 | mg/L | lb/day | | | |
| c. Total Organic Carbon (*TOC*) | 3.26 | 12.5 | | | | | 1 | mg/L | lb/day | | | |
| d. Total Suspended Solids (*TSS*) | <1.53 | | | | | | 1 | mg/L | | | | |
| e. Ammonia (*as N*) | <0.0672 | | | | | | 1 | mg/L | | | | |
| f. Flow | VALUE 0.46 | | VALUE | | VALUE | | 1 | MGD | | VALUE | | |
| g. Temperature (*winter*) | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| h. Temperature (*summer*) | VALUE 20.0 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| i. pH | MINIMUM 7.49 | MAXIMUM 7.49 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" a. BELIEVED PRESENT | 2. MARK "X" b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | X | | <0.01 | | | | | | 1 | mg/L | | | | |
| b. Chlorine, Total Residual | X | | 0.03 | 0.12 | | | | | 1 | mg/L | lb/dy | | | |
| c. Color | X | | 15 | N/A | | | | | 1 | CU | N/A | | | |
| d. Fecal Coliform | | X | | | | | | | 0 | | | | | |
| e. Fluoride (16984-48-8) | | X | 0.364 | 1.40 | | | | | 1 | mg/L | lb/dy | | | |
| f. Nitrate-Nitrite (*as N*) | X | | 1.44 | 5.52 | | | | | 1 | mg/L | lb/dy | | | |

ITEM V-B CONTINUED FROM FRONT

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. BELIEVED PRESENT | b. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| g. Nitrogen, Total Organic (*as N*) | X | | 0.61 | 2.34 | | | | | 1 | mg/L | lb/dy | | | |
| h. Oil and Grease | X | | 0.778 | 2.98 | | | | | 1 | mg/L | lb/dy | | | |
| i. Phosphorus (as P), Total (7723-14-0) | X | | 0.025 | 0.10 | | | | | 1 | mg/L | lb/dy | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | X | | | | | | | 0 | | | | | |
| (2) Beta, Total | | X | | | | | | | 0 | | | | | |
| (3) Radium, Total | | X | | | | | | | 0 | | | | | |
| (4) Radium 226, Total | | X | | | | | | | 0 | | | | | |
| k. Sulfate (*as $SO_4$*) (14808-79-8) | X | | 32.5 | 124.7 | | | | | 1 | mg/L | lb/dy | | | |
| l. Sulfide (*as S*) | | X | 10.4 | 39.9 | | | | | 1 | mg/L | lb/dy | | | |
| m. Sulfite (*as $SO_3$*) (14265-45-3) | | X | <1.0 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | X | <0.40 | | | | | | 1 | mg/L | | | | |
| o. Aluminum, Total (7429-90-5) | X | | 213 | 0.82 | | | | | 1 | µg/L | lb/dy | | | |
| p. Barium, Total (7440-39-3) | X | | 23.2 | 0.09 | | | | | 1 | µg/L | lb/dy | | | |
| q. Boron, Total (7440-42-8) | X | | 26.4 | 0.10 | | | | | 1 | µg/L | lb/dy | | | |
| r. Cobalt, Total (7440-48-4) | | X | <1.16 | | | | | | 1 | µg/L | | | | |
| s. Iron, Total (7439-89-6) | X | | 293 | 1.12 | | | | | 1 | µg/L | lb/dy | | | |
| t. Magnesium, Total (7439-95-4) | X | | 9,280 | 35.6 | | | | | 1 | µg/L | lb/dy | | | |
| u. Molybdenum, Total (7439-98-7) | | X | 2.6 | 0.01 | | | | | 1 | µg/L | lb/dy | | | |
| v. Manganese, Total (7439-96-5) | X | | 6.35 | 0.02 | | | | | 1 | µg/L | lb/dy | | | |
| w. Tin, Total (7440-31-5) | X | | <1.54 | | | | | | 1 | µg/L | | | | |
| x. Titanium, Total (7440-32-6) | X | | 3.3 | 0.01 | | | | | 1 | µg/L | lb/dy | | | |



CONTINUE ON PAGE V-3

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 004 |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| METALS, CYANIDE, AND TOTAL PHENOLS | | | | | | | | | | | | | | | |
| 1M. Antimony, Total (7440-36-0) | X | | | <3.46 | | | | | | 1 | µg/L | | | | |
| 2M. Arsenic, Total (7440-38-2) | X | | | <1.6 | | | | | | 1 | µg/L | | | | |
| 3M. Beryllium, Total (7440-41-7) | X | | | <2.7 | | | | | | 1 | µg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | X | | | <1.24 | | | | | | 1 | µg/L | | | | |
| 5M. Chromium, Total (7440-47-3) | X | | | <0.77 | | | | | | 1 | µg/L | | | | |
| 6M. Copper, Total (7440-50-8) | X | | | 2.25 | 0.01 | | | | | 1 | µg/L | lb/day | | | |
| 7M. Lead, Total (7439-92-1) | X | | | <1.49 | | | | | | 1 | µg/L | | | | |
| 8M. Mercury, Total (7439-97-6) | X | | | 0.00217* | 8.3E-6 | | | | | 1 | µg/L | lb/day | | | |
| 9M. Nickel, Total (7440-02-0) | X | | | 1.7 | 0.01 | | | | | 1 | µg/L | lb/day | | | |
| 10M. Selenium, Total (7782-49-2) | X | | | <4.11 | | | | | | 1 | µg/L | | | | |
| 11M. Silver, Total (7440-22-4) | X | | | <0.995 | | | | | | 1 | µg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | X | | | <0.885 | | | | | | 1 | µg/L | | | | |
| 13M. Zinc, Total (7440-66-6) | X | | | <1.67 | | | | | | 1 | µg/L | | | | |
| 14M. Cyanide, Total (57-12-5) | X | | | <0.007 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | X | | | <0.005 | | | | | | 1 | mg/L | | | | |
| DIOXIN | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6) | | | X | DESCRIBE RESULTS Not Detected | | | | | | | | | | | |

EPA Form 3510-2C (8-90)



CONTINUE ON REVERSE

*0.00219 ug/L reported in field blank.

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – VOLATILE COMPOUNDS | | | | | | | | | | | | | | | |
| 1V. Accrolein (107-02-8) | X | | | <21.3 | | | | | | 1 | µg/L | | | | |
| 2V. Acrylonitrile (107-13-1) | X | | | <26.8 | | | | | | 1 | µg/L | | | | |
| 3V. Benzene (71-43-2) | X | | | <4.01 | | | | | | 1 | µg/L | | | | |
| 4V. Bis (*Chloromethyl*) Ether (542-88-1) | X | | | <5.0 | | | | | | 1 | µg/L | | | | |
| 5V. Bromoform (75-25-2) | X | | | <1.0 | | | | | | 1 | µg/L | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | X | | | <3.08 | | | | | | 1 | µg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | X | | | <1.65 | | | | | | 1 | µg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | X | | | <2.33 | | | | | | 1 | µg/L | | | | |
| 9V. Chloroethane (75-00-3) | X | | | <6.73 | | | | | | 1 | µg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | X | | | <0.67 | | | | | | 1 | µg/L | | | | |
| 11V. Chloroform (67-66-3) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | X | | | <0.33 | | | | | | 1 | µg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | X | | | <4.85 | | | | | | 1 | µg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | X | | | <3.0 | | | | | | 1 | µg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | X | | | <0.46 | | | | | | 1 | µg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | X | | | <1.77 | | | | | | 1 | µg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | X | | | <1.34 | | | | | | 1 | µg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | X | | | 1.71 | 0.01 | | | | | 1 | µg/L | lb/day | | | |



CONTINUE ON PAGE V-5

| 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 | | | <1.59 | | | | | | 1 | µg/L | | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | X | | | <1.49 | | | | | | 1 | µg/L | | | | |
| 24V. Tetrachloroethylene (127-18-4) | X | | | <2.75 | | | | | | 1 | µg/L | | | | |
| 25V. Toluene (108-88-3) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | X | | | <6.52 | | | | | | 1 | µg/L | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | X | | | <3.9 | | | | | | 1 | µg/L | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | X | | | <2.84 | | | | | | 1 | µg/L | | | | |
| 29V Trichloroethylene (79-01-6) | X | | | <2.5 | | | | | | 1 | µg/L | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | X | | | <1.63 | | | | | | 1 | µg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | X | | | <1.95 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – ACID COMPOUNDS | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | X | | | <2.29 | | | | | | 1 | µg/L | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | X | | | <1.84 | | | | | | 1 | µg/L | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | X | | | <9.01 | | | | | | 1 | µg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | X | | | <1.4 | | | | | | 1 | µg/L | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | X | | | <3.5 | | | | | | 1 | µg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 9A. Pentachlorophenol (87-86-5) | X | | | <2.03 | | | | | | 1 | µg/L | | | | |
| 10A. Phenol (108-95-2) | X | | | <8.24 | | | | | | 1 | µg/L | | | | |
| 11A. 2,4,6-Trichlorophenol (88-05-2) | X | | | <2.08 | | | | | | 1 | µg/L | | | | |



CONTINUE ON REVERSE

CONTINUE FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 2B. Acenaphtylene (208-96-8) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 3B. Anthracene (120-12-7) | X | | | <2.0 | | | | | | 1 | µg/L | | | | |
| 4B. Benzidine (92-87-5) | X | | | <12.3 | | | | | | 1 | µg/L | | | | |
| 5B. Benzo (*a*) Anthracene (56-55-3) | X | | | <1.88 | | | | | | 1 | µg/L | | | | |
| 6B. Benzo (*a*) Pyrene (50-32-8) | X | | | <2.07 | | | | | | 1 | µg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | X | | | <2.63 | | | | | | 1 | µg/L | | | | |
| 8B. Benzo (*ghi*) Perylene (191-24-2) | X | | | <2.65 | | | | | | 1 | µg/L | | | | |
| 9B. Benzo (*k*) Fluoranthene (207-08-9) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1) | X | | | <2.78 | | | | | | 1 | µg/L | | | | |
| 11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4) | X | | | <2.69 | | | | | | 1 | µg/L | | | | |
| 12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1) | X | | | <2.3 | | | | | | 1 | µg/L | | | | |
| 13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 14B. 4-Bromophenyl Phenyl Ether (101-55-3) | X | | | <2.2 | | | | | | 1 | µg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | X | | | <3.65 | | | | | | 1 | µg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | X | | | <2.82 | | | | | | 1 | µg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | X | | | <2.41 | | | | | | 1 | µg/L | | | | |
| 18B. Chrysene (218-01-9) | X | | | <2.09 | | | | | | 1 | µg/L | | | | |
| 19B. Dibenzo (*a,h*) Anthracene (53-70-3) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | X | | | <3.27 | | | | | | 1 | µg/L | | | | |
| 21B. 1,3-Di-chloro-benzene (541-73-1) | X | | | <3.26 | | | | | | 1 | µg/L | | | | |



CONTINUE ON PAGE V-7

| 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 | | | <3.62 | | | | | | 1 | µg/L | | | | |
| 23B. 3,3-Dichlorobenzidine (91-94-1) | X | | | <5.63 | | | | | | 1 | µg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | X | | | <9.36 | | | | | | 1 | µg/L | | | | |
| 25B. Dimethyl Phthalate (131-11-3) | X | | | 11.8 | 0.05 | | | | | 1 | µg/L | lb/day | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | X | | | <6.43 | | | | | | 1 | µg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | X | | | <2.06 | | | | | | 1 | µg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | X | | | <2.76 | | | | | | 1 | µg/L | | | | |
| 30B. 1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7) | X | | | <1.99 | | | | | | 1 | µg/L | | | | |
| 31B. Fluoranthene (206-44-0) | X | | | <1.81 | | | | | | 1 | µg/L | | | | |
| 32B. Fluorene (86-73-7) | X | | | <1.97 | | | | | | 1 | µg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | X | | | <2.97 | | | | | | 1 | µg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | X | | | <3.06 | | | | | | 1 | µg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 36B Hexachloroethane (67-72-1) | X | | | <3.74 | | | | | | 1 | µg/L | | | | |
| 37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 38B. Isophorone (78-59-1) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 39B. Naphthalene (91-20-3) | X | | | <2.95 | | | | | | 1 | µg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | X | | | <2.87 | | | | | | 1 | µg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | X | | | <1.29 | | | | | | 1 | µg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | X | | | <2.67 | | | | | | 1 | µg/L | | | | |

CONTINUE[ THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*) | | | | | | | | | | | | | | | |
| 43B. N-Nitrosodiphenylamine (86-30-6) | X | | | <3.97 | | | | | | 1 | µg/L | | | | |
| 44B. Phenanthrene (85-01-8) | X | | | <1.78 | | | | | | 1 | µg/L | | | | |
| 45B. Pyrene (129-00-0) | X | | | <2.15 | | | | | | 1 | µg/L | | | | |
| 46B. 1,2,4-Trichlorobenzene (120-82-1) | X | | | <8.1 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – PESTICIDES | | | | | | | | | | | | | | | |
| 1P. Aldrin (309-00-2) | | | X | | | | | | | 0 | | | | | |
| 2P. α-BHC (319-84-6) | | | X | | | | | | | 0 | | | | | |
| 3P. β-BHC (319-85-7) | | | X | | | | | | | 0 | | | | | |
| 4P. γ-BHC (58-89-9) | | | X | | | | | | | 0 | | | | | |
| 5P. δ-BHC (319-86-8) | | | X | | | | | | | 0 | | | | | |
| 6P. Chlordane (57-74-9) | | | X | | | | | | | 0 | | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | X | | | | | | | 0 | | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | X | | | | | | | 0 | | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | X | | | | | | | 0 | | | | | |
| 10P. Dieldrin (60-57-1) | | | X | | | | | | | 0 | | | | | |
| 11P. α-Enosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 12P. β-Endosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | X | | | | | | | 0 | | | | | |
| 14P. Endrin (72-20-8) | | | X | | | | | | | 0 | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | X | | | | | | | 0 | | | | | |
| 16P. Heptachlor (76-44-8) | | | X | | | | | | | 0 | | | | | |



CONTINUE ON PAGE V-9

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 004 |

CONTINUED FROM PAGE V-8

| 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 | | | | | | | 0 | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | X | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | X | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | X | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | X | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | X | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | X | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | X | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | X | | | | | | | 0 | | | | | |

**OUTFALL 604**

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

EPA I.D. NUMBER (*copy from Item 1 of Form 1*): 31B00002

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

OUTFALL NO.: 604

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

| 1. POLLUTANT | 2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 3. UNITS (*specify if blank*) a. CONCEN-TRATION | 3. UNITS b. MASS | 4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 4. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand (*BOD*) | <0.493 | | | | | | 1 | mg/L | | | | |
| b. Chemical Oxygen Demand (*COD*) | <13.3 | | | | | | 1 | mg/L | | | | |
| c. Total Organic Carbon (*TOC*) | 16.1 | 58.0 | | | | | 1 | mg/L | lb/day | | | |
| d. Total Suspended Solids (*TSS*) | 16 | 57.7 | | | | | 1 | mg/L | lb/day | | | |
| e. Ammonia (*as N*) | <0.0672 | | | | | | 1 | mg/L | | | | |
| f. Flow | VALUE 0.432 | | VALUE | | VALUE | | 1 | MGD | | VALUE | | |
| g. Temperature (*winter*) | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| h. Temperature (*summer*) | VALUE 22.22 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| i. pH | MINIMUM 8.82 | MAXIMUM 8.82 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" a. BELIEVED PRESENT | 2. MARK "X" b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCEN-TRATION | 4. UNITS b. MASS | 5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | X | | <0.01 | | | | | | 1 | mg/L | | | | |
| b. Chlorine, Total Residual | X | | 0.17 | 0.61 | | | | | 1 | mg/L | lb/dy | | | |
| c. Color | X | | 15 | N/A | | | | | 1 | CU | N/A | | | |
| d. Fecal Coliform | | X | | | | | | | 0 | | | | | |
| e. Fluoride (16984-48-8) | | X | 0.049 | 0.18 | | | | | 1 | mg/L | lb/dy | | | |
| f. Nitrate-Nitrite (*as N*) | X | | 0.144 | 0.52 | | | | | 1 | mg/L | lb/dy | | | |

ITEM V-B CONTINUED FROM FRONT

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. BELIEVED PRESENT | b. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | 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 | |
| g. Nitrogen, Total Organic (*as N*) | X | | 0.565 | 2.04 | | | | | 1 | mg/L | lb/dy | | | |
| h. Oil and Grease | X | | 0.43 | 1.55 | | | | | 1 | mg/L | lb/dy | | | |
| i. Phosphorus (as P), Total (7723-14-0) | X | | 0.450 | 1.62 | | | | | 1 | mg/L | lb/dy | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | X | | | | | | | 0 | | | | | |
| (2) Beta, Total | | X | | | | | | | 0 | | | | | |
| (3) Radium, Total | | X | | | | | | | 0 | | | | | |
| (4) Radium 226, Total | | X | | | | | | | 0 | | | | | |
| k. Sulfate (*as $SO_4$*) (14808-79-8) | X | | 2.19 | 7.89 | | | | | 1 | mg/L | lb/dy | | | |
| l. Sulfide (*as S*) | | X | 1.6 | 5.76 | | | | | 1 | mg/L | lb/dy | | | |
| m. Sulfite (*as $SO_3$*) (14265-45-3) | | X | <1.0 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | X | <0.40 | | | | | | 1 | mg/L | | | | |
| o. Aluminum, Total (7429-90-5) | X | | 123 | 0.44 | | | | | 1 | µg/L | lb/dy | | | |
| p. Barium, Total (7440-39-3) | X | | 5.2 | 0.02 | | | | | 1 | µg/L | lb/dy | | | |
| q. Boron, Total (7440-42-8) | X | | 7.2 | 0.03 | | | | | 1 | µg/L | lb/dy | | | |
| r. Cobalt, Total (7440-48-4) | | X | <1.16 | | | | | | 1 | µg/L | | | | |
| s. Iron, Total (7439-89-6) | X | | 5,120 | 18.5 | | | | | 1 | µg/L | lb/dy | | | |
| t. Magnesium, Total (7439-95-4) | X | | 43.8 | 0.16 | | | | | 1 | µg/L | lb/dy | | | |
| u. Molybdenum, Total (7439-98-7) | | X | 5.2 | 0.02 | | | | | 1 | µg/L | lb/dy | | | |
| v. Manganese, Total (7439-96-5) | X | | 30.2 | 0.11 | | | | | 1 | µg/L | lb/dy | | | |
| w. Tin, Total (7440-31-5) | X | | <1.54 | | | | | | 1 | µg/L | | | | |
| x. Titanium, Total (7440-32-6) | X | | 2.65 | 0.01 | | | | | 1 | µg/L | lb/dy | | | |

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 604 |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| METALS, CYANIDE, AND TOTAL PHENOLS | | | | | | | | | | | | | | | |
| 1M. Antimony, Total (7440-36-0) | X | | | <3.46 | | | | | | 1 | µg/L | | | | |
| 2M. Arsenic, Total (7440-38-2) | X | | | 8.3 | 0.03 | | | | | 1 | µg/L | lb/day | | | |
| 3M. Beryllium, Total (7440-41-7) | X | | | <2.7 | | | | | | 1 | µg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | X | | | <1.24 | | | | | | 1 | µg/L | | | | |
| 5M. Chromium, Total (7440-47-3) | X | | | 4.35 | 0.02 | | | | | 1 | µg/L | lb/day | | | |
| 6M. Copper, Total (7440-50-8) | X | | | 1,280 | 4.61 | | | | | 1 | µg/L | lb/day | | | |
| 7M. Lead, Total (7439-92-1) | X | | | 1.9 | 0.01 | | | | | 1 | µg/L | lb/day | | | |
| 8M. Mercury, Total (7439-97-6) | X | | | <0.000238 | | | | | | 1 | µg/L | | | | |
| 9M. Nickel, Total (7440-02-0) | X | | | 22.2 | 0.08 | | | | | 1 | µg/L | lb/day | | | |
| 10M. Selenium, Total (7782-49-2) | X | | | <4.11 | | | | | | 1 | µg/L | | | | |
| 11M. Silver, Total (7440-22-4) | X | | | <0.995 | | | | | | 1 | µg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | X | | | 1.35 | 0.005 | | | | | 1 | µg/L | lb/day | | | |
| 13M. Zinc, Total (7440-66-6) | X | | | 37.2 | 0.13 | | | | | 1 | µg/L | lb/day | | | |
| 14M. Cyanide, Total (57-12-5) | X | | | <0.007 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | X | | | 0.593 | 0.002 | | | | | 1 | mg/L | lb/day | | | |
| DIOXIN | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6) | | | X | DESCRIBE RESULTS Not Detected | | | | | | | | | | | |



*0.000479 ug/L (estimated) reported in field blank.

| 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 | | | | | | | | | | | | | | | |
| 1V. Accrolein (107-02-8) | X | | | <21.3 | | | | | | 1 | µg/L | | | | |
| 2V. Acrylonitrile (107-13-1) | X | | | <26.8 | | | | | | 1 | µg/L | | | | |
| 3V. Benzene (71-43-2) | X | | | <4.01 | | | | | | 1 | µg/L | | | | |
| 4V. Bis (*Chloromethyl*) Ether (542-88-1) | X | | | <5.0 | | | | | | 1 | µg/L | | | | |
| 5V. Bromoform (75-25-2) | X | | | <1.0 | | | | | | 1 | µg/L | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | X | | | <3.08 | | | | | | 1 | µg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | X | | | <1.65 | | | | | | 1 | µg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | X | | | <2.33 | | | | | | 1 | µg/L | | | | |
| 9V. Chloroethane (75-00-3) | X | | | <6.73 | | | | | | 1 | µg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | X | | | <0.67 | | | | | | 1 | µg/L | | | | |
| 11V. Chloroform (67-66-3) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | X | | | <0.33 | | | | | | 1 | µg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | X | | | <4.85 | | | | | | 1 | µg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | X | | | <3.0 | | | | | | 1 | µg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | X | | | <0.46 | | | | | | 1 | µg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | X | | | <1.77 | | | | | | 1 | µg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | X | | | <1.34 | | | | | | 1 | µg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | X | | | <4.27 | | | | | | 1 | µg/L | | | | |


CONTINUE ON PAGE V-5

| 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 | | | <1.59 | | | | | | 1 | µg/L | | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | X | | | <1.49 | | | | | | 1 | µg/L | | | | |
| 24V. Tetrachloroethylene (127-18-4) | X | | | <2.75 | | | | | | 1 | µg/L | | | | |
| 25V. Toluene (108-88-3) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | X | | | <6.52 | | | | | | 1 | µg/L | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | X | | | <3.9 | | | | | | 1 | µg/L | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | X | | | <2.84 | | | | | | 1 | µg/L | | | | |
| 29V Trichloroethylene (79-01-6) | X | | | <2.5 | | | | | | 1 | µg/L | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | X | | | <1.63 | | | | | | 1 | µg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | X | | | <1.95 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – ACID COMPOUNDS | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | X | | | <2.29 | | | | | | 1 | µg/L | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | X | | | <1.84 | | | | | | 1 | µg/L | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | X | | | <9.01 | | | | | | 1 | µg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | X | | | <1.4 | | | | | | 1 | µg/L | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | X | | | <3.5 | | | | | | 1 | µg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 9A. Pentachlorophenol (87-86-5) | X | | | <2.03 | | | | | | 1 | µg/L | | | | |
| 10A. Phenol (108-95-2) | X | | | <8.24 | | | | | | 1 | µg/L | | | | |
| 11A. 2,4,6-Trichlorophenol (88-05-2) | X | | | <2.08 | | | | | | 1 | µg/L | | | | |

CONTINUED THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 2B. Acenaphtylene (208-96-8) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 3B. Anthracene (120-12-7) | X | | | <2.0 | | | | | | 1 | µg/L | | | | |
| 4B. Benzidine (92-87-5) | X | | | <12.3 | | | | | | 1 | µg/L | | | | |
| 5B. Benzo (*a*) Anthracene (56-55-3) | X | | | <1.88 | | | | | | 1 | µg/L | | | | |
| 6B. Benzo (*a*) Pyrene (50-32-8) | X | | | <2.07 | | | | | | 1 | µg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | X | | | <2.63 | | | | | | 1 | µg/L | | | | |
| 8B. Benzo (*ghi*) Perylene (191-24-2) | X | | | <2.65 | | | | | | 1 | µg/L | | | | |
| 9B. Benzo (*k*) Fluoranthene (207-08-9) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1) | X | | | <2.78 | | | | | | 1 | µg/L | | | | |
| 11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4) | X | | | <2.69 | | | | | | 1 | µg/L | | | | |
| 12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1) | X | | | <2.3 | | | | | | 1 | µg/L | | | | |
| 13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 14B. 4-Bromophenyl Phenyl Ether (101-55-3) | X | | | <2.2 | | | | | | 1 | µg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | X | | | <3.65 | | | | | | 1 | µg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | X | | | <2.82 | | | | | | 1 | µg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | X | | | <2.41 | | | | | | 1 | µg/L | | | | |
| 18B. Chrysene (218-01-9) | X | | | <2.09 | | | | | | 1 | µg/L | | | | |
| 19B. Dibenzo (*a,h*) Anthracene (53-70-3) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | X | | | <3.27 | | | | | | 1 | µg/L | | | | |
| 21B. 1,3-Di-chloro-benzene (541-73-1) | X | | | <3.26 | | | | | | 1 | µg/L | | | | |



CONTINUE ON PAGE V-7

| 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 | | | <3.62 | | | | | | 1 | µg/L | | | | |
| 23B. 3,3-Dichlorobenzidine (91-94-1) | X | | | <5.63 | | | | | | 1 | µg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | X | | | <9.36 | | | | | | 1 | µg/L | | | | |
| 25B. Dimethyl Phthalate (131 -11-3) | X | | | <6.26 | | | | | | 1 | µg/L | | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | X | | | <6.43 | | | | | | 1 | µg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | X | | | <2.06 | | | | | | 1 | µg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | X | | | <2.76 | | | | | | 1 | µg/L | | | | |
| 30B. 1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7) | X | | | <1.99 | | | | | | 1 | µg/L | | | | |
| 31B. Fluoranthene (206-44-0) | X | | | <1.81 | | | | | | 1 | µg/L | | | | |
| 32B. Fluorene (86-73-7) | X | | | <1.97 | | | | | | 1 | µg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | X | | | <2.97 | | | | | | 1 | µg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | X | | | <3.06 | | | | | | 1 | µg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 36B Hexachloroethane (67-72-1) | X | | | <3.74 | | | | | | 1 | µg/L | | | | |
| 37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 38B. Isophorone (78-59-1) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 39B. Naphthalene (91-20-3) | X | | | <2.95 | | | | | | 1 | µg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | X | | | <2.87 | | | | | | 1 | µg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | X | | | <1.29 | | | | | | 1 | µg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | X | | | <2.67 | | | | | | 1 | µg/L | | | | |

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*) | | | | | | | | | | | | | | | |
| 43B. N-Nitrosodiphenylamine (86-30-6) | X | | | <3.97 | | | | | | 1 | µg/L | | | | |
| 44B. Phenanthrene (85-01-8) | X | | | <1.78 | | | | | | 1 | µg/L | | | | |
| 45B. Pyrene (129-00-0) | X | | | <2.15 | | | | | | 1 | µg/L | | | | |
| 46B. 1,2,4-Trichlorobenzene (120-82-1) | X | | | <8.1 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – PESTICIDES | | | | | | | | | | | | | | | |
| 1P. Aldrin (309-00-2) | | | X | | | | | | | 0 | | | | | |
| 2P. α-BHC (319-84-6) | | | X | | | | | | | 0 | | | | | |
| 3P. β-BHC (319-85-7) | | | X | | | | | | | 0 | | | | | |
| 4P. γ-BHC (58-89-9) | | | X | | | | | | | 0 | | | | | |
| 5P. δ-BHC (319-86-8) | | | X | | | | | | | 0 | | | | | |
| 6P. Chlordane (57-74-9) | | | X | | | | | | | 0 | | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | X | | | | | | | 0 | | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | X | | | | | | | 0 | | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | X | | | | | | | 0 | | | | | |
| 10P. Dieldrin (60-57-1) | | | X | | | | | | | 0 | | | | | |
| 11P. α-Enosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 12P. β-Endosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | X | | | | | | | 0 | | | | | |
| 14P. Endrin (72-20-8) | | | X | | | | | | | 0 | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | X | | | | | | | 0 | | | | | |
| 16P. Heptachlor (76-44-8) | | | X | | | | | | | 0 | | | | | |



CONTINUE ON PAGE V-9

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 604 |

CONTINUED FROM PAGE V-8

| 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 | | | | | | | 0 | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | X | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | X | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | X | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | X | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | X | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | X | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | X | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | X | | | | | | | 0 | | | | | |

**OUTFALL 610**

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

EPA I.D. NUMBER (*copy from Item 1 of Form 1*): 31B00002

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

OUTFALL NO.: 610

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

| 1. POLLUTANT | 2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 3. UNITS (*specify if blank*) a. CONCENTRATION | 3. UNITS b. MASS | 4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 4. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand (*BOD*) | 1 | 0.73 | | | | | 1 | mg/L | lb/day | | | |
| b. Chemical Oxygen Demand (*COD*) | 20.9 | 15.2 | | | | | 1 | mg/L | lb/day | | | |
| c. Total Organic Carbon (*TOC*) | 3.04 | 2.21 | | | | | 1 | mg/L | lb/day | | | |
| d. Total Suspended Solids (*TSS*) | 14 | 10.2 | | | | | 1 | mg/L | lb/day | | | |
| e. Ammonia (*as N*) | 2.53 | 1.84 | | | | | 1 | mg/L | lb/day | | | |
| f. Flow | VALUE 0.087 | | VALUE | | VALUE | | 1 | MGD | | VALUE | | |
| g. Temperature (*winter*) | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| h. Temperature (*summer*) | VALUE 15 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| i. pH | MINIMUM 8.52 | MAXIMUM 8.52 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" a. BELIEVED PRESENT | 2. MARK "X" b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | X | | 0.183 | 0.13 | | | | | 1 | mg/L | lb/dy | | | |
| b. Chlorine, Total Residual | X | | 0.06 | 0.04 | | | | | 1 | mg/L | lb/dy | | | |
| c. Color | X | | 15 | N/A | | | | | 1 | CU | N/A | | | |
| d. Fecal Coliform | | X | | | | | | | 0 | | | | | |
| e. Fluoride (16984-48-8) | | X | 0.455 | 0.33 | | | | | 1 | mg/L | lb/dy | | | |
| f. Nitrate-Nitrite (*as N*) | X | | 1.48 | 1.07 | | | | | 1 | mg/L | lb/dy | | | |

ITEM V-B CONTINUED FROM FRONT

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. BELIEVED PRESENT | b. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | 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 | |
| g. Nitrogen, Total Organic (*as N*) | X | | 0.270 | 0.2 | | | | | 1 | mg/L | lb/dy | | | |
| h. Oil and Grease | X | | <0.43 | | | | | | 1 | mg/L | lb/dy | | | |
| i. Phosphorus (as P), Total (7723-14-0) | X | X | <0.0149 | | | | | | 1 | mg/L | lb/dy | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | X | | | | | | | 0 | | | | | |
| (2) Beta, Total | | X | | | | | | | 0 | | | | | |
| (3) Radium, Total | | X | | | | | | | 0 | | | | | |
| (4) Radium 226, Total | | X | | | | | | | 0 | | | | | |
| k. Sulfate (*as $SO_4$*) (14808-79-8) | X | | 2,170 | 1,575 | | | | | 1 | mg/L | lb/dy | | | |
| l. Sulfide (*as S*) | | X | 4 | 2.9 | | | | | 1 | mg/L | lb/dy | | | |
| m. Sulfite (*as $SO_3$*) (14265-45-3) | | X | <1.0 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | X | <0.40 | | | | | | 1 | mg/L | | | | |
| o. Aluminum, Total (7429-90-5) | X | | 167 | 0.12 | | | | | 1 | µg/L | lb/dy | | | |
| p. Barium, Total (7440-39-3) | X | | 16.8 | 0.01 | | | | | 1 | µg/L | lb/dy | | | |
| q. Boron, Total (7440-42-8) | X | | 276 | 0.02 | | | | | 1 | µg/L | lb/dy | | | |
| r. Cobalt, Total (7440-48-4) | | X | 2.8 | 0.002 | | | | | 1 | µg/L | lb/dy | | | |
| s. Iron, Total (7439-89-6) | X | | 1,090 | 0.79 | | | | | 1 | µg/L | lb/dy | | | |
| t. Magnesium, Total (7439-95-4) | X | | 60,800 | 44.1 | | | | | 1 | µg/L | lb/dy | | | |
| u. Molybdenum, Total (7439-98-7) | | X | <2.44 | | | | | | 1 | µg/L | | | | |
| v. Manganese, Total (7439-96-5) | X | | 397 | 0.29 | | | | | 1 | µg/L | lb/dy | | | |
| w. Tin, Total (7440-31-5) | X | | <1.54 | | | | | | 1 | µg/L | | | | |
| x. Titanium, Total (7440-32-6) | X | | <0.8 | | | | | | 1 | µg/L | | | | |



CONTINUE ON PAGE V-3

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 610 |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| METALS, CYANIDE, AND TOTAL PHENOLS | | | | | | | | | | | | | | | |
| 1M. Antimony, Total (7440-36-0) | X | | | 3.95 | 0.003 | | | | | 1 | µg/L | lb/day | | | |
| 2M. Arsenic, Total (7440-38-2) | X | | | <1.6 | | | | | | 1 | µg/L | | | | |
| 3M. Beryllium, Total (7440-41-7) | X | | | <2.7 | | | | | | 1 | µg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | X | | | <1.24 | | | | | | 1 | µg/L | | | | |
| 5M. Chromium, Total (7440-47-3) | X | | | <0.77 | | | | | | 1 | µg/L | | | | |
| 6M. Copper, Total (7440-50-8) | X | | | 3.45 | 0.003 | | | | | 1 | µg/L | lb/day | | | |
| 7M. Lead, Total (7439-92-1) | X | | | <1.49 | | | | | | 1 | µg/L | | | | |
| 8M. Mercury, Total (7439-97-6) | X | | | 0.0017* | 1.2E-6 | | | | | 1 | µg/L | lb/day | | | |
| 9M. Nickel, Total (7440-02-0) | X | | | 5.1 | 0.004 | | | | | 1 | µg/L | lb/day | | | |
| 10M. Selenium, Total (7782-49-2) | X | | | <4.11 | | | | | | 1 | µg/L | | | | |
| 11M. Silver, Total (7440-22-4) | X | | | <0.995 | | | | | | 1 | µg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | X | | | 1.25 | 0.001 | | | | | 1 | µg/L | lb/day | | | |
| 13M. Zinc, Total (7440-66-6) | X | | | 14.6 | 0.01 | | | | | 1 | µg/L | lb/day | | | |
| 14M. Cyanide, Total (57-12-5) | X | | | <0.007 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | X | | | 0.015 | 1.1E-5 | | | | | 1 | mg/L | lb/day | | | |
| DIOXIN | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6) | | | X | DESCRIBE RESULTS Not Detected | | | | | | | | | | | |

EPA Form 3510-2C (8-90)



CONTINUE ON REVERSE

*<0.000238 ug/L reported in field blank

CONTINUED THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – VOLATILE COMPOUNDS | | | | | | | | | | | | | | | |
| 1V. Accrolein (107-02-8) | X | | | <21.3 | | | | | | 1 | µg/L | | | | |
| 2V. Acrylonitrile (107-13-1) | X | | | <26.8 | | | | | | 1 | µg/L | | | | |
| 3V. Benzene (71-43-2) | X | | | <4.01 | | | | | | 1 | µg/L | | | | |
| 4V. Bis (*Chloromethyl*) Ether (542-88-1) | X | | | <5.0 | | | | | | 1 | µg/L | | | | |
| 5V. Bromoform (75-25-2) | X | | | <1.0 | | | | | | 1 | µg/L | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | X | | | <3.08 | | | | | | 1 | µg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | X | | | <1.65 | | | | | | 1 | µg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | X | | | <2.33 | | | | | | 1 | µg/L | | | | |
| 9V. Chloroethane (75-00-3) | X | | | <6.73 | | | | | | 1 | µg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | X | | | <0.67 | | | | | | 1 | µg/L | | | | |
| 11V. Chloroform (67-66-3) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | X | | | <0.33 | | | | | | 1 | µg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | X | | | <4.85 | | | | | | 1 | µg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | X | | | <3.0 | | | | | | 1 | µg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | X | | | <0.46 | | | | | | 1 | µg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | X | | | <1.77 | | | | | | 1 | µg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | X | | | <1.34 | | | | | | 1 | µg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | X | | | <4.27 | | | | | | 1 | µg/L | | | | |



CONTINUE ON PAGE V-5

| 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 | | | <1.59 | | | | | | 1 | µg/L | | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | X | | | <1.49 | | | | | | 1 | µg/L | | | | |
| 24V. Tetrachloroethylene (127-18-4) | X | | | <2.75 | | | | | | 1 | µg/L | | | | |
| 25V. Toluene (108-88-3) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | X | | | <6.52 | | | | | | 1 | µg/L | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | X | | | <3.9 | | | | | | 1 | µg/L | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | X | | | <2.84 | | | | | | 1 | µg/L | | | | |
| 29V Trichloroethylene (79-01-6) | X | | | <2.5 | | | | | | 1 | µg/L | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | X | | | <1.63 | | | | | | 1 | µg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | X | | | <1.95 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – ACID COMPOUNDS | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | X | | | <2.29 | | | | | | 1 | µg/L | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | X | | | <1.84 | | | | | | 1 | µg/L | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | X | | | <9.01 | | | | | | 1 | µg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | X | | | <1.4 | | | | | | 1 | µg/L | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | X | | | <3.5 | | | | | | 1 | µg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 9A. Pentachlorophenol (87-86-5) | X | | | <2.03 | | | | | | 1 | µg/L | | | | |
| 10A. Phenol (108-95-2) | X | | | <8.24 | | | | | | 1 | µg/L | | | | |
| 11A. 2,4,6-Trichlorophenol (88-05-2) | X | | | <2.08 | | | | | | 1 | µg/L | | | | |



CONTINUE ON REVERSE

CONTINUE I THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 2B. Acenaphtylene (208-96-8) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 3B. Anthracene (120-12-7) | X | | | <2.0 | | | | | | 1 | µg/L | | | | |
| 4B. Benzidine (92-87-5) | X | | | <12.3 | | | | | | 1 | µg/L | | | | |
| 5B. Benzo (*a*) Anthracene (56-55-3) | X | | | <1.88 | | | | | | 1 | µg/L | | | | |
| 6B. Benzo (*a*) Pyrene (50-32-8) | X | | | <2.07 | | | | | | 1 | µg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | X | | | <2.63 | | | | | | 1 | µg/L | | | | |
| 8B. Benzo (*ghi*) Perylene (191-24-2) | X | | | <2.65 | | | | | | 1 | µg/L | | | | |
| 9B. Benzo (*k*) Fluoranthene (207-08-9) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1) | X | | | <2.78 | | | | | | 1 | µg/L | | | | |
| 11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4) | X | | | <2.69 | | | | | | 1 | µg/L | | | | |
| 12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1) | X | | | <2.3 | | | | | | 1 | µg/L | | | | |
| 13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 14B. 4-Bromophenyl Phenyl Ether (101-55-3) | X | | | <2.2 | | | | | | 1 | µg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | X | | | <3.65 | | | | | | 1 | µg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | X | | | <2.82 | | | | | | 1 | µg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | X | | | <2.41 | | | | | | 1 | µg/L | | | | |
| 18B. Chrysene (218-01-9) | X | | | <2.09 | | | | | | 1 | µg/L | | | | |
| 19B. Dibenzo (*a,h*) Anthracene (53-70-3) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | X | | | <3.27 | | | | | | 1 | µg/L | | | | |
| 21B. 1,3-Di-chloro-benzene (541-73-1) | X | | | <3.26 | | | | | | 1 | µg/L | | | | |



CONTINUE ON PAGE V-7

| 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 | | | <3.62 | | | | | | 1 | µg/L | | | | |
| 23B. 3,3-Dichlorobenzidine (91-94-1) | X | | | <5.63 | | | | | | 1 | µg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | X | | | <9.36 | | | | | | 1 | µg/L | | | | |
| 25B. Dimethyl Phthalate (131 -11-3) | X | | | 11.6 | 0.008 | | | | | 1 | µg/L | lb/day | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | X | | | <6.43 | | | | | | 1 | µg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | X | | | <2.06 | | | | | | 1 | µg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | X | | | <2.76 | | | | | | 1 | µg/L | | | | |
| 30B. 1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7) | X | | | <1.99 | | | | | | 1 | µg/L | | | | |
| 31B. Fluoranthene (206-44-0) | X | | | <1.81 | | | | | | 1 | µg/L | | | | |
| 32B. Fluorene (86-73-7) | X | | | <1.97 | | | | | | 1 | µg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | X | | | <2.97 | | | | | | 1 | µg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | X | | | <3.06 | | | | | | 1 | µg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 36B Hexachloroethane (67-72-1) | X | | | <3.74 | | | | | | 1 | µg/L | | | | |
| 37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 38B. Isophorone (78-59-1) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 39B. Naphthalene (91-20-3) | X | | | <2.95 | | | | | | 1 | µg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | X | | | <2.87 | | | | | | 1 | µg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | X | | | <1.29 | | | | | | 1 | µg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | X | | | <2.67 | | | | | | 1 | µg/L | | | | |

CONTINUED THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*) | | | | | | | | | | | | | | | |
| 43B. N-Nitrosodiphenylamine (86-30-6) | X | | | <3.97 | | | | | | 1 | µg/L | | | | |
| 44B. Phenanthrene (85-01-8) | X | | | <1.78 | | | | | | 1 | µg/L | | | | |
| 45B. Pyrene (129-00-0) | X | | | <2.15 | | | | | | 1 | µg/L | | | | |
| 46B. 1,2,4-Trichlorobenzene (120-82-1) | X | | | <8.1 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – PESTICIDES | | | | | | | | | | | | | | | |
| 1P. Aldrin (309-00-2) | | | X | | | | | | | 0 | | | | | |
| 2P. α-BHC (319-84-6) | | | X | | | | | | | 0 | | | | | |
| 3P. β-BHC (319-85-7) | | | X | | | | | | | 0 | | | | | |
| 4P. γ-BHC (58-89-9) | | | X | | | | | | | 0 | | | | | |
| 5P. δ-BHC (319-86-8) | | | X | | | | | | | 0 | | | | | |
| 6P. Chlordane (57-74-9) | | | X | | | | | | | 0 | | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | X | | | | | | | 0 | | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | X | | | | | | | 0 | | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | X | | | | | | | 0 | | | | | |
| 10P. Dieldrin (60-57-1) | | | X | | | | | | | 0 | | | | | |
| 11P. α-Enosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 12P. β-Endosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | X | | | | | | | 0 | | | | | |
| 14P. Endrin (72-20-8) | | | X | | | | | | | 0 | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | X | | | | | | | 0 | | | | | |
| 16P. Heptachlor (76-44-8) | | | X | | | | | | | 0 | | | | | |



CONTINUE ON PAGE V-9

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 610 |

CONTINUED FROM PAGE V-8

| 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 | | | | | | | 0 | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | X | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | X | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | X | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | X | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | X | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | X | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | X | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | X | | | | | | | 0 | | | | | |

**OUTFALL 612**

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

EPA I.D. NUMBER (*copy from Item 1 of Form 1*): 31B00002

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

OUTFALL NO.: 612

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

| 1. POLLUTANT | 2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 3. UNITS (*specify if blank*) a. CONCEN-TRATION | 3. UNITS b. MASS | 4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | 4. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand (*BOD*) | 1 | 28.4 | | | | | 1 | mg/L | lb/day | | | |
| b. Chemical Oxygen Demand (*COD*) | 19.4 | 550.1 | | | | | 1 | mg/L | lb/day | | | |
| c. Total Organic Carbon (*TOC*) | 4.43 | 125.6 | | | | | 1 | mg/L | lb/day | | | |
| d. Total Suspended Solids (*TSS*) | 37 | 1,049 | | | | | 1 | mg/L | lb/day | | | |
| e. Ammonia (*as N*) | 0.146 | 4.14 | | | | | 1 | mg/L | lb/day | | | |
| f. Flow | VALUE 3.4 | | VALUE | | VALUE | | 1 | MGD | | VALUE | | |
| g. Temperature (*winter*) | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| h. Temperature (*summer*) | VALUE 26.7 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| i. pH | MINIMUM 7.82 | MAXIMUM 7.82 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" a. BELIEVED PRESENT | 2. MARK "X" b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCEN-TRATION | 4. UNITS b. MASS | 5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | X | | 0.015 | 0.43 | | | | | 1 | mg/L | lb/dy | | | |
| b. Chlorine, Total Residual | X | | 0.05 | 1.42 | | | | | 1 | mg/L | lb/dy | | | |
| c. Color | X | | 15 | N/A | | | | | 1 | CU | N/A | | | |
| d. Fecal Coliform | | X | | | | | | | 0 | | | | | |
| e. Fluoride (16984-48-8) | | X | 0.120 | 3.40 | | | | | 1 | mg/L | lb/dy | | | |
| f. Nitrate-Nitrite (*as N*) | X | | 0.123 | 3.49 | | | | | 1 | mg/L | lb/dy | | | |

ITEM V-B C[illegible] ED FROM FRONT

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. BELIEVED PRESENT | b. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| g. Nitrogen, Total Organic (*as N*) | X | | 0.57 | 16.2 | | | | | 1 | mg/L | lb/dy | | | |
| h. Oil and Grease | X | | 0.56 | 15.9 | | | | | 1 | mg/L | lb/dy | | | |
| i. Phosphorus (as P), Total (7723-14-0) | X | X | <0.0149 | | | | | | 1 | mg/L | | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | X | | | | | | | 0 | | | | | |
| (2) Beta, Total | | X | | | | | | | 0 | | | | | |
| (3) Radium, Total | | X | | | | | | | 0 | | | | | |
| (4) Radium 226, Total | | X | | | | | | | 0 | | | | | |
| k. Sulfate (*as $SO_4$*) (14808-79-8) | X | | 39.8 | 1,129 | | | | | 1 | mg/L | lb/dy | | | |
| l. Sulfide (*as S*) | | X | <0.791 | | | | | | 1 | mg/L | | | | |
| m. Sulfite (*as $SO_3$*) (14265-45-3) | | X | <1.0 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | X | <0.40 | | | | | | 1 | mg/L | | | | |
| o. Aluminum, Total (7429-90-5) | X | | 560 | 15.9 | | | | | 1 | µg/L | lb/dy | | | |
| p. Barium, Total (7440-39-3) | X | | 24.6 | 0.70 | | | | | 1 | µg/L | lb/dy | | | |
| q. Boron, Total (7440-42-8) | X | | 44.4 | 1.26 | | | | | 1 | µg/L | lb/dy | | | |
| r. Cobalt, Total (7440-48-4) | | X | <1.16 | | | | | | 1 | µg/L | | | | |
| s. Iron, Total (7439-89-6) | X | | 1,030 | 29.2 | | | | | 1 | µg/L | lb/dy | | | |
| t. Magnesium, Total (7439-95-4) | X | | 9,080 | 257.5 | | | | | 1 | µg/L | lb/dy | | | |
| u. Molybdenum, Total (7439-98-7) | | X | <2.44 | | | | | | 1 | µg/L | | | | |
| v. Manganese, Total (7439-96-5) | X | | 30.9 | 0.88 | | | | | 1 | µg/L | lb/dy | | | |
| w. Tin, Total (7440-31-5) | X | | <1.54 | | | | | | 1 | µg/L | | | | |
| x. Titanium, Total (7440-32-6) | X | | 7.75 | 0.22 | | | | | 1 | µg/L | lb/dy | | | |



CONTINUE ON PAGE V-3

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 612 |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| METALS, CYANIDE, AND TOTAL PHENOLS | | | | | | | | | | | | | | | |
| 1M. Antimony, Total (7440-36-0) | X | | | <3.46 | | | | | | 1 | µg/L | | | | |
| 2M. Arsenic, Total (7440-38-2) | X | | | <1.6 | | | | | | 1 | µg/L | | | | |
| 3M. Beryllium, Total (7440-41-7) | X | | | <2.7 | | | | | | 1 | µg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | X | | | <1.24 | | | | | | 1 | µg/L | | | | |
| 5M. Chromium, Total (7440-47-3) | X | | | 1.45 | 0.04 | | | | | 1 | µg/L | lb/day | | | |
| 6M. Copper, Total (7440-50-8) | X | | | 18.2 | 0.52 | | | | | 1 | µg/L | lb/day | | | |
| 7M. Lead, Total (7439-92-1) | X | | | <1.49 | | | | | | 1 | µg/L | | | | |
| 8M. Mercury, Total (7439-97-6) | X | | | 0.001* | 2.8E-5 | | | | | 1 | µg/L | lb/day | | | |
| 9M. Nickel, Total (7440-02-0) | X | | | 5.0 | 0.14 | | | | | 1 | µg/L | lb/day | | | |
| 10M. Selenium, Total (7782-49-2) | X | | | <4.11 | | | | | | 1 | µg/L | | | | |
| 11M. Silver, Total (7440-22-4) | X | | | <0.995 | | | | | | 1 | µg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | X | | | <0.885 | | | | | | 1 | µg/L | | | | |
| 13M. Zinc, Total (7440-66-6) | X | | | 8.9 | 0.25 | | | | | 1 | µg/L | lb/day | | | |
| 14M. Cyanide, Total (57-12-5) | X | | | <0.007 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | X | | | 0.043 | 1.22 | | | | | 1 | mg/L | lb/day | | | |
| DIOXIN | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6) | | | X | DESCRIBE RESULTS Not Detected | | | | | | | | | | | |



*0.000319 ug/L (estimated) reported in field blank.

CONTINUED THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – VOLATILE COMPOUNDS | | | | | | | | | | | | | | | |
| 1V. Accrolein (107-02-8) | X | | | <21.3 | | | | | | 1 | µg/L | | | | |
| 2V. Acrylonitrile (107-13-1) | X | | | <26.8 | | | | | | 1 | µg/L | | | | |
| 3V. Benzene (71-43-2) | X | | | <4.01 | | | | | | 1 | µg/L | | | | |
| 4V. Bis (*Chloromethyl*) Ether (542-88-1) | X | | | <5.0 | | | | | | 1 | µg/L | | | | |
| 5V. Bromoform (75-25-2) | X | | | <1.0 | | | | | | 1 | µg/L | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | X | | | <3.08 | | | | | | 1 | µg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | X | | | <1.65 | | | | | | 1 | µg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | X | | | <2.33 | | | | | | 1 | µg/L | | | | |
| 9V. Chloroethane (75-00-3) | X | | | <6.73 | | | | | | 1 | µg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | X | | | <0.67 | | | | | | 1 | µg/L | | | | |
| 11V. Chloroform (67-66-3) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | X | | | <0.33 | | | | | | 1 | µg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | X | | | <4.85 | | | | | | 1 | µg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | X | | | <3.0 | | | | | | 1 | µg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | X | | | <0.46 | | | | | | 1 | µg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | X | | | <1.77 | | | | | | 1 | µg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | X | | | <1.34 | | | | | | 1 | µg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | X | | | <4.27 | | | | | | 1 | µg/L | | | | |



CONTINUE ON PAGE V-5

| 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 | | | 1.72 | 0.05 | | | | | 1 | µg/L | lb/day | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | X | | | <1.49 | | | | | | 1 | µg/L | | | | |
| 24V. Tetrachloroethylene (127-18-4) | X | | | <2.75 | | | | | | 1 | µg/L | | | | |
| 25V. Toluene (108-88-3) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | X | | | <6.52 | | | | | | 1 | µg/L | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | X | | | <3.9 | | | | | | 1 | µg/L | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | X | | | <2.84 | | | | | | 1 | µg/L | | | | |
| 29V Trichloroethylene (79-01-6) | X | | | <2.5 | | | | | | 1 | µg/L | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | X | | | <1.63 | | | | | | 1 | µg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | X | | | <1.95 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – ACID COMPOUNDS | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | X | | | <2.29 | | | | | | 1 | µg/L | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | X | | | <1.84 | | | | | | 1 | µg/L | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | X | | | <9.01 | | | | | | 1 | µg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | X | | | <1.4 | | | | | | 1 | µg/L | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | X | | | <3.5 | | | | | | 1 | µg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 9A. Pentachlorophenol (87-86-5) | X | | | <2.03 | | | | | | 1 | µg/L | | | | |
| 10A. Phenol (108-95-2) | X | | | <8.24 | | | | | | 1 | µg/L | | | | |
| 11A. 2,4,6-Trichlorophenol (88-05-2) | X | | | <2.08 | | | | | | 1 | µg/L | | | | |



CONTINUE ON REVERSE

CONTINUE[ | THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 2B. Acenaphtylene (208-96-8) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 3B. Anthracene (120-12-7) | X | | | <2.0 | | | | | | 1 | µg/L | | | | |
| 4B. Benzidine (92-87-5) | X | | | <12.3 | | | | | | 1 | µg/L | | | | |
| 5B. Benzo (*a*) Anthracene (56-55-3) | X | | | <1.88 | | | | | | 1 | µg/L | | | | |
| 6B. Benzo (*a*) Pyrene (50-32-8) | X | | | <2.07 | | | | | | 1 | µg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | X | | | <2.63 | | | | | | 1 | µg/L | | | | |
| 8B. Benzo (*ghi*) Perylene (191-24-2) | X | | | <2.65 | | | | | | 1 | µg/L | | | | |
| 9B. Benzo (*k*) Fluoranthene (207-08-9) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1) | X | | | <2.78 | | | | | | 1 | µg/L | | | | |
| 11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4) | X | | | <2.69 | | | | | | 1 | µg/L | | | | |
| 12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1) | X | | | <2.3 | | | | | | 1 | µg/L | | | | |
| 13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 14B. 4-Bromophenyl Phenyl Ether (101-55-3) | X | | | <2.2 | | | | | | 1 | µg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | X | | | <3.65 | | | | | | 1 | µg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | X | | | <2.82 | | | | | | 1 | µg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | X | | | <2.41 | | | | | | 1 | µg/L | | | | |
| 18B. Chrysene (218-01-9) | X | | | <2.09 | | | | | | 1 | µg/L | | | | |
| 19B. Dibenzo (*a,h*) Anthracene (53-70-3) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | X | | | <3.27 | | | | | | 1 | µg/L | | | | |
| 21B. 1,3-Di-chloro-benzene (541-73-1) | X | | | <3.26 | | | | | | 1 | µg/L | | | | |

| 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 | | | <3.62 | | | | | | 1 | µg/L | | | | |
| 23B. 3,3-Dichlorobenzidine (91-94-1) | X | | | <5.63 | | | | | | 1 | µg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | X | | | <9.36 | | | | | | 1 | µg/L | | | | |
| 25B. Dimethyl Phthalate (131 -11-3) | X | | | <6.26 | | | | | | 1 | µg/L | | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | X | | | <6.43 | | | | | | 1 | µg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | X | | | <2.06 | | | | | | 1 | µg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | X | | | <2.76 | | | | | | 1 | µg/L | | | | |
| 30B. 1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7) | X | | | <1.99 | | | | | | 1 | µg/L | | | | |
| 31B. Fluoranthene (206-44-0) | X | | | <1.81 | | | | | | 1 | µg/L | | | | |
| 32B. Fluorene (86-73-7) | X | | | <1.97 | | | | | | 1 | µg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | X | | | <2.97 | | | | | | 1 | µg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | X | | | <3.06 | | | | | | 1 | µg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 36B Hexachloroethane (67-72-1) | X | | | <3.74 | | | | | | 1 | µg/L | | | | |
| 37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 38B. Isophorone (78-59-1) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 39B. Naphthalene (91-20-3) | X | | | <2.95 | | | | | | 1 | µg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | X | | | <2.87 | | | | | | 1 | µg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | X | | | <1.29 | | | | | | 1 | µg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | X | | | <2.67 | | | | | | 1 | µg/L | | | | |

CONTINUED THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*) | | | | | | | | | | | | | | | |
| 43B. N-Nitro-sodiphenylamine (86-30-6) | X | | | <3.97 | | | | | | 1 | µg/L | | | | |
| 44B. Phenanthrene (85-01-8) | X | | | <1.78 | | | | | | 1 | µg/L | | | | |
| 45B. Pyrene (129-00-0) | X | | | <2.15 | | | | | | 1 | µg/L | | | | |
| 46B. 1,2,4-Tri-chlorobenzene (120-82-1) | X | | | <8.1 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – PESTICIDES | | | | | | | | | | | | | | | |
| 1P. Aldrin (309-00-2) | | | X | | | | | | | 0 | | | | | |
| 2P. α-BHC (319-84-6) | | | X | | | | | | | 0 | | | | | |
| 3P. β-BHC (319-85-7) | | | X | | | | | | | 0 | | | | | |
| 4P. γ-BHC (58-89-9) | | | X | | | | | | | 0 | | | | | |
| 5P. δ-BHC (319-86-8) | | | X | | | | | | | 0 | | | | | |
| 6P. Chlordane (57-74-9) | | | X | | | | | | | 0 | | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | X | | | | | | | 0 | | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | X | | | | | | | 0 | | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | X | | | | | | | 0 | | | | | |
| 10P. Dieldrin (60-57-1) | | | X | | | | | | | 0 | | | | | |
| 11P. α-Enosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 12P. β-Endosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | X | | | | | | | 0 | | | | | |
| 14P. Endrin (72-20-8) | | | X | | | | | | | 0 | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | X | | | | | | | 0 | | | | | |
| 16P. Heptachlor (76-44-8) | | | X | | | | | | | 0 | | | | | |


CONTINUE ON PAGE V-9

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 612 |

CONTINUED FROM PAGE V-8

| 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 | | | | | | | 0 | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | X | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | X | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | X | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | X | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | X | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | X | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | X | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | X | | | | | | | 0 | | | | | |

**OUTFALL 800**

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

EPA I.D. NUMBER (*copy from Item 1 of Form 1*): 31B00002

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

OUTFALL NO.: 800

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

| 1. POLLUTANT | 2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 3. UNITS (*specify if blank*) a. CONCENTRATION | 3. UNITS b. MASS | 4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | 4. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand (*BOD*) | 1 | 3,962 | | | | | 1 | mg/L | lb/day | | | |
| b. Chemical Oxygen Demand (*COD*) | 21.8 | 86,379 | | | | | 1 | mg/L | lb/day | | | |
| c. Total Organic Carbon (*TOC*) | 3.33 | 13,195 | | | | | 1 | mg/L | lb/day | | | |
| d. Total Suspended Solids (*TSS*) | 35 | 138,682 | | | | | 1 | mg/L | lb/day | | | |
| e. Ammonia (*as N*) | 0.16 | 634 | | | | | 1 | mg/L | lb/day | | | |
| f. Flow | VALUE 475.1 | | VALUE | | VALUE | | 1 | MGD | | VALUE | | |
| g. Temperature (*winter*) | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| h. Temperature (*summer*) | VALUE 16.7 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| i. pH | MINIMUM 7.95 | MAXIMUM 7.95 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" a. BELIEVED PRESENT | 2. MARK "X" b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | X | | <0.01 | | | | | | 1 | mg/L | | | | |
| b. Chlorine, Total Residual | X | | 0.08 | 317 | | | | | 1 | mg/L | lb/dy | | | |
| c. Color | X | | 25 | N/A | | | | | 1 | CU | N/A | | | |
| d. Fecal Coliform | | X | | | | | | | 0 | | | | | |
| e. Fluoride (16984-48-8) | | X | 0.195 | 772.7 | | | | | 1 | mg/L | lb/dy | | | |
| f. Nitrate-Nitrite (*as N*) | X | | 0.808 | 3,202 | | | | | 1 | mg/L | lb/dy | | | |

ITEM V-B CC ED FROM FRONT

| 1. POLLUTANT AND CAS NO. (*if available*) | 2. MARK "X" | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. BELIEVED PRESENT | b. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS | c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (*if available*) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| g. Nitrogen, Total Organic (*as N*) | X | | 0.3 | 1,189 | | | | | 1 | mg/L | lb/dy | | | |
| h. Oil and Grease | X | | 0.44 | 1,743 | | | | | 1 | mg/L | lb/dy | | | |
| i. Phosphorus (as P), Total (7723-14-0) | X | X | 0.021 | 83.2 | | | | | 1 | mg/L | lb/dy | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | X | | | | | | | 0 | | | | | |
| (2) Beta, Total | | X | | | | | | | 0 | | | | | |
| (3) Radium, Total | | X | | | | | | | 0 | | | | | |
| (4) Radium 226, Total | | X | | | | | | | 0 | | | | | |
| k. Sulfate (*as $SO_4$*) (14808-79-8) | X | | 23.5 | 93,115 | | | | | 1 | mg/L | lb/dy | | | |
| l. Sulfide (*as S*) | | X | 3.20 | 12,679 | | | | | 1 | mg/L | lb/dy | | | |
| m. Sulfite (*as $SO_3$*) (14265-45-3) | | X | <1.0 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | X | <0.40 | | | | | | 1 | mg/L | | | | |
| o. Aluminum, Total (7429-90-5) | X | | 650 | 2,576 | | | | | 1 | µg/L | lb/dy | | | |
| p. Barium, Total (7440-39-3) | X | | 23.9 | 94.7 | | | | | 1 | µg/L | lb/dy | | | |
| q. Boron, Total (7440-42-8) | X | | 24.4 | 96.7 | | | | | 1 | µg/L | lb/dy | | | |
| r. Cobalt, Total (7440-48-4) | | X | <1.16 | | | | | | 1 | µg/L | | | | |
| s. Iron, Total (7439-89-6) | X | | 1,020 | 4,042 | | | | | 1 | µg/L | lb/dy | | | |
| t. Magnesium, Total (7439-95-4) | X | | 8,360 | 33,125 | | | | | 1 | µg/L | lb/dy | | | |
| u. Molybdenum, Total (7439-98-7) | | X | <2.44 | | | | | | 1 | µg/L | | | | |
| v. Manganese, Total (7439-96-5) | X | | 38.6 | 153 | | | | | 1 | µg/L | lb/dy | | | |
| w. Tin, Total (7440-31-5) | X | | <1.54 | | | | | | 1 | µg/L | | | | |
| x. Titanium, Total (7440-32-6) | X | | 9.8 | 38.8 | | | | | 1 | µg/L | lb/dy | | | |



CONTINUE ON PAGE V-3

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 800 |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | 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 | | | <3.46 | | | | | | 1 | µg/L | | | | |
| 2M. Arsenic, Total (7440-38-2) | X | | | 2.1 | 8.32 | | | | | 1 | µg/L | lb/day | | | |
| 3M. Beryllium, Total (7440-41-7) | X | | | <2.7 | | | | | | 1 | µg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | X | | | <1.24 | | | | | | 1 | µg/L | | | | |
| 5M. Chromium, Total (7440-47-3) | X | | | 1.15 | 4.56 | | | | | 1 | µg/L | lb/day | | | |
| 6M. Copper, Total (7440-50-8) | X | | | 7.9 | 31.3 | | | | | 1 | µg/L | lb/day | | | |
| 7M. Lead, Total (7439-92-1) | X | | | 2.45 | 9.71 | | | | | 1 | µg/L | | | | |
| 8M. Mercury, Total (7439-97-6) | X | | | 0.00290* | 0.01 | | | | | 1 | µg/L | lb/day | | | |
| 9M. Nickel, Total (7440-02-0) | X | | | 2.15 | 8.52 | | | | | 1 | µg/L | lb/day | | | |
| 10M. Selenium, Total (7782-49-2) | X | | | <4.11 | | | | | | 1 | µg/L | | | | |
| 11M. Silver, Total (7440-22-4) | X | | | <0.995 | | | | | | 1 | µg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | X | | | <0.885 | | | | | | 1 | µg/L | | | | |
| 13M. Zinc, Total (7440-66-6) | X | | | 10.8 | 42.8 | | | | | 1 | µg/L | lb/day | | | |
| 14M. Cyanide, Total (57-12-5) | X | | | <0.007 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | X | | | <0.005 | | | | | | 1 | mg/L | | | | |
| DIOXIN | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6) | | | X | DESCRIBE RESULTS Not Detected | | | | | | | | | | | |



*0.00128 ug/L reported in field blank.

CONTINUEC THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – VOLATILE COMPOUNDS | | | | | | | | | | | | | | | |
| 1V. Accrolein (107-02-8) | X | | | <21.3 | | | | | | 1 | µg/L | | | | |
| 2V. Acrylonitrile (107-13-1) | X | | | <26.8 | | | | | | 1 | µg/L | | | | |
| 3V. Benzene (71-43-2) | X | | | <4.01 | | | | | | 1 | µg/L | | | | |
| 4V. Bis (*Chloromethyl*) Ether (542-88-1) | X | | | <5.0 | | | | | | 1 | µg/L | | | | |
| 5V. Bromoform (75-25-2) | X | | | <1.0 | | | | | | 1 | µg/L | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | X | | | <3.08 | | | | | | 1 | µg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | X | | | <1.65 | | | | | | 1 | µg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | X | | | <2.33 | | | | | | 1 | µg/L | | | | |
| 9V. Chloroethane (75-00-3) | X | | | <6.73 | | | | | | 1 | µg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | X | | | <0.67 | | | | | | 1 | µg/L | | | | |
| 11V. Chloroform (67-66-3) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | X | | | <0.33 | | | | | | 1 | µg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | X | | | <4.85 | | | | | | 1 | µg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | X | | | <3.0 | | | | | | 1 | µg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | X | | | <2.83 | | | | | | 1 | µg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | X | | | <0.46 | | | | | | 1 | µg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | X | | | <1.77 | | | | | | 1 | µg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | X | | | <1.34 | | | | | | 1 | µg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | X | | | <4.27 | | | | | | 1 | µg/L | | | | |



CONTINUE ON PAGE V-5

| 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 | | | <1.59 | | | | | | 1 | µg/L | | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | X | | | <1.49 | | | | | | 1 | µg/L | | | | |
| 24V. Tetrachloroethylene (127-18-4) | X | | | <2.75 | | | | | | 1 | µg/L | | | | |
| 25V. Toluene (108-88-3) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | X | | | <6.52 | | | | | | 1 | µg/L | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | X | | | <3.9 | | | | | | 1 | µg/L | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | X | | | <2.84 | | | | | | 1 | µg/L | | | | |
| 29V Trichloroethylene (79-01-6) | X | | | <2.5 | | | | | | 1 | µg/L | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | X | | | <1.63 | | | | | | 1 | µg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | X | | | <1.95 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – ACID COMPOUNDS | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | X | | | <2.29 | | | | | | 1 | µg/L | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | X | | | <1.84 | | | | | | 1 | µg/L | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | X | | | <9.01 | | | | | | 1 | µg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | X | | | <1.4 | | | | | | 1 | µg/L | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | X | | | <3.5 | | | | | | 1 | µg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | X | | | <1.94 | | | | | | 1 | µg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | X | | | <2.31 | | | | | | 1 | µg/L | | | | |
| 9A. Pentachlorophenol (87-86-5) | X | | | <2.03 | | | | | | 1 | µg/L | | | | |
| 10A. Phenol (108-95-2) | X | | | <8.24 | | | | | | 1 | µg/L | | | | |
| 11A. 2,4,6-Trichlorophenol (88-05-2) | X | | | <2.08 | | | | | | 1 | µg/L | | | | |

CONTINUEC THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 2B. Acenaphtylene (208-96-8) | X | | | <2.01 | | | | | | 1 | µg/L | | | | |
| 3B. Anthracene (120-12-7) | X | | | <2.0 | | | | | | 1 | µg/L | | | | |
| 4B. Benzidine (92-87-5) | X | | | <12.3 | | | | | | 1 | µg/L | | | | |
| 5B. Benzo (*a*) Anthracene (56-55-3) | X | | | <1.88 | | | | | | 1 | µg/L | | | | |
| 6B. Benzo (*a*) Pyrene (50-32-8) | X | | | <2.07 | | | | | | 1 | µg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | X | | | <2.63 | | | | | | 1 | µg/L | | | | |
| 8B. Benzo (*ghi*) Perylene (191-24-2) | X | | | <2.65 | | | | | | 1 | µg/L | | | | |
| 9B. Benzo (*k*) Fluoranthene (207-08-9) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1) | X | | | <2.78 | | | | | | 1 | µg/L | | | | |
| 11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4) | X | | | <2.69 | | | | | | 1 | µg/L | | | | |
| 12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1) | X | | | <2.3 | | | | | | 1 | µg/L | | | | |
| 13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 14B. 4-Bromophenyl Phenyl Ether (101-55-3) | X | | | <2.2 | | | | | | 1 | µg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | X | | | <3.65 | | | | | | 1 | µg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | X | | | <2.82 | | | | | | 1 | µg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | X | | | <2.41 | | | | | | 1 | µg/L | | | | |
| 18B. Chrysene (218-01-9) | X | | | <2.09 | | | | | | 1 | µg/L | | | | |
| 19B. Dibenzo (*a,h*) Anthracene (53-70-3) | X | | | <2.44 | | | | | | 1 | µg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | X | | | <3.27 | | | | | | 1 | µg/L | | | | |
| 21B. 1,3-Di-chloro-benzene (541-73-1) | X | | | <3.26 | | | | | | 1 | µg/L | | | | |



CONTINUE ON PAGE V-7

| 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 | | | <3.62 | | | | | | 1 | µg/L | | | | |
| 23B. 3,3-Dichlorobenzidine (91-94-1) | X | | | <5.63 | | | | | | 1 | µg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | X | | | <9.36 | | | | | | 1 | µg/L | | | | |
| 25B. Dimethyl Phthalate (131 -11-3) | X | | | 11.7 | 46.4 | | | | | 1 | µg/L | lb/day | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | X | | | <6.43 | | | | | | 1 | µg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | X | | | <2.06 | | | | | | 1 | µg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | X | | | <2.76 | | | | | | 1 | µg/L | | | | |
| 30B. 1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7) | X | | | <1.99 | | | | | | 1 | µg/L | | | | |
| 31B. Fluoranthene (206-44-0) | X | | | <1.81 | | | | | | 1 | µg/L | | | | |
| 32B. Fluorene (86-73-7) | X | | | <1.97 | | | | | | 1 | µg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | X | | | <2.97 | | | | | | 1 | µg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | X | | | <3.06 | | | | | | 1 | µg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | X | | | <2.4 | | | | | | 1 | µg/L | | | | |
| 36B Hexachloroethane (67-72-1) | X | | | <3.74 | | | | | | 1 | µg/L | | | | |
| 37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 38B. Isophorone (78-59-1) | X | | | <2.11 | | | | | | 1 | µg/L | | | | |
| 39B. Naphthalene (91-20-3) | X | | | <2.95 | | | | | | 1 | µg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | X | | | <2.87 | | | | | | 1 | µg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | X | | | <1.29 | | | | | | 1 | µg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | X | | | <2.67 | | | | | | 1 | µg/L | | | | |

CONTINUEL THE FRONT

| 1. POLLUTANT AND CAS NUMBER (*if available*) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (*optional*) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (*if available*) | | c. LONG TERM AVRG. VALUE (*if available*) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*) | | | | | | | | | | | | | | | |
| 43B. N-Nitrosodiphenylamine (86-30-6) | X | | | <3.97 | | | | | | 1 | µg/L | | | | |
| 44B. Phenanthrene (85-01-8) | X | | | <1.78 | | | | | | 1 | µg/L | | | | |
| 45B. Pyrene (129-00-0) | X | | | <2.15 | | | | | | 1 | µg/L | | | | |
| 46B. 1,2,4-Trichlorobenzene (120-82-1) | X | | | <8.1 | | | | | | 1 | µg/L | | | | |
| GC/MS FRACTION – PESTICIDES | | | | | | | | | | | | | | | |
| 1P. Aldrin (309-00-2) | | | X | | | | | | | 0 | | | | | |
| 2P. α-BHC (319-84-6) | | | X | | | | | | | 0 | | | | | |
| 3P. β-BHC (319-85-7) | | | X | | | | | | | 0 | | | | | |
| 4P. γ-BHC (58-89-9) | | | X | | | | | | | 0 | | | | | |
| 5P. δ-BHC (319-86-8) | | | X | | | | | | | 0 | | | | | |
| 6P. Chlordane (57-74-9) | | | X | | | | | | | 0 | | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | X | | | | | | | 0 | | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | X | | | | | | | 0 | | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | X | | | | | | | 0 | | | | | |
| 10P. Dieldrin (60-57-1) | | | X | | | | | | | 0 | | | | | |
| 11P. α-Enosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 12P. β-Endosulfan (115-29-7) | | | X | | | | | | | 0 | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | X | | | | | | | 0 | | | | | |
| 14P. Endrin (72-20-8) | | | X | | | | | | | 0 | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | X | | | | | | | 0 | | | | | |
| 16P. Heptachlor (76-44-8) | | | X | | | | | | | 0 | | | | | |



CONTINUE ON PAGE V-9

| EPA I.D. NUMBER (*copy from Item 1 of Form 1*) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 800 |

CONTINUED FROM PAGE V-8

| 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 | | | | | | | 0 | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | X | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | X | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | X | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | X | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | X | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | X | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | X | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | X | | | | | | | 0 | | | | | |

# FORM 2F

Please print or type in the unshaded areas only.

EPA ID Number (*copy from Item 1 of Form 1*)
31B00002

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

FORM 2F NPDES

EPA

U.S. Environmental Protection Agency
Washington, DC 20460

# Application for Permit to Discharge Storm Water 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, 1200 Pennsylvania Avenue, NW, 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*) |
|---|---|---|---|---|---|---|---|
| #1 | 41 | 30 | 15 | 82 | 03 | 30 | Lake Erie |
| #2 | 41 | 30 | 15 | 82 | 03 | 30 | Lake Erie |
| #4 | 41 | 30 | 30 | 82 | 03 | 15 | Powder Maker Creek Outlet (Lake Erie) |
| #5 | 41 | 30 | 15 | 82 | 03 | 15 | Powder Maker Creek |
| #6 | 41 | 30 | 15 | 82 | 03 | 15 | Lake Erie |
| #7 | 41 | 30 | 15 | 82 | 03 | 15 | Powder Maker Creek |
| #8 | 41 | 30 | 15 | 82 | 03 | 15 | Powder Maker Creek |
| 002 | 41 | 30 | 30 | 82 | 03 | 07 | Lake Erie |
| 004 | 41 | 30 | 30 | 82 | 03 | 04 | Lake Erie |
| | | | | | | | |

## 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. |
| N/A | | | | | |
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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

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfalls(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 of 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 received storm water discharges from the facility.



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Continued from the Front

## IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of imperious 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)* |
|---|---|---|---|---|---|
| | See Attachment A | | | | |

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.

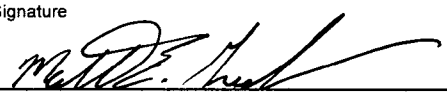
See Attachment B

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 |
|---|---|---|
| 002 | Sedimentation, chemical precipitation, gravity filtration, discharge to surface water, solids disposal at landfill | 1-U, 2-C, 1-Q, 4-A, 5-Q |
| 004 | Sedimentation, disinfection(chlorine), neutralization, gravity filtration, discharge to surface water, solids disposal at landfill (#1, #2, #5, #7, #8 - Equipped with oil/water separators) | 1-U, 2-F, 2-K, 1-Q, 4-A, 5-Q |

## V. Nonstormwater Discharges

A. I certify under penalty of law hat the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharged from these outfall(s) are identified in either an accompanying Form 2C or From 2E application for the outfall.

| Name and Official Title *(type or print)* | Signature | Date Signed |
|---|---|---|
| Matt Greek, Vice President |  | 4-13-10 |

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.

Outfalls 002 and 004 have continuous process and stormwater. No non-stormwater sources were identified from these outfalls. Outfalls #1 through #8 have been evaluated for the presence of non-stormwater discharges based on observation of the outfalls during dry weather conditions and examination of piping and site diagrams. No non-stormwater sources were identified from these outfalls.

## 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.

There have been no significant leaks or spills of any toxic or hazardous pollutants at the Avon Lake Plant in the last three years.

EPA ID Number *(copy from Item 1 of Form 1)*
31B00002

## 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. Table VII-A, VII-B, VII-C are included on separate sheets numbers VII-1 and VII-2.

E. Potential discharges not covered by analysis – is any toxic 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*)

Biomonitoring is performed for Outfall 004 effluent in accordance with permit conditions. All toxicity tests conducted to date have indicated either no detectable effect, or whole effluent toxicity values less than 1.0 Toxicity Unit.

Outfall 004 whole effluent toxicity test results are provided in Attachment C.

## IX. Contract Analysis Information

Were any of the analyses 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 |
|---|---|---|---|
| First Energy Corporation BETA Laboratory | 6670 Beta Drive<br>Mayfield Village, OH 44143 | (440) 604-9802 | pH, O&G, COD, TSS, and Total P. |
| EA Group | 7118 Industrial Park Blvd.<br>Mentor, OH 44060 | (440) 951-3514 | BOD5, Total N. |

## 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. |
|---|---|
| Matt Greek, Vice President | (832) 357-7560 |
| C. Signature | D. Date Signed |
| Matt E. Greek | April 13, 2010 |

EPA ID Number (*copy from Item 1 of Form 1*)
31B00002 Outfall #1

Form Approved. OMB No. 2040-0086
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 mg/L | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 7 mg/L | | | | 1 | |
| Chemical Oxygen Demand (COD) | 32.2 mg/L | | | | 1 | |
| Total Suspended Solids (TSS) | 102 mg/L | | | | 1 | |
| Total Nitrogen | 1.2 mg/L - TKN | | | | 1 | |
| Total Phosphorus | 0.17 mg/L | | | | 1 | |
| pH | Minimum 7.3 | Maximum 7.3 | 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 | | |
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Continued from the Front

Part C - List each pollutant shown in Table 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 | | |
| N/A | | | | | | |
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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)* |
|---|---|---|---|---|---|
| 10/28/2009 | 552 | 0.69 | 112 | 67.8* | 37,420 |

7. Provide a description of the method of flow measurement or estimate.

*Average flow estimate based on storm event duration and total flow.

Total flow estimate based on estimated drainage areas.

EPA ID Number (*copy from Item 1 of Form 1*)
31B00002 Outfall #2

Form Approved. OMB No. 2040-0086
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 mg/L | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | <3.0 mg/L | | | | 1 | |
| Chemical Oxygen Demand (COD) | <20 mg/L | | | | 1 | |
| Total Suspended Solids (TSS) | 20 mg/L | | | | 1 | |
| Total Nitrogen | 0.67 mg/L -TKN | | | | 1 | |
| Total Phosphorus | 0.08 mg/L | | | | 1 | |
| pH | Minimum 7.55 | Maximum 7.55 | 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 | | |
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Continued from the Front

Part C - List each pollutant shown in Table 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 | | |
| N/A | | | | | | |
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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)* |
|---|---|---|---|---|---|
| 10/28/2009 | 552 | 0.69 | 112 | 58.4* | 32,260 |

7. Provide a description of the method of flow measurement or estimate.

*Average flow estimate based on storm event duration and total flow.

Total flow estimate based on estimated drainage areas.

EPA ID Number (*copy from Item 1 of Form 1*)
31B00002 Outfall #4

Form Approved. OMB No. 2040-0086
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 mg/L | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 5.4 mg/L | | | | 1 | |
| Chemical Oxygen Demand (COD) | <20 mg/L | | | | 1 | |
| Total Suspended Solids (TSS) | 20 mg/L | | | | 1 | |
| Total Nitrogen | <0.2 mg/L -TKN | | | | 1 | |
| Total Phosphorus | 0.092 mg/L | | | | 1 | |
| pH | Minimum 7.61 | Maximum 7.61 | 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 | | |
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Continued from the Front

Part C - List each pollutant shown in Table 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 | | |
| N/A | | | | | | |
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EPA ID Number (*copy from Item 1 of Form 1*)
31B00002 Outfall #5

Form Approved. OMB No. 2040-0086
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 mg/L | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 3.3 mg/L | | | | 1 | |
| Chemical Oxygen Demand (COD) | <20 mg/L | | | | 1 | |
| Total Suspended Solids (TSS) | <4 mg/L | | | | 1 | |
| Total Nitrogen | 0.56 mg/L -TKN | | | | 1 | |
| Total Phosphorus | <0.05 mg/L | | | | 1 | |
| pH | Minimum 8.01 | Maximum 8.01 | 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 | | |
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Continued from the Front

Part C - List each pollutant shown in Table 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 | | |
| N/A | | | | | | |
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EPA ID Number (*copy from Item 1 of Form 1*)
31B00002 Outfall #6

Form Approved. OMB No. 2040-0086
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 mg/L | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 3.6 mg/L | | | | 1 | |
| Chemical Oxygen Demand (COD) | 120 mg/L | | | | 1 | |
| Total Suspended Solids (TSS) | 352 mg/L | | | | 1 | |
| Total Nitrogen | 1.8 mg/L - TKN | | | | 1 | |
| Total Phosphorus | 0.45 mg/L | | | | 1 | |
| pH | Minimum 8.63 | Maximum 8.63 | 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 | | |
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Continued from the Front

Part C - List each pollutant shown in Table 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 | | |
| N/A | | | | | | |
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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)* |
|---|---|---|---|---|---|
| 10/28/2009 | 552 | 0.69 | 112 | 1.4* | 774 |

7. Provide a description of the method of flow measurement or estimate.

*Average flow estimate based on storm event duration and total flow.

Total flow estimate based on estimated drainage areas.

EPA ID Number (*copy from Item 1 of Form 1*)
31B00002 Outfall #7

Form Approved. OMB No. 2040-0086
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 mg/L | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | <3 mg/L | | | | 1 | |
| Chemical Oxygen Demand (COD) | 56.8 mg/L | | | | 1 | |
| Total Suspended Solids (TSS) | 20 mg/L | | | | 1 | |
| Total Nitrogen | <0.2 mg/L -TKN | | | | 1 | |
| Total Phosphorus | 0.171 mg/L | | | | 1 | |
| pH | Minimum 7.33 | Maximum 7.33 | 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 | | |
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Continued from the Front

Part C - List each pollutant shown in Table 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 | | |
| N/A | | | | | | |
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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)* |
|---|---|---|---|---|---|
| 9/26/2009 | 135 | 0.39 | 115 | 54,220* | 7,319,420 |

7. Provide a description of the method of flow measurement or estimate.

*Average flow estimate based on storm event duration and total flow.

Total flow estimate based on estimated drainage areas.

EPA ID Number (*copy from Item 1 of Form 1*)
31B00002 Outfall #8

Form Approved. OMB No. 2040-0086
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 mg/L | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 13 mg/L | | | | 1 | |
| Chemical Oxygen Demand (COD) | 129.1 mg/L | | | | 1 | |
| Total Suspended Solids (TSS) | 176 mg/L | | | | 1 | |
| Total Nitrogen | 1.9 mg/L - TKN | | | | 1 | |
| Total Phosphorus | 0.278 mg/L | | | | 1 | |
| pH | Minimum 7.32 | Maximum 7.32 | 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 | | |
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Continued from the Front

Part C - List each pollutant shown in Table 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 | | |
| N/A | | | | | | |
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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)* |
|---|---|---|---|---|---|
| 9/21/2009 | 45 | 0.39 | 188 | 58.3* | 2,625 |

7. Provide a description of the method of flow measurement or estimate.

*Average flow estimate based on storm event duration and total flow.

Total flow estimate based on estimated drainage areas.

EPA ID Number (*copy from Item 1 of Form 1*)
31B00002 Outfall 002

Form Approved. OMB No. 2040-0086
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 mg/L | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | <3 mg/L | | | | 1 | |
| Chemical Oxygen Demand (COD) | <20 mg/L | | | | 1 | |
| Total Suspended Solids (TSS) | 28 mg/L | | | | 1 | |
| Total Nitrogen | <0.2 mg/L -TKN | | | | 1 | |
| Total Phosphorus | 0.09 mg/L | | | | 1 | |
| pH | Minimum 8.03 | Maximum 8.03 | 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 | | |
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Continued from the Front

Part C - List each pollutant shown in Table 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 | | |
| N/A | | | | | | |
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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)* |
|---|---|---|---|---|---|
| 10/28/2009 | 552 | 0.69 | 112 | 23.6* | 13,006 |

7. Provide a description of the method of flow measurement or estimate.

*Average flow estimate based on storm event duration and total flow.

Total flow estimate based on estimated drainage areas.

## 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 mg/L | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | <3 mg/L | | | | 1 | |
| Chemical Oxygen Demand (COD) | <20 mg/L | | | | 1 | |
| Total Suspended Solids (TSS) | 4 mg/L | | | | 1 | |
| Total Nitrogen | 0.22 mg/L -TKN | | | | 1 | |
| Total Phosphorus | <0.05 mg/L | | | | 1 | |
| pH | Minimum | Maximum 7.61 | 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 | | |
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Continued from the Front

Part C - List each pollutant shown in Table 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 | | |
| N/A | | | | | | |
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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)* |
|---|---|---|---|---|---|
| 10/28/2009 | 552 | 0.69 | 112 | 31.6* | 17,420 |

7. Provide a description of the method of flow measurement or estimate.

*Average flow estimate based on storm event duration and total flow.

Total flow estimate based on estimated drainage areas.

# Attachment A

**31B00002**

**Form 2F**
**ITEM IV-A**
**Estimate Areas**

| Outfall Number | Area of Impervious Surface Estimate | Total Area Drained Estimate |
|---|---|---|
| Outfall 1 | 55,000 $ft^2$ | 130,000 $ft^2$ |
| Outfall 2 | 75,000 $ft^2$ | 90,000 $ft^2$ |
| Outfall 4 | >0.2 square miles | >2 square miles |
| Outfall 5 | 60,000 $ft^2$ | 90,000 $ft^2$ |
| Outfall 6 | 2,000 $ft^2$ | 2,000 $ft^2$ |
| Outfall 7 | 0.2 square miles | 2 square miles |
| Outfall 8 | 12,000 $ft^2$ | 12,000 $ft^2$ |
| 002 | 33,600 $ft^2$ | 33,600 $ft^2$ |
| 004 | 45,000 $ft^2$ | 45,000 $ft^2$ |

## Attachment B
**Permit No. 31B00002**
**Form 2F, ITEM IV-B**
**Narrative Description of Pollutant Sources**

The Avon Lake Plant is a coal-fired electrical generating facility that handles, stores and consumes a number of materials and products. The principal materials managed at the facility include raw coal, bottom and fly ash, water treatment chemicals, and a variety of oils. The areas where these materials are managed are shown on the Facility Layout Drawing (Figure 2) and discussed below, along with the management practices that are employed to minimize contact of these materials with stormwater.

a) Raw coal. The raw coal is the most significant source of potential storm water pollution. Run-off from the coal pile and the car dumper building is collected in a surrounding ditch that directs flow to the coal pile run-off facility, an authorized NPDES treatment system. The run-off undergoes neutralization, chemical precipitation, and pressure filtration prior to being sent to the ash basin. There is an overflow valve at the run-off collection basin that is normally closed. In the event of a severe overflow of the collection basin this valve could be opened, releasing the run-off to Powder Maker Creek.

   The majority of the run-off from the coal belts is directed back to the Coal Pile Run-off Facility and undergoes treatment as stated above. The belts are enclosed and are not directly exposed to precipitation.

   Fugitive dust from coal handling and unloading operations is controlled per the requirements of the Plant's Ohio EPA air emissions (fugitive dust) permits.

b) Bottom ash. Bottom ash from the facility's boilers is transferred by water sluicing, dewatered, and trucked off site to a licensed disposal facility. Run-off from the unloading area is pumped to the ash basin, which is a NPDES treatment system. There it undergoes neutralization. The ash is dredged from the basin as needed and is dewatered in a pile next to the basin. Any storm water run-off from that pile would flow back to the basin. The ash is used to line the bottom of fly ash transport trucks.

c) Fly ash. Fly ash from the combustion of coal is collected via electrostatic precipitators. It is stored in silos until the ash is sold for commercial purposes. If it cannot be sold, it is "conditioned" by wetting with water and sent to a permitted disposal facility. Fugitive dust from fly ash handling and transport is controlled per the requirements of the Plant's Ohio EPA air emissions (fugitive dust) permits. Run-off from the unloading areas and truck wash areas is directed to the ash basin.

d) Water treatment chemicals. Chemicals such as sodium hydroxide, sulfuric acid, ammonium hydroxide, ferrous sulfate, etc., are used to treat plant process water, wastewater, and flue gas. The chemicals are unloaded at the receiving area and stored in tanks and drums at various locations throughout the plant. The drains in the receiving area are routed to the oily waste pond.

e) Oils. Lube oil, used for plant equipment, is delivered to the receiving area. Drums containing lube oils are stored at various locations throughout the plant. Waste oil is accumulated in the building and pumped into tanks. Waste oil drums are stored in a concrete, diked area. Precipitation from the diked area is inspected prior to being drained.

Bulk storage tanks, which contain No. 2 fuel oil, are used for initial firing of the boilers, fuel for a combustion turbine for generation of electricity during peak loads on the system and for fueling plant equipment. The tanks are located at various locations on site and are equipped with secondary containment structures in accordance with federal Spill Prevention, Control and Countermeasure requirements.

Mineral oil is present in various electrical equipment throughout the facility (transformers, capacitors, etc.). There are no bulk mineral oil storage tanks. An oil interceptor treats run-off from the transmission yard.

# Attachment C

**31B00002**

**Form 2F**
**ITEM VIII**
**Biological Toxicity Testing Data**

| Outfall 004 Whole Effluent Toxicity Test Results | | |
|---|---|---|
| **Testing Date** | ***C.dubia*** **Acute Endpoint (TUa)** | ***P.promelas*** **Acute Endpoint (TUa)** |
| December 3, 2009 | No detectable effect | No detectable effect |
| August 5, 2009 | No detectable effect | No detectable effect |
| June 4, 2009 | 0.2 | No detectable effect |
| March 5, 2009 | No detectable effect | No detectable effect |
| December 6, 2008 | No detectable effect | No detectable effect |
| August 21, 2008 | No detectable effect | No detectable effect |
| June 5, 2008 | No detectable effect | 0.2 |
| March 6, 2008 | No detectable effect | 0.2 |
| December 6, 2007 | No detectable effect | 0.2 |
| August 9, 2007 | No detectable effect | 0.2 |
| June 21, 2007 | No detectable effect | 0.7 |
| March 21, 2007 | No detectable effect | No detectable effect |
| November 16, 2006 | No detectable effect | No detectable effect |

# MSDS FOR CHEMICAL ADDITIVES

# Avon Lake Power Plant Chemical Use List

| # | CHEMICAL | USE | STORAGE LOCATION |
|---|---|---|---|
| 1) | AMMONIUM HYDROXIDE | UNIT 7 AND 9 BOILER PH CONTROL | 5676 GAL BULK OUTSIDE STORAGE TANK |
| | | | LOCATED IN TRANSFORMER YARD |
| 2) | SODIUM HYDROXIDE | REGENERATION OF CONDENSATE | 4,000 GAL AUX. BULK STORAGE TANK |
| | (CAUSTIC) | POLISHER RESINS & PH ADJUST- | 5,000 GAL MAIN BULK STORAGE TANK |
| | | MENT ON NEUTRALIZATION TANK | UNIT 9 SOUTHSIDE |
| 3) | SULFURIC ACID | REGENERATION OF CONDENSATE | 5,000 GAL BULK OUTSIDE STORAGE TANK |
| | | POLISHER RESINS & PH ADJUST- | LOCATED IN TRANSFORMER YARD |
| | | MENT ON NEUTRALIZATION TANK | |
| 4) | COARSE SOLAR SALT | R/O SOFTENER REGENERATION | 30 TON BULK OUTSIDE STORAGE TANK |
| | | | LOCATED IN TRANSFORMER YARD |
| 5) | AS-2821 POLYMER | ASH POND TSS TREATMENT | 200 GALLON TOTES |
| | | | #10 ID FAN HOUSE |
| 6) | AS-1012 POLYMER | COAL PILE RUNOFF POND | 50 LB. BAGS |
| | | TREATMENT | CPRO TREATMENT BUILDING |
| | LIME | COAL PILE RUNOFF POND | BULK LIME SILO |
| | | TREATMENT | CPRO TREATMENT BUILDING |
| 8) | MEKOR 6701 | FEEDWATER TREATMENT | 120 GALLON TOTES |
| | CORROSION INHIBITOR | #10 BOILER | #1O TURBINE BASEMENT SOUTHSIDE |
| 9) | AMMONIUM HYDROXIDE | FEEDWATER TREATMENT | 120 GALLON TOTES |
| | | #10 BOILER | #1O TURBINE BASEMENT SOUTHSIDE |
| 10) | SODIUM BISULFATE | OILY POND PH CONTROL | 50 LB BAGS |
| 11) | LIME | OILY POND PH CONTROL | 50 LB BAGS |
| 12) | SODIUM BISULFITE | DECHLORINATION OF R/O FEED | BULK LIQUID |
| 13) | TRISODIUM PHOSPHATE | #10 BOILER TREATMENT | 50 LB BAGS |

# Univar USA Inc Material Safety Data Sheet

| | |
|---|---|
| MSDS No: | PG0014 |
| Version No: | 019 2009-10-28 |
| rder No: | |

Univar USA Inc., 17425 NE Union Hill Rd., Redmond WA 98052
(425) 889 3400

Emergency Assistance

For emergency assistance involving chemicals call
Chemtrec - (800) 424-9300

# MATERIAL SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** .....Liquid Caustic Soda, 50%
**Product ID:** .....0014
**SYNONYMS:** Liquid Caustic Soda; Sodium Hydroxide; NaOH
**ISSUE DATE:** .....12/14/2008
**EDITION NO.:** 22

**PPG Industries, Inc.**
**One PPG Place, Pittsburgh, PA 15272, USA**
**24-hour Emergency Telephone Number: 1-412-434-4515**
**For Product Information (8am-5pm Eastern time):**
1-800-243-6774 (C/A)

**PREPARER:** Product Safety, Chemicals

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Material/CAS Number | Percent |
|---|---|
| Sodium Hydroxide<br>1310-73-2 | 49-51 |
| Water<br>7732-18-5 | Balance |
| Sodium Chloride<br>7647-14-5 | 0-2 |

## 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:**

DANGER! Corrosive - Causes severe burns to eyes and skin. May cause irreversible eye damage. Severely irritating to the respiratory tract and mucous membranes. Harmful or fatal if inhaled. Harmful or fatal if swallowed.

Environmental Hazard -- This product is toxic to fish. Keep out of lakes, streams, ponds, or other waters.

**Precautions:** Do not get in eyes, on skin, or on clothing. Corrosive to skin. Even a small amount in the eye can cause blindness. Avoid breathing dusts or mists from solutions. Use only with equate ventilation. Ventilation must be sufficient to limit employee exposure to this product below rmissible exposure limits. Do not swallow. When making solutions or diluting, only add caustic soda slowly to surface of cold water while stirring. Do not add to warm or hot water, a violent eruption or explosive reaction can result. Avoid contact with organic materials and concentrated acids - may

cause violent reactions. Caustic soda reacts with magnesium, aluminum, zinc (galvanized), tin, chromium, brass and bronze, generating hydrogen which is explosive. Caustic soda may react with various sugars to generate carbon monoxide. Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed vessels and can cause death. Wash thoroughly after handling. Remove and wash contaminated clothing before reuse. Do not eat, drink or smoke in work area. Liquid caustic soda is shipped hot (100-180 F). Avoid skin contact -- can cause thermal burns.

## 4. FIRST AID MEASURES

**INHALATION:** Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

**EYE/SKIN CONTACT:** EYE: Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. Contact a poison control center, emergency room or physician right away as further treatment will be necessary. SKIN: Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. Contact a poison control center, emergency room or physician right away as further treatment will be necessary.

**INGESTION:** Gently wipe or rinse the inside of the mouth with water. Sips of water may be given if person is fully conscious. Never give anything by mouth to an unconscious or convulsing person. Do Not induce vomiting. Contact a poison control center, emergency room or physician right away as rther treatment will be necessary.

## 5. FIRE-FIGHTING MEASURES

**FLASH POINT:** None

**EXTINGUISHING MEDIA:** Not applicable.

**SPECIAL FIREFIGHTING PROCEDURES:** Contact with some metals (particularly magnesium, aluminum and galvanized zinc) can rapidly generate hydrogen, which is explosive. Emits toxic fumes under fire conditions. Fire-fighters must wear NIOSH approved pressure demand, self-contained breathing apparatus and full protective clothing when fighting chemical fires.

## 6. ACCIDENTAL RELEASE MEASURES

**ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:**
Only trained personnel equipped with NIOSH approved, full facepiece combination dust/mist respirators should be permitted in area. For dry material, use appropriate methods, shovels, brooms, and vacuums to clean up the spill. If mixed with water, or likely to become mixed with water or any liquid, dike area to contain spill. Reclaim if possible. Or, dilute spill with large amounts of water then neutralize with dilute acid. Use vacuum truck to pick up neutralized material for proper disposal. Properly neutralized liquid residues (pH 6 to 9) may be disposed of in waste water treatment facilities which allow the discharge of neutral salt solutions. After all visible traces have been removed, flush area with large amounts of water.

## 7. HANDLING AND STORAGE

**ECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:**
ear appropriate personal protective equipment when handling this product. Never touch eyes or face with hands or gloves that may be contaminated with this product. When making solutions or

diluting, only add caustic soda slowly to surface of cold water while stirring. Do not add to warm or hot water, a violent eruption or explosive reaction can result. Avoid contact with organic materials and concentrated acids - may cause violent reactions. Caustic soda reacts with magnesium, aluminum, zinc (galvanized), tin, chromium, brass and bronze, generating hydrogen which is explosive. Caustic soda may react with various sugars to generate carbon monoxide. Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed vessels and can cause death. Follow appropriate tank entry procedures (see ANSI Z117.1 - 2003 Safety Requirements for Confined Spaces). Do not enter a storage tank or container (truck or rail) that has contained this product, even if it appears empty. Liquid caustic soda is shipped hot (100-180 °F). Avoid skin contact -- can cause thermal burns.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Limits:**
**8-hour Time Weighted Average (TWA); 15-minute Short-Term Exposure Limit (STEL)**

**OSHA:** The OSHA exposure limit(s) for Sodium Hydroxide: 2 mg/m$^3$ Ceiling.

**ACGIH:** The ACGIH exposure limit(s) for Sodium Hydroxide: 2 mg/m$^3$ Ceiling.

**ONTARIO:** The Ontario Exposure limit(s) for Sodium Hydroxide: 2 mg/m$^3$CEV.

**RESPIRATORY PROTECTION:** Where ventilation is inadequate, use a regulatory compliant full cepiece air purifying respirator with the appropriate chemical cartridges or positive-pressure, air-supplied respirator. Carefully read and follow the respirator manufacturer's instructions and information.

**VENTILATION:** Use local exhaust sufficient to maintain dust/mist levels below permissible exposure limits.

**EYE AND FACE PROTECTION:** Close fitting chemical safety goggles with faceshield.

**PROTECTIVE GLOVES:** Nitrile. Neoprene. Natural rubber.

**OTHER PROTECTIVE EQUIPMENT:** Boots, aprons, or chemical suits should be used when necessary to prevent skin contact.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Boiling Point:** .....287 °F (142°C)
**Vapor Density (Air=1):** .....Not Applicable.
**Specific Gravity (Water=1):** .....1.530 @ 15.6/15.6°C
**pH:** .....Strongly basic
**FREEZING/MELTING POINT:** .....41-51°F (5-11°C)
**SOLUBILITY (wt.% in water):** .....347g/100g water @ 100°C
**Bulk Density (kg/M3):** .....12.76lbs/gal @ 15.6°C
**VOLUME % VOLATILE:** .....50
**VAPOR PRESSURE:** .....1 mm Hg @ 1362°F (739°C) for sodium hydroxide - solid.
**aporation Rate:** NA
**EAT OF SOLUTION:** .....Exothermic
**Physical State:** .....Liquid.

| PPG: 0014 Liquid Caustic Soda, 50% | 12/14/2008 |
|---|---|

**Odor:** . . . . . .Odorless
**COLOR:** . . . . . .Water white to slightly turbid

## 10. STABILITY AND REACTIVITY

**Stability:** Stable.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**INCOMPATIBILITY (CONDITIONS/MATERIALS TO AVOID):**
Contact with organic materials and concentrated acids may cause violent reactions. Contact with magnesium, aluminum, galvanized zinc, tin, chromium, brass and bronze generates explosive hydrogen. Reactions with various food sugars may form carbon monoxide.

**HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:**
Oxides of sodium.

## 11. TOXICOLOGICAL INFORMATION

**ACUTE INHALATION LC50:** . . . . . .Corrosive
**SKIN IRRITATION:** . . . . . .Corrosive.
**EYE IRRITATION:** . . . . . .Corrosive.
**ACUTE ORAL LD50:** . . . . . .0.24 g/kg (rat) High toxicity. Corrosive.

**ARCINOGENICITY STATUS:** .This product is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, ACGIH, or OSHA.

**MEDICAL CONDITIONS AGGRAVATED:** None known.

**EFFECTS OF OVEREXPOSURE:**

ACUTE:

Eye/Skin: Causes severe burns to the eyes. Small quantities can result in permanent damage and/or loss of vision. For skin contact, corrosive action causes burns and frequently deep ulcerations with subsequent scarring. Prolonged contact destroys tissue. Dust or mist from solutions can cause irritant dermatitis.

Ingestion: Ingestion either in solid or liquid form can cause very serious damage to the mucous membranes or other tissues with which contact is made, and may be fatal.

Inhalation: Inhalation of dusts or mists can cause damage to the upper respiratory tract and to the lung tissue depending on severity of exposure. Effects can range from mild irritation of mucous membranes, severe pneumonitis and destruction of lung tissues.

CHRONIC: The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures.

## 12. ECOLOGICAL INFORMATION

**ECOTOXICOLOGICAL INFORMATION:**

240 ug/l (Bluegill) 96-hour TLM LC50. Highly toxic to aquatic life.

$LC_{50}$: 45.4 mg/L (96 hr Oncorhynchus mykiss [static]) Moderately toxic to aquatic life.

**ENVIRONMENTAL FATE:**
No data at this time.

## 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:**
Waste material must be disposed of in accordance with federal, state, provincial, and local environmental control regulations. Empty containers should be recycled or disposed of through an approved waste management facility. PPG recommends disposal of dry residues in an approved hazardous waste management facility or by neutralizing and disposing of according to local or permitted regulations.

## 14. TRANSPORT INFORMATION

**Proper Shipping Name:** . . . . . Sodium Hydroxide, Solution
**Hazard Class:** . . . . . 8 (Corrosive)
**UN Number:** . . . . . UN1824
**Packing Group:** . . . . . II
**USA-RQ, Hazardous Substance and Quantity:** . . . . . 1000 lbs./454 kg (sodium hydroxide 1310-73-2)
**arine Pollutant:** . . . . . None
**dditional Information:** USA Shipments Only - Hazardous Substances are regulated in the USA when shipped above their Reportable Quantity (RQ).

Liquid caustic soda is shipped hot (100-180°F).

## 15. REGULATORY INFORMATION

**USA TSCA:** All components of this product are listed on the TSCA Inventory.
**EU EINECS:** All components in this product are listed on EINECS or meet the polymer definition.
**CANADA DOMESTIC SUBSTANCES LIST (DSL):** This product and/or all of its components are listed on the Canadian DSL.
**AUSTRALIA AICS:** All components of this product are listed on AICS.
**KOREA ECL:** All components in this product are listed on the Korean Existing Chemicals Inventory (KECI).
**JAPAN MITI (ENCS):** All components in this product are listed on the Japanese Existing and New Chemical Substances (ENCS) chemical inventory.
**PHILIPPINES PICCS:** All of the components in this product are listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS).
**CHINA IECSC:** All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC) or otherwise exempt.

**SARA TITLE III:**
**SARA (311, 312) Hazard Class:**
Acute Health Hazard. Reactive Hazard.
**ARA (313) Chemicals:**
. . ot listed.
**SARA Extremely Hazardous Substance:**

| PPG: 0014 Liquid Caustic Soda, 50% | 12/14/2008 |
|---|---|

Not listed.

**CERCLA Hazardous Substance:**
The following materials are listed as CERCLA Hazardous Substances in Table 302.4 of 40 CFR Part 302: Sodium Hydroxide (1310-73-2) RQ = 1000 lbs./454 kg.

**CANADA REGULATIONS (WHMIS):** Class E - Corrosive Material.

## 16. OTHER INFORMATION

**Other Information:**
NSF/ANSI Drinking Water Treatment Chemicals - Health Effects Listing - PPG sodium hydroxide/caustic soda is certified for maximum use at 200 mg/l under NSF/ANSI Standard 60.

In case of emergency in Canada, contact PPG Canada, Inc., B.P.2010, Beauharnois, Quebec J6N 3C3, 450-429-3552, or Canutec 613-996-6666.

**The following has been revised since the last issue of this MSDS:**
Date. Edition. Section 12 has been updated. Section 16 has been updated.

**Previous revision date:** 8/11/2005
**Previous edition number:** 021

**A = Not Available**

# Univar USA Inc Material Safety Data Sheet

For Additional Information contact MSDS Coordinator during business hours, Pacific time: (425) 889-3400

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Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from your local Univar sales office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized chnical sources. While the information is believed to be accurate, Univar makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Univar's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process

CHEMTRADE LOGISTICS

# MATERIAL SAFETY DATA SHEET

## Sulfuric Acid

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Sulfuric Acid
**Synonyms:** Sulphuric Acid, Hydrogen Sulphate, Oil of Vitriol, Battery Acid
**Product Use:** Used in manufacture of fertilizers, explosives, other acids, metal pickling and petroleum processing.

**Chemtrade Logistics Inc.**
155 Gordon Baker Road
Suite 300
North York, ON
M2H 3N5
(866) 887-8805
www.chemtradelogistics.com

**Emergency Telephone Number**
Chemtrec 1-800-424-9300
Canutec (613) 996-6666

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Hazardous Ingredients | % by Wt. | CAS Number |
|---|---|---|
| Sulfuric Acid | 70-100% | 7664-93-9 |
| **Non-Hazardous Ingredients** | | |
| Water | 0-30% | 7732-18-5 |

## 3. HAZARD INFORMATION

**EMERGENCY OVERVIEW:**

**Danger! Extremely corrosive. Causes severe burns and eye damage. Mist: Causes respiratory irritation. Harmful if inhaled. Harmful or fatal if swallowed. Reacts violently with water. Concentrated Sulfuric Acid will react with many organic materials and may cause fire due to the heat of the reaction. Not flammable, but reacts with most metals to form explosive/flammable hydrogen gas.** Read the entire MSDS for a more thorough evaluation of the hazards.

**National Fire Protection Association (NFPA) Rating**
**Hazardous Materials Identification System (HMIS) Rating**

| | NFPA | HMIS | |
|---|---|---|---|
| Health | 3 | 3 | 4 = Extreme/Severe |
| Fire | 0 | 0 | 3 = High/Serious |
| Reactivity | 2 | 2 | 2 = Moderate |
| Special | ~~W~~ | | 1 = Slight |
| Personal Protection | | C | 0 = Minimum |
| | | | ~~W~~ = Water Reactive |

## 3. HAZARD INFORMATION (continued)

**Exposure Limits:**

| | ACGIH (TLV) | OSHA (PEL) | NIOSH (REL) |
|---|---|---|---|
| Sulfuric Acid | 1 mg/m$^3$ (TWA)<br>3 mg/m$^3$ (STEL)<br>A2 (Notations) refers to sulfuric acid contained in strong inorganic acid mists; suspected human carcinogen | 1 mg/m$^3$ (TWA) | 1 mg/m$^3$ (TWA) |

**POTENTIAL HEALTH EFFECTS:**

**Eye Contact:** Immediate pain, severe burns and corneal damage, which may result in permanent blindness.

**Skin Contact**: Causes burns, and brownish or yellow stains. Concentrated solutions may cause second or third degree burns with severe necrosis. Prolonged and repeated exposure to dilute solutions may cause irritation, redness, pain and drying and cracking of the skin.

**Inhalation**: Causes respiratory irritation and at high concentrations may cause severe injury, burns, or death. Effects of exposure may be delayed.

**Ingestion**: Causes severe irritation or burns of the mouth, throat, and esophagus.

**Existing Medical Conditions Possibly Aggravated By Exposure:** Skin irritation may be aggravated in individuals with existing skin lesions. Breathing of vapors or sprays (mists) may aggravate acute or chronic asthma and chronic pulmonary disease such as emphysema and bronchitis.

**Carcinogenicity**: Strong inorganic acid mists containing sulfuric acid (Occupational exposures) : Proven (Human, Group 1, IARC) ; Suspected (Human Group A2, ACGIH) ; Group 3 (NTP) ; Classification not applicable to sulfuric acid and sulfuric acid solutions.

## 4. FIRST AID MEASURES

**General:** Corrosive effects on the skin and eyes may be delayed, and damage may occur without the sensation or onset of pain. Strict adherence to first aid measures following any exposure is essential. SPEED IS ESSENTIAL. OBTAIN IMMEDIATE MEDICAL ATTENTION.

**Skin Contact:** Immediately flush skin with running water for a **minimum** of 20 minutes. Start flushing while removing contaminated clothing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY. Do not transport victim unless the recommended flushing period is completed or flushing can be continued during transport.

While the patient is being transported to a medical facility, apply compresses of iced water. If medical treatment must be delayed, immerse the affected area in iced water. If immersion is not practical, compresses of iced water can be applied. Avoid freezing tissues.

Discard heavily contaminated clothing and shoes in a manner that limits further exposure. Otherwise, wash clothing separately before reuse.

**Eye Contact:** Immediately flush eyes with running water for a **minimum** of 20 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY. Do not transport victim until the recommended flushing period is completed unless flushing can be continued during transport.

**Inhalation:** Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Do not use mouth-to-mouth method if victim ingested or inhaled the substance: induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Give Cardiopulmonary Resuscitation (CPR) if there is no pulse AND no breathing. Obtain medical attention IMMEDIATELY.

**Ingestion:** DO NOT INDUCE VOMITING. If victim is alert and not convulsing, rinse mouth and give ½ to 1 glass of water to dilute material. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. IMMEDIATELY contact local poison control center. Vomiting may need to be induced but should be directed by a physician or a poison control centre. IMMEDIATELY transport victim to an emergency facility.

**Note to Physicians**: This product contains materials that may cause severe pneumonitis if aspirated. If ingestion has occurred less than 2 hours earlier, carry out careful gastric lavage; use endotracheal cuff if available, to prevent aspiration. Observe patient for respiratory difficulty from aspiration pneumonitis. Give artificial resuscitation and appropriate chemotherapy if respiration is depressed. Following exposure the patient should be kept under medical review for at least 48 hours as delayed pneumonitis may occur. DO NOT attempt to neutralize the acid with weak bases since the reaction will produce heat that may extend the corrosive injury

## 5. FIRE AND EXPLOSION DATA

**Flash Point (method):** Not applicable. Not combustible
**Flammable Limits (Lower):** Not applicable.
**Flammable Limits (Upper):** Not applicable.
**Auto Ignition Temperature:** Not applicable.
**Combustion and Thermal Decomposition Products:** Oxides of Sulfur

**Fire and Explosion Hazards:** Not flammable but highly reactive. Strong dehydrating agent, which may cause ignition of finely divided combustible materials on contact. Reacts violently with water with evolution of heat can react with organic materials explosively (See Section 10). Reacts with many metals to liberate hydrogen gas which can form explosive mixtures with air. Hydrogen, a highly flammable gas, can accumulate to explosive concentrations inside drums, or any types of steel containers or tanks upon storage. Oxides of sulfur may be produced in fire.

**Fire Fighting Instructions:** Wear a NIOSH/MSHA approved self-contained breathing apparatus if vapors or mists are present and full protective clothing. For fighting fires in close proximity to spill or vapors, use acid-resistant personal protective equipment. Evacuate personnel to a safe area. Prevent unauthorized entry to fire area. Dike area to contain runoff and prevent contamination of water sources. Neutralize runoff with lime, soda ash or other suitable neutralizing agents (see Deactivating Chemicals, Section 6). Cool containers that are exposed to flame with streams of water until fire is out.

**NOTE:** Also see "Section 10 - Stability and Reactivity"

## 6. ACCIDENTAL RELEASE MEASURES

**Steps to be taken in the event of a spill or leak:** Remove all ignition sources (no smoking, flares, sparks or flames). All equipment should be grounded. Ventilate area. Use appropriate Personal Protection Equipment. Prevent liquid from entering sewers or waterways. Stop or reduce leak if safe to do so.
**Small Spills:** Cover with DRY earth, sand or other non-combustible material. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.
**Large Spills:** Prevent liquid from entering sewers or waterways. Dike with inert material (sand, earth, etc.). Collect into plastic containers for disposal. Consider insitu neutralization and disposal. Ensure adequate decontamination of tools and equipment following clean up. Comply with Federal, Provincial/State and local regulations on reporting releases.

**Waste Disposal Methods:** Dispose of waste material at an approved waste treatment/disposal facility, in accordance with applicable regulations. Do not dispose of waste with normal garbage or to sewer systems.

Note - Clean-up material may be a RCRA Hazardous Waste on disposal.
- Spills are subject to CERCLA reporting requirements: RQ = 1000 lbs.

## 7. HANDLING AND STORAGE

**Handling:** Wear appropriate Personal Protection Equipment. Do not breathe sprays or mists. Do not ingest. Do not get in eyes, on skin or on clothing. Keep ignition sources away from sulfuric acid storage, handling and transportation equipment. Locate safety shower and eyewash station close to chemical handling area. Use EXTREME care when diluting with water. **Always add acid to water**. CAUTION: Hydrogen, a highly flammable gas, can accumulate to explosive concentrations inside drums, or any types of steel containers or tanks upon storage. **Carbon steel storage tanks must be vented.** People working with this chemical should be properly trained regarding its hazards and its safe use.

**Storage:** If stored in non-reactive container, keep container tightly closed. Metal and, specifically carbon steel, storage tanks must be vented due to hydrogen release as noted above.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:** Local exhaust ventilation should be applied wherever there is an incidence of point source emissions or dispersion of regulated contaminants in the work area. Ventilation control of the contaminant as close to its point of generation is both the most economical and safest method to minimize personnel exposure to airborne contaminants. The most effective measures are the total enclosure of processes and the mechanization of handling procedures to prevent all personal contact with sulfuric acid. Electrical installations should be protected against the corrosive action of acid vapors. Smoking should be prohibited in areas in which sulfuric acid is stored or handled.

**Respiratory Protection:** A NIOSH/MSHA approved air-purifying respirator equipped with acid gas/fume, dust, mist cartridges for concentrations up to 10 mg/m$^3$. An air-supplied respirator if concentrations are higher or unknown.

**Skin Protection:** RECOMMENDED: Impervious (i.e., neoprene, PVC) gloves, coveralls, boots and/or other acid resistant protective clothing.

**Eye Protection:** Tight-fitting chemical goggles and face shield.

**Other Personal Protective Equipment:** Where there is a danger of spilling or splashing, acid resistant aprons or suits should be worn. Trouser legs should be worn outside (not tucked in) rubber boots. Safety showers and eyewash fountains should be installed in storage and handling areas.

**Pictograms**



**EXPOSURE GUIDELINES:**

**HAZARDOUS INGREDIENT(S):**

**Sulfuric Acid:**

| | |
|---|---|
| ACGIH TLV | 1 mg/m$^3$ (TWA) 8 hours |
| ACGIH STEL | 3 mg/m$^3$ 15 minutes |
| OSHA PEL | 1 mg/m$^3$ (TWA) 8 hours |
| NIOSH REL | 1 mg/m$^3$ (TWA) 10 hours |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Molecular Weight:** 98.08
**Physical State:** Liquid
**Appearance and Odor:** Odourless, clear to amber, heavy, oily liquid. A pungent odor may exist If certain impurities are present in the acid.
**Odor Threshold:** Not applicable
**Boiling Point:** 77.67%: 193°C (380°F); 93.19%: 276°C (529°F); 98%: 330°C (626°F)
**Melting/Freezing Point:** 77.67%: -11.2°C (+11.6°F); 93.19%: -29.5°C (-21.1°F) ; 98%: -1.1°C (30°F)
**Vapor Pressure at 40°C (102°F):** 77.67%: 1.2 mmHg; 93.19%: 0.0016 mmHg; 98%: 0.002 mmHg
**Specific Gravity at 15°C (60°F):** 77.67%: 1.7059; 93.19%: 1.8354; 98%: 1.8437
**Vapor Density: (Air=1):** 3.4 sulfuric acid component
**Bulk Density:** Not applicable (see specific gravity)
**Evaporation Rate:** Not applicable
**Solubility:** Miscible in all proportions in water.
**pH:** 0.3 (1N solution at 25°C/78°F)

## 10. STABILITY AND REACTIVITY

**Stability**: The product is stable under normal conditions.

**Conditions to Avoid:** Keep away from heat and sources of ignition. Avoid temperatures, which may have a negative effect on the materials of construction used in equipment.

**Materials to Avoid:** Contact with organic materials (such as alcohol, acrylonitrile, chlorates, carbides, epichlorohydrin, fulminates, isoprene, nitrates and picrates) may cause fire and explosions. Contact with metals may produce flammable hydrogen gas. When diluting, add acid to water. Do NOT add water to the acid.

**Hazardous Decomposition or Combustion Products:** Toxic gases and vapors (e.g. sulfur dioxide, sulfuric acid vapors/mists and sulfur trioxide) may be released when sulfuric acid decomposes.

**Hazardous Polymerization:** Will not occur

**Corrosivity:** The product is corrosive.

## 11. TOXICOLOGICAL INFORMATION

**Toxicological Data:** $LD_{50}$ (oral, rat) = 2140 mg/kg
$LC_{50}$ (inhalation, rat) = 510 mg/m$^3$ for 2 hrs
Skin effects (rabbit): Severe irritation
Eye effects (rabbit): Severe irritation

**Carcinogenicity Data:** The International Agency for Research on Cancer (IARC) has concluded that occupational exposure to strong inorganic acid mists containing sulfuric acid is carcinogenic to man, causing cancer of the larynx (the voice box). Although no direct link has been established between exposure to sulfuric acid, itself, and cancer in man, exposure to any mist or aerosol during the use of this product should be avoided See Section 3. Hazard Information, regarding Potential Health Effects (Long Term Exposure) for further discussion.

The National Toxicology Program (NTP) does not classify sulfuric acid or strong inorganic acid mists as known (or reasonably anticipated to be) human carcinogens.

**Reproductive Effects:** Slightly embryotoxic in rabbits (a minor, rare skeletal variation). The animals were exposed to 5 and 20 mg/m$^3$ for 7 hrs/day throughout pregnancy. Slight maternal toxicity was present at the highest dose in both species.

**Mutagenicity Data:** Cytogenic analysis (hamster) ovaries 4 mmol/L

**Teratogenicity Data:** Not teratogenic in mice and rabbits.

**Synergistic Materials:** None known

## 12. ECOLOGICAL INFORMATION

**Ecotoxic Effects:** Harmful to aquatic life in very low concentrations. May be dangerous if it enters water intake; Fish toxicity; 2.8 µg/L 96 hrs LC50 Rainbow trout.

**Products of Degradation:** These products are sulphur oxides (SO2, SO3)

**Toxicity of the Products of Degradation:** The products of degradation are more toxic than the original product.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal:** Cleaned up material may be a hazardous waste as defined by Resource Conservation and Recovery Act (RCRA) on disposal due to the corrosivity characteristic. DO NOT flush to surface water or sanitary sewer system. Waste must be disposed of in accordance with federal, state, provincial and local environmental control regulations.

## 14. TRANSPORT INFORMATION

**U.S. (Under DOT)**

**Shipping Name:** Sulfuric acid
**Hazard Class or Division:** 8
**Identification No.:** UN1830
**Packing Group:** II
**Reportable Quantity** = 1000 pounds (454 kg)
**IMO:** 8
**IATA/ICAO Class:** 8

**ER Guide:** 137

**Canada (Under TDG)**

**Shipping Name:** Sulfuric acid
**Classification(s):** Class 8
**Product Identification No.** (PIN): UN1830
**Packing Group:** II
Regulated Limit: 50 kg

## 15. REGULATORY INFORMATION

**U.S.A.**

**SARA Title III HAZARD CATEGORIES AND LISTS**

| Product Hazard Categories | |
|---|---|
| Acute (Immediate) Health: | Yes |
| Chronic (Delayed) Health: | Yes |
| Fire: | No |
| Reactivity: | Yes |
| Sudden Release of Pressure: | No |

| Lists | |
|---|---|
| Extremely Hazardous Substance (40 CFR 355, SARA Title III Section 302) | Yes |
| CERCLA Hazardous Substance (40 CFR 302.4) | Yes |
| Toxic Chemical (40 CFR 372.65, SARA Title III Section 313) | Yes |

**Reportable Quantity (RQ) under U.S. EPA CERCLA:** RQ=1000 lb / 454 kg

**TSCA Inventory Status:** Reported/Included

**Right-To-Know:** Illinois, Massachusetts, New Jersey, Pennsylvania

**Other Regulations/Legislation which apply to this product:** New Jersey Special Health Hazard Substance List and Environmental Hazardous Substance; Minnesota, Florida, Rhode Island Hazardous Substance ; California Director's List of Hazardous Substances; Massachusetts Extraordinarily Hazardous Substance List

## 15. REGULATORY INFORMATION (continued)

**CANADA**

**Workplace Hazardous Materials Information System (WHMIS)**

**WHMIS Classification(s):** Class D1A - Very Toxic
**Class D2B** – Suspected Human Carcinogen
Class E - Corrosive

**WHMIS Health Effects Index:** Acute Lethality - very toxic – immediate
Materials Causing Other Toxic Effects- Chronic
Corrosive to animal skin

**WHMIS Ingredient Disclosure List:** Confirmed A; Meets criteria for disclosure at 1% or greater.

National Pollutant Release Inventory (NPRI): Included

European:

**EEC CLASSIFICATION**: C, R 35
**EINECS**: 231-639-5

## 16. OTHER INFORMATION

**REFERENCES:**

1. **RTECS-Registry of Toxic Effects of Chemical Substances,** On-line search, Canadian Centre for OccupationalHealth and Safety RTECS database, Doris V. Sweet, Ed., National Institute for Occupational Safety and Health, U.S. Dept. of Health and Human Services, Cincinnati, Entry Update/Dec1997.

2. ChemAdvisor, Canadian Centre for Occupational Health and Safety, October 1998.

3. **CHEMINFO**, through **"CCINFOdisc"**, Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada, (August, 1998).

4. **Hazardous Substances Data Bank** , through "CCINFO disc", Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada, (2007).

5. NIOSH POCKET GUIDE TO CHEMICAL HAZARDS, U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, 2006.

6. "8th Report on Carcinogens – 1998 Summary", National Toxicology Program.

7. Sax, N.I., "Dangerous Properties of Industrial Materials", 7th Edition, 1989.

8. "2006 Threshold Limit Values and Biological Exposure Indices", American Conference of Government Industrial Hygienists, 2006.

9. Merck, 12th Edition, 1999.

10. Supplier's Material Safety Data Sheets.

## 16. OTHER INFORMATION (continued)

**Legend:**

| | |
|---|---|
| AFFF | - Aqueous Film Forming Foam |
| CAS # | - Chemical Abstracts Service Registry Number |
| CERCLA | - Comprehensive Environmental Response, Compensation, and Liability Act |
| CFR | - Code of Federal Regulations |
| DOT | - Department of Transportation |
| EPA | - Environmental Protection Agency |
| $LC_{50}$ | - The concentration of material in air expected to kill 50% of a group of test animals |
| $LD_{50}$ | - Lethal Dose expected to kill 50% of a group of test animals |
| LEL | - Lower Explosive Limit |
| MSHA | - Mine Safety and Health Administration |
| NIOSH | - National Institute for Occupational Safety and Health |
| PEL | - Permissible Exposure Limit |
| PVC | - Polyvinyl chloride |
| RCRA | - Resource Conservation and Recovery Act |
| SARA | - Superfund Amendments and Reauthorization Act of the U.S. EPA |
| STEL | - Short Term Exposure Limit |
| TC | - Transport Canada |
| TDG | - Transportation of Dangerous Goods Act/Regulations |
| TLV | - Threshold Limit Value |
| TSCA | - Toxic Substances Control Act |
| TWA | - Time-Weighted Average |
| UEL | - Upper Explosive Limit |

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Gestion responsable Responsible Care

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July 26, 2007
Telephone (440) 933-9442
Emergency: (216) 973-6118

# MATERIAL SAFETY DATA

## SECTION 1 MATERIAL IDENTIFICATION

| | |
|---|---|
| PRODUCT NAME OR SYNONYMS | AS-2821<br>COAGULANT AID |

NSF. certified with a maximum use for potable water of 200 mg/L.

## SECTION 2 INGREDIENTS AND HAZARDS

| COMPONENT | CAS. NUMBER | % | TWA/CEILING | REFERENCE |
|---|---|---|---|---|
| Ferric Chloride | 7705-08-0 | <41% | 1 mg/m$^3$ (as iron salts) | ACGIH |
| Hydrochloric Acid | 7647-01-0 | <5 | 5 ppm (Ceiling) | OSHA PEL |
| 1,2-Ethanediamine, polymer with (chloromethyl) oxirane and N-methylmethanamine | 42751-79-1 | | Not Established | |

Emergency Overview: Dark Red-Brown Liquid; Sharp Odor. DANGER! Corrosive. Causes Burns To Eyes, Skin And All Tissues. Harmful If Inhaled.

## SECTION 3 REGULATORY INFORMATION

**OSHA STATUS** This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard
**TSCA STATUS** All components are listed
**CERCLA REPORTABLE QUANTITY** Ferric Chloride - 1,000 Pounds

**SARA TITLE III:**
**SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE)** None
**Section 311/312 (Hazardous Substances)**
**Classification Under Section 311/312 Of Sara (40 CFR 370):** Acute (Yes) Chronic (Yes) Fire (No) Reactive (No) Pressure (No)

**SECTION 313 (TOXIC CHEMICALS)** None

**RCRA STATUS** RCRA hazardous based on pH (D002). Empty containers are also hazardous and should be handled accordingly
**NTP, OSHA, ACGIH & IARC STATUS** None of the ingredients are listed.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH - 2 FIRE - 0 REACTIVITY - 1

0 MINIMAL
1 SLIGHT HAZARD
2 MODERATE HAZARD
3 SERIOUS HAZARD
4 SEVERE HAZARD

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

## SECTION 4 HEALTH HAZARD AND PROTECTION DATA

**TARGET ORGANS**
Eyes Skin Gastrointestinal System Respiratory System

**ROUTES OF ENTRY INTO BODY**
Inhalation Ingestion Skin Or Eye Contact

**SIGNS AND SYMPTOMS OF EXPOSURE**
Irritation And Burns Of Eyes And May Result In Permanent Visual Loss Unless Removed Quickly By Thorough Irrigation With Water. Irritation And Burns Of Skin. Burns Of Mucous Membranes, Gastrointestinal Tract. Irritation Of Respiratory Tract
Ingestion May Cause Severe Liver And/Or Kidney Damage, And May Be Fatal.

**PROTECTIVE EQUIPMENT REQUIRED:**
Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Synthetic rubber gloves should be worn when handling this material. Wear chemical goggles, a face shield and chemical resistant clothing such as neoprene where splashing may occur. Provide a safety shower and eye wash station at any location where skin/eye contact can occur. Wash skin thoroughly after handling. Clothing wet with product should be placed in a closed container until provisions are made for it to be discarded or laundered. If the clothing is to be laundered the person performing the laundering should be informed of the hazardous properties of the material. Any clothing that becomes wet with the material should be removed immediately and not reworn until the clothing has been properly cleaned. RESPIRATOR SELECTION - Use only with adequate ventilation. Airborne concentrations should be kept to the lowest levels possible by mechanical means. If vapor or mist is generated and the permissible exposure limit of the product or any component of the product is exceeded, use appropriate NIOSH or MSHA approved air purifying or air supplied respirator after determining the airborne concentration of the contaminant. Air supplied respirators should always be worn when airborne concentration of the contaminant or oxygen content is unknown. ESCAPE & FIRE FIGHTING - Self-contained breathing apparatus with a face-piece operated in pressure demand or other positive-pressure mode.

**FIRST AID**
**NOTE: Speed in removing product from eyes and skin is of utmost importance.**

**SKIN CONTACT:** Skin that becomes contaminated should be washed or showered with large amounts of water to remove any chemical from skin. Contaminated clothing should be removed and wash the skin with soap and water. Clothing should be washed before it is reused. **Get medical attention immediately**. Safety showers and eye wash stations should be available in work areas.

**EYE CONTACT:** If material gets into the eyes, flush the eyes immediately with large amounts of water for at least 30 minutes, lifting the lower and upper lids occasionally. Get **MEDICAL** attention immediately. Contact lenses should not be worn when working with this substance or any other chemical. Eye wash and showers should be available in work areas

**INHALATION:** If a person breathes in large amounts of product mist, move the person to fresh air. If breathing has stopped, perform artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Keep the affected person warm and at rest. Get medical attention as soon as possible.

**I STION:** If conscious, give two glasses of water. **Do not induce Vomiting. Get medical attention i...diately**. Never give anything by mouth to an unconscious person.

## :TION 5 PHYSICAL DESCRIPTION

| | |
|---|---|
| APPEARANCE AND ODOR | Dark red-brown liquid; sharp odor. |
| BOILING POINT | Not determined |
| MELTING POINT | Not applicable |
| FLASH POINT | Not applicable |
| VAPOR PRESSURE | Not determined |
| SPECIFIC GRAVITY | 1.37 +/- 0.02 g/ml |
| PRODUCT pH | <1.00 standard pH units |
| SOLUBILITY IN WATER | Complete |

## SECTION 6 INCOMPATIBILITIES AND STORAGE

Stable
Hazardous Polymerization Will Not Occur
Incompatibility: Most Metals - Aluminum/Aluminum Alloys, Carbon Steel, Copper/Copper Alloys, And Nylon. Avoid Contact With Alkaline Materials. Do Not Store In Metal Containers. Provide Venting For Rubber-Lined Steel To Avoid Pressure Build-Up If Failure Occurs. Avoid Contact With Strong Reducing Agents
May React With Metals And Generate Hydrogen. Avoid Pressure Build-Up Or Ignition Sources.
May Release Hydrogen Chloride Gas At Elevated Temperatures.
Store Containers With Labels Visible

## SECTION 7 REGULATIONS/OSHA

| | |
|---|---|
| IA Standard 29 CFR 1910.1200 | HAZARD COMMUNICATION |
| OSHA Standard 29 CFR 1910.1000 | AIR CONTAMINANTS Table Z-1 |
| OSHA Standard 29 CFR 1910.94 | VENTILATION |
| OSHA Standard 29 CFR 1910.134 | RESPIRATORY PROTECTION |
| OSHA Standard 29 CFR 1910.20 | ACCESS TO EMPLOYEE EXPOSURE |
| OSHA Standard 29 CFR 1910.132 | PERSONAL PROTECTIVE EQUIPMENT |
| OSHA Standard 29 CFR 1910.141 | SANITATION |
| OSHA Standard 29 CFR 1910.151 | MEDICAL SERVICES AND FIRST AID |
| OSHA Standard 29 CFR 1910.133 | EYE AND FACE PROTECTION |

## SECTION 8 EMERGENCY HANDLING OF HAZARDOUS MATERIALS

**IF MATERIAL IS ON FIRE OR INVOLVED IN FIRE:**
Use water in flooding quantities as a fog. Use water spray, fog, foam, dry chemical, carbon dioxide $CO_2$ or dry chemical extinguishers or any agents suitable for surrounding fire. Keep drums cool. Closed containers may heat above the boiling point and rupture violently. During fire, irritating and toxic gases of hydrogen chloride may be generated by thermal decomposition.

**IF MATERIAL IS NOT ON FIRE OR NOT INVOLVED IN FIRE:**
Keep material out of water sources and sewers. Contain and collect.

**PERSONAL DANGER SITUATION PROTECTION:**
Keep upwind. Avoid breathing dust/vapors/fumes from material. Avoid bodily contact with material. Wear boots, p[illegible]ctive gloves and gas-tight goggles. Wear full protective clothing (regular FIRE FIGHTERS' gear is inadequate).

## SECTION 9 SPILL, LEAK AND DISPOSAL PROCEDURES

Persons not wearing protective equipment and clothing should be restricted from spill areas until clean-up has been completed. If AS-2821 is spilled, take the following steps:

1. Ventilate the spill area and confine spill if possible.
2. Neutralize with lime, limestone, or soda ash and collect in suitable container for disposal. Soda ash and limestone generate $CO_2$ requiring ventilation.
3. Discard any unusable material, the absorbant material and container in accordance to all FEDERAL, STATE AND LOCAL REGULATIONS. AS-2821 is RCRA Regulated as a corrosive #D002.
4. Spills on dirt, sand, etc. may be handled by removing the affected solids and placing in approved containers. HANDLE, STORE, TRANSPORT AND DISPOSE OF ALL MATERIALS IN ACCORDANCE WITH ALL EPA & HEALTH REGULATIONS. Ferric chloride has an RQ under CERCLA of 1,000 pounds. Report spills to the appropriate authorities.

**NOTE: DO NOT wash or pour AS-2821 into any surface waters or streams or directly into sewers.**

## SECTION 10 SHIPPING AND TRANSPORTATION DATA

| | |
|---|---|
| PROPER SHIPPING NAME | Corrosive Liquid, Acidic, Inorganic, N.O.S., (Ferric Chloride) |
| HAZARD CLASS | 8 |
| IDENTIFICATION NUMBER | UN 3264 |
| PACKAGING GROUP | II |
| LABEL REQUIRED | Corrosive |

RQ FERRIC CHLORIDE 1000 POUNDS. SPILLS OVER 216 GALLONS ARE REPORTABLE TO NRC @ 1-800-424-8802 AND STATE & LOCAL AUTHORITIES IMMEDIATELY DUE TO REPORTABLE QUANTITY OF FERRIC CHLORIDE (RQ 1000 POUNDS).

H. García-Muñoz

This information is given without any warranty or representation. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification. Before using any product, read its label carefully and completely.

**PENNSYLVANIA and MASSACHUSETTS RIGHT-TO-KNOW INFORMATION:**

The following comprises the CHEMICAL IDENTIFICATION LIST

| | CAS # |
|---|---|
| Ferric Chloride | 7705-08-0 |
| Hydrochloric Acid | 7647-01-0 |
| 1,2-Ethanediamine, polymer with (chloromethyl) oxirane and N-methylmethanamine | 42751-79-1 |

**NEW JERSEY RIGHT-TO-KNOW TOTAL INGREDIENTS LABEL:**

| | CAS # |
|---|---|
| Ferric Chloride | 7705-08-0 |
| Hydrochloric Acid | 7647-01-0 |
| 1,2-Ethanediamine, polymer with (chloromethyl) oxirane and N-methylmethanamine | 42751-79-1 |

**IFORNIA PROPOSITION 65:**

This product does not contain toxic chemicals currently on the California list of known carcinogens and reproductive toxins

Pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 (proposition 65), this information is provided. This law requires that " clear and reasonable warning " be provided to any individual, knowingly or intentionally exposed to any substances identified by the state as being cancer or reproductive hazards unless, it can be shown that the exposure poses "no significant risk". Based on available data, the following chemicals listed by Proposition 65 may be present in this product:

NONE

Applied Specialties, Inc.
33555 Pin Oak Parkway
Avon Lake, Ohio 44012

AS-1012

083261012-5
November 21, 2008
Telephone (440) 933-9442
Emergency: (216) 973-6118

# MATERIAL SAFETY DATA

## SECTION 1 MATERIAL IDENTIFICATION

PRODUCT NAME OR SYNONYMS: AS-1012
ANIONIC WATER-SOLUBLE POLYMER

## SECTION 2 INGREDIENTS AND HAZARDS

| COMPONENT | CAS. NUMBER | TWA/CEILING | REFERENCE |
|---|---|---|---|

Emergency Overview: White, free flowing powder; odorless. Caution! Aqueous solutions or powders that become wet render surfaces extremely slippery!

## SECTION 3 REGULATORY INFORMATION

**TSCA STATUS** All components are listed
**CERCLA REPORTABLE QUANTITY** Not Listed

**A TITLE III:**
**SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE)** Not Listed
**SECTION 311/312 (HAZARDOUS SUBSTANCES)**
**Classification Under Section 311/312 of SARA (40 CFR 370):** Acute (No) Chronic (No) Fire (No) Reactive (No) Pressure (No)
**SECTION 313 (TOXIC CHEMICALS):** Not Listed.

**RCRA STATUS** Not Listed.
**NTP, ACGIH, OSHA & IARC STATUS** None of the ingredients are listed.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH - 1 FIRE - 1 REACTIVITY - 0

0 MINIMAL
1 SLIGHT HAZARD
2 MODERATE HAZARD
3 SERIOUS HAZARD
4 SEVERE HAZARD

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

## SECTION 4 HEALTH HAZARD AND PROTECTION DATA

### TARGET ORGANS

Eyes Skin

### ROUTES OF ENTRY INTO BODY

Skin Or Eye Contact

### SIGNS AND SYMPTOMS OF EXPOSURE

The results of testing on rabbits showed this material to be non-toxic even at high dose levels and non-irritating to the skin. The acute oral $LD_{50}$ dermal/rat > 5000 mg/kg. The results of testing on guinea pigs showed this material to be non-sensitizing. Testing conducted according to the Draize technique showed the material produces no corneal or iridial effects and only slight transitory conjuctival effects similar to those that all granular materials have on conjunctivae.
Handle in accordance with good industrial hygiene and safety practice

### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Existing cuts, rashes, allergies or other sensitive areas

### TECTIVE EQUIPMENT REQUIRED:

Employees should be required to use long sleeved shirts and trousers, rubber gloves and safety glasses as a minimum. Chemical splash goggles are required where chemicals may contact the eyes. RESPIRATOR SELECTION - Use only in well-ventilated areas. Dust safety masks are recommended where concentration of total dust is more than 10 $mg/m^3$. ESCAPE & FIRE FIGHTING – No special protective equipment required.

### FIRST AID

**SKIN CONTACT:** Skin that becomes contaminated should be washed or showered with soap and water to remove any chemical from skin. Contaminated clothing should be removed and wash the skin with soap and water. Clothing should be washed before it is reused. If irritation is present, get medical attention.

**EYE CONTACT:** If material gets into the eyes, flush the eyes immediately with large amounts of water for at least 30 minutes, lifting the lower and upper lids occasionally. Get **MEDICAL** attention immediately. Contact lenses should not be worn when working with this substance or any other chemical.

**INHALATION:** If a person breathes in large amounts of product mist, move the person to fresh air. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.

**INGESTION:** If a person swallows product, DO NOT induce vomiting. If vomiting occurs naturally, have casualty lean forward to reduce the risk of aspiration. Get medical attention at once.

## SECTION 5 PHYSICAL DESCRIPTION

| | |
|---|---|
| APPEARANCE AND ODOR | White free flowing powder; mild odor. |
| BOILING POINT | Not applicable |
| MELTING POINT | Not determined |
| FLASH POINT | Not applicable |
| VAPOR PRESSURE | Not applicable |
| SPECIFIC GRAVITY | Not applicable |
| PRODUCT pH | 4.00 - 9.00 @ 5 g/L standard pH units |
| SOLUBILITY IN WATER | Approximately 0.5 % |

## SECTION 6 INCOMPATIBILITIES AND STORAGE

Hazardous polymerization will not occur
Do not mix with oxidizing agents, may cause exothermic reactions.
Thermal decomposition may produce: carbon oxides, nitrogen oxides (nox)
Avoid dust formation. Do not breathe dust

Keep containers closed when not in use
Store containers in a dry, cool place (0 - 35 $^0$c) with labels visible

## SECTION 7 REGULATIONS/OSHA

| | |
|---|---|
| OSHA Standard 29 CFR 1910.1200 | HAZARD COMMUNICATION |
| OSHA Standard 29 CFR 1910.1000 | AIR CONTAMINANTS Table Z-1 |
| OSHA Standard 29 CFR 1910.94 | VENTILATION |
| OSHA Standard 29 CFR 1910.134 | RESPIRATORY PROTECTION |
| OSHA Standard 29 CFR 1910.20 | ACCESS TO EMPLOYEE EXPOSURE |
| OSHA Standard 29 CFR 1910.132 | PERSONAL PROTECTIVE EQUIPMENT |
| OSHA Standard 29 CFR 1910.141 | SANITATION |
| OSHA Standard 29 CFR 1910.151 | MEDICAL SERVICES AND FIRST AID |
| OSHA Standard 29 CFR 1910.133 | EYE AND FACE PROTECTION |

## SECTION 8 EMERGENCY HANDLING OF HAZARDOUS MATERIALS

**IF MATERIAL IS ON FIRE OR INVOLVED IN FIRE:**
Use foam, water, water spray, $CO_2$ , dry chemical extinguishers or agents suitable for surrounding fire.

**IF MATERIAL IS NOT ON FIRE OR NOT INVOLVED IN FIRE:**
Keep material out of water sources and sewers.

**PERSONAL DANGER SITUATION PROTECTION:**
Keep upwind. Avoid breathing dust/vapors/fumes from material. Avoid bodily contact with material. Wear boots, protective gloves and gas-tight goggles. Wear full protective clothing (regular FIRE FIGHTERS' gear is inadequate).

## SECTION 9 SPILL, LEAK AND DISPOSAL PROCEDURES

Persons not wearing protective equipment and clothing should be restricted from spill areas until clean-up has been completed. If AS-1012 is spilled, take the following steps:

1 - Ventilate the spill area. DO NOT flush with water.
2 - Collect spilled material using an approved vacuum or sweep up with broom avoiding dust.
3 - Shovel into a disposable drum and keep containers closed for disposal.
4 - Discard any vacuumed material in accordance to all FEDERAL, STATE, AND LOCAL REGULATIONS.

NOTE: DO NOT wash or pour AS-1012 into any surface waters or streams or directly into sewers.

## SECTION 10 SHIPPING AND TRANSPORTATION DATA

| | |
|---|---|
| PROPER SHIPPING NAME | Resin Compound, Non - Regulated Dry Polymer |
| HAZARD CLASS | Not Regulated |
| IDENTIFICATION NUMBER | NMFC 46030 |
| LABEL REQUIRED | None |

H. Garcia-Muñoz

This information is given without any warranty or representation. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification. Before using any product, read its label carefully and completely.

**PENNSYLVANIA and MASSACHUSETTS RIGHT-TO-KNOW INFORMATION:**

| | CAS # | |
|---|---|---|
| 2-propenamide | 79-06-1 | Listed. Environmental Hazard |

**NEW JERSEY RIGHT-TO-KNOW TOTAL INGREDIENTS LABEL:**

| | |
|---|---|
| 2-propenamide | 79-06-1 |

**CALIFORNIA PROPOSITION 65:**

This product does contain toxic chemicals currently on the California list of known carcinogens and reproductive toxins

Pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 (proposition 65), this information is provided. This law requires that " clear and reasonable warning " be provided to any individual, knowingly or intentionally exposed to any substances identified by the state as being cancer or reproductive hazards unless, it can be shown that the exposure poses "no significant risk". Based on available data, the following chemicals listed by Proposition 65 may be present in this product:

| | |
|---|---|
| ›penamide | CAS# 79-06-1 (Trace) |

MEKOR® 6701 CORROSION INHIBITOR
51628

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

| | | |
|---|---|---|
| Ashland<br>P.O. Box 2219<br>Columbus, OH 43216 | Regulatory Information Number<br>Telephone<br>Emergency telephone | 1-800-325-3751<br>614-790-3333<br>1-800-ASHLAND<br>(1-800-274-5263) |

| | |
|---|---|
| Product name | MEKOR® 6701 CORROSION INHIBITOR |
| Product code | 51628 |
| Product Use Description | No data |

## 2. HAZARDS IDENTIFICATION

**Emergency Overview**

Appearance: liquid, Colorless

DANGER! COMBUSTIBLE LIQUID AND VAPOR. MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY BE HARMFUL IF SWALLOWED OR ABSORBED THROUGH SKIN. MAY CAUSE ALLERGIC SKIN REACTION. HARMFUL IF INHALED. CAUSES SEVERE EYE BURNS.

**Potential Health Effects**

**Routes of exposure**

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

**Eye contact**

Can cause permanent eye injury. Symptoms include stinging, tearing, redness, and swelling of eyes. Can injure the cornea and cause blindness.

**Skin contact**

May cause mild skin irritation. Symptoms may include redness and burning of skin. Additional symptoms of skin contact may include: allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects) Passage of this material into the body through the skin is possible, and may add to toxic effects from breathing or swallowing.

**Ingestion**

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

**Inhalation**

Breathing of vapor or mist is possible. Breathing this material may be harmful.

**Aggravated Medical Condition**

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material:, upper respiratory tract, lung (for example, asthma-like conditions), Liver, Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias.

**Symptoms**

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), blood abnormalities (breakage of red blood cells), narcosis (dazed or sluggish feeling), respiratory failure, coma, May cause methemoglobinemia, a blood abnormality that may cause headache, difficulty breathing, lightheadedness, weakness, confusion, rapid heart rate and cyanosis (lack of oxygen in the tissues causing blue-colored skin and nails).

**Target Organs**

Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals:, mild, reversible spleen effects, mild, reversible kidney effects, anemia, nasal damage, liver damage

**Carcinogenicity**

Methyl ethyl ketoxime has been shown to cause liver cancer in male rats and mice. The relevance of this finding to humans is uncertain.

**Reproductive hazard**

Methyl ethyl ketoxime was not harmful to the fetus in laboratory animal studies even at levels that were harmful to the pregnant animals.

**Other information**

Ingestion of alcoholic beverages after exposure to methyl ethyl ketoxime may result in headache, redness of the face, vomiting, sweating, and rapid heartbeat.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Components | CAS-No. | Concentration |
|---|---|---|
| METHYL ETHYL KETONE OXIME | 96-29-7 | >=10-<15% |

## 4. FIRST AID MEASURES

**Eyes**

If material gets into the eyes, immediately flush eyes gently with water for at least 15 minutes while holding eyelids apart. If symptoms develop as a result of vapor exposure, immediately move individual away from exposure and into fresh air before flushing as recommended above. Seek immediate medical attention.

**Skin**

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

**Ingestion**

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

**Inhalation**

If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

**Notes to physician**

**Hazards:** Overexposure to this product (or a component) may cause methemoglobinemia, which in sufficient concentration causes cyanosis. Severe cyanosis may require intravenous injection of methylene blue. Methylene blue is contraindicated if the patient has confirmed or suspected glucose-6-phosphate dehydrogenase deficiency.

**Treatment:** No information available.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**

Alcohol-resistant foam, Carbon dioxide (CO2), Dry chemical

**Hazardous combustion products**

May form:, carbon dioxide and carbon monoxide, methyl ethyl ketone, nitrogen oxides, substituted amides

**Precautions for fire-fighting**

If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

For personal protection see section 8. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.

**Environmental precautions**

Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

**Methods for cleaning up**

Scoop and sweep up all spilled product and other contaminated materials and place in marked disposal containers. If possible, clean up spill area on a dry basis and then flush with plenty of water.

## 7. HANDLING AND STORAGE

**Handling**

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. When opening, remove closures carefully to relieve possible internal pressure. Never use pressure to empty. Do not store near high heat or open flames.

**Storage**

Store in closed containers in a dry, well-ventilated area. Keep from freezing.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines**

**General advice**

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

**Exposure controls**

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below level of overexposure (from known, suspected or apparent adverse effects).

**Eye protection**

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

**Skin and body protection**

To prevent repeated or prolonged skin contact, wear impervious clothing and boots.
Wear resistant gloves such as:
Nitrile rubber
butyl-rubber
neoprene -- unsupported
neoprene - supported
Wear resistant gloves such as:
Natural Rubber
Nitrile rubber
butyl-rubber
neoprene -- unsupported
neoprene - supported

**Respiratory protection**

If overexposure has been determined or documented, a NIOSH-approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH respirators under specified conditions. (See your safety equipment supplier.) Engineering or administrative controls should be implemented to reduce exposure.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Physical state** | liquid |
| **Form** | No data |
| **Colour** | Colorless |
| **Odour** | No data |
| **Boiling point/boilingrange** | 97.78 °C / 208.00 °F@ 1,013.33 hPa |
| **Melting point/range** | 28 °F / -2 °C |
| **pH** | 10.4 |
| **Flash point** | 157.98 °F / 69.99 °C, Pensky Martens closed cup |
| **Evaporation rate** | > 1 (Ethyl Ether) |
| **Explosion limits** | No data |
| **Vapour pressure** | 23.33 hPa @ 68 °F / 20 °C |
| **Vapour density** | (>) 1 (AIR=1) |
| **Density** | 1.000 g/cm3 @ 77.00 °F / 25.00 °C |
| | No data |
| **Solubility** | completely soluble in water |
| **Partition coefficient: n-** | No data |

**octanol/water**
**Autoignition temperature** No data

## 10. STABILITY AND REACTIVITY

**Stability**
Stable.

**Conditions to avoid**
Avoid contact with:, excessive heat

**Incompatible products**
Avoid contact with:, strong alkalis, strong organic acids, strong oxidizing agents

**Hazardous decomposition products**
May form:, carbon dioxide and carbon monoxide, methyl ethyl ketone, nitrogen oxides (NOx), substituted amides

**Hazardous reactions**
Product will not undergo hazardous polymerization.

**Thermal decomposition**
No data

## 11. TOXICOLOGICAL INFORMATION

**Acute oral toxicity**

| | |
|---|---|
| METHYL ETHYL KETONE OXIME | LD 50 Rat: 930 mg/kg |

**Acute inhalation toxicity**

| | |
|---|---|
| METHYL ETHYL KETONE OXIME | LC 50 Rat: > 4,830 mg/l , 4 h |

**Acute dermal toxicity**

| | |
|---|---|
| METHYL ETHYL KETONE OXIME | LD 50 Rabbit: > 1,000 mg/kg |

## 12. ECOLOGICAL INFORMATION

### Aquatic toxicity

#### Acute and Prolonged Toxicity to Fish

96 h LC 50 Oncorhynchus mykiss (rainbow trout), static test: 3,078.0 mg/l

#### Acute Toxicity to Aquatic Invertebrates

48 h LC 50 Daphnia magna (Water flea), static test: 2,679.4 mg/l

### Environmental fate and pathways

| | |
|---|---|
| BOD5: | 124,500 mg/l |
| COD: | 228,000 mg/l |

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal methods**

Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution's Environmental Services Group at 800-637-7922.

## 14. TRANSPORT INFORMATION

Dangerous goods descriptions (if indicated above) may not reflect package size, quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

## 15. REGULATORY INFORMATION

**California Prop. 65**
This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

**SARA Hazard Classification** Fire Hazard
Acute Health Hazard

**SARA 313 Component(s)**

| | Health | Flammability | Reactivity | Other |
|---|---|---|---|---|
| **HMIS** | 3* | 2 | 0 | |
| **NFPA** | 3 | 2 | 0 | |

## 16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

# MERCURY VARIANCE APPLICATION

# *Application for Mercury Variance*
# *Avon Lake Power Plant*
# *NPDES Permit No. 31B00002*

**Prepared for:**

RRI Energy

RRI Energy, Inc.
Canonsburg, Pennsylvania

Prepared by:

Shaw® Shaw Environmental, Inc.

Shaw Environmental, Inc.
Monroeville, Pennsylvania

April 2010

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Table 1 – Influent and Effluent Mercury Concentrations

Appendix A – Antidegradation Addendum

# 1.0 Introduction

Orion Power Midwest, L.P. (OPMW), a wholly-owned subsidiary of RRI Energy, Inc. (RRI), operates a coal-fired, electric generating station in Avon Lake, Ohio that discharges into Lake Erie. The Ohio Environmental Protection Agency (OEPA) has issued the facility a National Pollutant Discharge Elimination System Permit (NPDES), No. 31B00002*JD, which is in effect until October 31, 2010.

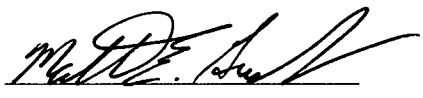
Part II, Condition I of the permit requires the facility to monitor mercury concentrations in the discharge at Outfall 002 to determine whether the discharge can comply with the 30-day average water quality criterion of 1.3 nanograms per liter (ng/l), and if not, to apply for a mercury variance concurrent with application for permit renewal. OPMW has determined that the facility cannot comply with the 1.3 ng/l criteria, and thus is applying for a mercury variance in accordance with the NPDES permit and Ohio Administrative Code (OAC) 3745-33-07(D).

## 2.0 Determination of Eligibility of Mercury Variance

To determine eligibility of the mercury variance, OPMW has evaluated mercury concentrations in the plant intake and in the effluent at Outfall 002. Samples have been collected on a bimonthly basis since September 2006. The results of these samples, shown in Section 5.1, indicate that the facility should be able to achieve an annual average mercury effluent concentration of 12 ng/l but would be unable to achieve the water quality criterion of 1.3 ng/l, to be imposed as an effluent limit during the upcoming permit cycle, without construction of expensive end-of-pipe controls more stringent than those required by Sections 301(b) and 306 of the Clean Water Act. Thus, the facility is eligible to apply for a general mercury variance in accordance with OAC 3745-33-07(D)(10).

## 3.0 Certification Statement

As an authorized representative for RRI Energy, Inc. and its subsidiary Orion Power Midwest, L.P., for the Avon Lake Power Plant, I am applying to the Director of Ohio EPA for coverage under the mercury variance from the proposed 30-day average water quality based effluent limit (WQBEL) for mercury in the aforementioned NPDES permit. I hereby certify that I intend to be subject to the mercury variance terms and conditions of paragraph (D)(10) of rule 3745-33-07 of the Ohio Administrative Code. To the best of my knowledge, I project that the NPDES-permitted discharge from Outfall 002 can achieve an annual average mercury effluent concentration of 12 ng/l within five years of the date that the variance is granted.



April 13, 2010

Signature Date

Matt Greek
Vice President

# 4.0 Description of Measures Taken to Date for Mercury Reduction or Elimination Projects

Avon Lake Power Plant has a number of mercury reduction and elimination measures in place at the facility. These measures include equipment purchasing policies, waste management programs, and operational procedures that optimize on-site wastewater treatment, as described in the following sections.

## 4.1 Mercury-Containing Equipment and Materials

OPMW no longer purchases thermometers, switches, manometers or gauges that contain mercury. Mercury thermometers and manometers have been removed from the facility. Most mercury-containing gauges and switches have been removed during the course of routine maintenance; remaining functional gauges and switches are replaced with non-mercury equipment as these components reach end-of-life. Mercury-containing fluorescent lights have been replaced with low-mercury fluorescent bulbs. Mercury-containing bulbs and batteries are handled, stored and disposed of in accordance with federal and state universal waste regulations to prevent accidental release of mercury waste. Dormant and decommissioned equipment that may include mercury-containing components is protected from exposure; should this equipment be dismantled or otherwise handled, any mercury-containing components will be recycled or disposed of properly in accordance with universal waste regulations.

Where available, OPMW purchases bulk chemicals, such as sulfuric acid and sodium hydroxide, in technical grade specifications rather than industrial grade. While the trace metal content may vary in bulk chemicals, technical-grade chemicals are reported by suppliers to have fewer impurities than industrial-grade chemicals.

## 4.2 Waste Management and Housekeeping

Mercury-containing bulbs, batteries, and any replaced mercury-containing equipment are handled, stored and recycled or disposed of in accordance with federal and state universal waste regulations. Prior to transport, this material is stored in designated areas inside the facility, with no environmental exposure.

Good housekeeping practices are conducted to minimize tracking of coal and ash materials and to ensure that stormwater that is exposed to this material is treated prior to discharge from the facility (for instance, treatment of runoff from the coal pile).

## 4.3 Operating Practices

Fly ash from coal combustion is collected in a dry system and placed in a landfill. Ash is captured in the plant's economizer equipment and air pollution equipment (electrostatic precipitator or ESP). Ash that collects in the economizer is dropped into hoppers, from where it is vacuumed into a tank truck and hauled to a landfill. Ash from the ESP is pneumatically conveyed to four fly ash storage silos. Vents on the silos are connected back to the ESP to prevent release to the air. Ash is dumped into trucks from the silos for disposal at a landfill. Two of the silos are equipped with telescopic spouts for unloading dry ash into tank trucks for resale. When tarped trucks are used, the ash is wetted to 20 percent moisture to eliminate dust generation. (Wetting of the ash is done by rotary dustless unloaders that mix water and ash.)

Bottom ash from the boilers is collected using a wet system that conveys the ash to hydrobins, where it settles and the transport water is decanted. The decanted water is then recycled back into the ash transport system. From the hydrobins, the bottom ash is transported to a landfill. Any water and solid materials collected in the hydrobin and truck transfer area are routed back into the system to prevent release into the environment. Overflow from the decant recycle tank is pumped to a primary pond, where settling occurs. From the primary pond, water overflows to a secondary pond for additional settling. The water is then filtered prior to discharge to Lake Erie via NPDES permitted Outfall 002.

To allow for optimum settling conditions, the bottom ash ponds are dredged frequently, once per week for the primary pond and once per month for the secondary pond. In 2009, the bottom ash management system was upgraded with automated control systems (Distributed Control System [DCS]), which further mitigates potential risks associated with manual operation and chemical treatment of these ponds. Additionally in 2009, the anthracite media was replaced in the filters.

Sediments that build up in the vicinity of the plant's intake are dredged as needed every 7 to 10 years to allow for unobstructed flow of cooling water to and from the plant's generating units and to reduce the amount of suspended solids (including metals) drawn into the plant's water supply. Sediments are managed for final disposition pending laboratory analyses.

## 4.4 Mercury Monitoring

OPMW has been monitoring mercury concentrations in the facility's discharge at Outfall 002 (bottom ash ponds wastewater treatment system) in accordance with the OEPA NPDES Permit. To help determine the potential contribution of mercury from the plant's intake, OPMW also has been monitoring water drawn into the plant from Lake Erie (via "Outfall" 800). The results of this monitoring are discussed in Section 5.1.

# 5.0 Plan of Study

## 5.1 Current Influent and Effluent Mercury Concentrations

Table 1 provides the influent and effluent mercury concentrations from bimonthly sampling conducted since September 2006. Samples were collected from the plant intake (Outfall 800) and Outfall 002 discharge for comparison.

**Table 1: Influent and Effluent Mercury Concentrations**

| Date | Mercury Concentrations (ng/l) | |
|---|---|---|
| | Lake Erie Intake (Outfall 800) | Plant Discharge (Outfall 002) |
| 9/17/2006 | N/A | 1.49 |
| 11/14/2006 | 0.53 | 1.26 |
| 1/18/2007 | 2.2 | 1.00 |
| 3/14/2007 | <0.50 | <0.50 |
| 5/23/2007 | <0.50 | 5.36 |
| 7/17/2007 | <0.50 | <0.50 |
| 9/19/2007 | 13.7 | <0.50 |
| 11/28/2007 | 0.71 | <0.50 |
| 1/21/2008 | 1.7 | <0.50 |
| 3/19/2008 | 7.64 | <0.50 |
| 5/16/2008 | 1.6 | 1.55 |
| 7/22/2008 | 2.89 | 2.12 |
| 9/17/2008 | 0.8 | 6.47 |
| 11/18/2008 | 2.02 | 0.86 |
| 1/13/2009 | 0.965 | 15.20 |
| 3/11/2009 | 5.32 | 2.15 |
| 5/20/2009 | 1.49 | 2.11 |
| 7/31/2009 | <0.50 | 2.20 |
| 11/06/2009 | 4.90 | 0.924 |
| 1/13/2010 | 0.78 | <0.50 |
| 3/3/2010 | 0.946 | <0.50 |
| **AVERAGE** | **2.41** | **2.03** |

The data for this time period indicate an overall average mercury concentration of 2.41 ng/l in the Lake Erie intake water, and an average discharge concentration of 2.03 ng/l in the Outfall 002 effluent. Considering the current long-term average discharge rate of 0.94 MGD at Outfall 002 for the period of monitoring, this would provide an average mass loading of approximately 0.000016 pounds per day of mercury to Lake Erie. Of the sampling events in which data exits for both sampling points, approximately 68 percent of the results show a decrease or the same level at the outfall compared to the intake.

The effluent data for Outfall 002 provide for a maximum projected effluent quality (PEQ) of 16.0 ng/l. The PEQ is based on the OEPA protocol "Modeling Guidance 1, Calculating PEQ: Determining a Discharger's Effluent Quality, Revision 1, August 23, 2006," Method B. Given the monitoring frequency of once per two months for Outfall 002, it is expected that a maximum PEQ would be an appropriate value to provide reasonable assurance that mercury levels within the range of currently observed discharge concentrations are not exceeded during the term of the variance, and as potential process improvements are sought through implementation of the proposed plan of study.

## *5.2 Identification of All Known Mercury Sources*

Known mercury sources at the facility are listed below. As part of OPMW's planned evaluations, specific points of potential contribution within the facility will be further investigated and quantified.

- Low-mercury fluorescent bulbs – As discussed in Section 4.1, fluorescent bulbs are stored and disposed of in accordance with universal waste regulations and are not exposed to the environment.

- Other mercury-containing equipment – As discussed in Section 4.1, all mercury manometers, and most mercury-containing gauges and switches have been removed during the course of routine maintenance, and the remaining equipment will be replaced with non-mercury components as the equipment reaches end-of-life.

- Dormant/decommissioned equipment – As discussed in Section 4.1, any mercury-containing equipment in decommissioned plant areas is protected from exposure; should this equipment be dismantled or otherwise handled, any mercury-containing components will be recycled or disposed of properly.

- Coal product and ash – Coal and ash are known to contain trace amounts of mercury and other metals. The concentrations of mercury vary depending on coal sources and preparation; the amount of mercury released or captured during the combustion process varies depending on these factors, as well as operating conditions. Stormwater runoff from coal product storage is treated at the facility in the Coal Pile Runoff Pond and the bottom ash treatment ponds prior to discharge. Wastewater from the bottom ash

treatment system also is treated prior to discharge. Incidental spills or tracking of coal and ash are minimized through spill prevention control measures and housekeeping practices.

- Intake water from Lake Erie - As indicated in Table 5.1, water drawn from Lake Erie contains trace amounts of mercury in concentrations often exceeding those in the facility's discharge.

- Chemical additives – The facility uses bulk amounts of sulfuric acid and sodium hydroxide, which are known to have trace amounts of metals, including mercury. As discussed in Section 4.1, OPMW purchases technical grade additives to help minimize the concentration of impurities in the chemicals.

- Atmospheric Deposition – The atmospheric deposition of rain and snow contains trace amounts of mercury.

- Public Water – In addition to lake water, the facility uses city water, which may contain trace amounts of mercury.

## 5.3 Description of Current Plans to Reduce or Eliminate Known Sources

The known sources of mercury identified in Section 5.2 will continue to be managed and monitored in accordance with OPMW's policies and procedures. Additional efforts will be made to identify other potential sources and to quantify specific potential contributions to the sources listed above, as discussed in Sections 5.5 and 5.6.

## 5.4 Preliminary Identification of Other Potential Mercury Sources

It is expected that the general sources of mercury described in Section 5.2 encompass most, if not all, potential sources of mercury from the facility. These and any other sources will be documented in OPMW's evaluation of mercury sources as described in Section 5.5.

## 5.5 Proposed Plan and Schedule for Evaluation of Mercury Sources

OPMW will perform a comprehensive evaluation of potential mercury sources at the facility that includes those sources identified in Section 5.2 and any others that may be identified through a plant inventory. The evaluation will document information regarding the sources, including data such as known concentrations of trace mercury in chemical additives, the concentration of mercury in coal provided by various suppliers, and water quality data for the various wastestreams that contribute to the bottom ash wastewater treatment system.

The evaluation is proposed to be conducted within the first year of permit issuance in general accordance with the following schedule.

**Year 1 Following Permit Issuance**

Quarter 1

- Begin comprehensive evaluation of mercury sources
- Request mercury analysis information from coal suppliers

Quarter 2

- Continue comprehensive evaluation of mercury sources
- Supplement information from coal suppliers if necessary

Quarter 3

- Document comprehensive evaluation of mercury sources

Quarter 4

- Finalize comprehensive evaluation of mercury sources (may incorporate future updates as necessary).

## *5.6 Proposed Plan and Schedule for Identifying and Evaluating Potential Reduction, Elimination, and Prevention Methods*

OPMW will evaluate the bottom ash pond treatment system to determine if the efficiency of the system may be improved with regard to mercury reduction and/or if modifications may be required for wastestreams that discharge to the ash ponds. Water quality analyses will be performed for ash pond inlets and discharge, as well as contributing wastestreams such as hydrobin leakage and drainage from the coal pile runoff pond. Parameters to be analyzed may include concentrations of dissolved versus solid forms of mercury, and, as appropriate, particle size distribution of the suspended solids and the portion of mercury in each size range. In addition to water quality analyses, an engineering evaluation will be performed to consider whether ash treatment system operating factors such as retention time, settling, filtration, and dredging frequency, are providing for the optimal removal of solids and mercury. The results of the water quality and engineering evaluations will help guide further reduction, elimination and prevention efforts.

This plan will be implemented within four years of permit issuance in general accordance with the following schedule:

**Year 1**

- Develop a wastewater sampling and engineering study plan to evaluate treatment efficiency.
- Evaluate the feasibility of increasing the purchase of coal with lower mercury content.
- Submit annual Pollutant Minimization Plan progress report to OEPA.

**Year 2**

- Initiate wastewater sampling and engineering study.
- Continue consideration of alternate coal purchases as appropriate.
- Submit annual Pollutant Minimization Plan progress report to OEPA.

**Year 3**

- Evaluate results of wastewater quality and engineering studies and determine whether additional testing or evaluations are required.
- If necessary, perform survey of potential treatment technologies or upgrades that may be appropriate for the facility.
- Continue consideration of alternate coal purchases as appropriate.
- Submit annual Pollutant Minimization Plan progress report to OEPA.

**Year 4**

- Implement recommendations from surveys and studies.
- Continue consideration of alternate coal purchases as appropriate.
- Submit annual Pollutant Minimization Plan progress report to OEPA.

## 6.0 Non-Compliance with the WQBEL Explanation and Basis

Renewal of the Avon Lake Power Plant NPDES permit will require the OEPA to impose a 30-day average WQBEL of 1.3 ng/l. Existing data (Section 5.1) indicate that the plant cannot achieve this limit. Water quality monitoring of the facility's intake of Lake Erie water and discharge from Outfall 002 indicates that the mercury content in the two streams are similar, and in fact, the intake water often exhibits concentrations higher than the facility discharge.

The Avon Lake Power Plant is expected to achieve an annual average mercury effluent concentration of 12 ng/l. As stated in Ohio Rule 3745-33-07(D)(10), the OEPA Director has determined that the average cost to reduce mercury below this concentration from a waste stream through end-of-pipe treatment is in excess of ten million dollars per pound of mercury removed, and that requiring end-of-pipe controls to attain the water quality standard of 1.3 ng/l would result in substantial and widespread economic impact. Based on current data, it is expected that the maximum projected PEQ of 16 ng/l would be an appropriate average limit for Outfall 002 throughout the course of the variance.

## 7.0 Antidegradation Addendum

A completed Antidegradation Addendum is included in Appendix A.

# *Appendix A*

# *Antidegradation Addendum*

State of Ohio Environmental Protection Agency

**DIVISION OF SURFACE WATER**

# Antidegradation Addendum

In accordance with Ohio Administrative Code 3745-1-05 (Antidegradation), additional information may be required to complete your application for a permit to install or NPDES permit. For any application that may result in an increase in the level of pollutants being discharged (NPDES and/or PTI)or for which there might be activity taking place within a stream bed, the processing of the permit(s) may be required to go through procedures as outlined in the antidegradation rule. The rule outlines procedures for public notification and participation as well as procedures pertaining to the levels of review necessary. The levels of review necessary depend on the degradation being considered/requested. The rule also outlines exclusions from portions of the applicati on and review requirements and waivers that the Director may grant as specified in Section 3745-1-05(D) of the rule. Please complete the following questions. The answers provided will allow the Ohio EPA to determine if additional information is needed. **All projects that require both an NPDES and PTI should submit both applications simultaneously to avoid going through the antidegradation process separately for each permit**.

**A. Applicant:** Orion Power Midwest, L.P.

**Facility Owner:** Orion Power Midwest, L.P.

**Facility Location (city and county):** Avon Lake, Lorain County

**Application or Plans Prepared By:** Shaw Environmental, Inc.

**Project Name:** Mercury Variance Application

**NPDES Permit Number (if applicable):** 31B00002*JD

**B. Antidegradation Applicability**

**Is the application for? (check as many as apply):**

_____ Application with no direct surface water discharge (Projects that do not meet the applicability section of 3745-1-05(B)1, i.e., on-site disposal, extensions of s anitary sewers, spray irrigation, indirect discharger to POTW, etc.). (Complete Section E)

_____ Renewal NPDES application or PTI application with no requested increase in loading of currently permitted pollutants. (Complete Section E, Do not complete Sections C or D).

_____ PTI and NPDES application for a new wastewater treatment works that will discharge to a surface water. (Complete Sections C and E)

_____ An expansion/modification of an existing wastewater treatment works discharging to a surface water that will result in any of the following (PTI and NPDES):(Complete Sections C and E)

- addition of any pollutant not currently in the discharge, or
- an increase in mass or concentration of any pollutant currently in the discharge, or
- an increase in any current pollutant limitation in terms of mass or concentration.

Click to clear all entered information (on both pages of this form) CLEAR

_____ PTI that involves placement of fill or installation of any portion of a sewerage system (i.e., sanitary sewers, pump stations, WWTP, etc.) within 150 feet of a stream bed. Please provide information requested on the stream evaluation addendum (i.e., number of stream crossings, fill placement, etc.) and complete Section E.

_____ Initial NPDES permit for an existing treatment works with a wastewater discharge prior to October 1, 1996. (Complete Sections D and E)

__X__ Renewal NPDES permit or modification to an effective NPDES permit that will result in any of the following: (Complete Sections C and E)

- a new permit limitation for a pollutant that previously had no limitation, or
- an increase in any mass or concentration limitation of any pollutant that currently has a limitation.

**C. Antidegradation Information**

1. Does the PTI and/or NPDES permit application meet an exclusion as outlined by OAC 3745-1-05(D)(1) of the Antidegradation rule?

   __X__ Yes (Complete Question C.2) (Section F[2][d] -Lake Erie Basin)

   _____ No (Complete Questions C.3 and C.4)

2. For projects that would be eligible for exclusions provide the following information:

   a. Provide justification for the exclusion. (See Mercury Variance Application.)

   b. Identify the substances to be discharged, including the amount of regulated pollutants to be discharged in terms of mass and concentration. (See Mercury Variance Application.)

   c. A description of any construction work, fill or other structures to occur or be placed in or near a stream bed. Not applicable.

3. Are you requesting a waiver as outlined by OAC 3745-1-05(D)(2-7) of the Antidegradation rule?

   _____ No

   _____ Yes

   If you wish to pursue one of the waivers, please identify the waiver and submit the necessary information to support the request. Depending on the waiver requested, the information required under question C.4 may be required to complete the application.

4. For all projects that do **not** qualify for an exclusion a report must accompany this application evaluating the preferred design alternative, non-degradation alternatives, minimal degradation alternatives, and mitigative techniques/measures for the design and operation of the activity. The information outlined below should be addressed in this report. If a waiver is requested, this section is still required.

   a. Describe the availability, cost effectiveness and technical feasibility of connecting to existing central or regional sewage collection and treatment facilities, including long range plans for

sewer service outlined in state or local water quality management planning documents and applicable facility planning documents.

b. List and describe all government and/or privately sponsored conservation projects that may have been or will be specifically targeted to improve water quality or enhance recreational opportunities on the affected water resource.

c. Provide a brief description below of all treatment/disposal alternatives evaluated for this application and their respective operational and maintenance needs. (If additional space is needed please attach additional sheets to the end of this addendum).

Preferred design alternative:

Non-degradation alternative(s):

Minimal degradation alternative(s):

Mitigative technique/measure(s):

At a minimum, the following information must be included in the report for each alternative evaluated.

d. Outline of the treatment/disposal system evaluated, including the costs associated with the equipment, installation, and continued operation and maintenance.

e. Identify the substances to be discharged, including the amount of regulated pollutants to be discharged in terms of mass and concentration.

f. Describe the reliability of the treatment/disposal system, including but not limited to the possibility of recurring operation and maintenance difficulties that would lead to increased degradation.

g. Describe any impacts to human health and the overall quality and value of the water resource.

h. Describe and provide an estimate of the important social and economic benefits to be realized through this proposed project. Include the number and types of jobs created and tax revenues generated.

i. Describe environmental benefits to be realized through this proposed project.

j. Describe and provide an estimate of the social and economic benefits that may be lost as a result of this project. Include the impacts on commercial and recreational use of the water resource.

k. Describe the environmental benefits lost as a result of this project. Include the impact on the aquatic life, wildlife, threatened or endangered species.

l. A description of any construction work, fill or other structures to occur or be placed in or near a stream bed.

m. Provide any other information that may be useful in evaluating this application.

**D. Discharge Information**

1. For treatment/disposal systems constructed pursuant to a previously issued Ohio EPA PTI, provide the following information:

PTI Number _____
PTI Issuance Date _____
Initial Date of Discharge _____

2. Has the appropriate NPDES permit application form been submitted including representative effluent data?

_____ Yes (go to E)

_____ No (see below)

**If no,** submit the information as applicable under **a OR b** as follows:

a. For entities discharging process wastewater attach a completed 2C form.

b. For entities discharging wastewater of domestic origin attach the results of at least one chemical analysis of the wastestream for all pollutants for which authorization to discharge is being requested and a measurement of the daily volume (gallons per day) of wastewaters being discharged.

**E.** 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.

**This section must be signed by the same responsible person who signed the accompanying permit application or certification as per 40 CFR 122.22.**

**Signature** _____

**Date** April 13, 2010

# ANTIDEGRADATION ADDENDUM

# NPDES RENEWAL APPLICATION – PERMIT NO 31B00002

RECEIVED
APR 29 2010
OHIO EPA NEDO



State of Ohio Environmental Protection Agency

DIVISION OF SURFACE WATER

# Antidegradation Addendum

In accordance with Ohio Administrative Code 3745-1-05 (Antidegradation), additional information may be required to complete your application for a permit to install or NPDES permit. For any application that may result in an increase in the level of pollutants being discharged (NPDES and/or PTI)or for which there might be activity taking place within a stream bed, the processing of the permit(s) may be required to go through procedures as outlined in the antidegradation rule. The rule outlines procedures for public notification and participation as well as procedures pertaining to the levels of review necessary. The levels of review necessary depend on the degradation being considered/requested. The rule also outlines exclusions from portions of the applicati on and review requirements and waivers that the Director may grant as specified in Section 3745-1-05(D) of the rule. Please complete the following questions. The answers provided will allow the Ohio EPA to determine if additional information is needed. **All projects that require both an NPDES and PTI should submit both applications simultaneously to avoid going through the antidegradation process separately for each permit**.

A. **Applicant:** Orion Power Midwest, L.P.

**Facility Owner:** Orion Power Midwest, L.P.

**Facility Location (city and county):** Avon Lake, Lorain County

**Application or Plans Prepared By:** Shaw Environmental, Inc.

**Project Name:** Avon Lake Power Plant NPDES Permit Renewal

**NPDES Permit Number (if applicable):** 31B00002

B. **Antidegradation Applicability**

**Is the application for? (check as many as apply):**

_____ Application with no direct surface water discharge (Projects that do not meet the applicability section of 3745-1-05(B)1, i.e., on-site disposal, extensions of sanitary sewers, spray irrigation, indirect discharger to POTW, etc.). (Complete Section E)

__X__ Renewal NPDES application or PTI application with no requested increase in loading of currently permitted pollutants. (Complete Section E, Do not complete Sections C or D).

_____ PTI and NPDES application for a new wastewater treatment works that will discharge to a surface water. (Complete Sections C and E)

_____ An expansion/modification of an existing wastewater treatment works discharging to a surface water that will result in any of the following (PTI and NPDES):(Complete Sections C and E)

- addition of any pollutant not currently in the discharge, or
- an increase in mass or concentration of any pollutant currently in the discharge, or
- an increase in any current pollutant limitation in terms of mass or concentration.

Click to clear all entered information (on all 4 pages of this form) CLEAR

_____ PTI that involves placement of fill or installation of any portion of a sewerage system (i.e., sanitary sewers, pump stations, WWTP, etc.) within 150 feet of a stream bed. Please provide information requested on the stream evaluation addendum (i.e., number of stream crossings, fill placement, etc.) and complete Section E.

_____ Initial NPDES permit for an existing treatment works with a wastewater discharge prior to October 1, 1996. (Complete Sections D and E)

_____ Renewal NPDES permit or modification to an effective NPDES permit that will result in any of the following: (Complete Sections C and E)

- a new permit limitation for a pollutant that previously had no limitation, or
- an increase in any mass or concentration limitation of any pollutant that currently has a limitation.

**C. Antidegradation Information**

1. Does the PTI and/or NPDES permit application meet an exclusion as outlined by OAC 3745-1-05(D)(1) of the Antidegradation rule?

   _____ Yes (Complete Question C.2)

   _____ No (Complete Questions C.3 and C.4)

2. For projects that would be eligible for exclusions provide the following information:

   a. Provide justification for the exclusion.

   b. Identify the substances to be discharged, including the amount of regulated pollutants to be discharged in terms of mass and concentration.

   c. A description of any construction work, fill or other structures to occur or be placed in or near a stream bed.

3. Are you requesting a waiver as outlined by OAC 3745-1-05(D)(2-7) of the Antidegradation rule?

   _____ No

   _____ Yes

   If you wish to pursue one of the waivers, please identify the waiver and submit the necessary information to support the request. Depending on the waiver requested, the information required under question C.4 may be required to complete the application.

4. For all projects that do **not** qualify for an exclusion a report must accompany this application evaluating the preferred design alternative, non-degradation alternatives, minimal degradation alternatives, and mitigative techniques/measures for the design and operation of the activity. The information outlined below should be addressed in this report. If a waiver is requested, this section is still required.

   a. Describe the availability, cost effectiveness and technical feasibility of connecting to existing central or regional sewage collection and treatment facilities, including long range plans for

sewer service outlined in state or local water quality management planning documents and applicable facility planning documents.

b. List and describe all government and/or privately sponsored conservation projects that may have been or will be specifically targeted to improve water quality or enhance recreational opportunities on the affected water resource.

c. Provide a brief description below of all treatment/disposal alternatives evaluated for this application and their respective operational and maintenance needs. (If additional space is needed please attach additional sheets to the end of this addendum).

Preferred design alternative:

Non-degradation alternative(s):

Minimal degradation alternative(s):

Mitigative technique/measure(s):

At a minimum, the following information must be included in the report for each alternative evaluated.

d. Outline of the treatment/disposal system evaluated, including the costs associated with the equipment, installation, and continued operation and maintenance.

e. Identify the substances to be discharged, including the amount of regulated pollutants to be discharged in terms of mass and concentration.

f. Describe the reliability of the treatment/disposal system, including but not limited to the possibility of recurring operation and maintenance difficulties that would lead to increased degradation.

g. Describe any impacts to human health and the overall quality and value of the water resource.

h. Describe and provide an estimate of the important social and economic benefits to be realized through this proposed project. Include the number and types of jobs created and tax revenues generated.

i. Describe environmental benefits to be realized through this proposed project.

j. Describe and provide an estimate of the social and economic benefits that may be lost as a result of this project. Include the impacts on commercial and recreational use of the water resource.

k. Describe the environmental benefits lost as a result of this project. Include the impact on the aquatic life, wildlife, threatened or endangered species.

l. A description of any construction work, fill or other structures to occur or be placed in or near a stream bed.

m. Provide any other information that may be useful in evaluating this application.

**D. Discharge Information**

1. For treatment/disposal systems constructed pursuant to a previously issued Ohio EPA PTI, provide the following information:

PTI Number _____
PTI Issuance Date _____
Initial Date of Discharge _____

2. Has the appropriate NPDES permit application form been submitted including representative effluent data?

_____ Yes (go to E)

_____ No (see below)

**If no,** submit the information as applicable under **a OR b** as follows:

a. For entities discharging process wastewater attach a completed 2C form.

b. For entities discharging wastewater of domestic origin attach the results of at least one chemical analysis of the wastestream for all pollutants for which authorization to discharge is being requested and a measurement of the daily volume (gallons per day) of wastewaters being discharged.

**E.** 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.

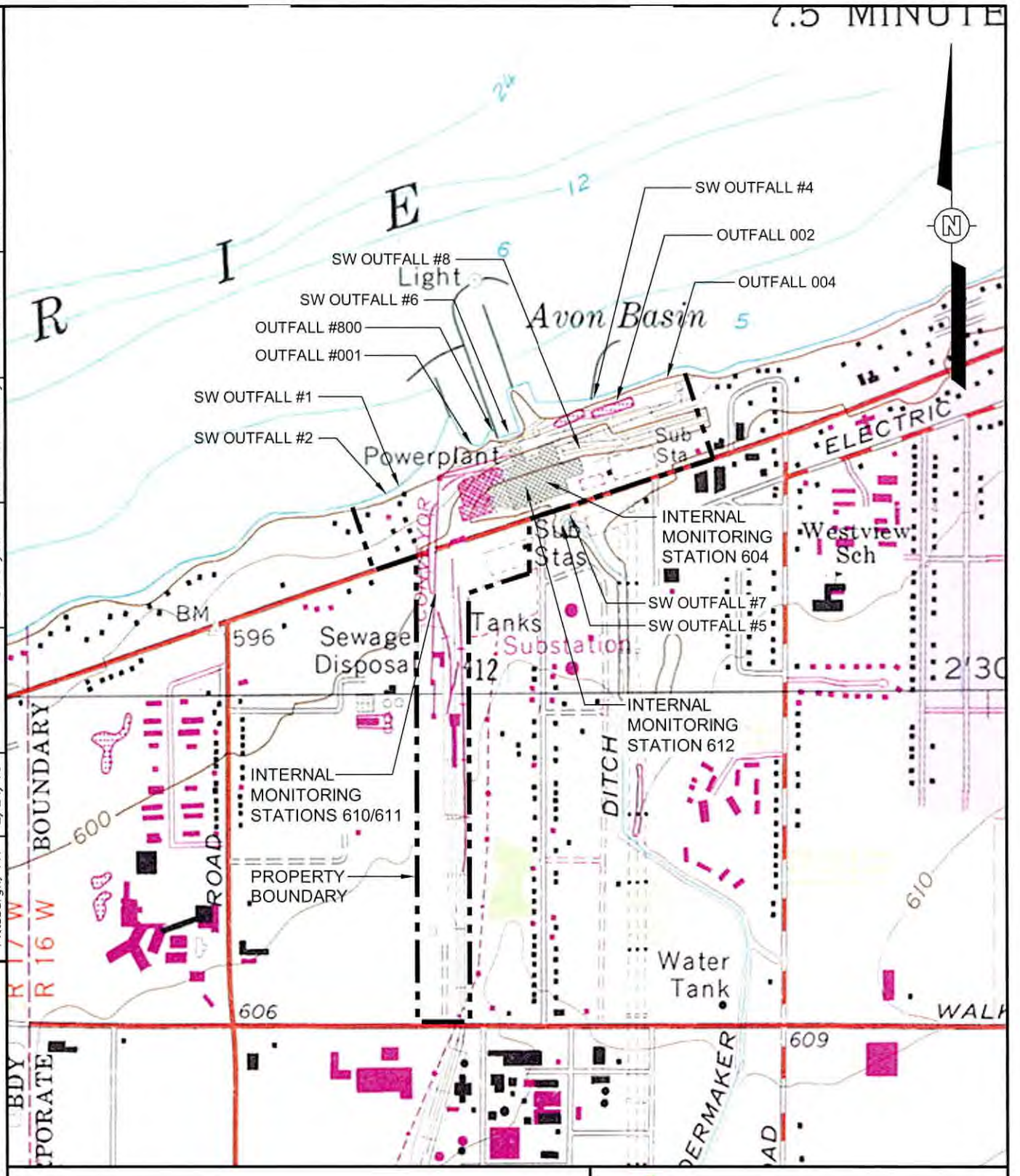
**This section must be signed by the same responsible person who signed the accompanying permit application or certification as per 40 CFR 122.22.**

**Signature** _____

**Date** April 13, 2010

# FIGURES

| OFFICE | DATE | DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED BY | DRAWING NUMBER |
|---|---|---|---|---|---|---|
| Pittsburgh, PA | 2/24/10 | -- | B. Snyder | S. Zummo-Forney | D. Shott | 110870-A92 |




SCALE

0 1000 2000 FEET

REFERENCE:

USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES
AVON QUADRANGLE, DATED 1993, SCALE: 1"=2000'.

Shaw Environmental, Inc.

RRI Energy

ORION POWER MIDWEST, L.P.
AVON LAKE POWER PLANT

**FIGURE 1**

**SITE LOCATION MAP AND OUTFALL LOCATIONS**

**AVON LAKE POWER STATION**
**AVON LAKE, OHIO 44012**

File: O:\Project\1 Avon\110870A92.dwg
Plot Date/Time: Apr 07, 2010 - 10:25am
Plotted By: william.snyder

Xref:
Image: avon base.jpg

LAKE ERIE
INTAKE

OUTFALL 800 - INTAKE WATER
427.3 MGD

CHLORINE (SEE NOTE 3)

NON-CONTACT COOLING WATER CONDENSER

SCREEN WASH

DISCHARGE TUNNEL

386.77 MGD → OUTFALL 001 (LAKE ERIE)

OUTFALL 612
2.36 MGD

OUTFALL 604
0.03 MGD

#9 OIL COOLERS HEAT EXCHANGER

MEKOR 6701
AMMONIUM HYDROXIDE
TRISODIUM PHOSPHATE

AVON LAKE PRE-TREATMENT

HOUSE SERVICE WATER

BOILERS MAKEUP WATER

AVON LAKE BOILERS 7 & 9

BOILER BLOWDOWN

SULFURIC ACID
SODIUM HYDROXIDE

FLOOR AND EQUIPMENT DRAINS

NEUTRALIZATION TANK

LAB DRAINS

SOLAR SALTS
SODIUM BISULFITE
CHLORINE (SEE NOTE 3)

LIME
SODIUM BISULFATE

OIL STORAGE TANK

PRECIPITATOR AREA SUMP

OIL COOLERS PLANT SUMPS

LOW VOLUME WASTE

OIL-WATER SEPARATOR

OILY WASTE BASIN FILTERS

1.17 MGD → OUTFALL 004 (LAKE ERIE)

BOTTOM ASH PIT SUMPS

SODIUM BISULFATE
AS-2821 POLYMER
LIME

TRUCK WASH

ASH SETTLING BASINS

ASH SETTLING BASIN FILTERS

0.94 MGD → OUTFALL 002 (LAKE ERIE)

ASH SLUICE WATER

SLUICE WATER SUMPS

AS-1012 POLYMER
LIME

COAL PILE RETENTION BASIN

OUTFALL 610
0.09 MGD

OUTFALL 611
0.1 MGD

EMERGENCY OVERFLOW TO POWDERMAKER CREEK

COAL PILE RUNOFF AND COAL HANDLING AREA

SODIUM HYDROXIDE

METAL CLEANING WASTES (SEE NOTE 4)

NOTES:

1. DRAWING NOT TO SCALE
2. FLOWS ARE ESTIMATED AVERAGES BASED ON LAST 5 YEARS OF REPORTED DATA.
3. USED ON AN AS-NEEDED BASIS IN ACCORDANCE WITH PERMIT CONDITIONS.
4. OUTFALL 611 IS A FICTITIOUS OUTFALL USED WHEN THE COAL PILE RUNOFF TREATMENT SYSTEM IS USED TO TREAT METAL CLEANING WASTE WATER AND CHEMICAL METAL WASTE CLEANING WATER.

| REV | DESCRIPTION / ISSUE | DATE | APPROVED |
|---|---|---|---|
| A | CHEMICAL ADDITIVES | 12/23/08 | DJS |
| B | FOR PERMIT RENEWAL | 2/24/10 | SZF |
| | | | |
| | | | |

Shaw Environmental, Inc.

RRI Energy

ORION POWER MIDWEST, L.P.
AVON LAKE POWER PLANT

# WASTE WATER FLOW DIAGRAM
# NPDES PERMIT # 31B00002

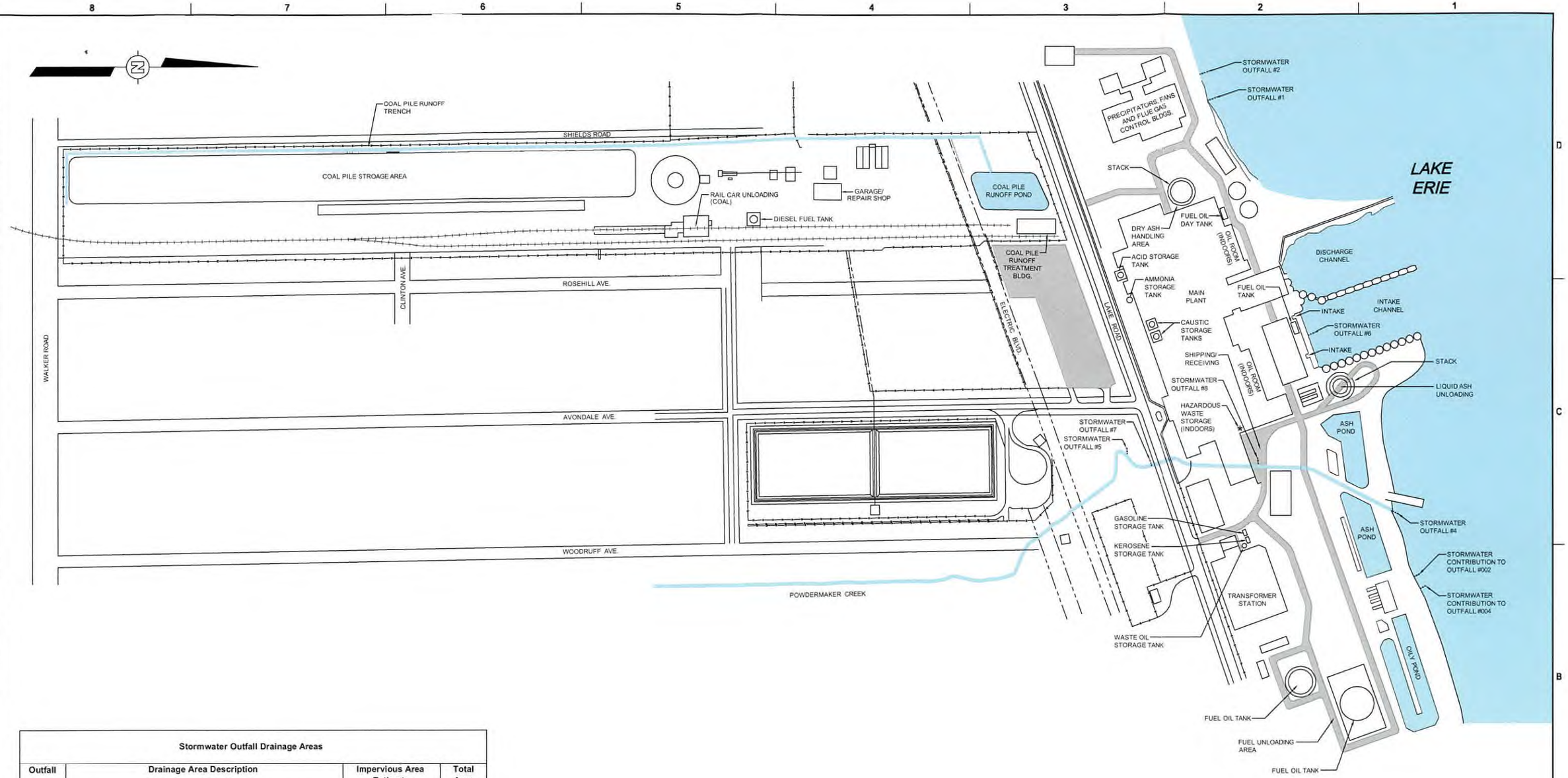
AVON LAKE POWER PLANT
AVON LAKE, OH

| DRAWING NUMBER | APPROVED BY | CHECKED BY | DRAWN BY | DESIGNED BY | DATE | OFFICE |
|---|---|---|---|---|---|---|
| 110870-B8 | -- | -- | B. Snyder | -- | 12/23/08 | Pittsburgh, PA |

Xref: .
Image: RELIANT

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Plot Date/Time: 01/06/09 02:02pm
Plotted by: william.snyder

OFFICE Pittsburgh, PA | DRAWING NUMBER 110870-E2




**Stormwater Outfall Drainage Areas**

| Outfall | Drainage Area Description | Impervious Area Estimate | Total Area Estimate |
|---|---|---|---|
| #1 | Roof drains and surface areas near western boundary of plant grounds. | 55,000 sq feet | 130,000 sq feet |
| #2 | Roof drains and surface areas near western boundary of plant grounds. | 75,000 sq feet | 90,000 sq feet |
| #4 | Powder Maker Creek discharge point. Receives groundwater infiltration and discharge from Stormwater outfalls #5, #7 and #8. | > 0.2 square mile | > 2 square miles |
| #5(1) | Portion of plant parking lot. Also serves as discharge point for emergency overflow from the coal pile runoff pond. | 60,000 sq feet | 90,000 sq feet |
| #6 | Roadway and surface drains along northern face of main plant area. | 2,000 sq feet | 2,000 sq feet |
| #7(1) | Portion of plant parking lot and road drains along Lake Road and Avondale Road. | 0.2 square miles | 2 square miles |
| #8 | Warehouse roof and associated asphalt area to the south and west of warehouse. | 12,000 sq feet | 12,000 sq feet |
| 002(2) | Roof drains and surface in main plant area. | 33,600 sq feet | 33,600 sq feet |
| 004(2) | Roadway surfaces around ash ponds and oily waste pond. | 45,000 sq feet | 45,0000 sq feet |

(1) Stormwater outfalls shared with First Energy.
(2) Process water outfalls with stormwater contribution.

LEGEND:
- PAVED ARES
- SURFACE WATER AND SITE PONDS

NOTE:
REFERENCES FOR BASE DRAWING AND INFORMATION ON SITE FEATURES PROVIDED BY RRI ENERGY.

APPROXIMATE SCALE
0 150 300 450 FEET

VERIFY SCALE 0 1"

Xref: -
Image: ORION scan375

O:\Project\110870\110870E2.dwg
Plot Date/Time: 01/08/09 03:34pm
Plotted by: william.snyder

Shaw Shaw Environmental, Inc.

| | | |
|---|---|---|
| DESIGNED BY: -- | RRI Energy | ORION POWER MIDWEST, L.P. AVON LAKE POWER PLANT |
| DRAWN BY: B. Snyder | FIGURE 2 FACILITY LAYOUT AVON LAKE POWER PLANT AVON LAKE, OHIO | |
| CHECKED BY: S. Zummo Forney | | |
| APPROVED BY: --- | DATE: 11/3/05 | SCALE: AS NOTED |
| | DRAWING NO. 110870-E2 | SHEET NO. - |

# ATTACHMENT

## Sampling Plan

RRI Energy

121 Champion Way
Suite 200
Canonsburg, PA 15317

Writer's Direct Dial: 724-597-8630

August 14, 2009

**Certified Mail**
7006 2760 0003 7968 7965

Mr. Mike Stevens
Ohio EPA Northeast District Office
Division of Surface Water
2110 East Aurora Road
Twinsburg, OH 44087

**NPDES Renewal Application – Sample Collection Plan**
**Orion Power Midwest, LP**
**Avon Lake Power Plant**
**NPDES Permit 3IB00002*JD**

Dear Mr. Stevens:

Attached for your consideration is the sampling plan that was developed for the upcoming renewal of the Avon Lake Power Plant NPDES permit. The sampling plan has been prepared consistent with application instructions and past renewal sampling efforts.

The sampling is tentatively scheduled to begin around September 7, 2009. If you have any questions or comments regarding the sampling plan, please contact me at (724) 597-8630 or nrozic@rrienergy.com.

Effective May 2, 2009, Reliant Energy, Inc. changed its company name to "RRI Energy, Inc." Please note that this is only a name change, not a change in ownership. The company will keep its current ticker symbol on the New York Stock Exchange (RRI), tax identification numbers, and Dun & Bradstreet Numbers. Orion Power Midwest, LP is a wholly owned subsidiary of RRI Energy, Inc.

Thank you for your consideration. We look forward to working with you on the permit renewal.

Sincerely,

Nathan J. Rozic
Senior Environmental Specialist
RRI Energy, Inc.

Enclosure

Cc: Bob Laeng- Avon Lake Power Plant
Susan Zummo Forney- Shaw Environmental, Inc.

| Avon Lake Power Plant<br>NPDES Permit Renewal Sampling Plan – August 2009 | | |
|---|---|---|
| **Outfall** | **Pollutant Groups** | **No. Sample Events** |
| **001**<br>(Condenser cooling water and boiler blowdown) | All except pesticides. Exclude radioactive cmpds and fecal coliform as "Believed Absent." | 1 – Grab/Composite |
| **002**<br>(Combined wastewater treatment system) | All except pesticides. Exclude radioactive cmpds and fecal coliform as "Believed Absent." | 1 – Grab/Composite |
| **004**<br>(Low volume wastewater treatment system) | All except pesticides. Exclude radioactive cmpds and fecal coliform as "Believed Absent." | 1 – Grab/Composite |
| **604**<br>(Boiler blowdown water) | All except pesticides. Exclude radioactive cmpds and fecal coliform as "Believed Absent." | 1 – Grab/Composite |
| **610**<br>(Coal pile runoff WWT prior to combined basin) | All except pesticides. Exclude radioactive cmpds and fecal coliform as "Believed Absent." | 1 – Grab/Composite |
| **611**<br>(Coal pile runoff WWT system when used to treat metal cleaning wastes) | N/A | 0 |
| **612**<br>(Noncontact cooling water from Unit #9 heat exchanger) | All except pesticides. Exclude radioactive cmpds and fecal coliform as "Believed Absent." | 1 – Grab/Composite |
| **800**<br>(Intake water at plant inlet) | All except pesticides. Exclude radioactive cmpds and fecal coliform as "Believed Absent." | 1 – Grab/Composite |
| #1 Stormwater | O&G, BOD5, COD, TSS, Total N, Total P, pH | 1 - Grab |
| #2 Stormwater | O&G, BOD5, COD, TSS, Total N, Total P, pH | 1 - Grab |
| #4 Stormwater | O&G, BOD5, COD, TSS, Total N, Total P, pH | 1- Grab |
| #5 Stormwater | O&G, BOD5, COD, TSS, Total N, Total P, pH | 1 - Grab |
| #6 Stormwater | O&G, BOD5, COD, TSS, Total N, Total P, pH | 1 - Grab |
| #7 Stormwater | O&G, BOD5, COD, TSS, Total N, Total P, pH | 1 - Grab |
| #8 Stormwater | O&G, BOD5, COD, TSS, Total N, Total P, pH | 1 – Grab |
| 002 Stormwater | O&G, BOD5, COD, TSS, Total N, Total P, pH | 1 – Grab |
| 004 Stormwater | O&G, BOD5, COD, TSS, Total N, Total P, pH | 1 - Grab |

PLT
3IB00002
NPDES
BF

Reliant Energy™

Avon Lake Power Plant – 33570 Lake Road – Avon Lake, OH 44012

December 29, 2005

RECEIVED
JAN - 3 2006
OHIO EPA NEDO

Mike Stevens
Ohio EPA, NEOD
2110 East Aurora Rd.
Twinsburg, OH 44087

Dear Mr. Stevens,

In accordance with Part III, Section 12 C, from Ohio EPA permit number 3IB00002*ID, attached is a written notification in regards to a daily TSS mass loading limit exceedance on December 12, 2005.

If you have any questions, or need further information concerning this incident, please contact me at (440) 930-6466.

Respectfully,

Robert W. Laeng
Environmental, Safety, and Health Coordinator
Reliant Energy, Avon Lake Power Plant

cc:
Nate Rozic, Reliant

Noncompliance Notification – ID# 0512-47-4956
Ohio EPA permit # 3IB0002*ID, Avon Lake Power Plant
Date/Time of incident: December 12, 2005, Discovered 12/28/05
Date/Time of telephone report: 12/29/05, 02:30 pm
Date report due: 1/3/06

Description of Incident:

1) Limitations exceeded:
Internal Monitoring Point 610/611 – TSS Mass Loading Limit of 1.8 kg/D daily max and 0.5 kg/D monthly average. On 12/12, the daily load was 12.53 kg/day.

2) Extent of Exceedance: Limited to the internal monitoring point, no associated exceedance on any external outfalls.

3) Cause of the exceedance:
The mass loading limits for this internal monitoring point were established some years ago using a flow rate of 0.0458 MGD. A recently installed flow meter shows the actual flow to be much higher. OHEPA is aware of this discrepancy and has taken steps, in the permit renewal process, to utilize more accurate flow numbers.

4) Period of the event: December 12, 2005.

5) Anticipated time the exceedance is expected to continue: Until the permit is revised, the potential for mass loading calculation exceedances is expected to continue, even though the sample results may be well within the permitted concentration limits. This is flow from the coal pile run-off pond and is almost entirely dependant on precipitation. In heavy rain the system will have to run continuously in order to keep the pond from overflowing. This condition will occur whenever there is heavy rain and the CPRO system is running.

6) Steps taken to reduce, eliminate, or prevent recurrence of the exceedance:

   a. The coal pile run-off pond has been dredged. This will allow it to fill for a longer period before the system comes on.
   b. The company and the OHEPA have taken steps to eliminate this issue during the current permit renewal process.

**OhioEPA**
State of Ohio Environmental Protection Agency

STREET ADDRESS:
Lazarus Government Center
122 S. Front Street
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

December 21, 2005

RE: Schedule of Compliance for Submittal of Documents Required by Section 316(b) Phase II Rules for the Avon Lake Generating Station - Permit No. 3IB00002

Nathan J. Rozic, Environmental Specialist
Reliant Energy
121 Champion Way
Suite 200
Canonsburg, PA 15317

Dear Mr. Rozic:

I am writing to you in response to your recent letter in which you requested a compliance schedule for the submittal of documents necessary to meet the requirements of rules promulgated under Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326). These rules, also known as the 316(b) Phase II rules, allow a compliance schedule of no more than three years and 180 days for submittal of the following information and studies if the expiration date of the existing NPDES permit occurs prior to July 9, 2008:

- Source Water Physical Data [40 CFR 122.21(r)(2)]
- Cooling Water Intake Structure Data [40 CFR 122.21(r)(3)]
- Cooling Water System Data [40 CFR 122.21(r)(5)]
- Comprehensive Demonstration Study [40 CFR 125.95(b)]

You have requested the full three and one-half year compliance schedule for the Avon Lake Generating Station. We will grant the request for a compliance schedule for this facility, and by doing so, will expect the information and studies listed above to be submitted no later than January 7, 2008.

Language will also be included in the next permit renewal for your facility, requiring the 316(b) information and studies to be submitted no later than January 7, 2008. However, I would encourage you to submit the information and studies prior to this date, if possible, especially the

Bob Taft, Governor
Bruce Johnson, Lieutenant Governor
Joseph P. Koncelik, Director

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information required for the Source Water Physical Data, the Cooling Water Intake Structure Data, and the Cooling Water System Data so that we might provide a more timely review for NPDES permits for existing power plants.

If you have any questions regarding this letter, please contact me at (614) 644-2041 or Mike McCullough at (614) 644-4824. We look forward reviewing your 316(b) Phase II submittals.

Sincerely,

George Elmaraghy

George Elmaraghy, P.E.
Chief
Division of Surface Water

cc: Mike McCullough, Ohio EPA
Dennis Lee, Ohio EPA
File

RECEIVED
DEC 23 2005
OHIO EPA NEDO

**From:** Mike McCullough
**To:** Mike Stevens
**Date:** 12/12/2005 3:23:44 PM
**Subject:** Avon Lake Power Plant Permit - Factsheet

Hi, Mike. The factsheet is attached. Several items to point out:

ALREADY THERE

- I included monitoring for selenium and thallium because they used a detection level that was much too high in the previous monitoring which they conducted. I'm also suggesting that we put some language in the permit requiring them to use a low enough detection level.

- Toxicity. They had one detection of acute toxicity at outfall 004 of 1.26 TUa. Given the procedures that we have to use for Lake Erie dischargers, this means that we have to give them limits. Eric is trying to find the language for the permit for including trigger in the permit - in other words, the trigger would require us to evaluate the toxicity monitoring results for the first 3 to 4 years of the permit, then limits would be triggered, unless the results show that there is no reasonable potential. I know they will object to this requirement, but unless there is some problem with the test which resulted in a 1.26 TUa (March 8, 2002), I don't think we have a choice. You or someone else in NEDO may want to have a look at the report for that toxicity test, or if you want to send it down here, I'll have Eric take a look at it.

- I removed the loading limits for outfalls 604, 610, and 611.

- I used the earlier agreed-upon flow rates for outfalls 002 and 004 for loading limit calculation.

Please let me know if you have any questions about the factsheet. Thanks.

National Pollutant Discharge Elimination System (NPDES) Permit Program

# FACT SHEET

Regarding an NPDES Permit To Discharge to Waters of the State of Ohio
for **Orion Power Midwest, L.P., Avon Lake Power Plant**

Public Notice No.:
Public Notice Date:
Comment Period Ends:

OEPA Permit No.: **3IB00002*JD**
Application No.: (OH #) **OH0001112**

Name and Address of Applicant:

**Orion Power Midwest, L.P.**
**Avon Lake Power Plant**
**33570 Lake Poad**
**Avon Lake, Ohio 44012**

Name and Address of Facility Where Discharge Occurs:

**Avon Lake Power Plant**
**33570 Lake Road**
**Avon Lake, Ohio 44012**
**Lorain County**

Receiving Water: **Lake Erie**

## Introduction

Development of a Fact Sheet for NPDES permits is required by Title 40 of the Code of Federal Regulations, Section 124.8 and 124.56. This document fulfills the requirements established in those regulations by providing the information necessary to inform the public of actions proposed by the Ohio Environmental Protection Agency, as well as the methods by which the public can participate in the process of finalizing those actions.

This Fact Sheet is prepared in order to document the technical basis and risk management decisions that are considered in the determination of water quality based NPDES Permit effluent limitations. The technical basis for the Fact Sheet may consist of evaluations of promulgated effluent guidelines and other treatment-technology based standards, existing effluent quality, instream biological, chemical and physical conditions, and the allocations of pollutants to meet Ohio Water Quality Standards. This Fact Sheet details the discretionary decision-making process empowered to the director by the Clean Water Act and Ohio Water Pollution Control Law (ORC 6111). Decisions to award variances to Water Quality Standards or promulgated effluent guidelines for economic or technological reasons will also be justified in the Fact Sheet where necessary.

Effluent limits based on available treatment technologies are required by Section 301(b) of the Clean Water Act. Many of these have already been established by U.S. EPA in the effluent guideline regulations (a.k.a. categorical regulations) for industry categories in 40 CFR Parts 405-499. Technology-

based regulations for publicly-owned treatment works are listed in the Secondary Treatment Regulations (40 CFR Part 133). If regulations have not been established for a category of dischargers, the director may establish technology-based limits based on best professional judgment (BPJ).

Ohio EPA reviews the need for water-quality-based limits on a pollutant-by-pollutant basis. Wasteload allocations are used to develop these limits based on the pollutants that have been detected in the discharge, and the receiving water's assimilative capacity. The assimilative capacity depends on the flow in the water receiving the discharge, and the concentration of the pollutant upstream. The greater the upstream flow, and the lower the upstream concentration, the greater the assimilative capacity is. Assimilative capacity may represent dilution (as in allocations for metals), or it may also incorporate the break-down of pollutants in the receiving water (as in allocations for oxygen-demanding materials).

The need for water-quality-based limits is determined by comparing the wasteload allocation for a pollutant to a measure of the effluent quality. The measure of effluent quality is called PEQ - Projected Effluent Quality. This is a statistical measure of the average and maximum effluent values for a pollutant. As with any statistical method, the more data that exists for a given pollutant, the more likely that PEQ will match the actual observed data. If there is a small data set for a given pollutant, the highest measured value is multiplied by a statistical factor to obtain a PEQ; for example if only one sample exists, the factor is 6.2, for two samples - 3.8, for three samples - 3.0. The factors continue to decline as samples sizes increase. These factors are intended to account for effluent variability, but if the pollutant concentrations are fairly constant, these factors may make PEQ appear larger than it would be shown to be if more sample results existed.

## Summary of Proposed Permit Conditions

Monitoring requirements for water temperature, pH, total residual oxidants, flow rate, total residual chlorine, duration of chlorination/bromination, thallium, and selenium are proposed to continue for outfall 001, and monitoring for Bis(2-ethylhexyl) phthalate has been added for this outfall. Monitoring requirements and limits from the existing permit are proposed to continue for outfalls 002 and 004. Also, monitoring for barium and mercury at outfall 002, and limits for copper and acute toxicity at outfall 004 are proposed to be added. The limits for acute toxicity are proposed to be triggered based upon monitoring results during the first _____ months of the permit.

Loading limits have been removed from parameters for outfalls 604, 610, and 611.

This permit renewal is proposed for a term of approximately **four and one-half years**, expiring on **July 31, 2010.** This schedule will allow the Avon Lake Power Plant permit to be on a similar schedule with the other facilities within the same watershed basin.

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Attachment A. Federal Effluent Guidelines Applicable to Avon Lake Plant ..... 37

## Procedures for Participation in the Formulation of Final Determinations

The draft action shall be issued as a final action unless the Director revises the draft after consideration of the record of a public meeting or written comments, or upon disapproval by the Administrator of the U.S. Environmental Protection Agency.

Within thirty days of the date of the Public Notice, any person may request or petition for a public meeting for presentation of evidence, statements or opinions. The purpose of the public meeting is to obtain additional evidence. Statements concerning the issues raised by the party requesting the meeting are invited. Evidence may be presented by the applicant, the state, and other parties, and following presentation of such evidence other interested persons may present testimony of facts or statements of opinion.

Requests for public meetings shall be in writing and shall state the action of the Director objected to, the questions to be considered, and the reasons the action is contested. Such requests should be addressed to:

**Legal Records Section**
**Ohio Environmental Protection Agency**
**Lazarus Government Center**
**P.O. Box 1049**
**Columbus, Ohio 43216-1049**

Interested persons are invited to submit written comments upon the discharge permit. Comments should be submitted in person or by mail no later than 30 days after the date of this Public Notice. Deliver or mail all comments to:

**Ohio Environmental Protection Agency**
**Attention: Division of Surface Water**
**Water Resource Management Section**
**Lazarus Government Center**
**P.O. Box 1049**
**Columbus, Ohio 43216-1049**

The OEPA permit number and Public Notice numbers should appear on each page of any submitted comments. All comments received no later than 30 days after the date of the Public Notice will be considered.

The application, fact sheet, public notice, permit including effluent limitations, special conditions, comments received and other documents are available for inspection and may be copied at a cost of 25 cents per page at the Ohio Environmental Protection Agency at the address shown above any time between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday. Copies of the Public Notice are available at no charge at the same address.

## Location of Discharge/Receiving Water Use Classification

The Reliant Energy Company owns the Avon Lake Power Plant which is located in Avon Lake, Ohio, in Lorain County. The Orion Power Midwest, L.P. Company operates the facility. This segment of Lake Erie is described by Ohio EPA River Code 24-500, U.S. EPA River Reach # NA, and the Erie-Ontario Lake Plain (EOLP) Ecoregion. Lake Erie is presently designated for the following uses: Exceptional Warmwater Habitat (EWH), Superior High Quality Water (SHQW), Public Water Supply (PWS), Agricultural Water Supply (AWS), Industrial Water Supply (IWS), and Bathing Waters (BW). The approximate location of the Avon Lake Plant is shown in Figure 1.

Use designations define the goals and expectations for a waterbody. These goals are set for aquatic life protection, recreation use and water supply use, and are defined in the Ohio Water Quality Standards, or the Ohio Administrative Code (OAC 3745-1-07). The use designations for individual waterbodies are listed in rules -08 through -32 of the OAC. Once the goals are set, numeric water quality standards are developed to protect these uses; higher quality uses typically have more protective water quality criteria.

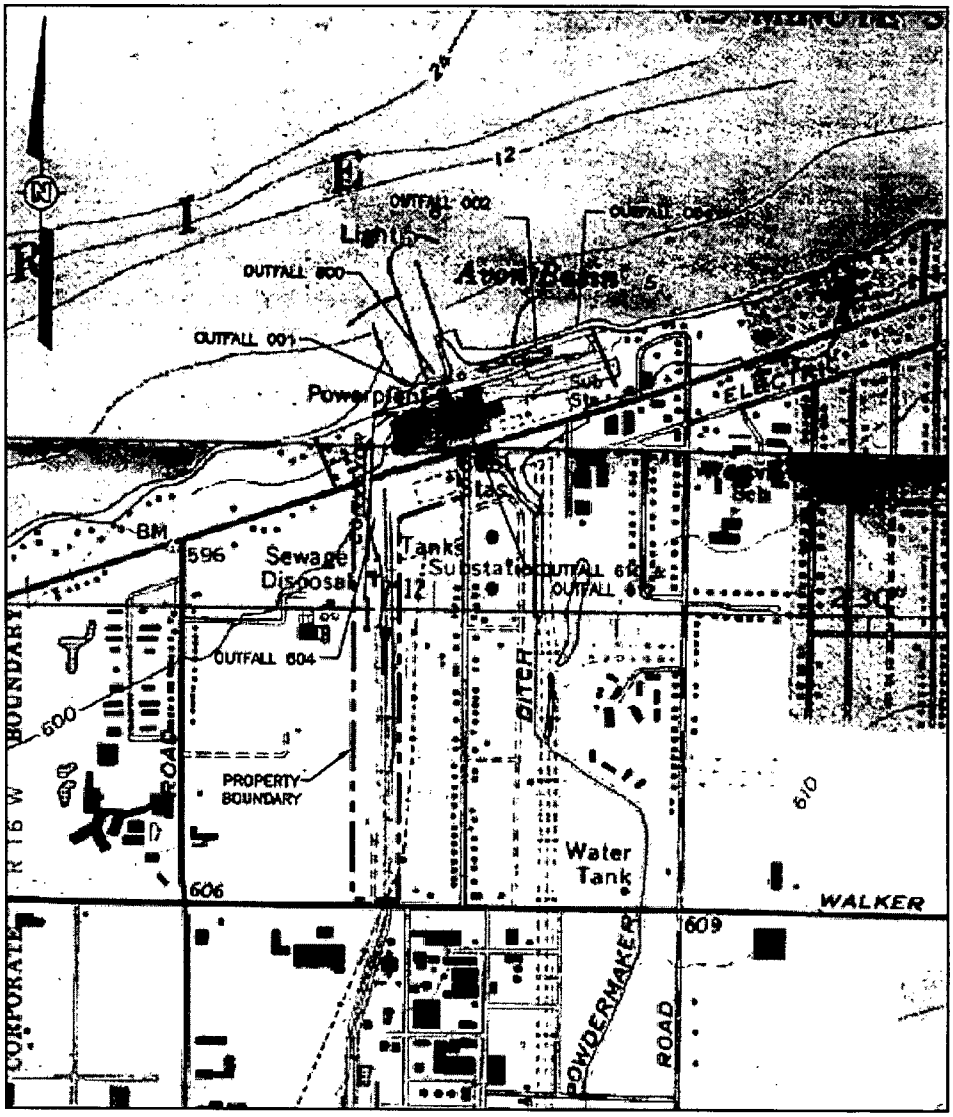


Figure 1. Location of Avon Lake Power Plant

Use designations for aquatic life protection include habitats for coldwater fish and macroinvertebrates, warmwater aquatic life and waters with exceptional communities of warmwater organisms. These uses all meet the goals of the federal Clean Water Act. Ohio Water Quality Standards (WQS) also include aquatic life use designations for waterbodies which can not meet the Clean Water Act goals because of human-caused conditions that can

not be remedied without causing fundamental changes to land use and widespread economic impact. The dredging and clearing of some small streams to support agricultural or urban drainage is the most common of these conditions. These streams are given Modified Warmwater or Limited Resource Water designations.

Recreation uses are defined by the depth of the waterbody and the potential for wading or swimming. Uses are defined for bathing waters, swimming/canoeing (Primary Contact) and wading only (Secondary Contact - generally waters too shallow for swimming or canoeing).

Water supply uses are defined by the actual or potential use of the waterbody. Public Water Supply designations apply near existing water intakes so that waters are safe to drink with standard treatment. Most other waters are designated for agricultural and industrial water supply.

## Facility Description

The Avon Lake Plant is a coal-fired steam-electric generating station. This facility is involved in the generation, transmission, and distribution of electric power. The daily production rate is approximately 800 megawatts of electricity.

The Avon Lake Plant's processes generate wastewaters which are regulated by the federal effluent guidelines (FEGs) listed in 40 CRF Part 423, Steam Electric Power Generating Point Source Category. The process operations at this facility are also defined by the standard industrial classification (SIC) category 4911 - Electric Services.

## Description of Existing Discharge

Outfall 001 discharges directly to Lake Erie at the average rate of approximately 396 million gallons per day (MGD) based upon the NPDES renewal application. The wastewater flowing from this outfall consists of the once-through condenser cooling water and boiler blowdown. (See Table 1 on page 8.)

Outfall 002 is designed to discharge the ash transport water from the ash settling basin. This basin receives fly ash and bottom ash as well as wastewater from the metal cleaning processes and coal pile run-off. Wastewater is treated by sedimentation and gravity filtration prior to being discharged into Lake Erie. The average discharge from this outfall is 0.99 MGD according to the NPDES application.

Oily wastewater which is a constituent of the low-volume waste system is discharged through outfall 004. Prior to being discharged to Lake Erie, this wastewater is treated by sedimentation and gravity filtration. The average daily flow at this outfall has been 0.89 MGD based upon the NPDES renewal application.

Several internal outfalls contribute flow to outfalls 001 and 002. Boiler blowdown from internal outfall 604 and non-contact cooling water from the unit #9 heat exchanger (internal outfall 612) flow through external outfall 001. Metal cleaning wastewater (internal outfall 609) and coal pile run-off (internal outfall 610) are treated by neutralization, chemical precipitation, and pressure filtration prior to entering the ash settling basin for ultimate discharge through external outfall 002.

The Avon Lake Plant obtains its water for cooling purposes from an intake located in Lake Erie. This water is disinfected with chlorine prior to its use in the plant. The NPDES renewal application states that the average daily flow value for intake station 800 is 399.9 MGD. See Figure 2 for a flow diagram of the facility outfalls and treatment systems.

**Table 1. Description of Avon Lake Plant Outfalls and Cooling Water Intake**

| Outfall # | Type of Wastewater | Treatment System Used | Discharge Point | Average Discharge (in MGD) * |
|---|---|---|---|---|
| 001 | Condenser cooling water discharge, boiler blowdown | none | Lake Erie | 395.6 |
| 002 | Ash transport water, metal cleaning wastewater, coal pile run-off | - Sedimentation<br>- Gravity filtration | Lake Erie | 0.99 |
| 004 | Oily wastewater - low volume waste system | - Sedimentation<br>- Gravity filtration | Lake Erie | 0.89 |
| 604 | Boiler blowdown | None | Outfall 001 | 0.005 |
| 610 | Coal pile run-off | - Neutralization<br>- Chemical precipitation<br>- pressure filtration | Outfall 002 | 0.132 |
| 611 | Fictitious outfall - metal cleaning wastewater | - Neutralization<br>- Chemical precipitation<br>- pressure filtration | Outfall 610 | ____ |
| 612 | Discharge from Unit 9 heat exchanger, non-contact cooling water | None | Outfall 001 | 2.29 |
| 800 | Intake for cooling water | Disinfection with chlorine | – | 399.9 |

* Average discharge flow based upon 2005 NPDES renewal application.

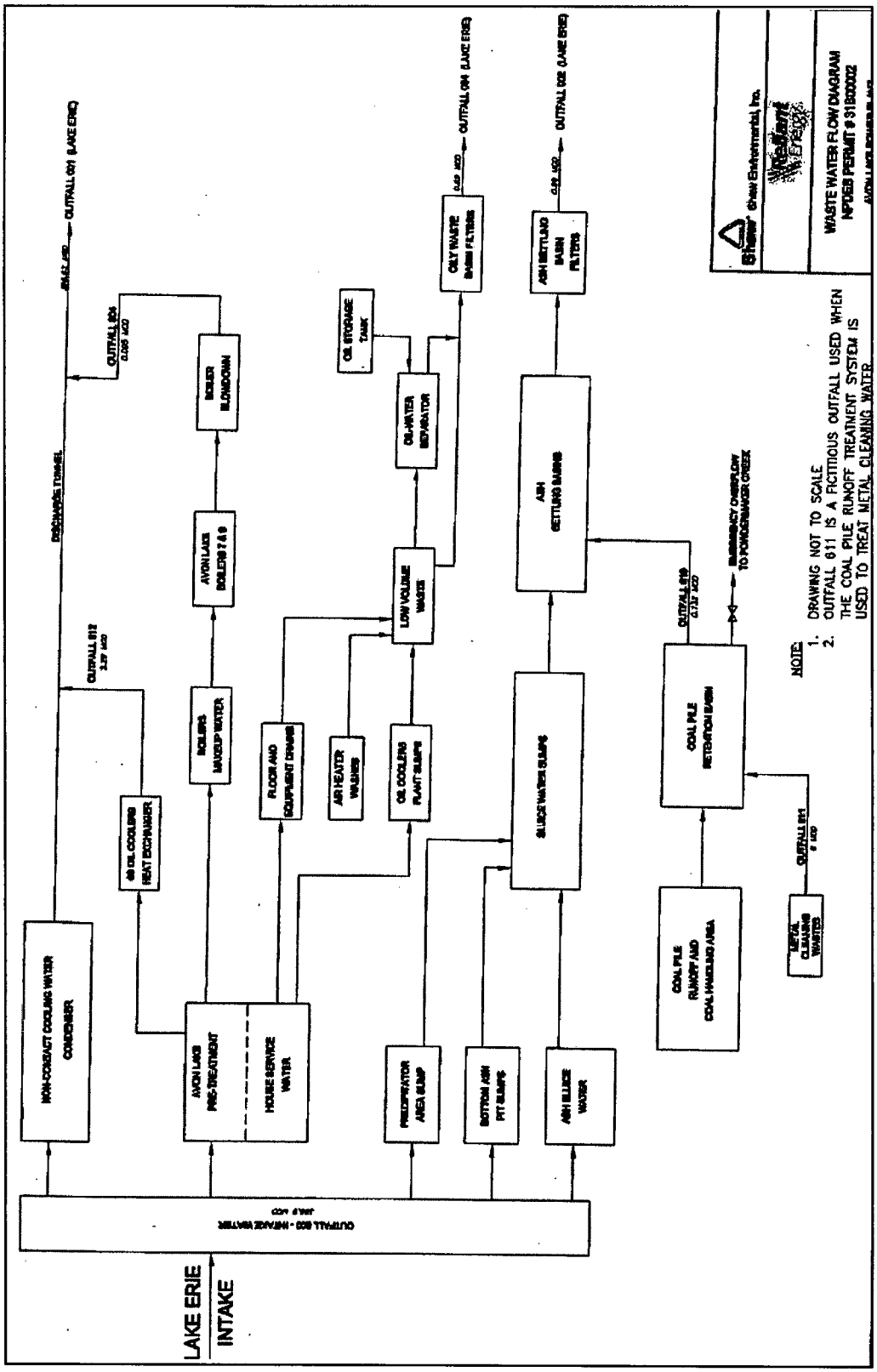



Figure 2. Avon Lake Power Plant Flow Diagram

Table 2 shows the reported flow rates for the Avon Lake Power Plant for the years 2000 through 2004. The flow rates at each of these outfalls appears to be reasonably consistent throughout this time period with the exception of 2004. The discharge rates at outfalls 002 and 004 are significantly lower in 2004 than in 2003.

**Table 2. Flow Rates for Outfalls 001, 002, and 004 (in MGD)**

| Year | Outfall 001 | | | Outfall 002 | | | Outfall 004 | | |
|---|---|---|---|---|---|---|---|---|---|
| | 50th Perc. * | 95th Perc. | Max-imum | 50th Perc. | 95th Perc. | Max-imum | 50th Perc. | 95th Perc. | Max-imum |
| 2000 | 379 | 541 | 564 | 1.10 | 2.01 | 2.55 | 0.81 | 1.90 | 2.67 |
| 2001 | 441 | 599 | 661 | 1.15 | 1.96 | 2.59 | 1 | 2.23 | 3.8 |
| 2002 | 379 | 599 | 624 | 1 | 1.5 | 2.5 | 1.3 | 2.1 | 2.3 |
| 2003 | 379 | 599 | 599 | 1.1 | 1.7 | 3.9 | 1.2 | 2.2 | 2.5 |
| 2004 | 379 | 599 | 599 | 0.78 | 1.2 | 1.9 | 0.51 | 1.2 | 1.7 |
| Overall | 379 | 599 | 661 | 1 | 1.86 | 3.9 | 0.97 | 2.07 | 3.8 |

* "Perc." means percentile.

Table 4 on page 18 presents a summary of analytical results for effluent samples taken at outfalls 001, 002, 004, 604, 610, and 612, and intake water samples collected at station 800 based upon the NPDES 2C application for permit renewal. Table 5 presents a summary of unaltered monthly operational report data for the period January 2000 through December 2004 for the Avon Lake Plant, as well as current permit limits, and monthly average projected effluent quality ($PEQ_{avg}$) and daily maximum $PEQ_{max}$ values.

Monitoring data reported by the Avon Lake Plant over the past five years shows that permit limits have been violated a number of times. For outfall 002, the pH limit have been violated 27 times while total suspended solids (TSS) limits were exceeded three times. The minimum pH reported for this outfall was 2 S.U. while the maximum pH was 11.6 S.U. Twenty pH violations were reported for outfall 004 and twenty violations were reported for TSS at outfall 610. Violations also occurred at outfall 004 for oil and grease, outfall 604 for TSS and oil and grease, outfall 001 for TRO.

## Receiving Water Quality / Environmental Hazard Assessment

Recent biological data for Lake Erie is not available to assess the water quality impact of permitted and/or unpermitted discharges from the Avon Lake Power Plant. Seven spills have been reported to Ohio EPA from 2000 through May 2005 by the company, however, none of these spills appeared to cause serious problems. (See Table 3.)

**Table 3. Records of Pollution Spills from the Avon Lake Power Plant**

| DATE | WATERBODY AFFECTED | SUSPECTED POLLUTANT | AMOUNT |
|---|---|---|---|
| 10/08/2003 | Lake Erie | Wastewater possibly containing some ash. | unknown |
| 11/04/2003 | Lake Erie | Wastewater | unknown |
| 04/06/2004 | Lake Erie | Wastewater | 200 gallons |
| 07/06/2004 | Lake Erie | Chemical cleaning water | 40 gallons |
| 12/19/2004 | Lake Erie | Non-contact cooling water | unknown |
| 01/12/2005 | Lake Erie | Wastewater | unknown |
| 04/20/2005 | Lake Erie | Wastewater - TSS permit violation | unknown |

## Development of Water Quality-Based Effluent Limits

Determining appropriate allowable effluent concentrations is a multiple-step process in which parameters are identified as likely to be discharged by a facility, evaluated with respect to Ohio water quality criteria, and examined to determine the likelihood that the existing effluent could violate the calculated limits. Although the location of the external outfalls for the Avon Lake Power Plant are near one another (especially outfalls 002 and 004), the discharges have not been modeled interactively; given the methodology which must be used to develop waste load allocations for a lake discharger, considering these outfalls to be interactive would not change the parameter assessment results. (See the section below entitled, "Waste Load Allocation".)

## Parameter Selection

Effluent data for the Avon Lake Power Plant were used to determine what parameters should undergo wasteload allocation. The pollutants discharged are identified by the data available to Ohio EPA - Monthly Operating Report (MOR) data submitted by the permittee, compliance sampling data collected by Ohio EPA, and any other data submitted by the permittee, such as priority pollutant scans required by the NPDES renewal application or by pretreatment, or other special conditions in the NPDES permit. The sources of effluent data are as follows:

| | |
|---|---|
| Self-monitoring data (LEAPS) | January 2000 through December 2004 |
| Form 2 C data | 2005 Permit Application Renewal Form 2 C |

During the process of examining the self-monitoring data, some anomolies were discovered resulting in Reliant Energy reviewing the data for outfalls 001, 002 and 004. Reliant's review found that many parameter values in Ohio EPA's database were incorrect. The correct data was supplied to Ohio EPA for the time period approximating January 2001 through September 2005 and this data was used to develop the projected effluent quality, or PEQ values. Two values submitted by Reliant were eliminated as outliers: 123 ug/l for copper at outfall 002 and 121 ug/l for copper at outfall 004. Both of these values occurred on July 5, 2001.

This data is evaluated statistically, and PEQ values are calculated for each pollutant. $PEQ_{avg}$ values represent the 95th percentile of monthly average data, and $PEQ_{max}$ values represent the 95th percentile of all data points. The average and maximum projected effluent quality (PEQ) values are presented in Table 6. For a summary of the screening results, refer to the parameter groupings on pages 29-31 .

PEQ values are used according to Ohio rules to compare to applicable WQS and allowable WLA values for each pollutant evaluated. Initially, PEQ values are compared to the applicable average and maximum WQS. If both PEQ values are less than 25 percent of the applicable WQS, the parameter does not have the reasonable potential to cause or contribute to exceedances of WQS, and no wasteload allocation is done for that parameter. If either the $PEQ_{avg}$ or $PEQ_{max}$ is greater than 25 percent of the applicable WQS, a wasteload allocation is conducted to determine whether the parameter exhibits reasonable potential (and needs to be limited) or if monitoring is required.

## Wasteload Allocation

For those parameters that require a wasteload allocation (WLA), the results are based on the uses assigned to the receiving waterbody in OAC 3745-1. Dischargers are allocated pollutant loadings/concentrations based on the Ohio Water Quality Standards (WQS - OAC 3745-1). Most pollutants are allocated by a mass-balance method because they do not degrade in the receiving water. Wasteload allocations for average criteria using this method are done using the following general equation for Lake Erie dischargers: Discharger WLA = (11 x WQS) - (10 x background concentration).

For lake dischargers, the waste load allocations for maximum criteria (or Outside Mixing Zone Maximum, OMZM) are set equal to the Inside Mixing Zone Maximum criteria. The values for the OMZM are left blank in Table __ to indicate that any limits based upon a maximum WLA are actually represented by the Inside Mixing Zone Maximum criteria. The wasteload allocation values in Table 9 would allow the Avon Lake Power Plant to maintain all applicable water quality criteria. Allocations cannot exceed the Inside Mixing Zone Maximum criteria.

The data used in the WLA are listed in Tables 7 and 8. The wasteload allocation results to maintain all applicable criteria are presented in Table 9.

## Reasonable Potential

After appropriate effluent limits are calculated by wasteload allocation, the lowest most restrictive average and maximum values are selected from Table 9 and are referred to as Preliminary Effluent Limits ($PEL_{avg}$ and $PEL_{max}$ respectively). The reasonable potential of the discharger to exceed the

wasteload allocation (PEL values) is determined by comparing the $PEQ_{avg}$ (Table 6) to the $PEL_{avg}$ and the $PEQ_{max}$ to the $PEL_{max}$ for each parameter. Based on this comparison, each parameter is placed in a defined "group". Parameters that do not have a water quality standard (WQS) or do not require a WLA based on the initial screening are assigned to either group 1 or 2. Parameters are assigned to group 3, 4, or 5 depending on how close the PEQ value is to the allocated value or PEL. The groupings listed in Tables 10-001 through 10-004 reflect the reasonable potential hazard assessment done according to WLA procedures.

## Effluent Limits/Hazard Management Decisions

The final effluent limits are determined by evaluating the groupings in conjunction with other applicable rules and regulations. Tables 11-001, 11-002, 11-004, 11-604, 11-609, 11-610, 11-611, and 11-612 show the draft NPDES limits for the Avon Lake Power Plant.

Federal and State laws/regulations require that dischargers meet both treatment-technology-based limits and any more stringent standards needed to comply with state WQS. Permit limits are based on the more restrictive of the two. Treatment-technology-based limits for Avon Lake, found in 40 CFR Part 423, Steam Electric Power Generating Point Source Category, are based on the milligrams of pollutant allowed to be discharged per liter.

The Avon Lake Power Plant's NPDES permit application requested no increase in loadings of currently permitted pollutants. As a result, an anti-degradation review is not required and has not been performed in association with this permit renewal. On the following four pages, a discussion of the limits and monitoring requirements for each outfall is presented in some detail.

### Outfall 001: Table 11-001

Monitoring for water temperature, pH, total residual oxidants, flow rate, total residual chlorine, and duration of chlorination/bromination have been continued in the draft permit. Since the discharge from this outfall is non-contact cooling water, it is important to monitor the temperature of the wastewater as it enters Lake Erie. Total residual chlorine includes a limit of 0.2 milligrams per liter (mg/l), which allows chlorination at this outfall for not more than two hours each day, and is based upon the Federal Effluent Guidelines for steam-electric power plants. The limit of 0.05 mg/l for total residual oxidants, which is based upon best professional judgement regarding the relative toxicity of bromine, allows the Avon Lake Plant to discharge bromine or bromine and chlorine compounds for not more than two hours per day. The pH limits are based upon the Federal Effluent Guidelines.

The Ohio EPA risk assessment places thallium in group 5. This placement indicates that an environmental hazard exists and limits are necessary to protect water quality. However, placement in group 5 is based upon only one detection out of 52 samples. Since this one detection may not be representative of the effluent quality monitoring only is proposed for thallium. Also, the lowest reporting limit used for thallium analysis was 50 ug/l which is not adequate to evaluate the potential risk from this parameter since the waste load allocation for the average aquatic criterion is 41 ug/l. Therefore, the permit requires the Avon Lake Power Plant to use an analytical method with a method detection level (MDL) no greater than one-third of 41 ug/l for thallium analysis.

The Ohio EPA risk assessment places Bis(2-ethylhexyl) phthalate in group 4. This placement as well as the data in Tables 5 and 6 support that this pollutant should not pose environmental hazards and limits are not necessary to protect water quality. Monitoring is proposed at a frequency of once per quarter to provide a larger dataset to ensure that Bis(2-ethylhexyl) phthalate is not parameter of concern at this outfall. In addition, the permit includes a requirement that manual composite sampling is used for this parameter in order to avoid the potential of contamination from an automatic sampler.

The Ohio EPA risk assessment places copper and nickel in group 3 and selenium in group 2. This placement as well as the data in Tables 5 and 6 support that these pollutants should not pose environmental hazards and limits are not necessary to protect water quality. Monitoring for these parameters is optional, however, Ohio EPA believes it is not warranted for copper and nickel at this time. Only seven of 43 samples resulted in a detection for copper, with a maximum value of only 6.9 micrograms per liter (ug/l). Only one sample was collected for nickel, which showed a concentration of 17 ug/l which is well below the most restrictive waste load allocation for nickel at this outfall.

No detections were reported for selenium, however, the reporting level used for selenium analysis was 100 ug/l for all but three samples. Since the waste load allocation for the average aquatic criterion is 55 ug/l, the reporting limit of 100 ug/l is not low enough to determine if selenium is being discharged at concentrations of concern. Therefore, the permit continues monitoring requirements for selenium and requires the Avon Lake Power Plant to use an analytical method with a MDL no greater than one-third of 55 ug/l.

Several additional parameters with water quality criteria (aluminum, barium, fluoride, iron, manganese, nitrate+nitrite, titanium, and zinc) were detected in the effluent from outfall 001, but were not allocated since the concentration of the pollutant was less than 110 percent of its concentration in the intake water.[1] This determination has been made in accordance with Rule 3745-2-06 of the Ohio Administrative Code, and has been based upon the data reported in the NPDES 2C permit renewal application.

**Outfall 002: Table 11-002**

Limits for total suspended solids (TSS), oil and grease, and pH have been continued at this outfall from the existing permit, and are based upon the Federal Effluent Guidelines for steam-electric generating stations. Loading limits for TSS and oil and grease are based upon a flow rate of 3.38 MGD. Although this flow rate is considerably larger than the historical average flow, it has been used as result of increases in plant production projected by Reliant Energy over the next five years. Flow rate monitoring is also required.

The Ohio EPA risk assessment places barium in group 5. This placement as well as the data in Tables 5 and 6 indicates that an environmental hazard exists and limits are necessary to protect water quality. However, placement in group 5 is based upon only one sample which may not be representative of the effluent quality. Therefore, the draft permit includes only monitoring for barium so that additional data can be collected prior to re-evaluation of reasonable potential for this parameter associated with the subsequent permit renewal.

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[1]A threshold of 110 percent has been used in order to allow for possible sampling and/or analytical error.

The Ohio EPA risk assessment places aluminum, boron, fluoride, copper, and zinc in group 3. This placement as well as the data in Tables 5 and 6 support that these pollutants should not pose environmental hazards and limits are not necessary to protect water quality. Monitoring for these parameters is optional, and with the exception of copper, has not been included in the draft permit.

Monitoring requirements for copper have been retained in the draft permit since metal-cleaning wastes continue to be discharged through this outfall and copper was detected on several occasions during the past five years.

Based upon best professional judgement, mercury monitoring have been added to the draft permit for this outfall table in order to provide a larger dataset to evaluate the possible presence of this pollutant. Coal-fired power plants are one of the primary sources of airborne mercury pollution. Avon Lake will be required to use EPA Method 1631 to analyze samples for mercury.[2]

**Outfall 004: Table 11-004**

Limits for total suspended solids (TSS), oil and grease, and pH have been continued at this outfall from the existing permit, and are based upon the Federal Effluent Guidelines for steam-electric generating stations. Loading limits for TSS and oil and grease are based upon a flow rate of 3.35 MGD. Although this flow rate is considerably larger than the historical average flow, it has been used as result of increases in plant production projected by Reliant Energy over the next five years. Flow rate monitoring is also required.

The Ohio EPA risk assessment places copper in group 5. This placement as well as the data in Tables 5 and 6 indicates that an environmental hazard exists and limits are necessary to protect water quality. The daily maximum concentration limit of 38 ug/l is based upon the inside mixing zone maximum criterion for aquatic life.

The Ohio EPA risk assessment places aluminum, barium, boron, fluoride, iron, and zinc in group 3. This placement as well as the data in Tables 5 and 6 support that these pollutants should not pose environmental hazards and limits are not necessary to protect water quality. Monitoring for these parameters is optional, and has not been included in the draft permit.

The Ohio EPA risk assessment places selenium in group 2. This placement as well as the data in Tables 5 and 6 support that this pollutant should not pose environmental hazards and limits are not necessary to protect water quality. However, monitoring has been included in the draft permit since all but three of the samples were analyzed for selenium using an analytical method with a reporting limit of 100 ug/l. As stated above, the waste load allocation for the average aquatic criterion is 55 ug/l for selenium, and the reporting limit of 100 ug/l is not low enough to determine if selenium is being discharged at concentrations of concern. Therefore, the permit continues monitoring requirements for selenium and requires the Avon Lake Power Plant to use an analytical method with a MDL no greater than one-third of 55 ug/l.

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[2] In November 2010, the use of mixing zones to determine the waste load allocation for bioaccumulative chemicals of concern (BCCs) will no longer be allowed. This means that limits for BCCs after November 2010 must meet water quality standards with no allowances for dilution. Since mercury is considered a BCC, the use of Method 1631 should be used in order to properly evaluate reasonable potential for the subsequent permit renewal.

**Outfall 604: Table 11-604**

The draft permit includes limits for total suspended solids and oil and grease, and monitoring for pH at this outfall which discharges boiler blowdown. These requirements are based upon the Federal Effluent Guidelines.

**Outfall 610: Table 11-610**

This outfall discharges wastewater from coal-pile run-off. The limits for total suspended solids and the monitoring requirements for pH are based upon the Federal Effluent Guidelines.

**Outfall 611: Table 11-611**

This is a fictitious outfall which is used only when the coal-pile run-off treatment system is used to treat the metal cleaning wastes.

## Whole Effluent Toxicity

Whole effluent toxicity or "WET" is the total toxic effect of an effluent on aquatic life in the receiving stream measured directly with a toxicity test. Acute WET measures short term effects of the effluent while chronic WET measures longer term and potentially more subtle effects of the effluent. WET values are then compared to a calculated allowable effluent toxicity "AET" value. This comparison along with an assessment of the instream biological community are two ways in which whole effluent toxicity is evaluated.

AET calculations are similar to aquatic life criteria wasteload allocation calculations. The AET calculations for chronic toxicity are similar to those for determining average aquatic life waste load allocations. In accordance with the Rule 3745-2-09 of the OAC, the AET for acute toxicity is set equal to 1.0 $TU_a$. For Avon Lake Power Plant, the AET values for outfalls 002 and 004 are as follows:

1.0 $TU_a$
11.0 $TU_c$

The chronic toxicity unit ($TU_c$) is defined as 100 divided by the $IC_{25}$:

$$TU_c = \frac{100}{IC_{25}}$$

This equation applies outside the mixing zone for warmwater, modified warmwater, exceptional warmwater, coldwater, and seasonal salmonid use designations except when the following equation is more restrictive (Ceriodaphnia dubia only):

$$TU_c = \frac{100}{\text{geometric mean of NOEC and LOEC}}$$

The acute toxicity unit ($TU_a$) is defined as 100 divided by the LC50 for the most sensitive test species:

$$TU_a = \frac{100}{LC50}$$

This equation applies outside the mixing zone for warmwater, modified warmwater, exceptional warmwater, coldwater, and seasonal salmonid use designations.

The Avon Lake Power Plant conducted eight acute toxicity tests for both outfalls 002 and 004 from August 2001 through June 2003 using *Ceriodaphnia dubia* and fathead minnows as the test species. No evidence of toxicity was reported for outfall 002, however, one test showed some toxicity for outfall 004. A sample collected in March 2002 resulted in a value of 1.26 $TU_a$ for *Ceriodaphnia dubia*. Using the procedures established in 40 CFR Part 132 for whole effluent toxicity evaluations, and the reasonable potential procedures in the Ohio Administrative Code, limits are required for acute toxicity at outfall 004.

**Table 4. Concentrations of Chemicals Found in Effluent**

| Parameter | 2005 Permit Application Renewal Form 2C<br>Effluent<br>No. of Samples | Average* | Maximum |
|---|---|---|---|
| ***Outfall 001*** | | | |
| Aluminum (ug/l) | 1 | | 931. |
| Ammonia (mg/l) | 1 | | 0.11 |
| Barium (ug/l) | 1 | | 31.1 |
| Bis(2-ethylhexyl) phthalate (ug/l) | 1 | | 12. |
| Bromide (mg/l) | 1 | | 0.29 |
| Fluoride (mg/l) | 1 | | 0.161 |
| Iron (ug/l) | 1 | | 1340. |
| Magnesium (mg/l) | 1 | | 9.79 |
| Manganese (ug/l) | 1 | | 28.1 |
| Nitrate-Nitrite as N (mg/l) | 1 | | 1.7 |
| Nickel (ug/l) | 1 | | 17.3 |
| Sulfate (mg/l) | 1 | | 33.8 |
| Titanium (ug/l) | 1 | | 12.7 |
| Total Organic Carbon (mg/l) | 1 | | 3.4 |
| Total Suspended Solids (mg/l) | 1 | | 18. |
| Zinc (ug/l) | 1 | | 11.1 |
| ***Outfall 002*** | | | |
| Aluminum (ug/l) | 1 | | 1160. |
| Ammonia (mg/l) | 1 | | 0.93 |
| Barium (ug/l) | 1 | | 593. |
| BOD (mg/l) | 1 | | 2.16 |
| Boron (ug/l) | 1 | | 102. |
| Bromide (mg/l) | 1 | | 0.57 |
| Fluoride (mg/l) | 1 | | 0.194 |
| Iron (ug/l) | 1 | | 1000. |
| Magnesium (mg/l) | 1 | | 17.8 |
| Manganese (ug/l) | 1 | | 122. |
| Nitrate-Nitrite as N (mg/l) | 1 | | 1.6 |
| Sulfate (mg/l) | 1 | | 227.2 |
| Titanium (ug/l) | 1 | | 38.1 |
| Total Organic Carbon (mg/l) | 1 | | 2.1 |
| Total Suspended Solids (mg/l) | 1 | | 16. |
| Zinc (ug/l) | 1 | | 17.4 |

**Table 4. Concentrations of Chemicals Found in Effluent (continued)**

| Parameter | 2005 Permit Application Renewal Form 2C<br>Effluent<br>No. of Samples | Average* | Maximum |
|---|---|---|---|
| ***Outfall 004*** | | | |
| Aluminum (ug/l) | 1 | | 1510. |
| Ammonia (mg/l) | 1 | | 0.15 |
| Barium (ug/l) | 1 | | 167. |
| BOD (mg/l) | 1 | | 2.81 |
| Boron (ug/l) | 1 | | 65.3 |
| Bromide (mg/l) | 1 | | 0.64 |
| Chromium (ug/l) | 1 | | 5. |
| Copper (ug/l) | 1 | | 19.2 |
| Fluoride (mg/l) | 1 | | 0.244 |
| Iron (ug/l) | 1 | | 2070. |
| Magnesium (mg/l) | 1 | | 10.9 |
| Manganese (ug/l) | 1 | | 69.9 |
| Nitrate-Nitrite as N (mg/l) | 1 | | 1.7 |
| Sulfate (mg/l) | 1 | | 159.5 |
| Chloroform (ug/l) | 1 | | 0.7 |
| Titanium (ug/l) | 1 | | 36.4 |
| Total Organic Carbon (mg/l) | 1 | | 2.5 |
| Total Suspended Solids (mg/l) | 1 | | 74. |
| Zinc (ug/l) | 1 | | 25.6 |
| ***Outfall 604*** | | | |
| Aluminum (ug/l) | 1 | | 143. |
| Ammonia (mg/l) | 1 | | 1.85 |
| Bromide (mg/l) | 1 | | 0.12 |
| Copper (ug/l) | 1 | | 21.1 |
| Fluoride (mg/l) | 1 | | 0.054 |
| Phosphorus (mg/l) | 1 | | 1.15 |
| Sulfate (mg/l) | 1 | | 5.3 |
| ***Outfall 610*** | | | |
| Aluminum (ug/l) | 1 | | 556. |
| Barium (ug/l) | 1 | | 15.2 |
| Biochemical Oxygen Demand (mg/l) | 1 | | 4.48 |
| Boron (ug/l) | 1 | | 0.2 |
| Cobalt (ug/l) | 1 | | 5.58 |
| COD (mg/l) | 1 | | 21. |
| Bromide (mg/l) | 1 | | 1.53 |
| Fluoride (mg/l) | 1 | | 0.414 |
| Iron (ug/l) | 1 | | 2060. |
| Magnesium (mg/l) | 1 | | 72.4 |
| Manganese (ug/l) | 1 | | 862. |

**Table 4. Concentrations of Chemicals Found in Effluent (continued)**

| Parameter | 2005 Permit Application Renewal Form 2C<br>Effluent<br>No. of Samples | Average* | Maximum |
|---|---|---|---|
| ***Outfall 610 (continued)*** | | | |
| Nickel (ug/l) | 1 | | 16.2 |
| Nitrate-Nitrite as N (mg/l) | 1 | | 3.1 |
| Nitrogen, Total Organic (mg/l) | 1 | | 0.5 |
| Silver (mg/l) | 1 | | 0.010 |
| Sulfate (mg/l) | 1 | | 1242. |
| Total Organic Carbon (mg/l) | 1 | | 8.0 |
| Total Suspended Solids (mg/l) | 1 | | 8.0 |
| Zinc (ug/l) | 1 | | 21.1 |
| ***Outfall 612*** | | | |
| Aluminum (ug/l) | 1 | | 722. |
| Barium (ug/l) | 1 | | 28.7 |
| Bromide (mg/l) | 1 | | 0.3 |
| Fluoride (mg/l) | 1 | | 0.146 |
| Copper (ug/l) | 1 | | 31.7 |
| Iron (mg/l) | 1 | | 1210. |
| Magnesium (mg/l) | 1 | | 9.78 |
| Manganese (ug/l) | 1 | | 28.8 |
| Nitrate-Nitrite as N (mg/l) | 1 | | 1.7 |
| Sulfate (mg/l) | 1 | | 38.1 |
| Titanium (ug/l) | 1 | | 10.2 |
| Total Organic Carbon (mg/l) | 1 | | 3.1 |
| Total Suspended Solids (mg/l) | 1 | | 19. |
| Zinc (ug/l) | 1 | | 35.2 |
| ***Intake Station 800*** | | | |
| Aluminum (ug/l) | 1 | | 890. |
| Barium (ug/l) | 1 | | 29.6 |
| Bromide (mg/l) | 1 | | 0.35 |
| Fluoride (mg/l) | 1 | | 0.154 |
| Chromium (ug/l) | 1 | | 8.43 |
| Iron (ug/l) | 1 | | 1350. |
| Magnesium (mg/l) | 1 | | 9.93 |
| Manganese (ug/l) | 1 | | 27. |
| Nickel (ug/l) | 1 | | 10.3 |
| Nitrate-Nitrite as N (mg/l) | 1 | | 1.7 |
| Sulfate (mg/l) | 1 | | 35.1 |
| Thallium (mg/l) | 1 | | 0.007 |
| Titanium (ug/l) | 1 | | 12.4 |
| Total Organic Carbon (mg/l) | 1 | | 3.1 |
| Total Suspended Solids (mg/l) | 1 | | 17. |
| Zinc (ug/l) | 1 | | 10.8 |

**Table 5.** **Effluent Characterization and Decision Criteria**

Summary of analytical results for Outfalls 001, 002, 004, 604, 610, 612, and 800. All values are in µg/l unless otherwise indicated. ND = below detection (detection limit); NA = not analyzed. Decision Criteria: $PEQ_{avg}$ = monthly averages; $PEQ_{max}$ = daily maximum analytical results.

| | | | CURRENT PERMIT | | ---PERIOD = JAN00 THRU DEC04--- | | | | DECISION CRITERIA | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PARAMETER | SEASON | UNITS | 30 DAY | DAILY | N | 50 PCTL | 95 PCTL | RANGE | N | $PEQ_{ave}$ | $PEQ_{max}$ |
| ***Outfall 001*** | | | | | | | | | | | |
| CONDUIT FLOW | ANNUAL | MGD | -- | -- | 1787 | 378.67 | 598.96 | 0-660.88 | | | |
| | MAY-OCT | MGD | | | 885 | 536.9 | 598.96 | 14.8-660.88 | | | |
| | NOV-APR | MGD | | | 902 | 378.65 | 475.14 | 0-598.96 | | | |
| COPPER TOT REC | ANNUAL | UG/L | -- | -- | 43 | 0 | 4.5 | 0-6.9 | 59 | 10.15 | 13.9 |
| | | KG/DAY | -- | -- | 43 | 0 | 6.29669 | 0-12.677 | | | |
| OXIDANTS TOT RESI | ANNUAL | MG/L | -- | 0.05 | 1 | 7.31 | 7.31 | 7.31-7.31 | | | |
| | | KG/DAY | -- | -- | 1 | 14424.1 | 14424.1 | 14424-14424 | | | |
| PH | ANNUAL | S.U. | 6.0 <= pH <= 9.0 | | 59 | 7.6* | 8.2 | 6.91-8.31 | | | |
| SELENIUM TOT REC | ANNUAL | UG/L | -- | -- | 42 | 0 | 0 | 0-0 | 52 | -- | -- |
| WATER TEMP. | ANNUAL | DEG F | -- | -- | 1786 | 67.9 | 92.1 | 31.8-98.5 | | | |
| THALLIUM TOT REC | ANNUAL | UG/L | -- | -- | 42 | 0 | 0 | 0-0.347 | 52 | -- | -- |
| | | KG/DAY | -- | -- | 42 | 0 | 0 | 0-0.7867 | | | |
| ***Outfall 002*** | | | | | | | | | | | |
| PH MAX | ANNUAL | S.U. | <= 9.0 | | 547 | 7.77 | 8.13 | 7.33-11 | | | |
| PH MIN | ANNUAL | S.U. | >= 6.0 | | 547 | 7.5 | 7.5 | 3-8.13 | | | |
| CONDUIT FLOW | ANNUAL | MGD | -- | -- | 1785 | 1 | 1.862 | 0-3.9 | | | |
| | MAY-OCT | MGD | | | 883 | 1 | 1.904 | 0-2.594 | | | |
| | NOV-APR | MGD | | | 902 | 1 | 1.795 | 0-3.9 | | | |
| COPPER TOT REC | ANNUAL | UG/L | -- | -- | 119 | 0 | 27 | 0-123 | 82 | 10.64 | 14.58 |
| | | KG/DAY | -- | -- | 119 | 0 | 0.10259 | 0-0.5722 | | | |
| OIL GRSE TOT | ANNUAL | MG/L | 15 | 20 | 761 | 0 | 0 | 0-16.2 | | | |
| | | KG/DAY | 201 | 268 | 761 | 0 | 0 | 0-47.214 | | | |

**Table 5. Effluent Characterization and Decision Criteria (continued)**

| PARAMETER | SEASON | UNITS | CURRENT PERMIT 30 DAY | CURRENT PERMIT DAILY | ---PERIOD = JAN00 THRU DEC04--- N | 50 PCTL | 95 PCTL | RANGE | DECISION CRITERIA N | $PEQ_{ave}$ | $PEQ_{max}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Outfall 002 (continued)*** | | | | | | | | | | | |
| PH MAX | ANNUAL | S.U. | | | 1202 | 7.05* | 8.3 | 6.51-11.62 | | | |
| PH MIN | ANNUAL | S.U. | | | 1201 | 6.68* | 7.56 | 2-7.95 | | | |
| RESIDUE TOT NFLT | ANNUAL | MG/L | 30 | 100 | 766 | 2 | 26 | 0-141 | | | |
| | | KG/DAY | 402 | 1340 | 766 | 5.6775 | 127.176 | 0-661.2 | | | |
| TOX-UNIT AC-CERI T | ANNUAL | TUA | | | 8 | 0 | 0 | 0-0 | | | |
| TOX-UNIT ACU-PIME | ANNUAL | TUA | | | 8 | 0 | 0 | 0-0 | | | |
| ***Outfall 004*** | | | | | | | | | | | |
| PH MAX | ANNUAL | S.U. | <= 9.0 | | 548 | 7.7 | 8.43 | 7.5-9.6 | | | |
| PH MIN | ANNUAL | S.U. | >= 6.0 | | 548 | 7.3 | 7.5 | 3-7.78 | | | |
| CONDUIT FLOW | ANNUAL | MGD | -- | -- | 1797 | 0.97 | 2.074 | 0.001-3.8 | | | |
| | MAY-OCT | MGD | | | 912 | 1.2 | 2.2 | 0.001-3.8 | | | |
| | NOV-APR | MGD | | | 885 | 0.8 | 1.6 | 0.001-2.731 | | | |
| COPPER TOT REC | ANNUAL | UG/L | -- | -- | 259 | 0 | 15 | 0-121 | 246 | 29.5 | 40.4 |
| | | KG/DAY | -- | -- | 259 | 0 | 0.04752 | 0-0.9031 | | | |
| OIL GRSE TOT | ANNUAL | MG/L | 15 | 20 | 551 | 0 | 3.6 | 0-23 | | | |
| | | KG/DAY | 476 | 634 | 551 | 0 | 11.172 | 0-115.96 | | | |
| PH MAX | ANNUAL | S.U. | | | 1243 | 6.99* | 8.3 | 6.48-11 | | | |
| PH MIN | ANNUAL | S.U. | | | 1256 | 6.26* | 7.5 | 2-8.05 | | | |
| RESIDUE TOT NFLT | ANNUAL | MG/L | 30 | 100 | 548 | 0 | 14 | 0-48 | | | |
| | | KG/DAY | 952 | 3172 | 548 | 0 | 54.504 | 0-236.18 | | | |
| SELENIUM TOT REC | ANNUAL | UG/L | -- | -- | 41 | 0 | 0 | 0-0 | 51 | -- | -- |
| TOX-UNIT AC-CERI T | ANNUAL | TUA | | | 8 | 0 | 1.26 | 0-1.26 | | | |
| TOX-UNIT ACU-PIME | ANNUAL | TUA | | | 8 | 0 | 0 | 0-0 | | | |

**Table 5. Effluent Characterization and Decision Criteria (continued)**

| PARAMETER | SEASON | UNITS | CURRENT PERMIT 30 DAY | CURRENT PERMIT DAILY | ---PERIOD = JAN00 THRU DEC04--- N | 50 PCTL | 95 PCTL | RANGE | DECISION CRITERIA N | $PEQ_{ave}$ | $PEQ_{max}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Outfall 604*** | (PERIOD = FEB00 THRU AUG04) | | | | | | | | | | |
| CONDUIT FLOW | ANNUAL | MGD | -- | -- | 52 | 0.005 | 0.02 | 0.0025-0.4 | | | |
| | MAY-OCT | MGD | | | 24 | 0.005 | 0.01 | 0.005-0.015 | | | |
| | NOV-APR | MGD | | | 28 | 0.005 | 0.035 | 0.0025-0.4 | | | |
| OIL GRSE TOT | ANNUAL | MG/L | 15 | 20 | 34 | 0 | 0 | 0-6 | | | |
| | | KG/DAY | 0.09 | 0.12 | 34 | 0 | 0 | 0-0.1135 | | | |
| PH | ANNUAL | S.U. | -- | -- | 33 | 9.15* | 10.85 | 7.6-11 | | | |
| RESIDUE TOT NFLT | ANNUAL | MG/L | 30 | 100 | 34 | 0 | 16 | 0-25 | | | |
| | | KG/DAY | 0.18 | 0.61 | 34 | 0 | 0.3028 | 0-37.85 | | | |
| ***Outfall 610*** | | | | | | | | | | | |
| CONDUIT FLOW | ANNUAL | MGD | -- | -- | 670 | 0.14 | 0.32 | 0-0.54 | | | |
| | MAY-OCT | MGD | | | 294 | 0.13 | 0.33 | 0-0.54 | | | |
| | NOV-APR | MGD | | | 376 | 0.14 | 0.32 | 0-0.54 | | | |
| PH | ANNUAL | S.U. | -- | -- | 112 | 6.9* | 8.8 | 5.9-9.58 | | | |
| RESIDUE TOT NFLT | ANNUAL | MG/L | 50 | 50 | 104 | 4 | 17 | 0-51 | | | |
| | | KG/DAY | 8.7 | 8.7 | 104 | 0.90462 | 14.383 | 0-31.037 | | | |
| ***Outfall 612*** | | | | | | | | | | | |
| CONDUIT FLOW | ANNUAL | MGD | -- | -- | 54 | 1.7 | 3.4 | 1.008-3.4 | | | |
| | MAY-OCT | MGD | | | 29 | 3.2 | 3.4 | 1.08-3.4 | | | |
| | NOV-APR | MGD | | | 25 | 1.7 | 3.2 | 1.008-3.2 | | | |
| OIL GRSE TOT | ANNUAL | MG/L | -- | -- | 55 | 0 | 0 | 0-3.22 | | | |
| | | KG/DAY | | | 55 | 0 | 0 | 0-41.438 | | | |

**Table 5. Effluent Characterization and Decision Criteria (continued)**

| PARAMETER | SEASON | UNITS | CURRENT PERMIT 30 DAY | CURRENT PERMIT DAILY | ---PERIOD = JAN00 THRU DEC04--- N | 50 PCTL | 95 PCTL | RANGE | DECISION CRITERIA N | $PEQ_{ave}$ | $PEQ_{max}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Station 800* | | | | | | | | | | | |
| RESIDUE TOT NFLT | ANNUAL | MG/L | | | 502 | 7 | 43 | 0-171 | | | |
| WATER TEMP. | ANNUAL | DEG F | | | 1785 | 55.3 | 76.4 | 32.6-82.4 | | | |

**Table 6. Effluent Data for the Avon Lake Power Plant**

| Parameter | Units | Number of Samples | Number > MDL | PEQ Average | PEQ Maximum |
|---|---|---|---|---|---|
| ***Outfall 001*** | | | | | |
| Bis(2-ethylhexyl)phthalate | ug/l | 1 | 1 | 54.312 | 74.4 |
| Copper - TR | ug/l | 52 | 9 | 10.147 | 13.9 |
| Nickel - TR | ug/l | 1 | 1 | 78.2998 | 107.26 |
| Selenium - TR | ug/l | 52 | 0 | -- | -- |
| Thallium | ug/l | 52 | 1 | 253.31 | 347 |
| ***Outfall 002*** | | | | | |
| Aluminum | ug/l | 1 | 1 | 5250.16 | 7192 |
| Barium | ug/l | 1 | 1 | 2683.918 | 3676.6 |
| Boron | ug/l | 1 | 1 | 461.652 | 632.4 |
| Bromide | mg/l | 1 | 1 | 2.57982 | 3.534 |
| Copper - TR | ug/l | 82 | 8 | 10.6434 | 14.58 |
| Fluoride | mg/l | 1 | 1 | 0.878044 | 1.2028 |
| Manganese - TR | ug/l | 1 | 1 | 552.172 | 756.4 |
| Sulfates | mg/l | 1 | 1 | 1027.402 | 1407.4 |
| Titanium | ug/l | 1 | 1 | 172.4406 | 236.22 |
| Zinc - TR | ug/l | 1 | 1 | 78.7524 | 107.88 |
| ***Outfall 004*** | | | | | |
| Aluminum | ug/l | 1 | 1 | 6834.26 | 9362 |
| Barium | ug/l | 1 | 1 | 755.842 | 1035.4 |
| Boron | ug/l | 1 | 1 | 295.5478 | 404.86 |
| Bromide | mg/l | 1 | 1 | 2.89664 | 3.968 |
| Chloroform | ug/l | 1 | 1 | 22.63 | 31 |
| Copper - TR | ug/l | 246 | 44 | 29.4993 | 40.41 |
| Fluoride | mg/l | 1 | 1 | 1.104344 | 1.5128 |
| Iron - TR | ug/l | 1 | 1 | 9368.82 | 12834 |
| Manganese - TR | ug/l | 1 | 1 | 316.3674 | 433.38 |
| Selenium - TR | ug/l | 51 | 0 | -- | -- |
| Sulfates | mg/l | 1 | 1 | 721.897 | 988.9 |
| Titanium | ug/l | 1 | 1 | 164.7464 | 225.68 |
| Zinc - TR | ug/l | 1 | 1 | 115.8656 | 158.72 |

**Table 7. Water Quality Criteria in the Study Area**

| Parameter | Units | Outside Mixing Zone Criteria: Average: Wildlife | Average: Human Health | Average: Agri-culture | Average: Aquatic Life | Maximum Aquatic Life | Inside Mixing Zone Maximum |
|---|---|---|---|---|---|---|---|
| Aluminum | ug/l | -- | 4500 | -- | -- | -- | -- |
| Barium | ug/l | -- | 160000 | -- | 220 | 2000 | 4000 |
| Bis(2-ethylhexyl)phthalate | ug/l | -- | 59c | -- | 8.4 | 1100 | 2100 |
| Boron | ug/l | -- | 200000 | -- | 950 | 8500 | 17000 |
| Bromide | mg/l | -- | -- | -- | -- | -- | -- |
| Chloroform | ug/l | -- | 1700c | -- | 140 | 1300 | 2600 |
| Copper - TR | ug/l | -- | 64000 | 500 | 12 | 19 | 38 |
| Fluoride | mg/l | -- | -- | 2 | -- | -- | -- |
| Iron - TR | ug/l | -- | -- | 5000 | -- | -- | -- |
| Manganese - TR | ug/l | -- | 61000 | -- | -- | -- | -- |
| Nickel - TR | ug/l | -- | 43000 | 200 | 69 | 620 | 1200 |
| Selenium - TR | ug/l | -- | 3100 | 50 | 5 | -- | -- |
| Sulfates | mg/l | -- | -- | -- | -- | -- | -- |
| Thallium | ug/l | -- | 3.7 | -- | 17 | 79 | 160 |
| Titanium | ug/l | -- | -- | -- | -- | -- | -- |
| Zinc - TR | ug/l | -- | 35000 | 25000 | 160 | 160 | 320 |

[c] This criterion is based upon a carcinogenic endpoint.

**Table 8. Discharger Flow and Background Water Quality**

| Parameter | Units | Season | Value | Basis |
|---|---|---|---|---|
| *Mixing Assumption* | % | average | 25 | |
| | % | maximum | 100 | |
| *Hardness* | mg/l | annual | 140 | Background Water Quality Report |
| *Avon Lake Power Plant flow* | cfs | annual | | |
| Outfall 001 | | | 612 | Reliant Energy estimate |
| Outfall 002 | | | 5.23 | Reliant Energy estimate |
| Outfall 004 | | | 5.18 | Reliant Energy estimate |
| *Background Water Quality* | | | | |
| Aluminum | ug/l | | 330 | n=640; 146<MDL * |
| Barium | ug/l | | 0 | No representative data available. |
| Bis(2-ethylhexyl) Phthalate | ug/l | | 0 | No reprecentative date available. |
| Boron | ug/l | | 0 | No representative data available. |
| Copper - TR | ug/l | | 5 | n=2867; 1597<MDL * |
| Fluoride | mg/l | | 0 | No representative data available. |
| Iron - TR | ug/l | | 650 | n=3018; 15<MDL * |
| Zinc - TR | ug/l | | 15 | n=2284; 1117<MDL * |

* The source of the data is the statewide 50th percentile value from the "Background Water Quality Report".

## Table 9. Summary of Effluent Limits to Maintain Applicable WQ Criteria

| | | Outside Mixing Zone Criteria | | | | | Inside |
|---|---|---|---|---|---|---|---|
| | | | Average | | | Maximum | Mixing |
| Parameter | Units | Wildlife | Human Health | Agri-culture | Aquatic Life | Aquatic Life | Zone Maximum |
| ***Outfall 001*** | | | | | | | |
| Bis(2-ethylhexyl) phthalate | ug/l | -- | 649 | -- | 92 | -- | 2100 |
| Copper - TR | ug/l | -- | 703950 | 5450 | 82 | -- | 38 |
| Nickel - TR | ug/l | -- | 472800 | 2000 | 559 | -- | 1200 |
| Selenium - TR | ug/l | -- | 34100 | 550 | 55 | -- | -- |
| Thallium | ug/l | -- | 41 | -- | 187 | -- | 160 |
| ***Outfall 002*** | | | | | | | |
| Aluminum | ug/l | -- | 46200 | -- | -- | -- | -- |
| Barium | ug/l | -- | 1760000 | -- | 2420 | -- | 4000 |
| Boron | ug/l | -- | 2200000 | -- | 10450 | -- | 17000 |
| Bromide | mg/l | -- | -- | -- | -- | -- | -- |
| Copper - TR | ug/l | -- | 703950 | 5450 | 82 | -- | 38 |
| Fluoride | mg/l | -- | -- | 22 | -- | -- | -- |
| Manganese - TR | ug/l | -- | 671000 | -- | -- | -- | -- |
| Sulfates | mg/l | -- | -- | -- | -- | -- | -- |
| Titanium | ug/l | -- | -- | -- | -- | -- | -- |
| Zinc - TR | ug/l | -- | 384850 | 274850 | 1610 | -- | 320 |
| ***Outfall 004*** | | | | | | | |
| Aluminum | ug/l | -- | 46200 | -- | -- | -- | -- |
| Barium | ug/l | -- | 1760000 | -- | 2420 | -- | 4000 |
| Boron | ug/l | -- | 2200000 | -- | 10450 | -- | 17000 |
| Bromide | mg/l | -- | -- | -- | -- | -- | -- |
| Chloroform | ug/l | -- | 18700 | -- | 1540 | -- | 2600 |
| Copper - TR | ug/l | -- | 703950 | 5450 | 82 | -- | 38 |
| Fluoride | mg/l | -- | -- | 22 | -- | -- | -- |
| Iron - TR | ug/l | -- | -- | 48500 | -- | -- | -- |
| Manganese - TR | ug/l | -- | 671000 | -- | -- | -- | -- |
| Selenium - TR | ug/l | -- | 34100 | 550 | 55 | -- | -- |
| Sulfates | mg/l | -- | -- | -- | -- | -- | -- |
| Titanium | ug/l | -- | -- | -- | -- | -- | -- |
| Zinc - TR | ug/l | -- | 384850 | 274850 | 1610 | -- | 320 |

**Table 10-001. Parameter Assessment for Outfall 001**

*Group 1:* Due to a lack of criteria, the following parameters could not be evaluated at this time.

No parameters have been placed into this group.

*Group 2:* PEQ < 25 percent of WQS or all data below minimum detection limit.
WLA not required. No limit recommended; monitoring optional.

Selenium - TR

*Group 3:* $PEQ_{max}$ < 50 percent of maximum PEL and $PEQ_{avg}$ < 50 percent of average PEL.
No limit recommended; monitoring optional.

Copper - TR Nickel - TR

*Group 4:* $PEQ_{max}$ >= 50 percent, but < 100 percent of the maximum PEL or
$PEQ_{avg}$ >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

Bis(2-ethylhexyl) phthalate

*Group 5:* Maximum PEQ >= 100 percent of the maximum PEL or average PEQ >= 100 percent of the average PEL, or either the average or maximum PEQ is between 75 and 100 percent of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

Limits to Protect Numeric Water Quality Criteria

| Parameter | Units | Period | Recommended Effluent Limits Average | Maximum |
|---|---|---|---|---|
| Thallium | ug/l | | 41 | 160 |

**Table 10-002. Parameter Assessment for Outfall 002**

*Group 1:* Due to a lack of criteria, the following parameters could not be evaluated at this time.

| | | |
|---|---|---|
| Bromide | Sulfates | Titanium |

*Group 2:* PEQ < 25 percent of WQS or all data below minimum detection limit. WLA not required. No limit recommended; monitoring optional.

Manganese - TR

*Group 3:* $PEQ_{max}$ < 50 percent of maximum PEL and $PEQ_{avg}$ < 50 percent of average PEL. No limit recommended; monitoring optional.

| | | |
|---|---|---|
| Aluminum | Boron | Copper - TR |
| Fluoride | Zinc - TR | |

*Group 4:* $PEQ_{max}$ >= 50 percent, but < 100 percent of the maximum PEL or $PEQ_{avg}$ >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

No parameters have been placed into this group.

*Group 5:* Maximum PEQ >= 100 percent of the maximum PEL or average PEQ >= 100 percent of the average PEL, or either the average or maximum PEQ is between 75 and 100 percent of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

Limits to Protect Numeric Water Quality Criteria

| Parameter | Units | Period | Recommended Effluent Limits Average | Maximum |
|---|---|---|---|---|
| Barium | ug/l | | 2420 | 4000 |

**Table 10-004. Parameter Assessment for Outfall 004**

*Group 1:* Due to a lack of criteria, the following parameters could not be evaluated at this time.

| | | |
|---|---|---|
| Bromide | Sulfates | Titanium |

*Group 2:* PEQ < 25 percent of WQS or all data below minimum detection limit. WLA not required. No limit recommended; monitoring optional.

| | | |
|---|---|---|
| Chloroform | Manganese - TR | Selenium - TR |

*Group 3:* $PEQ_{max}$ < 50 percent of maximum PEL and $PEQ_{avg}$ < 50 percent of average PEL. No limit recommended; monitoring optional.

| | | |
|---|---|---|
| Aluminum | Barium | Boron |
| Fluoride | Iron - TR | Zinc - TR |

*Group 4:* $PEQ_{max}$ >= 50 percent, but < 100 percent of the maximum PEL or $PEQ_{avg}$ >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

No parameters have been placed into this group.

*Group 5:* Maximum PEQ >= 100 percent of the maximum PEL or average PEQ >= 100 percent of the average PEL, or either the average or maximum PEQ is between 75 and 100 percent of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

Limits to Protect Numeric Water Quality Criteria

| | | | Recommended Effluent Limits | |
|---|---|---|---|---|
| Parameter | Units | Period | Average | Maximum |
| Copper - TR | ug/l | | -- | 38 |

**Table 11-001. Final Effluent Limits and Monitoring Requirements for Outfall 001**

| | | Effluent Limits | | | | |
|---|---|---|---|---|---|---|
| | | Concentration | | Loading (kg/day)[a] | | |
| Parameter | Units | 30 Day Average | Daily Maximum | 30 Day Average | Daily Maximum | Basis[b] |
| Water Temperature | °F | ---------- Monitor ---------- | | | | M[c] |
| pH | S.U. | ---------- 6.0 to 9.0 ---------- | | | | EP/BPT |
| Oxidants, Total Res. | mg/l | – | 0.05 | - | - | EP/BPJ |
| Flow | MGD | ---------- Monitor ---------- | | | | M[c] |
| Chlorine, Total Residual | mg/l | -- | 0.2 | - | - | EP/BAT |
| Chlorination/Bromination Duration | minutes | – | 120 | – | – | EP/BAT |
| Thallium | µg/l | ---------- Monitor ---------- | | | | M[c] /BPJ |
| Selenium | µg/l | ---------- Monitor ---------- | | | | M[c] /BPJ |
| Bis(2-ethylhexyl) Phthalate | µg/l | ---------- Monitor ---------- | | | | M[c] /WLA |

[b,c] See page 30 for definition of terms and explanation of monitoring requirements.

**Table 11-002. Final Effluent Limits and Monitoring Requirements for Outfall 002**

| | | Effluent Limits | | | | |
|---|---|---|---|---|---|---|
| | | Concentration | | Loading (kg/day)[a] | | |
| Parameter | Units | 30 Day Average | Daily Maximum | 30 Day Average | Daily Maximum | Basis[b] |
| Suspended Solids | mg/l | 30 | 100 | 384 | 1279 | EP/BPT |
| Oil and Grease | mg/l | 15 | 20 | 192 | 256 | EP/BPT |
| pH | S.U. | ---------- 6.0 to 9.0 ---------- | | | | EP/BPT |
| Barium | µg/l | ---------- Monitor ---------- | | | | M[c] /WLA |
| Copper | µg/l | ---------- Monitor ---------- | | | | M[c] /RP/BAT |
| Selenium | µg/l | ---------- Monitor ---------- | | | | M[c] /RP |
| Flow rate | MGD | ---------- Monitor ---------- | | | | M[c] /EP |

[a] Loadings are based upon a flow rate of 3.38 MGD.

[b,c] See page 30 for definition of terms and explanation of monitoring requirements.

**Table 11-004. Final Effluent Limits and Monitoring Requirements for Outfall 004**

| | | Effluent Limits | | | | |
|---|---|---|---|---|---|---|
| | | Concentration | | Loading (kg/day)[a] | | |
| Parameter | Units | 30 Day Average | Daily Maximum | 30 Day Average | Daily Maximum | Basis[b] |
| Suspended Solids | mg/l | 30 | 100 | 380 | 1268 | EP/BPT |
| Oil and Grease | mg/l | 15 | 20 | 190 | 254 | EP/BPT |
| pH | S.U. | ---------- 6.0 to 9.0 ---------- | | | | EP/BPT |
| Oxidants, Total Res. | mg/l | -- | 0.01 | -- | -- | EP/BPJ |
| Copper | µg/l | -- | 38 | -- | 0.48 | M[c] /RP/WLA/BAT |
| Flow rate | MGD | ---------- Monitor ---------- | | | | M[c] /EP |
| Chlorine, Total Res. | mg/l | -- | 0.038 | -- | -- | EP/WQS |
| Selenium | µg/l | ---------- Monitor ---------- | | | | M[c] /BPJ |
| Chlorination/Bromination Duration | minutes | ---------- Monitor ---------- | | | | M[c] |

[a] Loadings are based upon a flow rate of 3.35 MGD.
[b,c] See page 30 for definition of terms and explanation of monitoring requirements.

**Table 11-604. Final Effluent Limits and Monitoring Requirements for Outfall 604**

| | | Effluent Limits | | | | |
|---|---|---|---|---|---|---|
| | | Concentration | | Loading (kg/day)[a] | | |
| Parameter | Units | 30 Day Average | Daily Maximum | 30 Day Average | Daily Maximum | Basis[b] |
| Suspended Solids | mg/l | 30 | 100 | -- | -- | EP/BPT |
| Oil and Grease | mg/l | 15 | 20 | -- | -- | EP/BPT |
| pH | S.U. | ---------- Monitor ---------- | | | | EP/BPT |
| Flow rate | MGD | ---------- Monitor ---------- | | | | M[c] /EP |

[b,c] See page 30 for definition of terms and explanation of monitoring requirements.

Reliant Energy

121 Champion Way
Suite 200
Canonsburg, PA 15317

December 8, 2005

**Federal Express**

Mr. Mike McCullough
Ohio Environmental Protection Agency
Division of Surface Water
Permits & Compliance Section
122 South Front Street
P.O. Box 1049
Columbus, Ohio 43216-1049

RECEIVED
DEC 12 2005
OHIO EPA - NEDO

**RE: Submittal of 316(b) Phase II Proposal For Information Collection (PIC)**
**Avon Lake Generating Station**
**NPDES Permit No. 31B00002*ID**

Mr. McCullough,

Please find enclosed for your review and comment a copy of Reliant's Proposal for Information Collection (PIC) for the subject facility. Reliant Energy and its consultant, ENSR International, would be pleased to meet with you and staff at your convenience to discuss this document and, of course, any other matters of your choosing. I will attempt to contact you via email in the near future to try and schedule a meeting to provide a presentation of the PIC and review and address any preliminary comments or questions.

Recognizing the substantial amount of time and resources required to develop the Comprehensive Demonstration Study (CDS), we formally request an extension for submittal of the CDS by January 7, 2008, according to 40 CFR §125.95(a)(2)(ii). Toward that end, we have herein proposed entrainment and impingement monitoring beginning January 2006 and continuing for one year. Acknowledging that the EPA recommended a 60-day review and comment period for state agencies to respond back to permittees on their PICs, we would like to request that the agency first review and comment on our sampling protocol identified in Appendix E of the document to allow us ample time to develop and award contracts for initiating sampling in January.

Lastly, we appreciate the interest expressed in our earlier meetings held with the Agency toward finding innovative 316(b) compliance solutions. Reliant Energy has been a strong advocate for the use of "restoration" under the regulations. We believe it to offer the most effective means to secure meaningful environmental benefits from implementation of this rule. While there is the possibility that pending litigation may limit access to this worthwhile provision, we propose to continue to work to identify restoration opportunities to serve as a key component of our future CDS submittal.

Per your request I have forwarded an electronic copy of the document to yourself and Mr. Mike Stevens.

If you have any questions or desire further information regarding this submittal, please contact me at 724-597-8630 or nrozic@reliant.com.

Sincerely,

Nathan J. Rozic

Environmental Specialist
Reliant Energy, Inc.

Enclosure

Cc:
Kerry Whelan- Reliant Energy
Bob Laeng- Avon Lake Generating Station
Bill Mann- Avon Lake Generating Station
Mike Stevens -OEPA Northeast District Office (w/o enclosure)

Reliant Energy

121 Champion Way
Suite 200
Canonsburg, PA 15317

Writers Direct Dial 724/597-8630

November 30, 2005

RECEIVED
DEC - 1 2005
OHIO EPA - NEDO

**Federal Express**

Mr. Mike Stevens
Ohio EPA Northeast District Office
Division of Surface Water
2110 East Aurora Road
Twinsburg, OH 44087

**RE: Renewal of OEPA Permit No. 31B00002*ID, Avon Lake Power Plant**
**Submission of Form 2F and Revised Drawings from Previously Submitted Forms 1 and 2C**

Dear Mr. Stevens:

Please find enclosed two paper copies (one designated as "original" with original signatures) of Form 2F, Application for Permit to Discharge Stormwater Discharges Associated with Industrial Activity, for the Avon Lake Power Plant. This submission completes Reliant Energy's NPDES renewal application for Permit No. 31B000002, which was submitted on April 22, 2005.

Also please find enclosed two revised copies each of the vicinity map and flow diagram associated with Forms 1 and 2C formerly submitted with the application package. The diagrams were modified to correct minor errors found after the package was submitted.

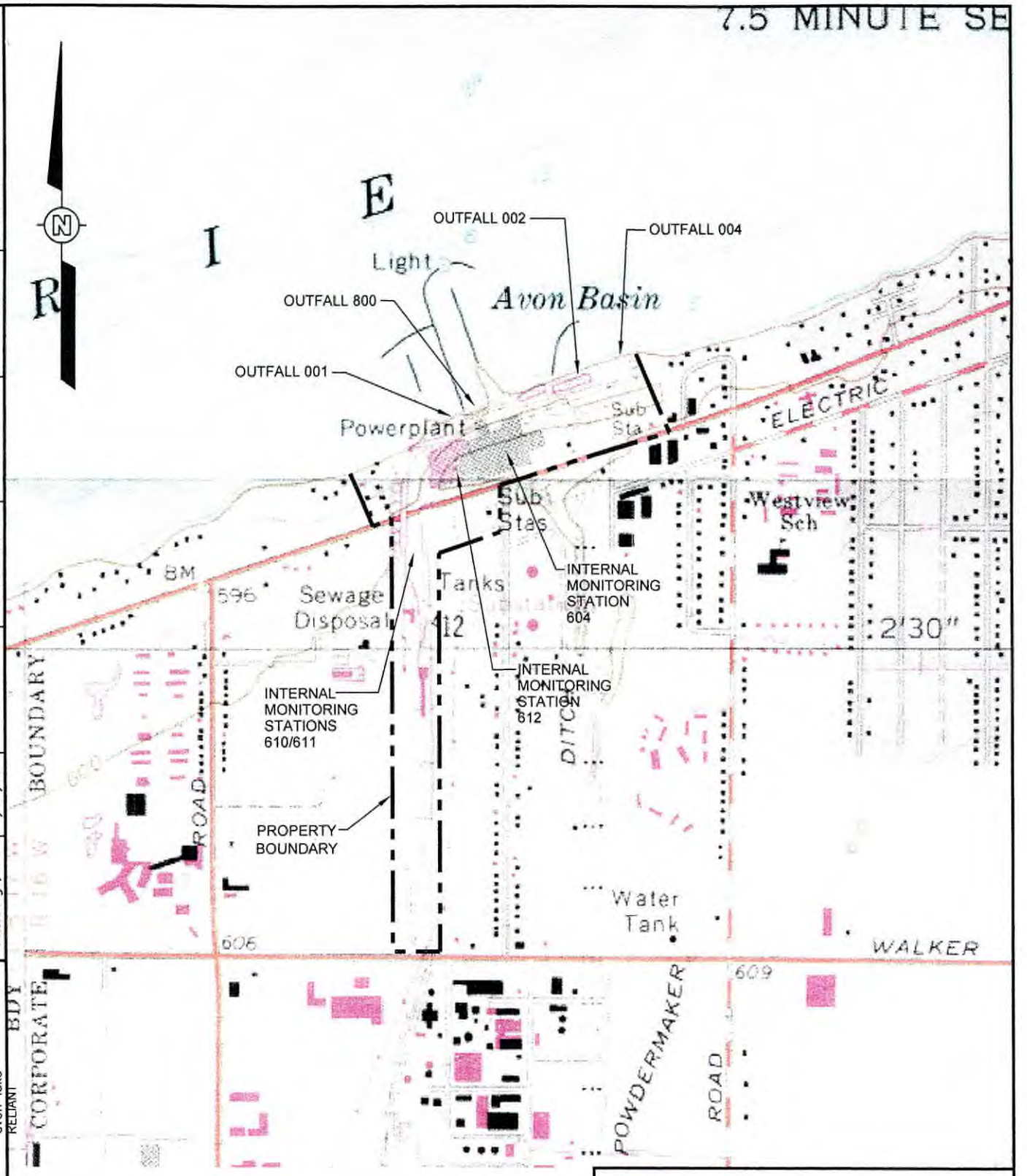
If you have any questions regarding this application, please contact me at (724) 597-8630 or nrozic@reliant.com or Ronald Grove at (610) 378-8439.

Sincerely,

Nathan J. Rozic
Environmental Specialist
Reliant Energy, Inc.

Enclosure

Cc: Bob Laeng: Avon Lake Power Plant
Ron Grove: Reliant Energy Technical Services
Susan Zummo Forney: Shaw Environmental, Inc.




| OFFICE | DATE | DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED BY | DRAWING NUMBER |
|---|---|---|---|---|---|---|
| Pittsburgh, PA | 4/12/05 | -- | E. SCHLEGEL | -- | -- | 110870-A2 |

SCALE

0 1000 2000 FEET

REFERENCE:

U.S.G.S. 7.5-MINUTE TOPOGRAPHIC MAP AVON QUADRANGLE, DATED 1993, SCALE: 1"=2000'.

Shaw Shaw Environmental, Inc.

Reliant Energy.

VICINITY MAP
NPDES RENEWAL APPLICATION
PERMIT NO. 31800002
APPLICATION NO. 0H00011112
33570 LAKE ROAD
AVON LAKE, OH 44012

O:\Project\110870\Reliant Energy\110870A2.dwg
Plot Date/Time: 11/15/05 10:40am Xref: .
Plotted by: william.snyder Image: Avon avon lake

| DRAWING NUMBER | APPROVED BY | CHECKED BY | DRAWN BY | DESIGNED BY | DATE |
|---|---|---|---|---|---|
| 1110870-B1 | -- | -- | E. SCHLEGEL | -- | 4/04/05 |

OFFICE: Pittsburgh, PA

LAKE ERIE INTAKE

OUTFALL 800 - INTAKE WATER
399.9 MGD

NON-CONTACT COOLING WATER CONDENSER

DISCHARGE TUNNEL

395.63 MGD → OUTFALL 001 (LAKE ERIE)

OUTFALL 612
2.29 MGD

OUTFALL 604
0.005 MGD

#9 OIL COOLERS HEAT EXCHANGER

AVON LAKE PRE-TREATMENT

HOUSE SERVICE WATER

BOILERS MAKEUP WATER

AVON LAKE BOILERS 7 & 9

BOILER BLOWDOWN

FLOOR AND EQUIPMENT DRAINS

OIL STORAGE TANK

PRECIPITATOR AREA SUMP

OIL COOLERS PLANT SUMPS

LOW VOLUME WASTE

OIL-WATER SEPARATOR

OILY WASTE BASIN FILTERS

0.89 MGD → OUTFALL 004 (LAKE ERIE)

BOTTOM ASH PIT SUMPS

SLUICE WATER SUMPS

ASH SETTLING BASINS

ASH SETTLING BASIN FILTERS

0.99 MGD → OUTFALL 002 (LAKE ERIE)

ASH SLUICE WATER

COAL PILE RUNOFF AND COAL HANDLING AREA

COAL PILE RETENTION BASIN

OUTFALL 610
0.132 MGD

OUTFALL 611
0 MGD

EMERGENCY OVERFLOW TO POWDERMAKER CREEK

METAL CLEANING WASTES (SEE NOTE 2)

NOTE:

1. DRAWING NOT TO SCALE
2. OUTFALL 611 IS A FICTITIOUS OUTFALL USED WHEN THE COAL PILE RUNOFF TREATMENT SYSTEM IS USED TO TREAT METAL CLEANING WASTE WATER AND CHEMICAL METAL WASTE CLEANING WATER.

Shaw Shaw Environmental, Inc.

Reliant Energy.

# WASTE WATER FLOW DIAGRAM
## NPDES PERMIT # 31B00002

AVON LAKE POWER PLANT
AVON LAKE, OH

O:\Project\110870\Reliant Energy\1108701B1.dwg
Plot Date/Time: 11/15/05 10:05am
Plotted by: william.snyder
Xref: .
Image: RELIANT

# APPLICATION FOR NPDES PERMIT RENEWAL
# FORM 2F – APPLICATION FOR PERMIT TO DISCHARGE STORMWTAER ASSOCIATED WITH INDUSTRIAL ACTIVITY
# OHIO EPA PERMIT NO. 31B00002
# AVON LAKE POWER PLANT

---

## CONTENTS


- Form 2F
- Attachment A – Item IV-A, Estimate of Drainage Areas
- Attachment B – Item IV-B, Narrative Description of Pollutant Sources
- Figure 1 – Site Topography and Stormwater Outfall Locations
- Figure 2 – Facility Layout

Please print or type in the unshaded areas only

EPA ID Number *(copy from Item I of Form 1)*: 31B00002

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

Form 2F NPDES

United States Environmental Protection Agency
Washington, DC 20460

# Application for Permit to Discharge Storm Water 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)* |
|---|---|---|---|---|---|---|---|
| #1 | 41 | 30 | 15 | 82 | 03 | 30 | Lake Erie |
| #2 | 41 | 30 | 15 | 82 | 03 | 30 | Lake Erie |
| #4 | 41 | 30 | 30 | 82 | 03 | 15 | Powder Maker Creek Outlet (Lake Erie) |
| #5 | 41 | 30 | 15 | 82 | 03 | 15 | Powder Maker Creek |
| #6 | 41 | 30 | 15 | 82 | 03 | 15 | Lake Erie |
| #7 | 41 | 30 | 15 | 82 | 03 | 15 | Powder Maker Creek |
| #8 | 41 | 30 | 15 | 82 | 03 | 15 | Powder Maker Creek |
| 002 | 41 | 30 | 30 | 82 | 03 | 00 | Lake Erie |
| 004 | 41 | 30 | 30 | 82 | 03 | 00 | Lake Erie |
| | | | | | | | |

## 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. |
| NA | | | | | |
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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

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.


Continue on Page 2

Continued from the Front

## 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) |
|---|---|---|---|---|---|
| | See Attachment A | | | | |

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.

See Attachment B

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 |
|---|---|---|
| 002 | Sedimentation, gravity filtration, discharge to surface water, solids disposal at landfill | 1-U, 1-Q, 4-A, 5-Q |
| 004 | Sedimentation, gravity filtration, discharge to surface water, solids disposal at landfill ( #1, #2, #5, #7, #8 - Equipped with oil/water separators) | 1-U, 1-Q, 4-A, 5-Q, 2F |

## 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 |
|---|---|---|
| James V. Locher, Vice President | James V. Locher | 11/22/05 |

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.

Outfalls 002 and 004 have continuous process and stormwater. No unidentified non-stormwater sources were identified from these outfalls. Outfalls #1 through #8 have been evaluated for the presence of non-stormwater discharges based on observation of the outfalls during dry weather conditions and examination of piping and site diagrams. No non-stormwater sources were identified from these outfalls.

## 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.

There have been no significant leaks or spills of any toxic or hazardous pollutants at the Avon Lake Plant in the last three years.

Continued from Page 2

EPA ID Number *(copy from Item I of Form 1)*
31B00002

## 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 toxic pollutant listed in table 2F-2, 2F-3 or 2F-4, a substance or a componant 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)*

Acute toxicity testing was performed for process water Outfalls 002 and 004, which receive stormwater contribution. Whole effluent toxcity testing using Ceriodaphnia dubia and Pimephales promelas was performed for these outfalls in March and June of 2003. Results indicated that neither effluent was acutely toxic.

## 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 |
|---|---|---|---|
| First Energy Corporation<br>BETA Laboratory | 6670 BETA Drive<br>Mayfield Village, OH 44143 | (440) 604-9882 | All parameters listed. |

## 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. |
|---|---|
| James V. Locher, Vice President | (724) 597-8547 |
| **C. Signature** James V. Locher | **D. Date Signed** 11-22-05 |

| EPA ID Number *(copy from Item I of Form 1)* | Outfall #1 |
|---|---|
| 31B00002 | |

Form Approved. OMB No. 2040-0086
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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | <3 mg/l | <3 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 113 mg/l | 72 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 1374 mg/l | 926 mg/l | | | 1 | |
| Total Nitrogen | 0.22 mg/l | < 0.20 mg/l | | | 1 | |
| Total Phosphorus | 0.92 mg/l | 0.81 mg/l | | | 1 | |
| pH | Minimum 7.34 | Maximum 7.34 | 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 | | |
| | | | | | | |
| Temp | 22.7 C | | | | 1 | |
| Copper | 0.08 mg/l | 0.061 mg/l | | | 1 | |
| Iron | 14.83 mg/l | 16.11 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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**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)* |
|---|---|---|---|---|---|
| 8-20-05 | 129.6 | 0.48 | 161 | 201* | 26,034 |

7. Provide a description of the method of flow measurement or estimate.

* Average flow estimate based on storm event duration and total flow. Total flow estimate based on estimated drainage areas.

EPA ID Number *(copy from Item I of Form 1)*
31B00002 Outfall #2

Form Approved. OMB No. 2040-0086
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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 15 mg/l | 8.7 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 92 mg/l | 62 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 107 mg/l | 67 mg/l | | | 1 | |
| Total Nitrogen | 3.6 mg/l | 3.4 mg/l | | | 1 | |
| Total Phosphorus | 0.25 mg/l | 0.16 mg/l | | | 1 | |
| pH | Minimum 6.98 | Maximum 6.98 | 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 | | |
| | | | | | | |
| Temp | 18.5 C | | | | 1 | |
| Copper | 0.045 mg/l | 0.057 mg/l | | | 1 | |
| Iron | 7.61 mg/l | 6.41 mg/l | | | 1 | |

Continued from the Front

**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 | | |
| | | | | | | |
| | | | | | | |
| | | | |

## 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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 4.8 mg/l | 3.3 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 130 mg/l | 44 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 382 mg/l | 346 mg/l | | | 1 | |
| Total Nitrogen | 0.56 mg/l | 1.6 mg/l | | | 1 | |
| Total Phosphorus | 0.69 mg/l | 0.40 mg/l | | | 1 | |
| pH | Minimum 7.34 | Maximum 7.34 | 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 | | |
| | | | | | | |
| Temp | 22.7 C | | | | 1 | |
| Copper | 0.026 mg/l | 0.024 mg/l | | | 1 | |
| Iron | 4.62 mg/l | 9.6 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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| EPA ID Number *(copy from Item I of Form 1)* | Outfall #5 |
|---|---|
| 31B00002 | |

Form Approved. OMB No. 2040-0086
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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 4.2 mg/l | 13 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 99 mg/l | 44 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 267 mg/l | 87 mg/l | | | 1 | |
| Total Nitrogen | 2.2 mg/l | 1.2 mg/l | | | 1 | |
| Total Phosphorus | 0.62 mg/l | 0.22 mg/l | | | 1 | |
| pH | Minimum 6.81 | Maximum 6.81 | 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 | | |
| | | | | | | |
| Temp | 23.1 C | | | | 1 | |
| Copper | 0.025 mg/l | 0.011 mg/l | | | 1 | |
| Iron | 24.25 mg/l | 8.849 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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**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)* |
|---|---|---|---|---|---|
| 7-13-05 | 96 | 0.82 | 652.5 | 367* | 35,273 |

7. Provide a description of the method of flow measurement or estimate.

* Average flow estimate based on storm event duration and total flow. Total flow estimate based on estimated drainage areas.

EPA ID Number *(copy from Item I of Form 1)*
31B00002 Outfall #6

Form Approved. OMB No. 2040-0086
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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 5.7 mg/l | 4.5 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 58 mg/l | 41 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 63 mg/l | 82 mg/l | | | 1 | |
| Total Nitrogen | 1.1 mg/l | 1.2 mg/l | | | 1 | |
| Total Phosphorus | 0.19 mg/l | 0.18 mg/l | | | 1 | |
| pH | Minimum 8.05 | Maximum 8.05 | 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 | | |
| Temp | 20 C | | | | 1 | |
| Copper | 0.032 mg/l | 0.027 mg/l | | | 1 | |
| Iron | 2.5 mg/l | 0.62 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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## 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 | 4.2 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 8.2 mg/l | 15 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 96 mg/l | 137 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 180 mg/l | 179 mg/l | | | 1 | |
| Total Nitrogen | 3.2 mg/l | 7.4 mg/l | | | 1 | |
| Total Phosphorus | 0.19 mg/l | 0.38 mg/l | | | 1 | |
| pH | Minimum 7.73 | Maximum 7.73 | 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 | | |
| | | | | | | |
| Temp | 23 C | | | | 1 | |
| Copper | 0.022 mg/l | 0.025 mg/l | | | 1 | |
| Iron | 2.63 mg/l | 2.57 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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EPA ID Number *(copy from Item I of Form 1)*
31B00002 Outfall #8

Form Approved. OMB No. 2040-0086
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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 4.2 mg/l | 3 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 137 mg/l | 58 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 427 mg/l | 56 mg/l | | | 1 | |
| Total Nitrogen | 1.3 mg/l | 0.67 mg/l | | | 1 | |
| Total Phosphorus | 0.27 mg/l | 0.11 mg/l | | | 1 | |
| pH | Minimum 7.57 | Maximum 7.57 | 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 | | |
| | | | | | | |
| Temp | 13.5 C | | | | 1 | |
| Copper | 0.079 mg/l | 0.030 mg/l | | | 1 | |
| Iron | 2.18 mg/l | 20.02 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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**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)* |
|---|---|---|---|---|---|
| 9-8-05 | 19.8 | 0.21 | 457.58 | 71* | 1,414 |

7. Provide a description of the method of flow measurement or estimate.

* Average flow estimate based on storm event duration and total flow. Total flow estimate based on estimated drainage areas.

EPA ID Number *(copy from Item I of Form 1)*
31B00002 Outfall 002

Form Approved. OMB No. 2040-0086
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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | < 3 mg/l | < 3 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 82 mg/l | < 20 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 12 mg/l | 7 mg/l | | | 1 | |
| Total Nitrogen | 2.5 mg/l | 1.7 mg/l | | | 1 | |
| Total Phosphorus | 0.07 mg/l | < 0.05 mg/l | | | 1 | |
| pH | Minimum 8.23 | Maximum 8.23 | 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 | | |
| | | | | | | |
| Temp | 23.0 C | | | | 1 | |
| Copper | 0.004 mg/l | 0.002 mg/l | | | 1 | |
| Iron | 0.26 mg/l | 0.15 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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## 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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 3 mg/l | < 3 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | < 20 mg/l | 11 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 4 mg/l | 3 mg/l | | | 1 | |
| Total Nitrogen | 2.2 mg/l | 5 mg/l | | | 1 | |
| Total Phosphorus | < 0.05 mg/l | < 0.05 mg/l | | | 1 | |
| pH | Minimum 7.13 | Maximum 7.13 | 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 | | |
| Temp | 24.5 C | | | | 1 | |
| Copper | 0.008 mg/l | 0.008 mg/l | | | 1 | |
| Iron | 0.076 mg/l | 0.116 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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**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)* |
|---|---|---|---|---|---|
| 7-13-05 | 96 | 0.82 | 652.5 | 216* | 20,704 |

**7.** Provide a description of the method of flow measurement or estimate.

* Average flow estimate based on storm event duration and total flow. Total flow estimate based on estimated drainage areas.

# Attachment A

**31B00002**

**Form 2F**
**ITEM IV-A**
**Estimate Areas**

| Outfall Number | Area of Impervious Surface Estimate | Total Area Drained Estimate |
|---|---|---|
| Outfall 1 | 55,000 $ft^2$ | 130,000 $ft^2$ |
| Outfall 2 | 75,000 $ft^2$ | 90,000 $ft^2$ |
| Outfall 4 | >0.2 square miles | >2 square miles |
| Outfall 5 | 60,000 $ft^2$ | 90,000 $ft^2$ |
| Outfall 6 | 2,000 $ft^2$ | 2,000 $ft^2$ |
| Outfall 7 | 0.2 square miles | 2 square miles |
| Outfall 8 | 12,000 $ft^2$ | 12,000 $ft^2$ |
| 002 | 33,600 $ft^2$ | 33,600 $ft^2$ |
| 004 | 45,000 $ft^2$ | 45,000 $ft^2$ |

# Attachment B

**31B00002**

**Form 2F**
**ITEM IV-B**
**Narrative Description of Pollutant Sources**

The Avon Lake Plant is a coal-fired electrical generating facility that handles, stores and consumes a number of materials and products. The principal materials managed at the facility include raw coal, bottom and fly ash, water treatment chemicals, and a variety of oils. The areas where these materials are managed are shown on Figure 2 and discussed below, along with the management practices that are employed to minimize contact of these materials with stormwater.

a. Raw coal. The raw coal is the most significant source of potential storm water pollution. Run-off from the coal pile and the car dumper building is collected in a surrounding ditch that directs flow to the coal pile run-off facility, an authorized NPDES treatment system. The run-off undergoes neutralization, chemical precipitation, and pressure filtration prior to being sent to the ash basin. There is an overflow valve at the run-off collection basin that is normally closed. In the event of a severe overflow of the collection basin this valve could be opened, releasing the run-off to Powder Maker Creek.

The majority of the run-off from the coal belts is directed back to the Coal Pile Run-off Facility and undergoes treatment as stated above. The belts are enclosed an are not directly exposed to precipitation.

Fugitive dust from coal handling and unloading operations is controlled per the requirements of the Plant's Ohio EPA air emissions (fugitive dust) permits.

b. Bottom ash. Bottom ash from the facility's boilers is transferred by water sluicing, dewatered, and trucked off site to a licensed disposal facility. Run-off from the unloading area is pumped to the ash basin, which is a NPDES treatment system. There it undergoes neutralization. The ash is dredged from the basin as needed and is dewatered in a pile next to the basin. Any storm water run-off from that pile would flow back to the basin. The ash is used to line the bottom of fly ash transport trucks.

c. Fly ash. Fly ash from the combustion of coal is collected via electrostatic precipitators. It is stored in silos until the ash is sold for commercial purposes. If it cannot be sold, it is "conditioned" by wetting with water and sent to a permitted disposal facility. Fugitive dust from fly ash handling and transport is controlled per the requirements of the Plant's Ohio EPA air emissions (fugitive dust) permits. Run-off from the unloading areas and truck wash areas is directed to the ash basin.

d. Water treatment chemicals. Chemicals such as sodium hydroxide, sulfuric acid, ammonium hydroxide, and ferrous sulfate, are used to treat plant process water, wastewater flue gas. The chemicals are unloaded at the receiving area and stored in tanks and drums at various locations throughout the plant. The drains in the receiving area are routed to the oily waste pond.

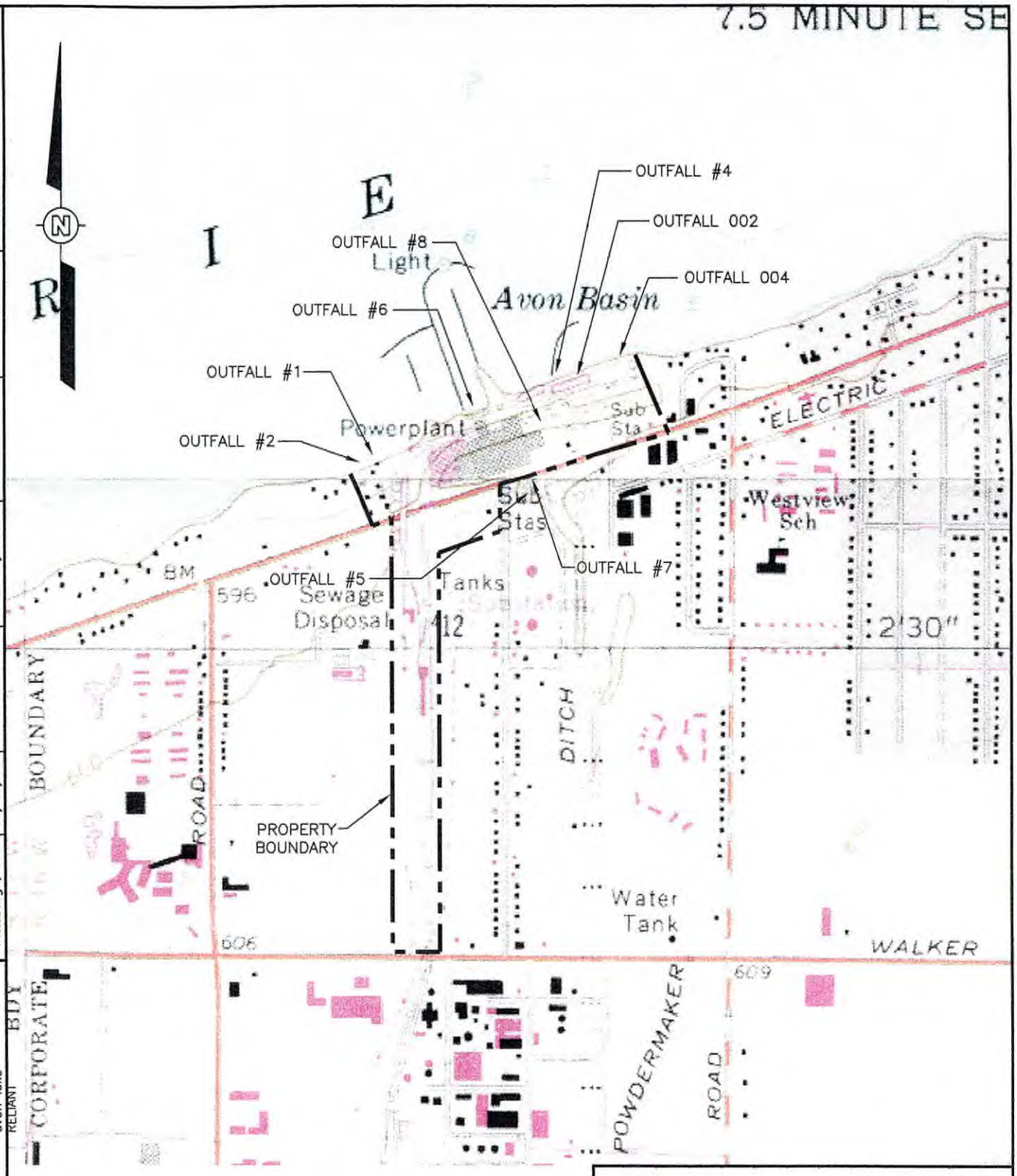
e. Oils. Lube oil, used for plant equipment, is delivered to the receiving area. Drums containing lube oils are stored at various locations throughout the plant. Waste oil is accumulated in the building and pumped into tanks. Waste oil drums are stored in a

concrete, diked area. Precipitation from the diked area is inspected prior to being drained.

Bulk storage tanks, which contain No. 2 fuel oil, are used for initial firing of the boilers, fuel for a combustion turbine for generation of electricity during peak loads on the system and for fueling plant equipment. The tanks are located at various locations on site and are equipped with secondary containment structures in accordance with federal Spill Prevention, Control and Countermeasure requirements.

Mineral oil is present in various electrical equipment throughout the facility (transformers, capacitors, etc.). There are no bulk mineral oil storage tanks. An oil interceptor treats run-off from the transmission yard.

# FIGURES




| OFFICE | DATE | DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED BY | DRAWING NUMBER |
|---|---|---|---|---|---|---|
| Pittsburgh, PA | 11/10/05 | -- | B. Snyder | -- | -- | 110870-A3 |

SCALE
0 1000 2000 FEET

REFERENCE:

U.S.G.S. 7.5-MINUTE TOPOGRAPHIC MAP AVON QUADRANGLE, DATED 1993, SCALE: 1"=2000'.

Shaw Shaw Environmental, Inc.

Reliant Energy

FIGURE 1

SITE TOPOGRAPHY AND STORMWATER OUTFALL LOCATIONS

AVON LAKE POWER PLANT
AVON LAKE, OHIO 44012

O:\Project\11[illegible]\Reliant Energy\110870A3.dwg
Plot Date/Time: 11/14/05 11:33am Xref: .
Plotted by: william.snyder Image: Avon avon lake

**Ohio EPA**
State of Ohio Environmental Protection Agency

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April 7, 2003

Re: Ohio EPA Permit No. 3IB00002*ID
Facility Name: Orion Power Midwest LP, Avon Lake Power Plant

Orion Power Midwest LP
Avon Lake Power Plant
33570 Lake Road
Avon Lake, Ohio 44012

Ladies and Gentlemen:

Transmitted herewith is one copy of final Modification to the above-referenced permit. This modification is effective on April 1, 2003.

If you have any questions, please contact the Ohio EPA Northeast District Office.

Patti L. Smith

Patti L. Smith, Supervisor
Permit Processing Unit
Division of Surface Water

PLS/dks

Enclosure

**CERTIFIED MAIL**

cc: Northeast District Office
File

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**Ohio Environmental Protection Agency**
**Modification of National Pollutant Discharge**
**Elimination System (NPDES) Permit**

Issue Date: January 29, 2003 Existing Permit No.: 3IB00002*HD

Effective Date: April 1, 2003 Application No.: OH0001112

Entity Name: Orion Power Midwest, Avon Lake Power Plant

Facility Location: 33570 Lake Road, Avon Lake, Ohio, Lorain County

In accordance with Rule 3745-33-04 (D) of the Ohio Administrative Code, the above referenced NPDES permit is hereby modified as follows:

Revision

Change effective date of final table from "25th month" to "4 months" for outfalls 3IB00002002 and 3IB00002004.

Change expiration date of interim table from "24 months" to "4 months" for outfalls 3IB00002002 and 3IB00002004.

Add footnote for spraydown waters for outfall 3IB00002002.

Delete expired first paragraph in Part II, H.

Change from "24 months" to "4 months" in Part II, H.1. Acute Bioassays.

Attached is the modified NPDES permit.

All terms and conditions of the existing permit not recommended for modification by this document will remain in effect. Any modified term or condition contained in this modification shall supersede, on the date this modification is effective, the existing respective term or condition of the permit.

When the modification is effective, the Ohio EPA permit number will be changed to 3IB00002*ID. The application number will remain OH0001112.

Christopher Jones
Director

Application No. OH0001112

Modification Issue Date: January 29, 2003

Modification Effective Date: April 1, 2003

Expiration Date: October 31, 2005

Ohio Environmental Protection Agency
Authorization to Discharge Under the
National Pollutant Discharge Elimination System

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq., hereinafter referred to as the "Act"), and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111),

Orion Power Midwest, L.P.
Avon Lake Power Plant

is authorized by the Ohio Environmental Protection Agency, hereinafter referred to as "Ohio EPA," to discharge from the wastewater treatment works located at 33570 Lake Road, Avon Lake, Ohio, Lorain County and discharging to Lake Erie in accordance with the conditions specified in Parts I, II, and III of this permit modification.

This permit is conditioned upon payment of applicable fees as required by Section 3745.11 of the Ohio Revised Code.

This permit and the authorization to discharge shall expire at midnight on the expiration date shown above. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information and forms as are required by the Ohio EPA no later than 180 days prior to the above date of expiration.

Christopher Jones
Director

Total Page: 30

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit modification and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002001. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 001 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00011 - Water Temperature - F | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 00400 - pH - S.U. | 9.0 | 6.0 | - | - | - | - | - | 1/Month | Grab | All |
| 00981 - Selenium, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 00982 - Thallium, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 34044 - Oxidants, Total Residual - mg/l | 0.05 | - | - | - | - | - | - | 1/Day | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 50060 - Chlorine, Total Residual - mg/l | 0.2 | - | - | - | - | - | - | 1/Day | Grab | All |
| 78739 - Chlorination/Bromination Duration - Minutes | 120 | - | - | - | - | - | - | 1/Day | Total | All |

Note for station 3IB00002001:

The Total Residual Chlorine (TRC) and Total Residual Oxidants (TRO) limits are the maximum allowed at the outfall at any time. TRC and TRO may not be discharged from this outfall for more than two hours per day. Simultaneous multi-unit chlorination and/or bromination is permitted. Analyses are to be performed by amperometric titration, Orion Residual Chlorine Electrode, or other EPA approved methods during chlorination and/or bromination. The daily grab samples for TRC and TRO shall represent the maximum concentration discharged during chlorination and/or bromination.

Water temperature requires intake (3IB00002800) monitoring for outfall 3IB00002001. Report intake/outfall temperature estimated to correspond to a maximum temperature differential sustained for one hour.

Total Residual Oxidants reflects the use of bromine compounds. Bromine can be used separately or in combination with chlorine. These limits are effective when bromine is used. Discharge limitations for TRO may be met using a dehalogenation agent, if necessary. Dehalogenation shall then be achieved by using stoichiometric calculations to determine the amount of dehalogenating agent necessary to completely estimate the residual.

Total Residual Oxidants are to be reported on days when bromine compounds are used with or without chlorine. Report "AH" on the monthly operating report on days when no bromine compounds are used and explain in the remarks section.

For total residual chlorine, report on days when only chlorine compounds are used (i.e. no bromine compounds). Report "AH" on the monthly operating report if bromine (or a combination of bromine and chlorine) is used and explain in remarks section.

For chlorination/bromination duration, monitoring is to be performed only on days when using chlorine and/or bromine treatment. On days when treatment is not used, report "AH" on the monthly operating report and explain in remarks section.

Part I, A. - INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on <BeginDate> and lasting until <EndDate> , the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002002. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 002 - Interim

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | Measuring | Sampling | Monitoring |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Frequency | Type | Months |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 1340 | - | 402 | 3/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 268 | - | 201 | 3/Week | Grab | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 61425 - Acute Toxicity, Ceriodaphnia dubia - TUa | - | - | - | - | - | - | - | 1/Quarter | Composite | Quarterly |
| 61427 - Acute Toxicity, Pimephales promelas - TUa | - | - | - | - | - | - | - | 1/Quarter | Composite | Quarterly |
| 61941 - pH, Maximum - S.U. | 9.0 | - | - | - | - | - | - | 1/Day | Continuous | All |
| 61942 - pH, Minimum - S.U. | - | 6.0 | - | - | - | - | - | 1/Day | Continuous | All |

Notes for station 3IB00002002:

* Effluent loadings based on average design flow of 3.54 MGD.

Spray down waters from the new synthetic fuel facility is permitted to be discharged through this outfall.

For toxicity testing, see Part II, Item H. An effluent biomonitoring program must be initiated within three months after the effective date of the permit. Sampling for acute toxicity must be initiated after submittal of the Standard Operating Procedures required in accordance with Part II, Item H. For the months when sampling for toxicity is not required, report "AH" for these parameters in the monthly operating report form (Form 4500), including for the first three months after the effective date of the permit.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning four months from the effective date of this permit modification and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002002. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 002 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 1340 | - | 402 | 3/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 268 | - | 201 | 3/Week | Grab | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 61941 - pH, Maximum - S.U. | 9.0 | - | - | - | - | - | - | 1/Day | Continuous | All |
| 61942 - pH, Minimum - S.U. | - | 6.0 | - | - | - | - | - | 1/Day | Continuous | All |

Notes for station 3IB00002002:

* Effluent loadings based on average design flow of 3.54 MGD.

Spray down waters from the new synthetic fuel facility is permitted to be discharged through this outfall.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit modification and lasting until four months, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002004. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 004 - Interim

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 3172 | - | 952 | 2/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 634 | - | 476 | 2/Week | Grab | All |
| 00981 - Selenium, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Week | Grab | All |
| 34044 - Oxidants, Total Residual - mg/l | 0.01 | - | - | - | - | - | - | 1/Day | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 50060 - Chlorine, Total Residual - mg/l | 0.038 | - | - | - | - | - | - | 1/Day | Grab | All |
| 61425 - Acute Toxicity, Ceriodaphnia dubia - TUa | - | - | - | - | - | - | - | 1/Quarter | Composite | Quarterly |
| 61427 - Acute Toxicity, Pimephales promelas - TUa | - | - | - | - | - | - | - | 1/Quarter | Composite | Quarterly |
| 61941 - pH, Maximum - S.U. | 9.0 | - | - | - | - | - | - | 1/Day | Continuous | All |
| 61942 - pH, Minimum - S.U. | - | 6.0 | - | - | - | - | - | 1/Day | Continuous | All |
| 78739 - Chlorination/Bromination Duration - Minutes | - | - | - | - | - | - | - | 1/Day | Total | All |

Notes for station 3IB00002004:

* Effluent loadings based on average design flow of 8.38 MGD.

The Total Residual Chlorine (TRC) and Total Residual Oxidants (TRO) limits are the maximum allowed at the outfall at any time. Analyses are to be performed by amperometric titration, Orion Residual Chlorine Electrode, or other EPA approved methods during chlorination and/or bromination. The daily grab samples for TRC and TRO shall represent the maximum concentration discharged during chlorination and/or bromination.

Total Residual Oxidants and Total Residual Chlorine are to be sampled during the treatment event.

Total Residual Oxidants reflects the use of bromine compounds. Bromine can be used separately or in combination with chlorine. These limits are effective when bromine is used. Discharge limitations for TRO may be met using a dehalogenation agent, if necessary. Dehalogenation shall then be achieved by using stoichiometric calculations to determine the amount of dehalogenating agent necessary to completely estimate the residual.

Total Residual Oxidants are to be reported on days when bromine compounds are used with or without chlorine. Report "AH" on the monthly operating report on days when no bromine compounds are used and explain in the remarks section.

Total Residual Chlorine is to be reported on days when only chlorine compounds are used (i.e. no bromine compounds). Report "AH" on the monthly operating report if bromine (or a combination of bromine and chlorine) is used and explain in the remarks section.

For toxicity testing, see Part II, Item H. An effluent biomonitoring program must be initiated within three months after the effective date of the permit. Sampling for acute toxicity must be initiated after submittal of the Standard Operating Procedures required in accordance with Part II, Item H. For months when sampling for toxicity is not required, report "AH" for these parameters in the monthly operating report form (Form 4500), including for the first three months after the effective date of the permit.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit modification and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002003. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning four months from the effective date of this permit modificaton and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002004. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 004 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 3172 | - | 952 | 2/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 634 | - | 476 | 2/Week | Grab | All |
| 00981 - Selenium, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Week | Grab | All |
| 34044 - Oxidants, Total Residual - mg/l | 0.01 | - | - | - | - | - | - | 1/Day | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 50060 - Chlorine, Total Residual - mg/l | 0.038 | - | - | - | - | - | - | 1/Day | Grab | All |
| 61941 - pH, Maximum - S.U. | 9.0 | - | - | - | - | - | - | 1/Day | Continuous | All |
| 61942 - pH, Minimum - S.U. | - | 6.0 | - | - | - | - | - | 1/Day | Continuous | All |
| 78739 - Chlorination/Bromination Duration - Minutes | - | - | - | - | - | - | - | 1/Day | Total | All |

Notes for station 3IB00002004:

* Effluent loadings based on average design flow of 8.38 MGD.

The Total Residual Chlorine (TRC) and Total Residual Oxidants (TRO) limits are the maximum allowed at the outfall at any time. Analyses are to be performed by amperometric titration, Orion Residual Chlorine Electrode, or other EPA approved methods during chlorination and/or bromination. The daily grab samples for TRC and TRO shall represent the maximum concentration discharged during chlorination and/or bromination.

Total Residual Oxidants and Total Residual Chlorine are to be sampled during the treatment event.

Total Residual Oxidants reflects the use of bromine compounds. Bromine can be used separately or in combination with chlorine. These limits are effective when bromine is used. Discharge limitations for TRO may be met using a dehalogenation agent, if necessary. Dehalogenation shall then be achieved by using stoichiometric calculations to determine the amount of dehalogenating agent necessary to completely estimate the residual.

Total Residual Oxidants are to be reported on days when bromine compounds are used with or without chlorine. Report "AH" on the monthly operating report on days when no bromine compounds are used and explain in the remarks section.

Total Residual Chlorine is to be reported on days when only chlorine compounds are used (i.e. no bromine compounds). Report "AH" on the monthly operating report if bromine (or a combination of bromine and chlorine) is used and explain in the remarks section.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

For the first 3 months after the effective date of this permit, report 'AH' for toxicity if toxicity is not monitored and provide explanation in the comments section of the monthly report form.

Notes for station 3IB00002003:

There shall be no discharge from this outfall.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002604. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 604 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00400 - pH - S.U. | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 0.61 | - | 0.18 | 1/Month | Grab | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 0.12 | - | 0.09 | 1/Month | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | 24hr Total Estimate | All |

Notes for station 3IB00002604:

* Effluent loadings based on average design flow of 0.0016 MGD.

Flowrate monitoring is required daily when discharging boiler blowdown water. If no boiler blowdown water is discharged during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required. If there is at least one discharge during the month, report "AH" for flow rate for each day when there is no discharge.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit modification and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002609. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 609 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00400 - pH - S.U. | - | - | - | - | - | - | - | 3/Week | Grab | All |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 0.08 | - | 0.02 | 3/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 0.015 | - | 0.01 | 3/Week | Grab | All |
| 00980 - Iron, Total Recoverable - ug/l | - | - | - | - | - | - | - | 3/Week | 24hr Composite | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 3/Week | 24hr Composite | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | 24hr Total | All |

Notes for station 3IB00002609:

* Effluent loadings based on average design flow of 0.0002 MGD.

Sampling is required when discharging metal cleaning wastewater. If no metal cleaning wastewater is discharged during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required. If there is at least one discharge during the month, report "AH" for each day when there is no discharge.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit modification and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002610. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 610 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00400 - pH - S.U. | - | - | - | - | - | - | - | 1/Week | Grab | All |
| 00530 - Total Suspended Solids - mg/l | 50 | - | - | 50 | 8.7 | - | 8.7 | 1/Week | 24hr Composite | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | 24hr Total | All |

Notes for station 3IB00002610:

* Effluent loadings based on average design flow of 0.0458 MGD.

Any untreated overflow from this facility, which is designed, constructed and operated to treat the volume of coal pile runoff which is associated with a 10 year, 24 hour rainfall event, shall not be subject to the above effluent limitations.

Sampling shall be performed when discharging. If no discharge occurs during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required. If there is at least one discharge during the month, report "AH" for each day when there is no discharge.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit modification and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002611. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 611 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | Measuring | Sampling | Monitoring |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Frequency | Type | Months |
| 00400 - pH - S.U. | - | - | - | - | - | - | - | 3/Week | Grab | All |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 1.8 | - | 0.5 | 1/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 0.36 | - | 0.27 | 1/Week | Grab | All |
| 00980 - Iron, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Week | 24hr Composite | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Week | 24hr Composite | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | 24hr Total | All |

Notes for station 3IB00002611:

* Effluent loadings based on average design flow of 0.0047 MGD.

Outfall 3IB00002611 is a fictitious outfall. It is to be used when the coal pile runoff treatment system (outfall 3IB00002610) is used to treat metal cleaning wastes. Metal cleaning wastewater is to be free from chemical additives prior to entering the coal pile runoff basin.

Sampling shall be performed when discharging. If no wastewater is discharged during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required. If there is at least one discharge during the month, report "AH" for each day when there is no discharge.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit modification and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002612. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 612 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00550 - Oil and Grease, Total - mg/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Month | 24hr Total | All |

Notes for station 3IB00002612:

Samples shall be taken when discharging. If no wastewater is discharged during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required.

Samples taken in compliance with monitoring requirements specified above shall be taken at sampling stations described in Part II, OTHER REQUIREMENTS.

Part I, B. - INTAKE MONITORING REQUIREMENTS

1. Intake Monitoring. During the period beginning on the effective date of this permit modification and lasting until the expiration date, the permittee shall monitor the Intake at Station Number 3IB00002800, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - Intake Monitoring - 800 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | Measuring | Sampling | Monitoring |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Frequency | Type | Months |
| 00011 - Water Temperature - F | - | - | - | - | - | - | - | 1/Day | Continuous | All |

Notes for station 3IB00002800:

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part II, OTHER REQUIREMENTS

A. Description of the location of the required sampling stations are as follows:

| Sampling Station | Description of Location |
|---|---|
| 3IB00002001 | Condenser cooling water and boiler blowdown representative of station 3IB00002604. At combined discharge into discharge channel to Lake Erie. (Lat: 41 N 30 ' 15 "; Long: 82 W 03 ' 00 ") |
| 3IB00002002 | Combined wastewater treatment system at discharge from filters prior to Lake Erie, includes 3IB00002609 and 3IB00002610/611. |
| 3IB00002003 ELIMINATED | Condenser cooling water discharge located below discharge to lake from Powdermaker Ditch. |
| 3IB00002004 | Low volume wastewater treatment system. At discharge of low volume wastewater system prior to Lake Erie. |
| 3IB00002604 | Boiler blowdown water. At points representative of boiler blowdown. |
| 3IB00002609 ELIMINATED | Metal cleaning wastewater treatment system prior to discharge to combined treatment basin (outfall 3IB00002002). |
| 3IB00002610 | Coal pile runoff treatment system prior to discharge to combined treatment basin (outfall 3IB00002002). |
| 3IB00002611 | A fictitious station used when the coal pile runoff system is used to treat metal cleaning wastes, discharged through station 3IB00002610. |
| 3IB00002612 | At the discharge of Unit # 9 heat exchanger non-contact cooling water prior to entering outfall 3IB00002001. |
| 3IB00002800 | Intake water at inlet to plant from Lake Erie. |

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

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

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

C. In the event that the permittee's operation requires the use of cooling or boiler water treatment additives that are discharged to surface waters of the state, written permission must be obtained from the director of the Ohio EPA prior to use. Reporting and testing requirements to apply for permission to use additives can be obtained from the Ohio EPA, Central Office, Division of Surface Water, Water Resources Management Section. Reported information will be used to evaluate whether the use of the additive(s) at concentrations expected in the final discharge will be harmful or inimical to aquatic life.

D. On outfalls where pH is monitored continuously, the permittee shall maintain the pH of such wastewater within the range specified in this permit. Excursions from the range are permitted subject to the following limitations.

. 1. The total time during which pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in a calendar month.

. 2. No individual excursion from the range of pH values shall exceed 60 minutes

. 3. The permittee shall report each month for each monitoring station where pH is monitored continuously the following:

. a. the number of pH excursions;
. b. the duration of each excursion;
. c. the date of each excursion;and
. d. the total time of all excursions combined.

E. Permit limitations may be revised in order to meet water quality standards after a stream use determination and waste load allocation are completed and approved. This permit may be modified, or alternatively, revoked and reissued, to comply with any applicable water quality effluent limitations.

F. Best Management Plan: Bottom Ash Transport System

The Avon Lake ash recycle system shall be operated in a manner consistent with the following:

1. The permittee will maintain in good working order and operate as efficiently as possible the bottom ash transport recycle system installed and used at the Avon Lake generating station. The bottom ash transport recycle system shall be operated to prevent overflow of the combined wastewater treatment basin and solids overload of the combined wastewater treatment system filters, except as provided in the paragraph of Part III, General Conditions, entitled, "UNAUTHORIZED DISCHARGE"

2. Bypasses or shutdown of the bottom ash transport recycle system in excess of 48 hours duration shall be reported as specified in the paragraph of Part III, General Conditions, entitled "UNAUTHORIZED DISCHARGE"

3. All bypasses or shutdowns of the bottom ash transport recycle system that result in overflow of the combined wastwater treatment basin or the low volume wastewater treatment basin shall be reported as per the paragraph of Part III, General Conditions, entitled, "UNAUTHORIZED DISCHARGE".

4. All bypasses or shutdowns of the bottom ash transport recycle system that result in noncompliance with effluent limitations of Part I shall be reported as per the paragraph of Part III, General Conditions, entitled, "NONCOMPLIANCE NOTIFICATION".

G. There shall not be a discharge of any polychlorinated biphenyl compounds attributable to the permittee's operations.

H. Biomonitoring Program

General Requirements

All toxicity testing conducted as required by this permit shall be done in accordance with Reporting and Testing Guidance for Biomonitoring Required by the Ohio Environmental Protection Agency (hereinafter, the "biomonitoring guidance"), Ohio EPA, 1991 (or current revision). The Standard Operating Procedures (SOP) or verification of SOP submittal, as described in Section 1.B. of the biomonitoring guidance shall be submitted no later than three months after the effective date of this permit. If the laboratory performing the testing has modified its protocols, a new SOP is required.

Testing Requirements

1. Acute Bioassays

For the first 4 months of this permit modification, the permittee shall conduct quarterly definitive acute toxicity tests using Ceriodaphnia dubia and fathead minnows (Pimephales promelas) on effluent samples from outfalls 3IB00002002 and 3IB00002004. These tests shall be conducted as specified in Section 2 of the biomonitoring guidance.

2. Data Review

a. Reporting

Following completion of each quarterly bioassay requirement, the permittee shall report results of the tests in accordance with Sections 2.H.1. and 2.H.2.a. of the biomonitoring guidance. Based on Ohio EPA's evaluation of the results, this permit may be modified to require additional biomonitoring, require a toxicity reduction evaluation, and/or contain whole effluent toxicity limits.

b. Definitions

TUa = Acute Toxic Units = 100/LC50

PART III - GENERAL CONDITIONS

1.□DEFINITIONS

"Daily load" is the total discharge by weight during any calendar day. If only one sample is taken during a day, the weight of pollutant discharge calculated from it is the daily load.

"Daily concentration" means the arithmetic average of all the determinations of concentration made during the day. If only one sample is taken during the day, its concentration is the daily concentration. Coliform bacteria limitations compliance shall be determined using the geometric mean.

"Weekly load" is the total discharge by weight during any 7-day period divided by the number of days in that 7-day period that the facility was in operation. If only one sample is taken in a 7-day period, the weight of pollutant discharge calculated from it is the 7-day load. If more than one sample is taken during the 7-day period, the 7-day load is calculated by determining the daily load for each day sampled, totaling the daily loads for the 7-day period, and dividing by the number of days sampled.

"Weekly concentration" means the arithmetic average of all the determinations of daily concentration limitation made during the 7-day period. If only one sample is taken during the 7-day period, its concentration is the 7-day concentration for that 7-day period. Coliform bacteria limitations compliance shall be determined using the geometric mean.

"Monthly load" is the total discharge by weight during all days in a calander month divided by the number of days that the facility was in operation during that month. If only one sample is taken during the month the weight of pollutant discharge calculated from it is the monthly load. If more than one sample is taken during the month, the monthly load is calculated by determining the daily load for each day sampled, totaling the daily loads for the month and dividing by the number of days sampled.

"Monthly concentration" means the arithmetic average of all the determinations of daily concentration made during any calender month. If only one sample is taken during the month, its concentration is the monthly concentration for that period. Coliform bacteria limitations compliance shall be determined using the geometric mean.

"85 percent removal" means the arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

"Absolute Limitations" Compliance with limitations having descriptions of "shall not be less than," "nor greater than," "shall not exceed," "minimum," or "maximum" shall be determined from any single value for effluent samples and/or measurements collected.

"Net concentration" shall mean the difference between the concentration of a given substance in a sample taken of the discharge and the concentration of the same substances in a sample taken at the intake which supplies water to the given process. For the purpose of this definition, samples that are taken to determine the net concentration shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"Net load" shall mean the difference between the load of a given substance as calculated from a sample taken of the discharge and the load of the same substance in a sample taken at the intake which supplies water to given process. For purposes of this definition, samples that are taken to determine the net Loading shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"MGD" means million gallons per day.

"mg/l" means milligrams per liter.

"ug/l" means micrograms per liter.

"ng/l" means nanograms per liter.

"S.U." means standard pH unit.

"kg/day" means kilograms per day.

"Reporting Code" is a five digit number used by the Ohio EPA in processing reported data. The reporting code does not imply the type of analysis used nor the sampling techniques employed.

"Quarterly (1/Quarter) sampling frequency" means the sampling shall be done in the months of March, June, August, and December, unless specificially identified otherwise in the Effluent Limitations and Monitoring Requirements table.

"Yearly (1/Year) sampling frequency" means the sampling shall be done in the month of September, unless specificially identified otherwise in the effluent limitations and monitoring requirements table.

"Semi-annual (2/Year) sampling frequency" means the sampling shall be done during the months of June and December, unless specificially identified otherwise.

"Winter" shall be considered to be the period from November 1 through April 30.

"Bypass" means the intentional diversion of waste streams from any portion of the treatment facility.

"Summer" shall be considered to be the period from May 1 through October 31.

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

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. GENERAL EFFLUENT LIMITATIONS

The effluent shall, at all times, be free of substances:

A. In amounts that will settle to form putrescent, or otherwise objectionable, sludge deposits; or that will adversely affect aquatic life or water fowl;

B. Of an oily, greasy, or surface-active nature, and of other floating debris, in amounts that will form noticeable accumulations of scum, foam or sheen;

C. In amounts that will alter the natural color or odor of the receiving water to such degree as to create a nuisance;

D. In amounts that either singly or in combination with other substances are toxic to human, animal, or aquatic life;

E. In amounts that are conducive to the growth of aquatic weeds or algae to the extent that such growths become inimical to more desirable forms of aquatic life, or create conditions that are unsightly, or constitute a nuisance in any other fashion;

F. In amounts that will impair designated instream or downstream water uses.

3. FACILITY OPERATION AND QUALITY CONTROL

All wastewater treatment works shall be operated in a manner consistent with the following:

A. At all times, the permittee shall maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee necessary to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with conditions of the permit.

B. The permittee shall effectively monitor the operation and efficiency of treatment and control facilities and the quantity and quality of the treated discharge.

C. Maintenance of wastewater treatment works that results in degradation of effluent quality shall be scheduled during non-critical water quality periods and shall be carried out in a manner approved by Ohio EPA as specified in the Paragraph in the PART III entitled, "UNAUTHORIZED DISCHARGES".

4. REPORTING

A. Monitoring data required by this permit may be submitted in hardcopy format on the Ohio EPA 4500 report form pre-printed by Ohio EPA or an approved facsimile. Ohio EPA 4500 report forms for each individual sampling station are to be received no later than the 15th day of the month following the month-of-interest. The original report form must be signed and mailed to:

Ohio Environmental Protection Agency
Lazarus Government Center
Division of Surface Water
Enforcement Section ES/MOR
P.O. Box 1049
Columbus, Ohio 43216-0149

Monitoring data may also be submitted electronically using Ohio EPA developed SWIMware software. Data must be transmitted to Ohio EPA via electronic mail or the bulletin board system by the 20th day of the month following the month-of-interest. A Surface Water Information Management System (SWIMS) Memorandum of Agreement (MOA) must be signed by the responsible official and submitted to Ohio EPA to receive an authorized Personal Identification Number (PIN) prior to sending data electronically. A hardcopy of the Ohio EPA 4500 form must be generated via SWIMware, signed and maintained onsite for records retention purposes.

B. If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified below, the results of such monitoring shall be included in the calculation and reporting of the values required in the reports specified above.

C. Analyses of pollutants not required by this permit, except as noted in the preceding paragraph, shall not be reported on Ohio EPA report form (4500) but records shall be retained as specified in the paragraph entitled "RECORDS RETENTION".

5. SAMPLING AND ANALYTICAL METHOD

Samples and measurements taken as required herein shall be representative of the volume and nature monitored flow. Test procedures for the analysis of pollutants shall conform to regulation 40 CFR 136, "Test Procedures For The Analysis of Pollutants" unless other test procedures have been specified in this permit. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and instrumentation at intervals to insure accuracy of measurements.

6. RECORDING OF RESULTS

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

A. The exact place and date of sampling; (time of sampling not required on EPA 4500)

B. The person(s) who performed the sampling or measurements;

C. The date the analyses were performed on those samples;

D. The person(s) who performed the analyses;

E. The analytical techniques or methods used; and

F. The results of all analyses and measurements.

7. RECORDS RETENTION

The permittee shall retain all of the following records for the wastewater treatment works for a minimum of three years, including:

A. All sampling and analytical records (including internal sampling data not reported);

B. All original recordings for any continuous monitoring instrumentation;

C. All instrumentation, calibration and maintenance records;

D. All plant operation and maintenance records;

E. All reports required by this permit; and

F. Records of all data used to complete the application for this permit for a period of at least three years from the date of the sample, measurement, report, or application.

These periods will be extended during the course of any unresolved litigation, or when requested by the Regional Administrator or the Ohio EPA. The three year period for retention of records shall start from the date of sample, measurement, report, or application.

8. AVAILABILITY OF REPORTS

Except for data determined by the Ohio EPA to be entitled to confidential status, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the appropriate district offices of the Ohio EPA. Both the Clean Water Act and Section 6111.05 Ohio Revised Code state that effluent data and receiving water quality data shall not be considered confidential.

9. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

10. RIGHT OF ENTRY

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

A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit.

B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit.

C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit.

D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11. UNAUTHORIZED DISCHARGES

A. Bypassing or diverting of wastewater from the treatment works is prohibited unless:

1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of downtime. This condition is not satisfied if adequate back up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

3. The permittee submitted notices as required under paragraph D. of this section,

B. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

C. The Director may approve an unanticipated bypass after considering its adverse effects, if the Director determines that it has met the three conditions listed in paragraph 11.A. of this section.

D. The permittee shall submit notice of an unanticipated bypass as required in section 12. A.

E. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded if that bypass is for essential maintenance to assure efficient operation.

12. NONCOMPLIANCE NOTIFICATION

A. The permittee shall by telephone report any of the following within twenty-four (24) hours of discovery at (toll free) 1-800-282-9378:

1. Any noncompliance which may endanger health or the environment;

2. Any unanticipated bypass which exceeds any effluent limitation in the permit; or

3. Any upset which exceeds any effluent limitation in the permit.

4. Any violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit.

B. For the telephone reports required by Part 12.A., the following information must be included:

1. The times at which the discharge occurred, and was discovered;

2. The approximate amount and the characteristics of the discharge;

3. The stream(s) affected by the discharge;

4. The circumstances which created the discharge;

5. The names and telephone numbers of the persons who have knowledge of these circumstances;

6. What remedial steps are being taken; and

7. The names and telephone numbers of the persons responsible for such remedial steps.

C. These telephone reports shall be confirmed in writing within five days of the discovery of the discharge and/or noncompliance and submitted to the appropriate Ohio EPA district office. The report shall include the following:

1. The limitation(s) which has been exceeded;

2. The extent of the exceedance(s);

3. The cause of the exceedance(s);

4. The period of the exceedance(s) including exact dates and times;

5. If uncorrected, the anticipated time the exceedance(s) is expected to continue, and

6. Steps being taken to reduce, eliminate, and/or prevent occurrence of the exceedance(s).

D. Compliance Schedule Events:

If the permittee is unable to meet any date for achieving an event, as specified in the schedule of compliance, the permittee shall submit a written report to the appropriate district office of the Ohio EPA within 14 days of becoming aware of such situation. The report shall include the following:

1. The compliance event which has been or will be violated;

2. The cause of the violation;

3. The remedial action being taken;

4. The probable date by which compliance will occur; and

5. The probability of complying with subsequent and final events as scheduled.

E. The permittee shall report all instances of noncompliance not reported under paragraphs A, B, or C of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraphs B and C of this section.

F. Where the permittee becomes aware that it failed to submit any relevant application or submitted incorrect information in a permit application or in any report to the director, it shall promptly submit such facts or information.

13. RESERVED

14. DUTY TO MITIGATE

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

15. AUTHORIZED DISCHARGES

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than, or at a level in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such violations may result in the imposition of civil and/or criminal penalties as provided for in Section 309 of the Act and Ohio Revised Code Sections 6111.09 and 6111.99.

16. DISCHARGE CHANGES

The following changes must be reported to the appropriate Ohio EPA district office as soon as practicable:

A. For all treatment works, any significant change in character of the discharge which the permittee knows or has reason to believe has occurred or will occur which would constitute cause for modification or revocation and reissuance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Notification of permit changes or anticipated noncompliance does not stay any permit condition.

B. For publicly owned treatment works:

1. Any proposed plant modification, addition, and/or expansion that will change the capacity or efficiency of the plant;

2. The addition of any new significant industrial discharge; and

3. Changes in the quantity or quality of the wastes from existing tributary industrial discharges which will result in significant new or increased discharges of pollutants.

C. For non-publicly owned treatment works any proposed facility expansions, production increases, or process modifications, which will result in new, different, or increased discharges of pollutants.

Following this notice, modifications to the permit may be made to reflect any necessary changes in permit conditions, including any necessary effluent limitations for any pollutants not identified and limited herein. A determination will also be made as to whether a National Environmental Policy Act (NEPA) review will be required. Sections 6111.44 and 6111.45, Ohio Revised Code, require that plans for treatment works or improvements to such works be approved by the Director of the Ohio EPA prior to initiation of construction.

D. In addition to the reporting requirements under 40 CFR 122.41(l) and per 40 CFR 122.42(a), all existing manufacturing, commercial mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant which is not limited in the permit. If that discharge will exceed the highest of the "notification levels" specified in 40 CFR Sections 122.42(a)(1)(i) through 122.42(a)(1)(iv).

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" specified in 122.42(a)(2)(i) through 122.42(a)(2)(iv).

17. TOXIC POLLUTANTS

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

18. PERMIT MODIFICATION OR REVOCATION

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

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

2. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

3. Change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

B. Pursuant to rule 3745-33-04, Ohio Administrative Code, the permittee may at any time apply to the Ohio EPA for modification of any part of this permit. The filing of a request by the permittee for a permit modification or revocation does not stay any permit condition. The application for modification should be received by the appropriate Ohio EPA district office at least ninety days before the date on which it is desired that the modification become effective. The application shall be made only on forms approved by the Ohio EPA.

19. TRANSFER OF OWNERSHIP OR CONTROL

This permit may be transferred or assigned and a new owner or successor can be authorized to discharge from this facility, provided the following requirements are met:

A. The permittee shall notify the succeeding owner or successor of the existence of this permit by a letter, a copy of which shall be forwarded to the appropriate Ohio EPA district office. The copy of that letter will serve as the permittee's notice to the Director of the proposed transfer. The copy of that letter shall be received by the appropriate Ohio EPA district office sixty (60) days prior to the proposed date of transfer;

B. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current and new permittee (including acknowledgement that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on) shall be submitted to the appropriate Ohio EPA district office within sixty days after receipt by the district office of the copy of the letter from the permittee to the succeeding owner;

At anytime during the sixty (60) day period between notification of the proposed transfer and the effective date of the transfer, the Director may prevent the transfer if he concludes that such transfer will jeopardize compliance with the terms and conditions of the permit. If the Director does not prevent transfer, he will modify the permit to reflect the new owner.

20. OIL AND HAZARDOUS SUBSTANCE LIABILITY

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

21. SOLIDS DISPOSAL

Collected screenings, slurries, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes into waters of the state. For publicly owned treatment works, these shall be disposed of in accordance with the approved Ohio EPA Sludge Management Plan.

22. CONSTRUCTION AFFECTING NAVIGABLE WATERS

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

23. CIVIL AND CRIMINAL LIABILITY

Except as exempted in the permit conditions on UNAUTHORIZED DISCHARGES or UPSETS, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

24. STATE LAWS AND REGULATIONS

Nothing in this permit shall be construed to preclude the institution of any legal action nor relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

25. PROPERTY RIGHTS

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

26. UPSET

The provisions of 40 CFR Section 122.41(n), relating to "Upset," are specifically incorporated herein by reference in their entirety. For definition of "upset," see Part III, Paragraph 1, DEFINITIONS.

27. SEVERABILITY

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

28. SIGNATORY REQUIREMENTS

All applications submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR 122.22.

All reports submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR Section 122.22.

29. OTHER INFORMATION

A. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

B. ORC 6111.99 provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $25,000 per violation.

C. ORC 6111.99 states that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $25,000 per violation.

D. ORC 6111.99 provides that any person who violates Sections 6111.04, 6111.042, 6111.05, or division (A) of Section 6111.07 of the Revised Code shall be fined not more than $25,000 or imprisoned not more than one year, or both.

30. NEED TO HALT OR REDUCE ACTIVITY

40 CFR 122.41(c) states that it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with conditions of this permit.

31. APPLICABLE FEDERAL RULES

All references to 40 CFR in this permit mean the version of 40 CFR which is effective as of the effective date of this permit.

32. AVAILABILITY OF PUBLIC SEWERS

Not withstanding the issuance or non-issuance of an NPDES permit to a semi-public disposal system, whenever the sewage system of a publicly owned treatment works becomes available and accessible, the permittee operating any semi-public disposal system shall abandon the semi-public disposal system and connect it into the publicly owned treatment works.

Application No. OH0001112

Issue Date: June 20, 2001

Effective Date: July 1, 2001

Expiration Date: October 31, 2005

Ohio Environmental Protection Agency
Authorization to Discharge Under the
National Pollutant Discharge Elimination System

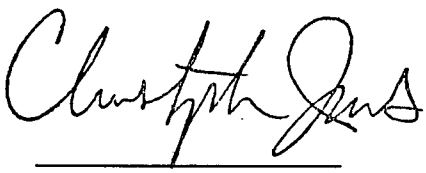
In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq., hereinafter referred to as the "Act"), and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111),

Orion Power Midwest, L.P.
Avon Lake Power Plant

is authorized by the Ohio Environmental Protection Agency, hereinafter referred to as "Ohio EPA," to discharge from the wastewater treatment works located at 33570 Lake Road, Avon Lake, Ohio, Lorain County and discharging to Lake Erie in accordance with the conditions specified in Parts I, II, and III of this permit.

This permit is conditioned upon payment of applicable fees as required by Section 3745.11 of the Ohio Revised Code.

This permit and the authorization to discharge shall expire at midnight on the expiration date shown above. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information and forms as are required by the Ohio EPA no later than 180 days prior to the above date of expiration.



Christopher Jones
Director

Total Page: 30

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002001. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 001 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00011 - Water Temperature - F | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 00400 - pH - S.U. | 9.0 | 6.0 | - | - | - | - | - | 1/Month | Grab | All |
| 00981 - Selenium, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 00982 - Thallium, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 34044 - Oxidants, Total Residual - mg/l | 0.05 | - | - | - | - | - | - | 1/Day | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 50060 - Chlorine, Total Residual - mg/l | 0.2 | - | - | - | - | - | - | 1/Day | Grab | All |
| 78739 - Chlorination/Bromination Duration - Minutes | 120 | - | - | - | - | - | - | 1/Day | Total | All |

Note for station 3IB00002001:

The Total Residual Chlorine (TRC) and Total Residual Oxidants (TRO) limits are the maximum allowed at the outfall at any time. TRC and TRO may not be discharged from this outfall for more than two hours per day. Simultaneous multi-unit chlorination and/or bromination is permitted. Analyses are to be performed by amperometric titration, Orion Residual Chlorine Electrode, or other EPA approved methods during chlorination and/or bromination. The daily grab samples for TRC and TRO shall represent the maximum concentration discharged during chlorination and/or bromination.

Water temperature requires intake (3IB00002800) monitoring for outfall 3IB00002001. Report intake/outfall temperature estimated to correspond to a maximum temperature differential sustained for one hour.

Total Residual Oxidants reflects the use of bromine compounds. Bromine can be used separately or in combination with chlorine. These limits are effective when bromine is used. Discharge limitations for TRO may be met using a dehalogenation agent, if necessary. Dehalogenation shall then be achieved by using stoichiometric calculations to determine the amount of dehalogenating agent necessary to completely estimate the residual.

Total Residual Oxidants are to be reported on days when bromine compounds are used with or without chlorine. Report "AH" on the monthly operating report on days when no bromine compounds are used and explain in the remarks section.

For total residual chlorine, report on days when only chlorine compounds are used (i.e. no bromine compounds). Report "AH" on the monthly operating report if bromine (or a combination of bromine and chlorine) is used and explain in remarks section.

For chlorination/bromination duration, monitoring is to be performed only on days when using chlorine and/or bromine treatment. On days when treatment is not used, report "AH" on the monthly operating report and explain in remarks section.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the first day of the 25th month after the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002002. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 002 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 1340 | - | 402 | 3/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 268 | - | 201 | 3/Week | Grab | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 61941 - pH, Maximum - S.U. | 9.0 | - | - | - | - | - | - | 1/Day | Continuous | All |
| 61942 - pH, Minimum - S.U. | - | 6.0 | - | - | - | - | - | 1/Day | Continuous | All |

Notes for station 3IB00002002:

* Effluent loadings based on average design flow of 3.54 MGD.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002003. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Notes for station 3IB00002003:

There shall be no discharge from this outfall.

Part I, A. - INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of the permit and lasting until the end of 24th month after the effective date of the permit, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002004. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 004 - Interim

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 3172 | - | 952 | 2/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 634 | - | 476 | 2/Week | Grab | All |
| 00981 - Selenium, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Week | Grab | All |
| 34044 - Oxidants, Total Residual - mg/l | 0.01 | - | - | - | - | - | - | 1/Day | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 50060 - Chlorine, Total Residual - mg/l | 0.038 | - | - | - | - | - | - | 1/Day | Grab | All |
| 61425 - Acute Toxicity, Ceriodaphnia dubia - TUa | - | - | - | - | - | - | - | 1/Quarter | Composite | Quarterly |
| 61427 - Acute Toxicity, Pimephales promelas - TUa | - | - | - | - | - | - | - | 1/Quarter | Composite | Quarterly |
| 61941 - pH, Maximum - S.U. | 9.0 | - | - | - | - | - | - | 1/Day | Continuous | All |
| 61942 - pH, Minimum - S.U. | - | 6.0 | - | - | - | - | - | 1/Day | Continuous | All |
| 78739 - Chlorination/Bromination Duration - Minutes | - | - | - | - | - | - | - | 1/Day | Total | All |

Notes for station 3IB00002004:

* Effluent loadings based on average design flow of 8.38 MGD.

The Total Residual Chlorine (TRC) and Total Residual Oxidants (TRO) limits are the maximum allowed at the outfall at any time. Analyses are to be performed by amperometric titration, Orion Residual Chlorine Electrode, or other EPA approved methods during chlorination and/or bromination. The daily grab samples for TRC and TRO shall represent the maximum concentration discharged during chlorination and/or bromination.

Total Residual Oxidants and Total Residual Chlorine are to be sampled during the treatment event.

Total Residual Oxidants reflects the use of bromine compounds. Bromine can be used separately or in combination with chlorine. These limits are effective when bromine is used. Discharge limitations for TRO may be met using a dehalogenation agent, if necessary. Dehalogenation shall then be achieved by using stoichiometric calculations to determine the amount of dehalogenating agent necessary to completely estimate the residual.

Total Residual Oxidants are to be reported on days when bromine compounds are used with or without chlorine. Report "AH" on the monthly operating report on days when no bromine compounds are used and explain in the remarks section.

Total Residual Chlorine is to be reported on days when only chlorine compounds are used (i.e. no bromine compounds). Report "AH" on the monthly operating report if bromine (or a combination of bromine and chlorine) is used and explain in the remarks section.

For toxicity testing, see Part II, Item H. An effluent biomonitoring program must be initiated within three months after the effective date of the permit. Sampling for acute toxicity must be initiated after submittal of the Standard Operating Procedures required in accordance with Part II, Item H. For months when sampling for toxicity is not required, report "AH" for these parameters in the monthly operating report form (Form 4500), including for the first three months after the effective date of the permit.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of the permit and lasting until 24 months after the effective date of the permit, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002002. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 002 - Interim

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 1340 | - | 402 | 3/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 268 | - | 201 | 3/Week | Grab | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 61425 - Acute Toxicity, Ceriodaphnia dubia - TUa | - | - | - | - | - | - | - | 1/Quarter | Composite | Quarterly |
| 61427 - Acute Toxicity, Pimephales promelas - TUa | - | - | - | - | - | - | - | 1/Quarter | Composite | Quarterly |
| 61941 - pH, Maximum - S.U. | 9.0 | - | - | - | - | - | - | 1/Day | Continuous | All |
| 61942 - pH, Minimum - S.U. | - | 6.0 | - | - | - | - | - | 1/Day | Continuous | All |

Notes for station 3IB00002002:

* Effluent loadings based on average design flow of 3.54 MGD.

For toxicity testing, see Part II, Item H. An effluent biomonitoring program must be initiated within three months after the effective date of the permit. Sampling for acute toxicity must be initiated after submittal of the Standard Operating Procedures required in accordance with Part II, Item H. For the months when sampling for toxicity is not required, report "AH" for these parameters in the monthly operating report form (Form 4500), including for the first three months after the effective date of the permit.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on 24 months after the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002004. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 004 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 3172 | - | 952 | 2/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 634 | - | 476 | 2/Week | Grab | All |
| 00981 - Selenium, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Week | Grab | All |
| 34044 - Oxidants, Total Residual - mg/l | 0.01 | - | - | - | - | - | - | 1/Day | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | Continuous | All |
| 50060 - Chlorine, Total Residual - mg/l | 0.038 | - | - | - | - | - | - | 1/Day | Grab | All |
| 61941 - pH, Maximum - S.U. | 9.0 | - | - | - | - | - | - | 1/Day | Continuous | All |
| 61942 - pH, Minimum - S.U. | - | 6.0 | - | - | - | - | - | 1/Day | Continuous | All |
| 78739 - Chlorination/Bromination Duration - Minutes | - | - | - | - | - | - | - | 1/Day | Total | All |

Notes for station 3IB00002004:

* Effluent loadings based on average design flow of 8.38 MGD.

The Total Residual Chlorine (TRC) and Total Residual Oxidants (TRO) limits are the maximum allowed at the outfall at any time. Analyses are to be performed by amperometric titration, Orion Residual Chlorine Electrode, or other EPA approved methods during chlorination and/or bromination. The daily grab samples for TRC and TRO shall represent the maximum concentration discharged during chlorination and/or bromination.

Total Residual Oxidants and Total Residual Chlorine are to be sampled during the treatment event.

Total Residual Oxidants reflects the use of bromine compounds. Bromine can be used separately or in combination with chlorine. These limits are effective when bromine is used. Discharge limitations for TRO may be met using a dehalogenation agent, if necessary. Dehalogenation shall then be achieved by using stoichiometric calculations to determine the amount of dehalogenating agent necessary to completely estimate the residual.

Total Residual Oxidants are to be reported on days when bromine compounds are used with or without chlorine. Report "AH" on the monthly operating report on days when no bromine compounds are used and explain in the remarks section.

Total Residual Chlorine is to be reported on days when only chlorine compounds are used (i.e. no bromine compounds). Report "AH" on the monthly operating report if bromine (or a combination of bromine and chlorine) is used and explain in the remarks section.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

For the first 3 months after the effective date of this permit, report 'AH' for toxicity if toxicity is not monitored and provide explanation in the comments section of the monthly report form.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002604. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 604 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | Measuring | Sampling | Monitoring |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Frequency | Type | Months |
| 00400 - pH - S.U. | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 0.61 | - | 0.18 | 1/Month | Grab | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 0.12 | - | 0.09 | 1/Month | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | 24hr Total Estimate | All |

Notes for station 3IB00002604:

* Effluent loadings based on average design flow of 0.0016 MGD.

Flowrate monitoring is required daily when discharging boiler blowdown water. If no boiler blowdown water is discharged during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required. If there is at least one discharge during the month, report "AH" for flow rate for each day when there is no discharge.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002609. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 609 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00400 - pH - S.U. | - | - | - | - | - | - | - | 3/Week | Grab | All |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 0.08 | - | 0.02 | 3/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 0.015 | - | 0.01 | 3/Week | Grab | All |
| 00980 - Iron, Total Recoverable - ug/l | - | - | - | - | - | - | - | 3/Week | 24hr Composite | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 3/Week | 24hr Composite | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | 24hr Total | All |

Notes for station 3IB00002609:

* Effluent loadings based on average design flow of 0.0002 MGD.

Sampling is required when discharging metal cleaning wastewater. If no metal cleaning wastewater is discharged during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required. If there is at least one discharge during the month, report "AH" for each day when there is no discharge.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002610. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 610 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00400 - pH - S.U. | - | - | - | - | - | - | - | 1/Week | Grab | All |
| 00530 - Total Suspended Solids - mg/l | 50 | - | - | 50 | 8.7 | - | 8.7 | 1/Week | 24hr Composite | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | 24hr Total | All |

Notes for station 3IB00002610:

* Effluent loadings based on average design flow of 0.0458 MGD.

Any untreated overflow from this facility, which is designed, constructed and operated to treat the volume of coal pile runoff which is associated with a 10 year, 24 hour rainfall event, shall not be subject to the above effluent limitations.

Sampling shall be performed when discharging. If no discharge occurs during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required. If there is at least one discharge during the month, report "AH" for each day when there is no discharge.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002611. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 611 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00400 - pH - S.U. | - | - | - | - | - | - | - | 3/Week | Grab | All |
| 00530 - Total Suspended Solids - mg/l | 100 | - | - | 30 | 1.8 | - | 0.5 | 1/Week | 24hr Composite | All |
| 00550 - Oil and Grease, Total - mg/l | 20 | - | - | 15 | 0.36 | - | 0.27 | 1/Week | Grab | All |
| 00980 - Iron, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Week | 24hr Composite | All |
| 01119 - Copper, Total Recoverable - ug/l | - | - | - | - | - | - | - | 1/Week | 24hr Composite | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Day | 24hr Total | All |

Notes for station 3IB00002611:

* Effluent loadings based on average design flow of 0.0047 MGD.

Outfall 3IB00002611 is a fictitious outfall. It is to be used when the coal pile runoff treatment system (outfall 3IB00002610) is used to treat metal cleaning wastes. Metal cleaning wastewater is to be free from chemical additives prior to entering the coal pile runoff basin.

Sampling shall be performed when discharging. If no wastewater is discharged during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required. If there is at least one discharge during the month, report "AH" for each day when there is no discharge.

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3IB00002612. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 612 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00550 - Oil and Grease, Total - mg/l | - | - | - | - | - | - | - | 1/Month | Grab | All |
| 50050 - Flow Rate - MGD | - | - | - | - | - | - | - | 1/Month | 24hr Total | All |

Notes for station 3IB00002612:

Samples shall be taken when discharging. If no wastewater is discharged during the month, report "AL" in the first row of the first column on form 4500 (monthly operating report form). A signature is still required.

Samples taken in compliance with monitoring requirements specified above shall be taken at sampling stations described in Part II, OTHER REQUIREMENTS.

Part I, B. - INTAKE MONITORING REQUIREMENTS

1. Intake Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor the Intake at Station Number 3IB00002800, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - Intake Monitoring - 800 - Final

| Effluent Characteristic | Discharge Limitations | | | | | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration Specified Units | | | | Loading* kg/day | | | | | |
| Parameter | Maximum | Minimum | Weekly | Monthly | Daily | Weekly | Monthly | Measuring Frequency | Sampling Type | Monitoring Months |
| 00011 - Water Temperature - F | - | - | - | - | - | - | - | 1/Day | Continuous | All |

Notes for station 3IB00002800:

Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

Part II, OTHER REQUIREMENTS

A. Description of the location of the required sampling stations are as follows:

| Sampling Station | Description of Location |
|---|---|
| 3IB00002001 | Condenser cooling water and boiler blowdown representative of station 3IB00002604. At combined discharge into discharge channel to Lake Erie. (Lat: 41 N 30 ' 15 "; Long: 82 W 03 ' 00 ") |
| 3IB00002002 | Combined wastewater treatment system at discharge from filters prior to Lake Erie, includes 3IB00002609 and 3IB00002610/611 |
| 3IB00002003 | Condenser cooling water discharge located below discharge to lake from Powdermaker Ditch. |
| 3IB00002004 | Low volume wastewater treatment system. At discharge of low volume wastewater system prior to Lake Erie. |
| 3IB00002604 | Boiler blowdown water. At points representative of boiler blowdown. |
| 3IB00002609 | Metal cleaning wastewater treatment system prior to discharge to combined treatment basin (outfall 3IB00002002). |
| 3IB00002610 | Coal pile runoff treatment system prior to discharge to combined treatment basin (outfall 3IB00002002). |
| 3IB00002611 | A fictitious station used when the coal pile runoff system is used to treat metal cleaning wastes, discharged through station 3IB00002610. |
| 3IB00002612 | At the discharge of Unit # 9 heat exchanger non-contact cooling water prior to entering outfall 3IB00002001. |
| 3IB00002800 | Intake water at inlet to plant from Lake Erie. |

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

. 1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

. 2. Controls any pollutant not limited in the permit.

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

C. In the event that the permittee's operation requires the use of cooling or boiler water treatment additives that are discharged to surface waters of the state, written permission must be obtained from the director of the Ohio EPA prior to use. Reporting and testing requirements to apply for permission to use additives can be obtained from the Ohio EPA, Central Office, Division of Surface Water, Water Resources Management Section. Reported information will be used to evaluate whether the use of the additive(s) at concentrations expected in the final discharge will be harmful or inimical to aquatic life.

D. On outfalls where pH is monitored continuously, the permittee shall maintain the pH of such wastewater within the range specified in this permit. Excursions from the range are permitted subject to the following limitations.

. 1. The total time during which pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in a calendar month.

. 2. No individual excursion from the range of pH values shall exceed 60 minutes.

. 3. The permittee shall report each month for each monitoring station where pH is monitored continuously the following:

. a. the number of pH excursions;
. b. the duration of each excursion;
. c. the date of each excursion;and
. d. the total time of all excursions combined.

E. Permit limitations may be revised in order to meet water quality standards after a stream use determination and waste load allocation are completed and approved. This permit may be modified, or alternatively, revoked and reissued, to comply with any applicable water quality effluent limitations.

F. Best Management Plan: Bottom Ash Transport System

The Avon Lake ash recycle system shall be operated in a manner consistent with the following:

1. The permittee will maintain in good working order and operate as efficiently as possible the bottom ash transport recycle system installed and used at the Avon Lake generating station. The bottom ash transport recycle system shall be operated to prevent overflow of the combined wastewater treatment basin and solids overload of the combined wastewater treatment system filters, except as provided in the paragraph of Part III, General Conditions, entitled, "UNAUTHORIZED DISCHARGE"

2. Bypasses or shutdown of the bottom ash transport recycle system in excess of 48 hours duration shall be reported as specified in the paragraph of Part III, General Conditions, entitled "UNAUTHORIZED DISCHARGE"

3. All bypasses or shutdowns of the bottom ash transport recycle system that result in overflow of the combined wastwater treatment basin or the low volume wastewater treatment basin shall be reported as per the paragraph of Part III, General Conditions, entitled, "UNAUTHORIZED DISCHARGE".

4. All bypasses or shutdowns of the bottom ash transport recycle system that result in noncompliance with effluent limitations of Part I shall be reported as per the paragraph of Part III, General Conditions, entitled, "NONCOMPLIANCE NOTIFICATION".

G. There shall not be a discharge of any polychlorinated biphenyl compounds attributable to the permittee's operations.

H. Biomonitoring Program

As soon as possible but not later than three months after the effective date of this permit, the entity shall initiate an effluent biomonitoring program to determine the toxicity of the effluent from outfalls 3IB00002002 and 3IB00002004. delete

General Requirements

All toxicity testing conducted as required by this permit shall be done in accordance with Reporting and Testing Guidance for Biomonitoring Required by the Ohio Environmental Protection Agency (hereinafter, the "biomonitoring guidance"), Ohio EPA, 1991 (or current revision). The Standard Operating Procedures (SOP) or verification of SOP submittal, as described in Section 1.B. of the biomonitoring guidance shall be submitted no later than three months after the effective date of this permit. If the laboratory performing the testing has modified its protocols, a new SOP is required.

Testing Requirements

1. Acute Bioassays

For the first 24 months of the permit, the permittee shall conduct quarterly definitive acute toxicity tests using Ceriodaphnia dubia and fathead minnows (Pimephales promelas) on effluent samples from outfalls 3IB00002002 and 3IB00002004. These tests shall
be conducted as specified in Section 2 of the biomonitoring guidance.

2. Data Review

a. Reporting

Following completion of each quarterly bioassay requirement, the permittee shall report results of the tests in accordance with Sections 2.H.1. and 2.H.2.a. of the biomonitoring guidance. Based on Ohio EPA's evaluation of the results, this permit may be modified to require additional biomonitoring, require a toxicity reduction evaluation, and/or contain whole effluent toxicity limits.

b. Definitions

. TUa = Acute Toxic Units = 100/LC50

PART III - GENERAL CONDITIONS

1. DEFINITIONS

"Daily load" is the total discharge by weight during any calendar day. If only one sample is taken during a day, the weight of pollutant discharge calculated from it is the daily load.

"Daily concentration" means the arithmetic average of all the determinations of concentration made during the day. If only one sample is taken during the day, its concentration is the daily concentration. Coliform bacteria limitations compliance shall be determined using the geometric mean.

"Weekly load" is the total discharge by weight during any 7-day period divided by the number of days in that 7-day period that the facility was in operation. If only one sample is taken in a 7-day period, the weight of pollutant discharge calculated from it is the 7-day load. If more than one sample is taken during the 7-day period, the 7-day load is calculated by determining the daily load for each day sampled, totaling the daily loads for the 7-day period, and dividing by the number of days sampled.

"Weekly concentration" means the arithmetic average of all the determinations of daily concentration limitation made during the 7-day period. If only one sample is taken during the 7-day period, its concentration is the 7-day concentration for that 7-day period. Coliform bacteria limitations compliance shall be determined using the geometric mean.

"Monthly load" is the total discharge by weight during all days in a calander month divided by the number of days that the facility was in operation during that month. If only one sample is taken during the month the weight of pollutant discharge calculated from it is the monthly load. If more than one sample is taken during the month, the monthly load is calculated by determining the daily load for each day sampled, totaling the daily loads for the month and dividing by the number of days sampled.

"Monthly concentration" means the arithmetic average of all the determinations of daily concentration made during any calender month. If only one sample is taken during the month, its concentration is the monthly concentration for that period. Coliform bacteria limitations compliance shall be determined using the geometric mean.

"85 percent removal" means the arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

"Absolute Limitations" Compliance with limitations having descriptions of "shall not be less than," "nor greater than," "shall not exceed," "minimum," or "maximum" shall be determined from any single value for effluent samples and/or measurements collected.

"Net concentration" shall mean the difference between the concentration of a given substance in a sample taken of the discharge and the concentration of the same substances in a sample taken at the intake which supplies water to the given process. For the purpose of this definition, samples that are taken to determine the net concentration shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"Net load" shall mean the difference between the load of a given substance as calculated from a sample taken of the discharge and the load of the same substance in a sample taken at the intake which supplies water to given process. For purposes of this definition, samples that are taken to determine the net Loading shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"MGD" means million gallons per day.

"mg/l" means milligrams per liter.

"ug/l" means micrograms per liter.

"Reporting Code" is a five digit number used by the Ohio EPA in processing reported data. The reporting code does not imply the type of analysis used nor the sampling techniques employed.

"Quarterly (1/Quarter) sampling frequency" means the sampling shall be done in the months of March, June, August, and December, unless specificially identified otherwise in the Effluent Limitations and Monitoring Requirements table.

"Yearly (1/Year) sampling frequency" means the sampling shall bé done in the month of September, unless specificially identified otherwise in the effluent limitations and monitoring requirements table.

"Semi-annual (2/Year) sampling frequency" means the sampling shall be done during the months of June and December, unless specificially identified otherwise.

"Winter" shall be considered to be the period from November 1 through April 30.

"Bypass" means the intentional diversion of waste streams from any portion of the treatment facility.

"Summer" shall be considered to be the period from May 1 through October 31.

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

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. GENERAL EFFLUENT LIMITATIONS

The effluent shall, at all times, be free of substances:

A. In amounts that will settle to form putrescent, or otherwise objectionable, sludge deposits; or that will adversely affect aquatic life or water fowl;

B. Of an oily, greasy, or surface-active nature, and of other floating debris, in amounts that will form noticeable accumulations of scum, foam or sheen;

C. In amounts that will alter the natural color or odor of the receiving water to such degree as to create a nuisance;

D. In amounts that either singly or in combination with other substances are toxic to human, animal, or aquatic life;

E. In amounts that are conducive to the growth of aquatic weeds or algae to the extent that such growths become inimical to more desirable forms of aquatic life, or create conditions that are unsightly, or constitute a nuisance in any other fashion;

F. In amounts that will impair designated instream or downstream water uses.

3. FACILITY OPERATION AND QUALITY CONTROL

All wastewater treatment works shall be operated in a manner consistent with the following:

A. At all times, the permittee shall maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee necessary to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with conditions of the permit.

B. The permittee shall effectively monitor the operation and efficiency of treatment and control facilities and the quantity and quality of the treated discharge.

C. Maintenance of wastewater treatment works that results in degradation of effluent quality shall be scheduled during non-critical water quality periods and shall be carried out in a manner approved by Ohio EPA as specified in the Paragraph in the PART III entitled, "UNAUTHORIZED DISCHARGES".

4. REPORTING

A. Monitoring data required by this permit may be submitted in hardcopy format on the Ohio EPA 4500 report form pre-printed by Ohio EPA or an approved facsimile. Ohio EPA 4500 report forms for each individual sampling station are to be received no later than the 15th day of the month following the month-of-interest. The original report form must be signed and mailed to:

Ohio Environmental Protection Agency
Lazarus Government Center
Division of Surface Water
Enforcement Section ES/MOR
P.O. Box 1049
Columbus, Ohio 43216-0149

Monitoring data may also be submitted electronically using Ohio EPA developed SWIMware software. Data must be transmitted to Ohio EPA via electronic mail or the bulletin board system by the 20th day of the month following the month-of-interest. A Surface Water Information Management System (SWIMS) Memorandum of Agreement (MOA) must be signed by the responsible official and submitted to Ohio EPA to receive an authorized Personal Identification Number (PIN) prior to sending data electronically. A hardcopy of the Ohio EPA 4500 form must be generated via SWIMware, signed and maintained onsite for records retention purposes.

B. If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified below, the results of such monitoring shall be included in the calculation and reporting of the values required in the reports specified above.

C. Analyses of pollutants not required by this permit, except as noted in the preceding paragraph, shall not be reported on Ohio EPA report form (4500) but records shall be retained as specified in the paragraph entitled "RECORDS RETENTION".

5. SAMPLING AND ANALYTICAL METHOD

Samples and measurements taken as required herein shall be representative of the volume and nature monitored flow. Test procedures for the analysis of pollutants shall conform to regulation 40 CFR 136, "Test Procedures For The Analysis of Pollutants" unless other test procedures have been specified in this permit. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and instrumentation at intervals to insure accuracy of measurements.

6. RECORDING OF RESULTS

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

A. The exact place and date of sampling; (time of sampling not required on EPA 4500)

B. The person(s) who performed the sampling or measurements;

C. The date the analyses were performed on those samples;

D. The person(s) who performed the analyses;

E. The analytical techniques or methods used; and

F. The results of all analyses and measurements.

7. RECORDS RETENTION

The permittee shall retain all of the following records for the wastewater treatment works for a minimum of three years, including:

A. All sampling and analytical records (including internal sampling data not reported);

B. All original recordings for any continuous monitoring instrumentation;

C. All instrumentation, calibration and maintenance records;

D. All plant operation and maintenance records;

E. All reports required by this permit; and

F. Records of all data used to complete the application for this permit for a period of at least three years from the date of the sample, measurement, report, or application.

These periods will be extended during the course of any unresolved litigation, or when requested by the Regional Administrator or the Ohio EPA. The three year period for retention of records shall start from the date of sample, measurement, report, or application.

8. AVAILABILITY OF REPORTS

Except for data determined by the Ohio EPA to be entitled to confidential status, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the appropriate district offices of the Ohio EPA. Both the Clean Water Act and Section 6111.05 Ohio Revised Code state that effluent data and receiving water quality data shall not be considered confidential.

9. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

10. RIGHT OF ENTRY

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

A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit.

B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit.

C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit.

D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11. UNAUTHORIZED DISCHARGES

A. Bypassing or diverting of wastewater from the treatment works is prohibited unless:

1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of downtime. This condition is not satisfied if adequate back up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

3. The permittee submitted notices as required under paragraph D. of this section,

B. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

C. The Director may approve an unanticipated bypass after considering its adverse effects, if the Director determines that it has met the three conditions listed in paragraph 11.A. of this section.

D. The permittee shall submit notice of an unanticipated bypass as required in section 12. A.

E. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded if that bypass is for essential maintenance to assure efficient operation.

12. NONCOMPLIANCE NOTIFICATION

A. The permittee shall by telephone report any of the following within twenty-four (24) hours of discovery at (toll free) 1-800-282-9378:

1. Any noncompliance which may endanger health or the environment;

2. Any unanticipated bypass which exceeds any effluent limitation in the permit; or

3. Any upset which exceeds any effluent limitation in the permit.

4. Any violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit.

B. For the telephone reports required by Part 12.A., the following information must be included:

1. The times at which the discharge occurred, and was discovered;

2. The approximate amount and the characteristics of the discharge;

3. The stream(s) affected by the discharge;

4. The circumstances which created the discharge;

5. The names and telephone numbers of the persons who have knowledge of these circumstances;

6. What remedial steps are being taken; and

7. The names and telephone numbers of the persons responsible for such remedial steps.

C. These telephone reports shall be confirmed in writing within five days of the discharge and submitted to the appropriate Ohio EPA district office. The report shall include the following:

1. The limitation(s) which has been exceeded;

2. The extent of the exceedance(s);

3. The cause of the exceedance(s);

4. The period of the exceedance(s) including exact dates and times;

5. If uncorrected, the anticipated time the exceedance(s) is expected to continue, and

6. Steps being taken to reduce, eliminate, and/or prevent occurrence of the exceedance(s).

D. Compliance Schedule Events:

If the permittee is unable to meet any date for achieving an event, as specified in the schedule of compliance, the permittee shall submit a written report to the appropriate district office of the Ohio EPA within 14 days of becoming aware of such situation. The report shall include the following:

1. The compliance event which has been or will be violated;

2. The cause of the violation;

3. The remedial action being taken;

4. The probable date by which compliance will occur; and

5. The probability of complying with subsequent and final events as scheduled.

E. The permittee shall report all instances of noncompliance not reported under paragraphs A, B, or C of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraphs B and C of this section.

F. Where the permittee becomes aware that it failed to submit any relevant application or submitted incorrect information in a permit application or in any report to the director, it shall promptly submit such facts or information.

13. RESERVED

14. DUTY TO MITIGATE

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

15. AUTHORIZED DISCHARGES

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than, or at a level in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such violations may result in the imposition of civil and/or criminal penalties as provided for in Section 309 of the Act and Ohio Revised Code Sections 6111.09 and 6111.99.

16. DISCHARGE CHANGES

The following changes must be reported to the appropriate Ohio EPA district office as soon as practicable:

A. For all treatment works, any significant change in character of the discharge which the permittee knows or has reason to believe has occurred or will occur which would constitute cause for modification or revocation and reissuance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Notification of permit changes or anticipated noncompliance does not stay any permit condition.

B. For publicly owned treatment works:

1. Any proposed plant modification, addition, and/or expansion that will change the capacity or efficiency of the plant;

2. The addition of any new significant industrial discharge; and

3. Changes in the quantity or quality of the wastes from existing tributary industrial discharges which will result in significant new or increased discharges of pollutants.

C. For non-publicly owned treatment works any proposed facility expansions, production increases, or process modifications, which will result in new, different, or increased discharges of pollutants.

Following this notice, modifications to the permit may be made to reflect any necessary changes in permit conditions, including any necessary effluent limitations for any pollutants not identified and limited herein. A determination will also be made as to whether a National Environmental Policy Act (NEPA) review will be required. Sections 6111.44 and 6111.45, Ohio Revised Code, require that plans for treatment works or improvements to such works be approved by the Director of the Ohio EPA prior to initiation of construction.

D. In addition to the reporting requirements under 40 CFR 122.41(l) and per 40 CFR 122.42(a), all existing manufacturing, commercial mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant which is not limited in the permit. If that discharge will exceed the highest of the "notification levels" specified in 40 CFR Sections 122.42(a)(1)(i) through 122.42(a)(1)(iv).

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" specified in 122.42(a)(2)(i) through 122.42(a)(2)(iv).

17. TOXIC POLLUTANTS

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

18. PERMIT MODIFICATION OR REVOCATION

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

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

2. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

3. Change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

B. Pursuant to rule 3745-33-04, Ohio Administrative Code, the permittee may at any time apply to the Ohio EPA for modification of any part of this permit. The filing of a request by the permittee for a permit modification or revocation does not stay any permit condition. The application for modification should be received by the appropriate Ohio EPA district office at least ninety days before the date on which it is desired that the modification become effective. The application shall be made only on forms approved by the Ohio EPA.

19. TRANSFER OF OWNERSHIP OR CONTROL

This permit may be transferred or assigned and a new owner or successor can be authorized to discharge from this facility, provided the following requirements are met:

A. The permittee shall notify the succeeding owner or successor of the existence of this permit by a letter, a copy of which shall be forwarded to the appropriate Ohio EPA district office. The copy of that letter will serve as the permittee's notice to the Director of the proposed transfer. The copy of that letter shall be received by the appropriate Ohio EPA district office sixty (60) days prior to the proposed date of transfer;

B. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current and new permittee (including acknowledgement that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on) shall be submitted to the appropriate Ohio EPA district office within sixty days after receipt by the district office of the copy of the letter from the permittee to the succeeding owner;

At anytime during the sixty (60) day period between notification of the proposed transfer and the effective date of the transfer, the Director may prevent the transfer if he concludes that such transfer will jeopardize compliance with the terms and conditions of the permit. If the Director does not prevent transfer, he will modify the permit to reflect the new owner.

20. OIL AND HAZARDOUS. SUBSTANCE LIABILITY

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

21. SOLIDS DISPOSAL

Collected screenings, slurries, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes into waters of the state. For publicly owned treatment works, these shall be disposed of in accordance with the approved Ohio EPA Sludge Management Plan.

22. CONSTRUCTION AFFECTING NAVIGABLE WATERS

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

23. CIVIL AND CRIMINAL LIABILITY

Except as exempted in the permit conditions on UNAUTHORIZED DISCHARGES or UPSETS, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

24. STATE LAWS AND REGULATIONS

Nothing in this permit shall be construed to preclude the institution of any legal action nor relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

25. PROPERTY RIGHTS

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

26. UPSET

The provisions of 40 CFR Section 122.41(n), relating to "Upset," are specifically incorporated herein by reference in their entirety. For definition of "upset," see Part 1, DEFINITIONS.

27. SEVERABILITY

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

28. SIGNATORY REQUIREMENTS

All applications submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR 122.22.

All reports submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR Section 122.22.

29. OTHER INFORMATION

A. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

B. ORC 6111.99 provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $25,000 per violation.

C. ORC 6111.99 states that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $25,000 per violation.

D. ORC 6111.99 provides that any person who violates Sections 6111.04, 6111.042, 6111.05, or division (A) of Section 6111.07 of the Revised Code shall be fined not more than $25,000 or imprisoned not more than one year, or both.

30. NEED TO HALT OR REDUCE ACTIVITY

40 CFR 122.41(c) states that it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with conditions of this permit.

31. APPLICABLE FEDERAL RULES

All references to 40 CFR in this permit mean the version of 40 CFR which is effective as of the effective date of this permit.

RECEIVED
JUN 21 2001
OHIO EPA NEDO

Shaw® Shaw Environmental, Inc.

Project N
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# Application for NPDES Permit Renewal Permit No. 31B00002 – Form 2F

**Avon Lake Power Plant**
**Avon Lake, Ohio**

Submitted to:
Ohio Environmental Protection Agency
Northeast District Office

Prepared for:
Reliant Energy, Inc.

Reliant Energy

Prepared by:
Shaw Environmental, Inc.
2790 Mosside Boulevard
Monroeville, Pennsylvania 15146

RESPONSIVE TO THE NEEDS OF ENVIRONMENTAL MANAGEMENT

Box 674

# ORION POWER MIDWEST L. P.
# RELIANT ENERGY

# AVON LAKE POWER PLANT

# OEPA PERMIT NUMBER 31B00002

# NPDES PERMIT RENEWAL APPLICATION

# APRIL 2005

Reliant Energy

121 Champion Way
Suite 200
Canonsburg, PA 15317

Writers Direct Dial 724/597-8630

November 30, 2005

**Federal Express**

RECEIVED
DEC - 1 2005
OHIO EPA - NEDO

Mr. Mike Stevens
Ohio EPA Northeast District Office
Division of Surface Water
2110 East Aurora Road
Twinsburg, OH 44087

**RE: Renewal of OEPA Permit No. 31B00002*ID, Avon Lake Power Plant**
**Submission of Form 2F and Revised Drawings from Previously Submitted Forms 1 and 2C**

Dear Mr. Stevens:

Please find enclosed two paper copies (one designated as "original" with original signatures) of Form 2F, Application for Permit to Discharge Stormwater Discharges Associated with Industrial Activity, for the Avon Lake Power Plant. This submission completes Reliant Energy's NPDES renewal application for Permit No. 31B000002, which was submitted on April 22, 2005.

Also please find enclosed two revised copies each of the vicinity map and flow diagram associated with Forms 1 and 2C formerly submitted with the application package. The diagrams were modified to correct minor errors found after the package was submitted.

If you have any questions regarding this application, please contact me at (724) 597-8630 or nrozic@reliant.com or Ronald Grove at (610) 378-8439.

Sincerely,

Nathan J. Rozic
Environmental Specialist
Reliant Energy, Inc.

Enclosure

Cc: Bob Laeng: Avon Lake Power Plant
Ron Grove: Reliant Energy Technical Services
Susan Zummo Forney: Shaw Environmental, Inc.

# APPLICATION FOR NPDES PERMIT RENEWAL
# FORM 2F – APPLICATION FOR PERMIT TO DISCHARGE STORMWTAER ASSOCIATED WITH INDUSTRIAL ACTIVITY
# OHIO EPA PERMIT NO. 31B00002
# AVON LAKE POWER PLANT

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## CONTENTS


- Form 2F
- Attachment A – Item IV-A, Estimate of Drainage Areas
- Attachment B – Item IV-B, Narrative Description of Pollutant Sources
- Figure 1 – Site Topography and Stormwater Outfall Locations
- Figure 2 – Facility Layout

Please print or type in the unshaded areas only

EPA ID Number *(copy from Item I of Form 1)*: 31B00002

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

Form 2F NPDES

United States Environmental Protection Agency
Washington, DC 20460

# Application for Permit to Discharge Storm Water 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)* |
|---|---|---|---|---|---|---|---|
| #1 | 41 | 30 | 15 | 82 | 03 | 30 | Lake Erie |
| #2 | 41 | 30 | 15 | 82 | 03 | 30 | Lake Erie |
| #4 | 41 | 30 | 30 | 82 | 03 | 15 | Powder Maker Creek Outlet (Lake Erie) |
| #5 | 41 | 30 | 15 | 82 | 03 | 15 | Powder Maker Creek |
| #6 | 41 | 30 | 15 | 82 | 03 | 15 | Lake Erie |
| #7 | 41 | 30 | 15 | 82 | 03 | 15 | Powder Maker Creek |
| #8 | 41 | 30 | 15 | 82 | 03 | 15 | Powder Maker Creek |
| 002 | 41 | 30 | 30 | 82 | 03 | 00 | Lake Erie |
| 004 | 41 | 30 | 30 | 82 | 03 | 00 | Lake Erie |
| | | | | | | | |

## 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. |
| NA | | | | | |
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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

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.


Continue on Page 2

Continued from the Front

## 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) |
|---|---|---|---|---|---|
| | See Attachment A | | | | |

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.

See Attachment B

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 |
|---|---|---|
| 002 | Sedimentation, gravity filtration, discharge to surface water, solids disposal at landfill | 1-U, 1-Q, 4-A, 5-Q |
| 004 | Sedimentation, gravity filtration, discharge to surface water, solids disposal at landfill ( #1, #2, #5, #7, #8 - Equipped with oil/water separators) | 1-U, 1-Q, 4-A, 5-Q, 2F |

## 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 |
|---|---|---|
| James V. Locher, Vice President | James V. Locher | 11/22/05 |

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.

Outfalls 002 and 004 have continuous process and stormwater. No unidentified non-stormwater sources were identified from these outfalls. Outfalls #1 through #8 have been evaluated for the presence of non-stormwater discharges based on observation of the outfalls during dry weather conditions and examination of piping and site diagrams. No non-stormwater sources were identified from these outfalls.

## 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.

There have been no significant leaks or spills of any toxic or hazardous pollutants at the Avon Lake Plant in the last three years.


Continue on Page 3

Continued from Page 2

EPA ID Number *(copy from Item I of Form 1)*
31B00002

## 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 toxic pollutant listed in table 2F-2, 2F-3 or 2F-4, a substance or a componant 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)*

Acute toxicity testing was performed for process water Outfalls 002 and 004, which receive stormwater contribution. Whole effluent toxcity testing using Ceriodaphnia dubia and Pimephales promelas was performed for these outfalls in March and June of 2003. Results indicated that neither effluent was acutely toxic.

## 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 |
|---|---|---|---|
| First Energy Corporation<br>BETA Laboratory | 6670 BETA Drive<br>Mayfield Village, OH 44143 | (440) 604-9882 | All parameters listed. |

## 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. |
|---|---|
| James V. Locher, Vice President | (724) 597-8547 |
| C. Signature: James V. Locher | D. Date Signed: 11-22-05 |

| EPA ID Number *(copy from Item I of Form 1)* | Outfall # |
|---|---|
| 31B00002 | Outfall #1 |

Form Approved. OMB No. 2040-0086
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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | <3 mg/l | <3 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 113 mg/l | 72 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 1374 mg/l | 926 mg/l | | | 1 | |
| Total Nitrogen | 0.22 mg/l | < 0.20 mg/l | | | 1 | |
| Total Phosphorus | 0.92 mg/l | 0.81 mg/l | | | 1 | |
| pH | Minimum 7.34 | Maximum 7.34 | 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 | | |
| | | | | | | |
| Temp | 22.7 C | | | | 1 | |
| Copper | 0.08 mg/l | 0.061 mg/l | | | 1 | |
| Iron | 14.83 mg/l | 16.11 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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EPA ID Number *(copy from Item I of Form 1)*
31B00002 Outfall #2

Form Approved. OMB No. 2040-0086
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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 15 mg/l | 8.7 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 92 mg/l | 62 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 107 mg/l | 67 mg/l | | | 1 | |
| Total Nitrogen | 3.6 mg/l | 3.4 mg/l | | | 1 | |
| Total Phosphorus | 0.25 mg/l | 0.16 mg/l | | | 1 | |
| pH | Minimum 6.98 | Maximum 6.98 | 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 | | |
| | | | | | | |
| Temp | 18.5 C | | | | 1 | |
| Copper | 0.045 mg/l | 0.057 mg/l | | | 1 | |
| Iron | 7.61 mg/l | 6.41 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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EPA ID Number *(copy from Item I of Form 1)*
31B00002 Outfall #4

Form Approved. OMB No. 2040-0086
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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 4.8 mg/l | 3.3 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 130 mg/l | 44 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 382 mg/l | 346 mg/l | | | 1 | |
| Total Nitrogen | 0.56 mg/l | 1.6 mg/l | | | 1 | |
| Total Phosphorus | 0.69 mg/l | 0.40 mg/l | | | 1 | |
| pH | Minimum 7.34 | Maximum 7.34 | 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 | | |
| | | | | | | |
| Temp | 22.7 C | | | | 1 | |
| Copper | 0.026 mg/l | 0.024 mg/l | | | 1 | |
| Iron | 4.62 mg/l | 9.6 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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**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)* |
|---|---|---|---|---|---|
| 8-20-05 | 159.6 | 0.52 | 161 | 61,156* | 9,760,529 |

7. Provide a description of the method of flow measurement or estimate.

* Average flow estimate based on storm event duration and total flow. Total flow estimate based on estimated drainage areas.

| EPA ID Number *(copy from Item I of Form 1)* | Outfall #5 |
|---|---|
| 31B00002 | |

Form Approved. OMB No. 2040-0086
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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 4.2 mg/l | 13 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 99 mg/l | 44 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 267 mg/l | 87 mg/l | | | 1 | |
| Total Nitrogen | 2.2 mg/l | 1.2 mg/l | | | 1 | |
| Total Phosphorus | 0.62 mg/l | 0.22 mg/l | | | 1 | |
| pH | Minimum 6.81 | Maximum 6.81 | 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 | | |
| | | | | | | |
| Temp | 23.1 C | | | | 1 | |
| Copper | 0.025 mg/l | 0.011 mg/l | | | 1 | |
| Iron | 24.25 mg/l | 8.849 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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**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)* |
|---|---|---|---|---|---|
| 7-13-05 | 96 | 0.82 | 652.5 | 367* | 35,273 |

7. Provide a description of the method of flow measurement or estimate.

* Average flow estimate based on storm event duration and total flow. Total flow estimate based on estimated drainage areas.

| EPA ID Number *(copy from Item I of Form 1)* | Outfall # |
|---|---|
| 31B00002 | Outfall #6 |

Form Approved. OMB No. 2040-0086
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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 5.7 mg/l | 4.5 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 58 mg/l | 41 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 63 mg/l | 82 mg/l | | | 1 | |
| Total Nitrogen | 1.1 mg/l | 1.2 mg/l | | | 1 | |
| Total Phosphorus | 0.19 mg/l | 0.18 mg/l | | | 1 | |
| pH | Minimum 8.05 | Maximum 8.05 | 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 | | |
| | | | | | | |
| Temp | 20 C | | | | 1 | |
| Copper | 0.032 mg/l | 0.027 mg/l | | | 1 | |
| Iron | 2.5 mg/l | 0.62 mg/l | | | 1 | |

Continued from the Front

**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 | | |
| | | | | | | |
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## 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 | 4.2 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 8.2 mg/l | 15 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 96 mg/l | 137 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 180 mg/l | 179 mg/l | | | 1 | |
| Total Nitrogen | 3.2 mg/l | 7.4 mg/l | | | 1 | |
| Total Phosphorus | 0.19 mg/l | 0.38 mg/l | | | 1 | |
| pH | Minimum 7.73 | Maximum 7.73 | 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 | | |
| | | | | | | |
| Temp | 23 C | | | | 1 | |
| Copper | 0.022 mg/l | 0.025 mg/l | | | 1 | |
| Iron | 2.63 mg/l | 2.57 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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| EPA ID Number *(copy from Item I of Form 1)* | Outfall #8 | Form Approved. OMB No. 2040-0086 |
|---|---|---|
| 31B00002 | | 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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 4.2 mg/l | 3 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 137 mg/l | 58 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 427 mg/l | 56 mg/l | | | 1 | |
| Total Nitrogen | 1.3 mg/l | 0.67 mg/l | | | 1 | |
| Total Phosphorus | 0.27 mg/l | 0.11 mg/l | | | 1 | |
| pH | Minimum 7.57 | Maximum 7.57 | 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 | | |
| Temp | 13.5 C | | | | 1 | |
| Copper | 0.079 mg/l | 0.030 mg/l | | | 1 | |
| Iron | 2.18 mg/l | 20.02 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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**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)* |
|---|---|---|---|---|---|
| 9-8-05 | 19.8 | 0.21 | 457.58 | 71* | 1,414 |

7. Provide a description of the method of flow measurement or estimate.

* Average flow estimate based on storm event duration and total flow. Total flow estimate based on estimated drainage areas.

| EPA ID Number *(copy from Item I of Form 1)* | |
|---|---|
| 31B00002 | Outfall 002 |

Form Approved. OMB No. 2040-0086
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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | < 3 mg/l | < 3 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | 82 mg/l | < 20 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 12 mg/l | 7 mg/l | | | 1 | |
| Total Nitrogen | 2.5 mg/l | 1.7 mg/l | | | 1 | |
| Total Phosphorus | 0.07 mg/l | < 0.05 mg/l | | | 1 | |
| pH | Minimum 8.23 | Maximum 8.23 | 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 | | |
| | | | | | | |
| Temp | 23.0 C | | | | 1 | |
| Copper | 0.004 mg/l | 0.002 mg/l | | | 1 | |
| Iron | 0.26 mg/l | 0.15 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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**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)* |
|---|---|---|---|---|---|
| 8-20-05 | 129.6 | 0.56 | 161 | 81* | 10,557 |

7. Provide a description of the method of flow measurement or estimate.

* Average flow estimate based on storm event duration and total flow. Total flow estimate based on estimated drainage areas.

EPA ID Number *(copy from Item I of Form 1)*
31B00002 Outfall 004

Form Approved. OMB No. 2040-0086
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 mg/l | N/A | | | 1 | |
| Biological Oxygen Demand (BOD5) | 3 mg/l | < 3 mg/l | | | 1 | |
| Chemical Oxygen Demand (COD) | < 20 mg/l | 11 mg/l | | | 1 | |
| Total Suspended Solids (TSS) | 4 mg/l | 3 mg/l | | | 1 | |
| Total Nitrogen | 2.2 mg/l | 5 mg/l | | | 1 | |
| Total Phosphorus | < 0.05 mg/l | < 0.05 mg/l | | | 1 | |
| pH | Minimum 7.13 | Maximum 7.13 | 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 | | |
| | | | | | | |
| Temp | 24.5 C | | | | 1 | |
| Copper | 0.008 mg/l | 0.008 mg/l | | | 1 | |
| Iron | 0.076 mg/l | 0.116 mg/l | | | 1 | |

Continued from the Front

**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 | | |
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**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)* |
|---|---|---|---|---|---|
| 7-13-05 | 96 | 0.82 | 652.5 | 216* | 20,704 |

**7.** Provide a description of the method of flow measurement or estimate.

* Average flow estimate based on storm event duration and total flow. Total flow estimate based on estimated drainage areas.

# Attachment A

**31B00002**

**Form 2F**
**ITEM IV-A**
**Estimate Areas**

| Outfall Number | Area of Impervious Surface Estimate | Total Area Drained Estimate |
|---|---|---|
| Outfall 1 | 55,000 $ft^2$ | 130,000 $ft^2$ |
| Outfall 2 | 75,000 $ft^2$ | 90,000 $ft^2$ |
| Outfall 4 | >0.2 square miles | >2 square miles |
| Outfall 5 | 60,000 $ft^2$ | 90,000 $ft^2$ |
| Outfall 6 | 2,000 $ft^2$ | 2,000 $ft^2$ |
| Outfall 7 | 0.2 square miles | 2 square miles |
| Outfall 8 | 12,000 $ft^2$ | 12,000 $ft^2$ |
| 002 | 33,600 $ft^2$ | 33,600 $ft^2$ |
| 004 | 45,000 $ft^2$ | 45,000 $ft^2$ |

# Attachment B

**31B00002**

**Form 2F**
**ITEM IV-B**
**Narrative Description of Pollutant Sources**

The Avon Lake Plant is a coal-fired electrical generating facility that handles, stores and consumes a number of materials and products. The principal materials managed at the facility include raw coal, bottom and fly ash, water treatment chemicals, and a variety of oils. The areas where these materials are managed are shown on Figure 2 and discussed below, along with the management practices that are employed to minimize contact of these materials with stormwater.

a. Raw coal. The raw coal is the most significant source of potential storm water pollution. Run-off from the coal pile and the car dumper building is collected in a surrounding ditch that directs flow to the coal pile run-off facility, an authorized NPDES treatment system. The run-off undergoes neutralization, chemical precipitation, and pressure filtration prior to being sent to the ash basin. There is an overflow valve at the run-off collection basin that is normally closed. In the event of a severe overflow of the collection basin this valve could be opened, releasing the run-off to Powder Maker Creek.

The majority of the run-off from the coal belts is directed back to the Coal Pile Run-off Facility and undergoes treatment as stated above. The belts are enclosed an are not directly exposed to precipitation.

Fugitive dust from coal handling and unloading operations is controlled per the requirements of the Plant's Ohio EPA air emissions (fugitive dust) permits.

b. Bottom ash. Bottom ash from the facility's boilers is transferred by water sluicing, dewatered, and trucked off site to a licensed disposal facility. Run-off from the unloading area is pumped to the ash basin, which is a NPDES treatment system. There it undergoes neutralization. The ash is dredged from the basin as needed and is dewatered in a pile next to the basin. Any storm water run-off from that pile would flow back to the basin. The ash is used to line the bottom of fly ash transport trucks.

c. Fly ash. Fly ash from the combustion of coal is collected via electrostatic precipitators. It is stored in silos until the ash is sold for commercial purposes. If it cannot be sold, it is "conditioned" by wetting with water and sent to a permitted disposal facility. Fugitive dust from fly ash handling and transport is controlled per the requirements of the Plant's Ohio EPA air emissions (fugitive dust) permits. Run-off from the unloading areas and truck wash areas is directed to the ash basin.

d. Water treatment chemicals. Chemicals such as sodium hydroxide, sulfuric acid, ammonium hydroxide, and ferrous sulfate, are used to treat plant process water, wastewater flue gas. The chemicals are unloaded at the receiving area and stored in tanks and drums at various locations throughout the plant. The drains in the receiving area are routed to the oily waste pond.

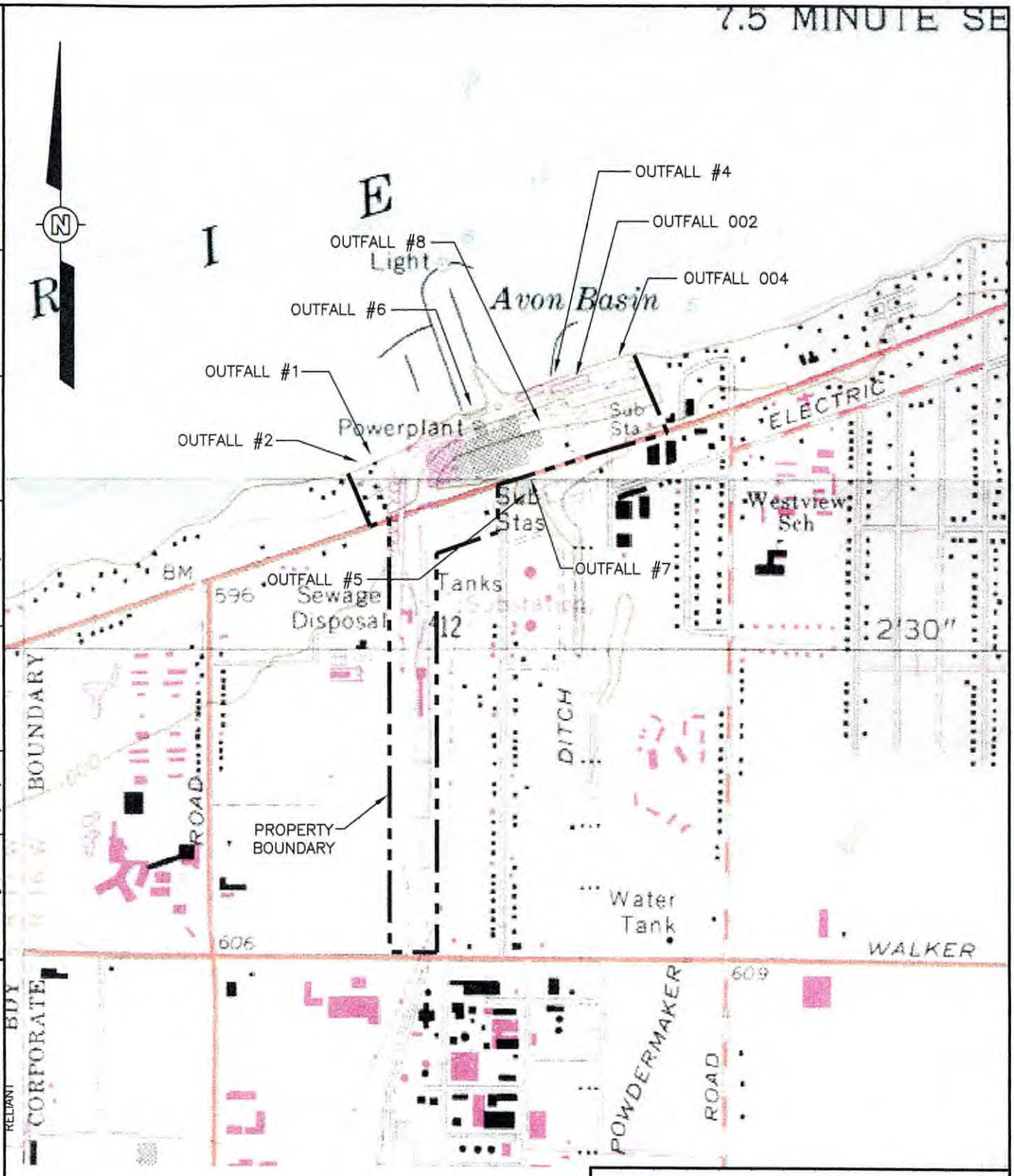
e. Oils. Lube oil, used for plant equipment, is delivered to the receiving area. Drums containing lube oils are stored at various locations throughout the plant. Waste oil is accumulated in the building and pumped into tanks. Waste oil drums are stored in a

concrete, diked area. Precipitation from the diked area is inspected prior to being drained.

Bulk storage tanks, which contain No. 2 fuel oil, are used for initial firing of the boilers, fuel for a combustion turbine for generation of electricity during peak loads on the system and for fueling plant equipment. The tanks are located at various locations on site and are equipped with secondary containment structures in accordance with federal Spill Prevention, Control and Countermeasure requirements.

Mineral oil is present in various electrical equipment throughout the facility (transformers, capacitors, etc.). There are no bulk mineral oil storage tanks. An oil interceptor treats run-off from the transmission yard.

# FIGURES




| OFFICE | DATE | DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED BY | DRAWING NUMBER |
|---|---|---|---|---|---|---|
| Pittsburgh, PA | 11/10/05 | -- | B. Snyder | -- | -- | 110870-A3 |

SCALE

0 1000 2000 FEET

REFERENCE:

U.S.G.S. 7.5-MINUTE TOPOGRAPHIC MAP AVON QUADRANGLE, DATED 1993, SCALE: 1"=2000'.

Shaw Shaw Environmental, Inc.

Reliant Energy.

FIGURE 1

SITE TOPOGRAPHY AND STORMWATER OUTFALL LOCATIONS

AVON LAKE POWER PLANT
AVON LAKE, OHIO 44012

O:\Project\11...eliant Energy\110870A3.dwg
Plot Date/Time: 11/14/05 11:33am Xref: .
Plotted by: william.snyder Image: Avon avon lake

Reliant Energy

*Titus Power Plant, 296 Poplar Neck Rd., Birdsboro, PA 19508*
*Tel: 610/378-8439 Fax: 610/378-8486*

April 22, 2005
0250-05-108

Mr. Mike Stevens
Ohio EPA Northeast District Office
2110 East Aurora Road
Twinsburg, OH 44240

OHIO EPA NEDO
APR 28 2005
RECEIVED

***RE: Orion Power Midwest L.P. Avon Lake Power Plant***
***Renewal of OEPA Permit No. 31B00002*ID***
***App. No. OH0001112***

Dear Mr. Stevens:

Please find enclosed two paper copies (one designated as "original" with original signatures) of the above referenced permit renewal application. Also enclosed is a check for the application fee in the amount of $200. Orion Power Midwest L.P. is the owner/operator of the Avon Lake Power Plant and a wholly owned subsidiary of Reliant Energy, Inc. We have not submitted an electronic version of this application via SWIMware as per our conversation because it was noted that it is not required for surface water.

In preparation for this NPDES permit renewal application we have noted a few changes in operations since the last submittal in 2000. We no longer anticipate the use of Outfall 609 (Metal Cleaning Wastes) as noted in our existing permit. The equipment is no longer in service, therefore we request that this outfall be eliminated from future permits. We will still continue to have Outfall 611, also designated for Metal Cleaning Wastes, although we do not intend to use it unless station operations has an urgent need for treatment of wastewater through this process. Please note that we have marked "zero" as the average flow and duration of occurrences anticipated for this outfall.

In the OEPA Fact Sheet attached to the last permit in 2001, the OEPA recommended that the station monitor copper, selenium and thallium at Outfall 001 (NCCW). The agency placed monitoring and reporting requirements of these parameters on Outfall 001 based upon the single sample results submitted with the 2000 application. Based upon the monitoring over the past five years, we are requesting the OEPA to remove these parameters from the next permit. The copper, selenium and thallium values reported are at the background levels as found at the Intake for Lake Erie.

Avon Lake was also requested to monitor and report copper and selenium for Outfall 004. The past five years of data indicate ppb levels at, or slightly higher than the background levels. We are requesting the OEPA to remove these parameters for monitoring and reporting in the next permit.

A review of the analytical data has noted the presence of Bis (2-ethylhexyl) phthalate in our Outfall 001 sample. We have found this parameter in samples associated with plastic sampling containers. Attached is a letter which documents our experience and references the EPA acknowledgement of this potential contamination.

The Avon Lake Power Plant is an existing Phase II facility, and will be required to meet compliance with the regulations of Section 316(b) of the Clean Water Act. The facility:

1) Has an existing NPDES permit (31B00002*ID)
2) Has a total design intake flow of cooling water greater than or equal to 50 MGD
3) As its primary activity, generates electric power for sale to another entity for distribution
4) Uses at least 25% of the total quantity of water withdrawn for cooling purposes

Recognizing the substantial amount of time and resources required to develop the Comprehensive Demonstration Study (CDS), we formally request an extension for submittal of the CDS by January 7, 2008, according to 40 CFR §125.95 (a)(2)(ii). Please advise of your concurrence with this schedule request so that we may incorporate this planned schedule into our Proposal for Information Collection currently under development.

As per our telephone conversation the stormwater sampling as required for Part 2F has not yet been completed and therefore omitted from this application. We are awaiting the next appropriate stormwater event and will submit it to you in the near future.

If you have any questions regarding this application, please contact me at the above telephone number or Mr. Nate Rozic, Environmental Specialist, at (724) 597-8630.

Sincerely,

Ronald L. Grove
Senior Chemist

Enclosures:
cc: W. Bruss (Avon Lake) w/o enclosures
R. Laeng (Avon Lake)
N. Rozic (Southpointe)
File

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.

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

# GENERAL INFORMATION

*Consolidated Permits Program*

*(Read the "General Instructions" before starting.)*

**I. EPA I.D. NUMBER**

F 31B00002 (T/A: D)

LABEL ITEMS

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

31B00002*JY
OH0001121
Check I.D. # 334894
Revenue I.D. # 502580
Person I.D. #
Org. I.D. #
Place I.D. # 26054
M. Stevens, Renewal, MAJOR / entering & submitted 5/19/05 TGH
Ohio EPA NEDO Revenue Completed 5/20/05 TGH

**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 |
|---|---|---|---|
| A. Is this facility a **publicly owned treatment works** which results in a **discharge** to waters of the U.S.? (FORM 2A) | | X | |
| 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) | | X | |
| 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) | X | | X |
| 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) | | X | |
| E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3) | | X | |
| 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) | | X | |
| 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) | | X | |
| 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) | | X | |
| 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) | | X | |
| 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) | | X | |

## III. NAME OF FACILITY

1 SKIP Avon Lake Power Plant

## IV. FACILITY CONTACT

| A. NAME & TITLE *(last, first, & title)* | B. PHONE *(area code & no.)* |
|---|---|
| 2 Laeng, Robert Environmental | 440 930 6460 |

## V. FACILITY MAILING ADDRESS

| A. STREET OR P.O. BOX | B. CITY OR TOWN | C. STATE | D. ZIP CODE |
|---|---|---|---|
| 3 33570 Lake Road | 4 Avon Lake | OH | 44012 |

RECEIVED
APR 28 2005
OHIO EPA NEDO

## VI. FACILITY LOCATION

| A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER | B. COUNTY NAME | C. CITY OR TOWN | D. STATE | E. ZIP CODE | F. COUNTY CODE *(if known)* |
|---|---|---|---|---|---|
| 5 33570 Lake Road | Lorain | 6 Avon Lake | OH | 44012 | |

PAID
AMT 200.00 DATE 4-28-05
CK # 100 1408 DATE 4-12-05

EPA Form 3510-1 (8-90)

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

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

| A. FIRST | B. SECOND |
|---|---|
| 4911 (specify) Generation of electricity | (specify) |

| C. THIRD | D. FOURTH |
|---|---|
| (specify) | (specify) |

## VIII. OPERATOR INFORMATION

A. NAME: Orion Power Midwest LP

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 724 597 8000

E. STREET OR P.O. BOX: 121 Champion Way Suite 200

F. CITY OR TOWN: Canonsburg

G. STATE: PA

H. ZIP CODE: 15317

## IX. INDIAN LAND

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

## X. EXISTING ENVIRONMENTAL PERMITS

| | | |
|---|---|---|
| A. NPDES (Discharges to Surface Water): N 31B00002ID | D. PSD (Air Emissions from Proposed Sources): P | |
| B. UIC (Underground Injection of Fluids): U | E. OTHER (specify): 2836 | (specify) Title IV (ARP) |
| C. RCRA (Hazardous Wastes): OHD046629648 | E. OTHER (specify): 0247030013 | (specify) Title V |

## 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.

## XII. NATURE OF BUSINESS (provide a brief description)

Electrical power generation plant

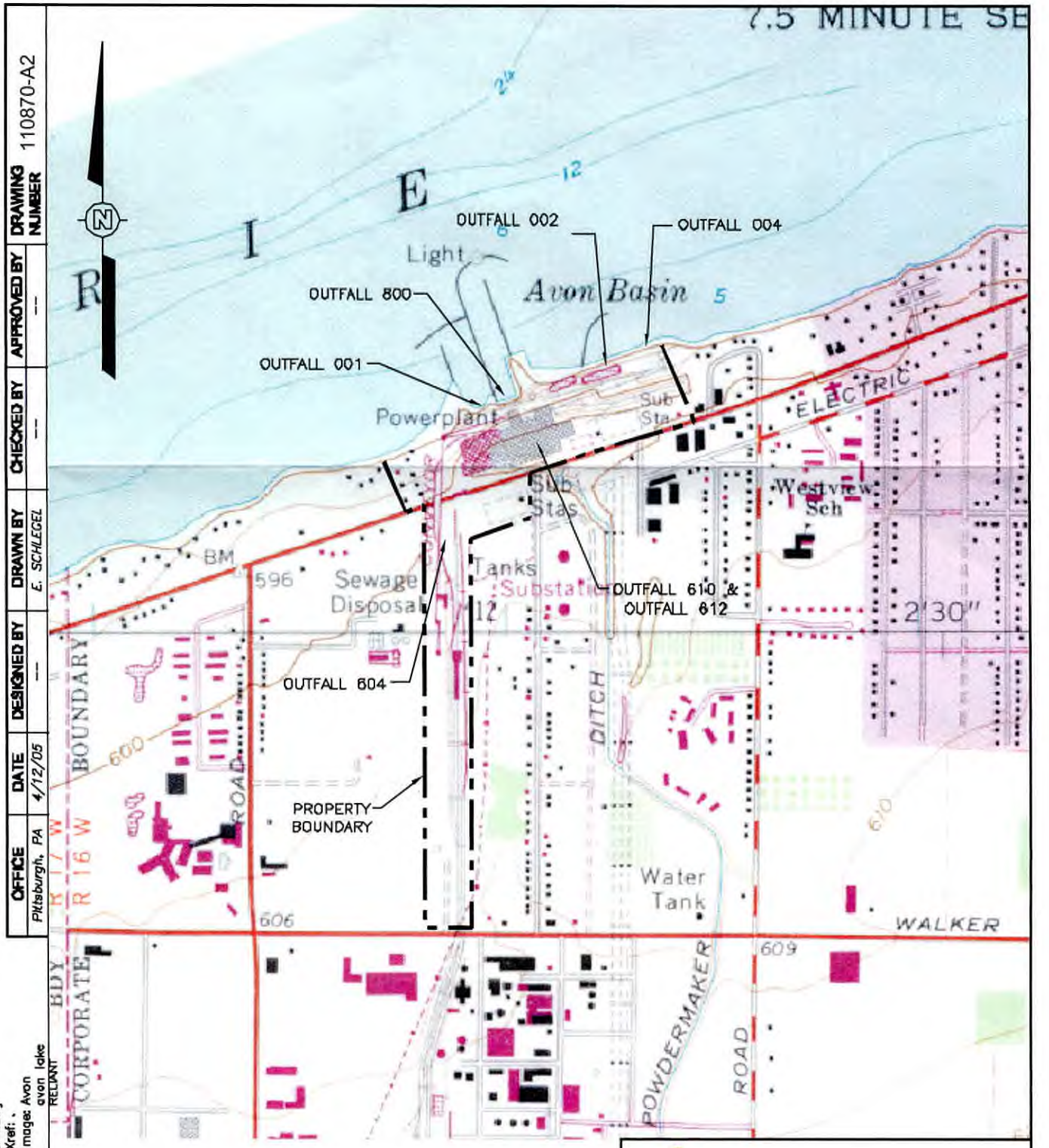
## XIII. CERTIFICATION (see instructions)

*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 |
|---|---|---|
| James V. Locher, Vice President | James V. Locher | 04/19/05 |

COMMENTS FOR OFFICIAL USE ONLY

C




| OFFICE | DATE | DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED BY | DRAWING NUMBER |
|---|---|---|---|---|---|---|
| Pittsburgh, PA | 4/12/05 | --- | E. SCHLEGEL | --- | --- | 110870-A2 |

SCALE

0 1000 2000 FEET

REFERENCE:

U.S.G.S. 7.5-MINUTE TOPOGRAPHIC MAP AVON QUADRANGLE, DATED 1993, SCALE: 1"=2000'.

Shaw Shaw Environmental, Inc.

Reliant Energy

**VICINITY MAP**
**NPDES RENEWAL APPLICATION**
**PERMIT NO. 31800002**
**APPLICATION NO. OH00011112**
**33570 LAKE ROAD**
**AVON LAKE, OH 44012**

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Plot Date/Time: 04/18/05 09:01am Xref: .
Plotted by: Evan.Schlegel Image: Avon avon lake RELIANT

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (copy from Item 1 of Form 1): 31B00002

Form Approved. OMB No. 2040-0086. Approval expires 8-31-98.

FORM 2C NPDES

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. | |
| 001 | 41 | 30 | 30 | 82 | 03 | 28 | Lake Erie |
| 002 | 41 | 30 | 36 | 82 | 03 | 07 | Lake Erie |
| 004 | 41 | 30 | 36 | 82 | 03 | 04 | Lake Erie |
| 604 | 41 | 30 | 30 | 82 | 03 | 28 | Discharge Tunnel / Lake Erie |
| 610 | 41 | 30 | 17 | 82 | 03 | 35 | Lake Erie |
| 611 | 41 | 30 | 17 | 82 | 03 | 35 | Discharges to 610 / Lake Erie |

## II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

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

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

| 1. OUTFALL NO. (list) | 2. OPERATION(S) CONTRIBUTING FLOW | | 3. TREATMENT | | |
|---|---|---|---|---|---|
| | a. OPERATION (list) | b. AVERAGE FLOW (include units) | a. DESCRIPTION | b. LIST CODES FROM TABLE 2C-1 | |
| 001 | Cooling water discharge | 395.6 mgd | Discharge to surface water | 4-A | |
| 002 | Ash transport water | 0.99 mgd | Sedimentation | 1-U | |
| | | | Gravity filtration | | 1-Q |
| | | | Discharge to surface water | 4-A | |
| | | | Solid disposal at landfill | 5-Q | |
| 004 | Low volume waste system | 0.89 mgd | Sedimentation | 1-U | 2-F |
| | | | Gravity filtration | | 1-Q |
| | | | Discharge to surface water | 4-A | |
| | | | Solids disposal at landfill | 5-Q | |
| 604 | Boiler Blowdown | 0.005 mgd | Discharge to surface water | 4-A | |
| 610 | Coal Pile Runoff System | 0.132 mgd | Neutralization Chemical Precipitation | 2-K | 2-C |
| | | | Pressure Filtration | 5-R | |
| | | | Discharge to surface water | 4-A | |
| | | | Solids disposal at landfill | 5-Q | |
| 611 | Metal cleaning waste through Outfall 610 | 0 mgd | Neutralization Chemical Precipitation | 2-K | 2-C |
| | | | Pressure filtration | 5-R | |
| | | | Discharge to 610 | 4-A | |
| | | | Solids disposal at landfill | 5-Q | |

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

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (copy from Item 1 of Form 1): 31B00002

Form Approved. OMB No. 2040-0086. Approval expires 8-31-98.

FORM 2C NPDES

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 1. DEG. | B. LATITUDE 2. MIN. | B. LATITUDE 3. SEC. | C. LONGITUDE 1. DEG. | C. LONGITUDE 2. MIN. | C. LONGITUDE 3. SEC. | D. RECEIVING WATER (name) |
|---|---|---|---|---|---|---|---|
| 612 | 41 | 30 | 30 | 82 | 03 | 28 | Discharge Tunnel / Lake Erie |
| 800 | 41 | 30 | 15 | 82 | 03 | 00 | None (Intake - Lake Erie) |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

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

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

| 1. OUTFALL NO. (list) | 2. OPERATION(S) CONTRIBUTING FLOW a. OPERATION (list) | 2. OPERATION(S) CONTRIBUTING FLOW b. AVERAGE FLOW (include units) | 3. TREATMENT a. DESCRIPTION | 3. TREATMENT b. LIST CODES FROM TABLE 2C-1 | |
|---|---|---|---|---|---|
| 612 | Discharge of Unit 9 heat exchanger; noncontact cooling water discharge to 001 | 2.29 mgd | Discharge to surface water | 4-A | |
| 800 | Cooling water intake | 399.9 mgd | Disinfection (chlorine) | 2-F | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

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

CONTINUED FROM THE FRONT

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

☒ 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)* |
|---|---|---|---|---|---|---|---|---|
| 604 | Boiler Blowdown | 0.50 | 8 | 0.005 | 0.015 | | | 44 (Avg. |
| 610 | Coal Pile Runoff | 3.28 | 11 | 0.132 | 0.50 | | | 157 (Avg ) |
| 611 | Metal Cleaning Waste | 0 | 0 | 0 | 0 | | | 0 (Avg. |

## III. PRODUCTION

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

☒ YES *(complete Item III-B)* ☐ NO *(to 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)* ☒ 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 | | | |

## 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)* ☐ 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 |
|---|---|---|---|---|---|
| N/A | | | | | |

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)*
31B00002

## 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 |
|---|---|---|---|
| None | | | |

## 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)*

Not Applicable

CONTINUED FROM THE FRONT

## 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?

☐ YES *(identify the test(s) and describe their purposes below)* ☒ NO *(go to Section VIII)*

N/A

## VIII. CONTRACT ANALYSIS INFORMATION

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

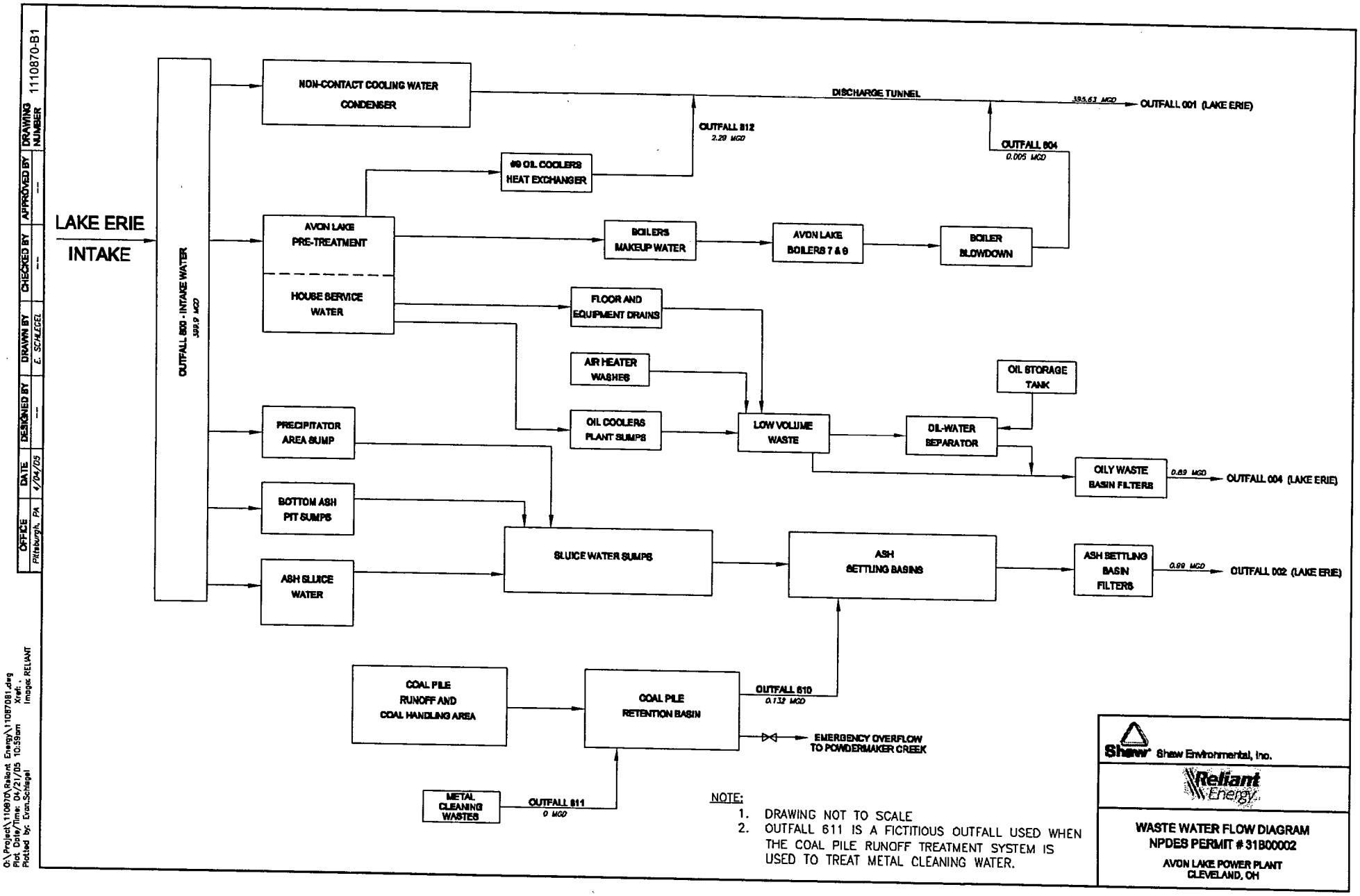
☒ YES *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☐ NO *(go to Section IX)*

| A. NAME | B. ADDRESS | C. TELEPHONE (area code & no.) | D. POLLUTANTS ANALYZED (list) |
|---|---|---|---|
| Firstech, Inc. | 9701 South Miles Rd.<br>Warrensville Hts., OH 44128 | 216/663-0808 | Fecal; BOD;<br>Time Sensitive<br>Parameters |
| Geochemical Testing | 2005 North Center Rd.<br>Somerset, PA 15501 | 814/443-1671 | Inorganics;<br>Organics |

## 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.) |
|---|---|
| James V. Locher, Vice President | 724-597-8547 |
| **C. SIGNATURE** | **D. DATE SIGNED** |
| James V. Locher | 04/19/05 |




NOTE:

1. DRAWING NOT TO SCALE
2. OUTFALL 611 IS A FICTITIOUS OUTFALL USED WHEN THE COAL PILE RUNOFF TREATMENT SYSTEM IS USED TO TREAT METAL CLEANING WATER.

Shaw Shaw Environmental, Inc.

Reliant Energy

**WASTE WATER FLOW DIAGRAM**
**NPDES PERMIT # 31B00002**
AVON LAKE POWER PLANT
CLEVELAND, OH

| OFFICE | DATE | DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED BY | DRAWING NUMBER |
|---|---|---|---|---|---|---|
| Pittsburgh, PA | 4/04/05 | --- | E. SCHLEGEL | --- | --- | 1110870-B1 |

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Plotted by: Evan.Schlegel Images: RELIANT

State of Ohio Environmental Protection Agency

DIVISION OF SURFACE WATER

RECEIVED
APR 28 2005
OHIO EPA NEDO

# Antidegradation Addendum

In accordance with Ohio Administrative Code 3745-1-05 (Antidegradation), additional information may be required to complete your application for a permit to install or NPDES permit. For any application that may result in an increase in the level of pollutants being discharged (NPDES and/or PTI)or for which there might be activity taking place within a stream bed, the processing of the permit(s) may be required to go through procedures as outlined in the antidegradation rule. The rule outlines procedures for public notification and participation as well as procedures pertaining to the levels of review necessary. The levels of review necessary depend on the degradation being considered/requested. The rule also outlines exclusions from portions of the applicati on and review requirements and waivers that the Director may grant as specified in Section 3745-1-05(D) of the rule. Please complete the following questions. The answers provided will allow the Ohio EPA to determine if additional information is needed. **All projects that require both an NPDES and PTI should submit both applications simultaneously to avoid going through the antidegradation process separately for each permit**.

A. **Applicant:** Orion Power MidWest, L.P.

**Facility Owner:** Orion Power MidWest, L.P.

**Facility Location (city and county):** Avon Lake; Lorain County

**Application or Plans Prepared By:** Ronald L. Grove

**Project Name:** Avon Lake Power Plant NPDES Permit Renewal

**NPDES Permit Number (if applicable):** 31B00002*ID

B. **Antidegradation Applicability**

**Is the application for? (check as many as apply):**

_____ Application with no direct surface water discharge (Projects that do not meet the applicability section of 3745-1-05(B)1, i.e., on-site disposal, extensions of s anitary sewers, spray irrigation, indirect discharger to POTW, etc.). (Complete Section E)

X Renewal NPDES application or PTI application with no requested increase in loading of currently permitted pollutants. (Complete Section E, Do not complete Sections C or D).

_____ PTI and NPDES application for a new wastewater treatment works that will discharge to a surface water. (Complete Sections C and E)

_____ An expansion/modification of an existing wastewater treatment works discharging to a surface water that will result in any of the following (PTI and NPDES):(Complete Sections C and E)

- addition of any pollutant not currently in the discharge, or
- an increase in mass or concentration of any pollutant currently in the discharge, or
- an increase in any current pollutant limitation in terms of mass or concentration.

Click to clear all entered information (on all 4 pages of this form) CLEAR

_____ PTI that involves placement of fill or installation of any portion of a sewerage system (i.e., sanitary sewers, pump stations, WWTP, etc.) within 150 feet of a stream bed. Please provide information requested on the stream evaluation addendum (i.e., number of stream crossings, fill placement, etc.) and complete Section E.

_____ Initial NPDES permit for an existing treatment works with a wastewater discharge prior to October 1, 1996. (Complete Sections D and E)

_____ Renewal NPDES permit or modification to an effective NPDES permit that will result in any of the following: (Complete Sections C and E)

- a new permit limitation for a pollutant that previously had no limitation, or
- an increase in any mass or concentration limitation of any pollutant that currently has a limitation.

**C. Antidegradation Information**

1. Does the PTI and/or NPDES permit application meet an exclusion as outlined by OAC 3745-1-05(D)(1) of the Antidegradation rule?

   _____ Yes (Complete Question C.2)

   _____ No (Complete Questions C.3 and C.4)

2. For projects that would be eligible for exclusions provide the following information:

   a. Provide justification for the exclusion.

   b. Identify the substances to be discharged, including the amount of regulated pollutants to be discharged in terms of mass and concentration.

   c. A description of any construction work, fill or other structures to occur or be placed in or near a stream bed.

3. Are you requesting a waiver as outlined by OAC 3745-1-05(D)(2-7) of the Antidegradation rule?

   _____ No

   _____ Yes

   If you wish to pursue one of the waivers, please identify the waiver and submit the necessary information to support the request. Depending on the waiver requested, the information required under question C.4 may be required to complete the application.

4. For all projects that do **not** qualify for an exclusion a report must accompany this application evaluating the preferred design alternative, non-degradation alternatives, minimal degradation alternatives, and mitigative techniques/measures for the design and operation of the activity. The information outlined below should be addressed in this report. If a waiver is requested, this section is still required.

   a. Describe the availability, cost effectiveness and technical feasibility of connecting to existing central or regional sewage collection and treatment facilities, including long range plans for

sewer service outlined in state or local water quality management planning documents and applicable facility planning documents.

b. List and describe all government and/or privately sponsored conservation projects that may have been or will be specifically targeted to improve water quality or enhance recreational opportunities on the affected water resource.

c. Provide a brief description below of all treatment/disposal alternatives evaluated for this application and their respective operational and maintenance needs. (If additional space is needed please attach additional sheets to the end of this addendum).

Preferred design alternative:

Non-degradation alternative(s):

Minimal degradation alternative(s):

Mitigative technique/measure(s):

At a minimum, the following information must be included in the report for each alternative evaluated.

d. Outline of the treatment/disposal system evaluated, including the costs associated with the equipment, installation, and continued operation and maintenance.

e. Identify the substances to be discharged, including the amount of regulated pollutants to be discharged in terms of mass and concentration.

f. Describe the reliability of the treatment/disposal system, including but not limited to the possibility of recurring operation and maintenance difficulties that would lead to increased degradation.

g. Describe any impacts to human health and the overall quality and value of the water resource.

h. Describe and provide an estimate of the important social and economic benefits to be realized through this proposed project. Include the number and types of jobs created and tax revenues generated.

i. Describe environmental benefits to be realized through this proposed project.

j. Describe and provide an estimate of the social and economic benefits that may be lost as a result of this project. Include the impacts on commercial and recreational use of the water resource.

k. Describe the environmental benefits lost as a result of this project. Include the impact on the aquatic life, wildlife, threatened or endangered species.

l. A description of any construction work, fill or other structures to occur or be placed in or near a stream bed.

m. Provide any other information that may be useful in evaluating this application.

**D. Discharge Information**

1. For treatment/disposal systems constructed pursuant to a previously issued Ohio EPA PTI, provide the following information:

PTI Number _____
PTI Issuance Date _____
Initial Date of Discharge _____

2. Has the appropriate NPDES permit application form been submitted including representative effluent data?

_____ Yes (go to E)

_____ No (see below)

**If no,** submit the information as applicable under **a OR b** as follows:

a. For entities discharging process wastewater attach a completed 2C form.

b. For entities discharging wastewater of domestic origin attach the results of at least one chemical analysis of the wastestream for all pollutants for which authorization to discharge is being requested and a measurement of the daily volume (gallons per day) of wastewaters being discharged.

**E.** 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.

**This section must be signed by the same responsible person who signed the accompanying permit application or certification as per 40 CFR 122.22.**

**Signature** _____

**Date** 04/19/05

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

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 31B00002

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

OUTFALL NO.: 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.

| 1. POLLUTANT | 2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 3. UNITS (specify if blank) a. CONCENTRATION | 3. UNITS b. MASS | 4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 4. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand *(BOD)* | <2 | | | | | | 1 | mg/L | | | | |
| b. Chemical Oxygen Demand *(COD)* | <10 | | | | | | 1 | mg/L | | | | |
| c. Total Organic Carbon *(TOC)* | 3.4 | 1.1E+04 | | | | | 1 | mg/L | lb/day | | | |
| d. Total Suspended Solids *(TSS)* | 18 | 5.7E+04 | | | | | 1 | mg/L | lb/day | | | |
| e. Ammonia *(as N)* | 0.11 | 3.5E+02 | | | | | 1 | mg/L | lb/day | | | |
| f. Flow | VALUE 378.67 | | VALUE | | VALUE | | 1 | mgd | | VALUE | | |
| g. Temperature *(winter)* | VALUE 15.5 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| h. Temperature *(summer)* | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| i. pH | MINIMUM 7.6 | MAXIMUM 7.6 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. *(if available)* | 2. MARK 'X' a. BELIEVED PRESENT | 2. MARK 'X' b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | | ✓ | 0.29 | 9.2E+02 | | | | | 1 | mg/L | lb/day | | | |
| b. Chlorine, Total Residual | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| c. Color | ✓ | | 70 | NA | | | | | 1 | CU | NA | | | |
| d. Fecal Coliform | ✓ | | 23 | NA | | | | | 1 | CFU100ml | NA | | | |
| e. Fluoride (16984-48-8) | | ✓ | 0.161 | 5.08E+02 | | | | | 1 | mg/L | lb/day | | | |
| f. Nitrate-Nitrite *(as N)* | ✓ | | 1.7 | 5.4E+03 | | | | | 1 | mg/L | lb/day | | | |



CONTINUE ON REVERSE

CONTINUED FROM FRONT

| 1. POLLUTANT AND CAS NO. (if available) | 2. MARK 'X' a. BELIEVED PRESENT | 2. MARK 'X' b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE (optional) b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| g. Nitrogen, Total Organic (as N) | ✓ | | <0.2 | | | | | | 1 | mg/L | | | | |
| h. Oil and Grease | ✓ | | <5 | | | | | | 1 | mg/L | | | | |
| i. Phosphorus (as P), Total (7723-14-0) | ✓ | | <0.10 | | | | | | 1 | mg/L | | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | ✓ | | | | | | | | | | | | |
| (2) Beta, Total | | ✓ | | | | | | | 0 | | | | | |
| (3) Radium, Total | | ✓ | | | | | | | 0 | | | | | |
| (4) Radium 226, Total | | ✓ | | | | | | | 0 | | | | | |
| k. Sulfate (as $SO_4$) (14808-79-8) | ✓ | | 33.8 | 1.07E+05 | | | | | 1 | mg/L | lb/day | | | |
| l. Sulfide (as S) | | ✓ | <0.05 | | | | | | 1 | mg/L | | | | |
| m. Sulfite (as $SO_3$) (14265-45-3) | | ✓ | <2 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | ✓ | <0.1 | | | | | | 1 | mg/L | | | | |
| o. Aluminum, Total (7429-90-5) | ✓ | | 0.931 | 2.94E+03 | | | | | 1 | mg/L | lb/day | | | |
| p. Berium, Total (7440-39-3) | ✓ | | 0.0311 | 9.82E+01 | | | | | 1 | mg/L | lb/day | | | |
| q. Boron, Total (7440-42-8) | ✓ | | <0.05 | | | | | | 1 | mg/L | | | | |
| r. Cobalt, Total (7440-48-4) | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| s. Iron, Total (7439-89-6) | ✓ | | 1.34 | 4.23E+03 | | | | | 1 | mg/L | lb/day | | | |
| t. Magnesium, Total (7439-95-4) | | ✓ | 9.79 | 3.09E+04 | | | | | 1 | mg/L | lb/day | | | |
| u. Molybdenum, Total (7439-98-7) | ✓ | | <0.01 | | | | | | 1 | mg/L | | | | |
| v. Manganese, Total (7439-96-5) | | ✓ | 0.0281 | 8.87E+01 | | | | | 1 | mg/L | lb/day | | | |
| w. Tin, Total (7440-31-5) | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| x. Titanium, Total (7440-32-6) | | ✓ | 0.0127 | 4.01E+01 | | | | | 1 | mg/L | lb/day | | | |



CONTINUE ON PAGE V-3

| EPA I.D. NUMBER (copy from Item 1 of Form 1) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 001 |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (If available) (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (If available) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| **METALS, CYANIDE, AND TOTAL PHENOLS** | | | | | | | | | | | | | | | |
| 1M. Antimony, Total (7440-36-0) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 2M. Arsenic, Total (7440-38-2) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 3M. Beryllium, Total, 7440-41-7) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | | | ✓ | <0.002 | | | | | | 1 | mg/L | | | | |
| 5M. Chromium, Total (7440-47-3) | | ✓ | | <0.005 | | | | | | 1 | mg/L | | | | |
| 6M. Copper, Total (7440-50-8) | | ✓ | | <0.01 | | | | | | 1 | mg/L | | | | |
| 7M. Lead, Total (7439-92-1) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 8M. Mercury, Total (7439-97-6) | | | ✓ | <0.0002 | | | | | | 1 | mg/L | | | | |
| 9M. Nickel, Total (7440-02-0) | | | ✓ | 0.0173 | 5.46E+01 | | | | | 1 | mg/L | lb/day | | | |
| 10M. Selenium, Total (7782-49-2) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 11M. Silver, Total (7440-22-4) | | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 13M. Zinc, Total (7440-66-6) | | ✓ | | 0.0111 | 3.51E+01 | | | | | 1 | mg/L | lb/day | | | |
| 14M. Cyanide, Total (57-12-5) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| **DIOXIN** | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6) | | | ✓ | DESCRIBE RESULTS Negative | | | | | | 1 | mg/L | | | | |

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION -- VOLATILE COMPOUNDS** | | | | | | | | | | | | | | | |
| 1V. Acrolein (107-02-8) | | | ✓ | <0.005 | | | | | | | | | | | |
| 2V. Acrylonitrile (107-13-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 3V. Benzene (71-43-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 4V. Bis (Chloromethyl) Ether (542-88-1) | | | ✓ | | | | | | | 1 | mg/L | | | | |
| 5V. Bromoform (75-25-2) | | | ✓ | <0.0005 | | | | | | 0 | | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 9V. Chloroethane (75-00-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 11V. Chloroform (67-66-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-5

CONTINUED FROM PAGE V-4

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – VOLATILE COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 22V. Methylene Chloride (75-09-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 24V. Tetrachloroethylene (127-18-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 25V. Toluene (108-88-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 29V. Trichloroethylene (79-01-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| **GC/MS FRACTION – ACID COMPOUNDS** | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9A. Pentachlorophenol (87-86-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 10A. Phenol (108-95-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11A. 2,4,6-Trichlorophenol (88-06-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE (optional) b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 2B. Acenaphtylene (208-96-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3B. Anthracene (120-12-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4B. Benzidine (92-87-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5B. Benzo (g) Anthracene (56-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 6B. Benzo (a) Pyrene (50-32-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 8B. Benzo (ghi) Perylene (191-24-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9B. Benzo (k) Fluoranthene (207-08-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 10B. Bis (2-Chloro-ethoxy) Methane (111-91-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11B. Bis (2-Chloro-ethyl) Ether (111-44-4) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 12B. Bis (2-Chloroiso-propyl) Ether (102-60-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7) | | | ✓ | 0.012 | 3.8E+01 | | | | | 1 | mg/L | lb/day | | | |
| 14B. 4-Bromo-phenyl Phenyl Ether (101-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 18B. Chrysene (218-01-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 19B. Dibenzo (a,h) Anthracene (53-70-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 21B. 1,3-Dichloro-benzene (541-73-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-7

CONTINUED FROM PAGE V-6

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE (optional) b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)** | | | | | | | | | | | | | | | |
| 22B. 1,4-Dichlorobenzene (106-46-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 23B. 3,3'-Dichlorobenzidine (91-94-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 25B. Dimethyl Phthalate (131-11-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 31B. Fluoranthene (206-44-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 32B. Fluorene (86-73-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 36B. Hexachloroethane (67-72-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 37B. Indeno (1,2,3-cd) Pyrene (193-39-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 38B. Isophorone (78-59-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 39B. Naphthalene (91-20-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)** | | | | | | | | | | | | | | | |
| 43B. N-Nitrosodiphenylamine (86-30-6) | | | ✓ | <0.019 | | | | | | 1 | mg/L | | | | |
| 44B. Phenanthrene (85-01-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 45B. Pyrene (129-00-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 46B. 1,2,4-Trichlorobenzene (120-82-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| **GC/MS FRACTION – PESTICIDES** | | | | | | | | | | | | | | | |
| 1P. Aldrin (309-00-2) | | | ✓ | | | | | | | 0 | | | | | |
| 2P. α-BHC (319-84-6) | | | ✓ | | | | | | | 0 | | | | | |
| 3P. β-BHC (319-85-7) | | | ✓ | | | | | | | 0 | | | | | |
| 4P. γ-BHC (58-89-9) | | | ✓ | | | | | | | 0 | | | | | |
| 5P. δ-BHC (319-86-8) | | | ✓ | | | | | | | 0 | | | | | |
| 6P. Chlordane (57-74-9) | | | ✓ | | | | | | | 0 | | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | ✓ | | | | | | | 0 | | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | ✓ | | | | | | | 0 | | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | ✓ | | | | | | | 0 | | | | | |
| 10P. Dieldrin (60-57-1) | | | ✓ | | | | | | | 0 | | | | | |
| 11P. α-Endosulfan (115-29-7) | | | ✓ | | | | | | | 0 | | | | | |
| 12P. β-Endosulfan (115-29-7) | | | ✓ | | | | | | | 0 | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | ✓ | | | | | | | 0 | | | | | |
| 14P. Endrin (72-20-8) | | | ✓ | | | | | | | 0 | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | ✓ | | | | | | | 0 | | | | | |
| 16P. Heptachlor (76-44-8) | | | ✓ | | | | | | | 0 | | | | | |



CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-8

EPA I.D. NUMBER (copy from Item 1 of Form 1): 31B00002

OUTFALL NUMBER: 001

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| **GC/MS FRACTION – PESTICIDES (continued)** | | | | | | | | | | | | | | | |
| 17P. Heptachlor Epoxide (1024-57-3) | | | ✓ | | | | | | | | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | ✓ | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | ✓ | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | ✓ | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | ✓ | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | ✓ | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | ✓ | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | ✓ | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | ✓ | | | | | | | 0 | | | | | |

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

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 31B00002

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

OUTFALL NO.: 002

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

| 1. POLLUTANT | 2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 3. UNITS (specify if blank) a. CONCENTRATION | 3. UNITS b. MASS | 4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 4. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand *(BOD)* | 2.16 | 1.95E+01 | | | | | 1 | mg/L | lb/day | | | |
| b. Chemical Oxygen Demand *(COD)* | <10 | | | | | | 1 | mg/L | | | | |
| c. Total Organic Carbon *(TOC)* | 2.1 | 1.9E+01 | | | | | 1 | mg/L | lb/day | | | |
| d. Total Suspended Solids *(TSS)* | 16 | 1.4E+02 | | | | | 1 | mg/L | lb/day | | | |
| e. Ammonia *(as N)* | 0.93 | 8.4E+00 | | | | | 1 | mg/L | lb/day | | | |
| f. Flow | VALUE 1.08 | | VALUE | | VALUE | | 1 | mgd | | VALUE | | |
| g. Temperature *(winter)* | VALUE 10.5 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| h. Temperature *(summer)* | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| i. pH | MINIMUM 7.7 | MAXIMUM 7.7 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. *(if available)* | 2. MARK 'X' a. BELIEVED PRESENT | 2. MARK 'X' b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | | ✓ | 0.57 | 5.1E+00 | | | | | 1 | mg/L | lb/day | | | |
| b. Chlorine, Total Residual | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| c. Color | ✓ | | 35 | NA | | | | | 1 | CU | NA | | | |
| d. Fecal Coliform | ✓ | | 21 | NA | | | | | 1 | CFU100ml | NA | | | |
| e. Fluoride (16984-48-8) | | ✓ | 0.194 | 1.75E+00 | | | | | 1 | mg/L | lb/day | | | |
| f. Nitrate-Nitrite *(as N)* | ✓ | | 1.6 | 1.4E+01 | | | | | 1 | mg/L | lb/day | | | |

ITEM V-C CONTINUED FROM FRONT

| 1. POLLUTANT AND CAS NO. (if available) | 2. MARK 'X' a. BELIEVED PRESENT | 2. MARK 'X' b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | 3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS | 3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | 3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | 3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | 3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS | 3. EFFLUENT d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE (optional) b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| g. Nitrogen, Total Organic (as N) | | ✓ | <0.2 | | | | | | 1 | mg/L | | | | |
| h. Oil and Grease | ✓ | | <5 | | | | | | 1 | mg/L | | | | |
| i. Phosphorus (as P), Total (7723-14-0) | ✓ | | <0.1 | | | | | | 1 | mg/L | | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | ✓ | | | | | | | 0 | | | | | |
| (2) Beta, Total | | ✓ | | | | | | | 0 | | | | | |
| (3) Radium, Total | | ✓ | | | | | | | 0 | | | | | |
| (4) Radium 226, Total | | ✓ | | | | | | | 0 | | | | | |
| k. Sulfate (as $SO_4$) (14808-79-8) | ✓ | | 227.2 | 2.05E+03 | | | | | 1 | mg/L | lb/day | | | |
| l. Sulfide (as S) | | ✓ | <0.05 | | | | | | 1 | mg/L | | | | |
| m. Sulfite (as $SO_3$) (14265-45-3) | | ✓ | <2 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | ✓ | <0.1 | | | | | | 1 | mg/L | | | | |
| o. Aluminum, Total (7429-90-5) | ✓ | | 1.16 | 1.04E+01 | | | | | 1 | mg/L | lb/day | | | |
| p. Barium, Total (7440-39-3) | ✓ | | 0.593 | 5.34E+00 | | | | | 1 | mg/L | lb/day | | | |
| q. Boron, Total (7440-42-8) | ✓ | | 0.102 | 9.19E-01 | | | | | 1 | mg/L | lb/day | | | |
| r. Cobalt, Total (7440-48-4) | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| s. Iron, Total (7439-89-6) | ✓ | | 1 | 9E+00 | | | | | 1 | mg/L | lb/day | | | |
| t. Magnesium, Total (7439-95-4) | ✓ | | 17.8 | 1.60E+02 | | | | | 1 | mg/L | lb/day | | | |
| u. Molybdenum, Total (7439-98-7) | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| v. Manganese, Total (7439-96-5) | ✓ | | 0.122 | 1.10E+00 | | | | | 1 | mg/L | lb/day | | | |
| w. Tin, Total (7440-31-5) | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| x. Titanium, Total (7440-32-6) | ✓ | | 0.0381 | 3.43E-01 | | | | | 1 | mg/L | lb/day | | | |



CONTINUE ON PAGE V-3

| EPA I.D. NUMBER (copy from Item 1 of Form 1) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 002 |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | 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) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 2M. Arsenic, Total (7440-38-2) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 3M. Beryllium, Total, 7440-41-7) | | ✓ | | <0.001 | | | | | | 1 | mg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | | ✓ | | 0.0097 | 8.7E-02 | | | | | 1 | mg/L | lb/day | | | |
| 5M. Chromium, Total (7440-47-3) | | ✓ | | <0.005 | | | | | | 1 | mg/L | | | | |
| 6M. Copper, Total (7440-50-8) | | ✓ | | <0.01 | | | | | | 1 | mg/L | | | | |
| 7M. Lead, Total (7439-92-1) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 8M. Mercury, Total (7439-97-6) | | | ✓ | <0.0002 | | | | | | 1 | mg/L | | | | |
| 9M. Nickel, Total (7440-02-0) | | ✓ | | <0.01 | | | | | | 1 | mg/L | | | | |
| 10M. Selenium, Total (7782-49-2) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 11M. Silver, Total (7440-22-4) | | ✓ | | <0.005 | | | | | | 1 | mg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 13M. Zinc, Total (7440-66-6) | | ✓ | | 0.0174 | 1.57E-01 | | | | | 1 | mg/L | lb/day | | | |
| 14M. Cyanide, Total (57-12-5) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| **DIOXIN** | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6) | | | ✓ | DESCRIBE RESULTS negative | | | | | | | | | | | |

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION -- VOLATILE COMPOUNDS** | | | | | | | | | | | | | | | |
| 1V. Acrolein (107-02-8) | | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| 2V. Acrylonitrile (107-13-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 3V. Benzene (71-43-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 4V. Bis (Chloromethyl) Ether (542-88-1) | | | ✓ | | | | | | | 0 | | | | | |
| 5V. Bromoform (75-25-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 9V. Chloroethane (75-00-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 11V. Chloroform (67-66-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |

CONTINUED FROM PAGE V-4

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – VOLATILE COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 22V. Methylene Chloride (75-09-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 24V. Tetrachloroethylene (127-18-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 25V. Toluene (108-88-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 29V. Trichloroethylene (79-01-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| **GC/MS FRACTION – ACID COMPOUNDS** | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9A. Pentachlorophenol (87-86-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 10A. Phenol (108-95-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11A. 2,4,6-Trichlorophenol (88-06-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | 2. MARK 'X' b. BELIEVED PRESENT | 2. MARK 'X' c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | 3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS | 3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | 3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (2) MASS | 3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | 3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (2) MASS | 3. EFFLUENT d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE (optional) b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | | | ✓ | <0.01 | | | | | | | | | | | |
| 2B. Acenaphtylene (208-96-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3B. Anthracene (120-12-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4B. Benzidine (92-87-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5B. Benzo (a) Anthracene (56-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 6B. Benzo (a) Pyrene (50-32-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 8B. Benzo (ghi) Perylene (191-24-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9B. Benzo (k) Fluoranthene (207-08-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 10B. Bis (2-Chloro-ethoxy) Methane (111-91-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11B. Bis (2-Chloro-ethyl) Ether (111-44-4) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 12B. Bis (2-Chloroiso-propyl) Ether (102-60-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 14B. 4-Bromo-phenyl Phenyl Ether (101-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 18B. Chrysene (218-01-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 19B. Dibenzo (a,h) Anthracene (53-70-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 21B. 1,3-Dichloro-benzene (541-73-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-7

CONTINUED FROM PAGE V-6

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)** | | | | | | | | | | | | | | | |
| 22B. 1,4-Dichlorobenzene (106-46-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 23B. 3,3'-Dichlorobenzidine (91-94-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 25B. Dimethyl Phthalate (131-11-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 31B. Fluoranthene (206-44-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 32B. Fluorene (86-73-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 36B. Hexachloroethane (67-72-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 37B. Indeno (1,2,3-cd) Pyrene (193-39-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 38B. Isophorone (78-59-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 39B. Naphthalene (91-20-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)** | | | | | | | | | | | | | | | |
| 43B. N-Nitrosodiphenylamine (86-30-6) | | | ✓ | <0.019 | | | | | | | | | | | |
| 44B. Phenanthrene (85-01-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 45B. Pyrene (129-00-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 46B. 1,2,4-Trichlorobenzene (120-82-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| **GC/MS FRACTION – PESTICIDES** | | | | | | | | | | 1 | mg/L | | | | |
| 1P. Aldrin (309-00-2) | | | ✓ | | | | | | | | | | | | |
| 2P. α-BHC (319-84-6) | | | ✓ | | | | | | | 0 | | | | | |
| 3P. β-BHC (319-85-7) | | | ✓ | | | | | | | 0 | | | | | |
| 4P. γ-BHC (58-89-9) | | | ✓ | | | | | | | 0 | | | | | |
| 5P. δ-BHC (319-86-8) | | | ✓ | | | | | | | 0 | | | | | |
| 6P. Chlordane (57-74-9) | | | ✓ | | | | | | | 0 | | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | ✓ | | | | | | | 0 | | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | ✓ | | | | | | | 0 | | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | ✓ | | | | | | | 0 | | | | | |
| 10P. Dieldrin (60-57-1) | | | ✓ | | | | | | | 0 | | | | | |
| 11P. α-Endosulfan (115-29-7) | | | ✓ | | | | | | | 0 | | | | | |
| 12P. β-Endosulfan (115-29-7) | | | ✓ | | | | | | | 0 | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | ✓ | | | | | | | 0 | | | | | |
| 14P. Endrin (72-20-8) | | | ✓ | | | | | | | 0 | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | ✓ | | | | | | | 0 | | | | | |
| 16P. Heptachlor (76-44-8) | | | ✓ | | | | | | | 0 | | | | | |



CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-8

EPA I.D. NUMBER (copy from Item 1 ... n 1): 31B00002

OUTFALL NUMBER: 002

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION — PESTICIDES (continued)** | | | | | | | | | | | | | | | |
| 17P. Heptachlor Epoxide (1024-57-3) | | | ✓ | | | | | | | | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | ✓ | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | ✓ | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | ✓ | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | ✓ | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | ✓ | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | ✓ | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | ✓ | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | ✓ | | | | | | | 0 | | | | | |

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

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 31B00002

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

OUTFALL NO.: 004

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

| 1. POLLUTANT | 2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 3. UNITS (specify if blank) a. CONCENTRATION | 3. UNITS b. MASS | 4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 4. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand *(BOD)* | 2.81 | 1.7E+01 | | | | | 1 | mg/L | lb/day | | | |
| b. Chemical Oxygen Demand *(COD)* | <10 | | | | | | 1 | mg/L | | | | |
| c. Total Organic Carbon *(TOC)* | 2.5 | 1.5E+01 | | | | | 1 | mg/L | lb/day | | | |
| d. Total Suspended Solids *(TSS)* | 74 | 4.6E+02 | | | | | 1 | mg/L | lb/day | | | |
| e. Ammonia *(as N)* | 0.15 | 9.3E-01 | | | | | 1 | mg/L | lb/day | | | |
| f. Flow | VALUE 0.74 | | VALUE | | VALUE | | 1 | mgd | | VALUE | | |
| g. Temperature *(winter)* | VALUE 8.33 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| h. Temperature *(summer)* | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| i. pH | MINIMUM 7.35 | MAXIMUM 7.35 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. *(if available)* | 2. MARK 'X' a. BELIEVED PRESENT | 2. MARK 'X' b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | | ✓ | 0.64 | 3.9E+00 | | | | | 1 | mg/L | lb/day | | | |
| b. Chlorine, Total Residual | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| c. Color | ✓ | | 50 | NA | | | | | 1 | CU | NA | | | |
| d. Fecal Coliform | ✓ | | 23 | NA | | | | | 1 | CFU100ml | NA | | | |
| e. Fluoride (16984-48-8) | | ✓ | 0.244 | 1.5E+00 | | | | | 1 | mg/L | lb/day | | | |
| f. Nitrate-Nitrite *(as N)* | ✓ | | 1.7 | 1.0E+01 | | | | | 1 | mg/L | lb/day | | | |



CONTINUE ON REVERSE

ITEM V-C CONTINUED FROM FRONT

| 1. POLLUTANT AND CAS NO. (if available) | 2. MARK 'X' a. BELIEVED PRESENT | 2. MARK 'X' b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE (optional) b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| g. Nitrogen, Total Organic (as N) | ✓ | | <0.2 | | | | | | 1 | mg/L | | | | |
| h. Oil and Grease | ✓ | | <5 | | | | | | 1 | mg/L | | | | |
| i. Phosphorus (as P), Total (7723-14-0) | ✓ | | <0.1 | | | | | | 1 | mg/L | | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | ✓ | | | | | | | 0 | | | | | |
| (2) Beta, Total | | ✓ | | | | | | | 0 | | | | | |
| (3) Radium, Total | | ✓ | | | | | | | 0 | | | | | |
| (4) Radium 226, Total | | ✓ | | | | | | | 0 | | | | | |
| k. Sulfate (as $SO_4$) (14808-79-8) | ✓ | | 159.5 | 9.8E+02 | | | | | 1 | mg/L | lb/day | | | |
| l. Sulfide (as S) | | ✓ | <0.05 | | | | | | 1 | mg/L | | | | |
| m. Sulfite (as $SO_3$) (14265-45-3) | | ✓ | <2 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | ✓ | <0.1 | | | | | | 1 | mg/L | | | | |
| o. Aluminum, Total (7429-90-5) | ✓ | | 1.51 | 9.3E+00 | | | | | 1 | mg/L | lb/day | | | |
| p. Barium, Total (7440-39-3) | ✓ | | 0.167 | 1.0E+00 | | | | | 1 | mg/L | lb/day | | | |
| q. Boron, Total (7440-42-8) | ✓ | | 0.0653 | 4.0E-01 | | | | | 1 | mg/L | lb/day | | | |
| r. Cobalt, Total (7440-48-4) | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| s. Iron, Total (7439-89-6) | ✓ | | 2.07 | 1.3E+01 | | | | | 1 | mg/L | lb/day | | | |
| t. Magnesium, Total (7439-95-4) | ✓ | | 10.9 | 6.7E+01 | | | | | 1 | mg/L | lb/day | | | |
| u. Molybdenum, Total (7439-98-7) | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| v. Manganese, Total (7439-96-5) | ✓ | | 0.0699 | 4.3E-01 | | | | | 1 | mg/L | lb/day | | | |
| w. Tin, Total (7440-31-5) | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| x. Titanium, Total (7440-32-6) | ✓ | | 0.0364 | 2.2E-01 | | | | | 1 | mg/L | lb/day | | | |



CONTINUE ON PAGE V-3

| EPA I.D. NUMBER (copy from Item 1 of Form 1) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 004 |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (If available) (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (If available) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| **METALS, CYANIDE, AND TOTAL PHENOLS** | | | | | | | | | | | | | | | |
| 1M. Antimony, Total (7440-36-0) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 2M. Arsenic, Total (7440-38-2) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 3M. Beryllium, Total, 7440-41-7) | | ✓ | | <0.001 | | | | | | 1 | mg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | | ✓ | | <0.002 | | | | | | 1 | mg/L | | | | |
| 5M. Chromium, Total (7440-47-3) | | ✓ | | 0.00507 | 3.1E-02 | | | | | 1 | mg/L | lb/day | | | |
| 6M. Copper, Total (7440-50-8) | | ✓ | | 0.0192 | 1.2E-01 | | | | | 1 | mg/L | lb/day | | | |
| 7M. Lead, Total (7439-92-1) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 8M. Mercury, Total (7439-97-6) | | | ✓ | <0.0002 | | | | | | 1 | mg/L | | | | |
| 9M. Nickel, Total (7440-02-0) | | ✓ | | <0.01 | | | | | | 1 | mg/L | | | | |
| 10M. Selenium, Total (7782-49-2) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 11M. Silver, Total (7440-22-4) | | ✓ | | <0.005 | | | | | | 1 | mg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 13M. Zinc, Total (7440-66-6) | | ✓ | | 0.0256 | 1.6E-01 | | | | | 1 | mg/L | lb/day | | | |
| 14M. Cyanide, Total (57-12-5) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| **DIOXIN** | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6) | | | ✓ | DESCRIBE RESULTS negative | | | | | | | | | | | |

COI FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION -- VOLATILE COMPOUNDS** | | | | | | | | | | | | | | | |
| 1V. Acrolein (107-02-8) | | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| 2V. Acrylonitrile (107-13-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 3V. Benzene (71-43-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 4V. Bis *(Chloromethyl)* Ether (542-88-1) | | | ✓ | | | | | | | 0 | | | | | |
| 5V. Bromoform (75-25-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 9V. Chloroethane (75-00-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 11V. Chloroform (67-66-3) | | | ✓ | 0.0007 | | | | | | 1 | mg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-5

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – VOLATILE COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 22V. Methylene Chloride (75-09-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 24V. Tetrachloroethylene (127-18-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 25V. Toluene (108-88-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 29V. Trichloroethylene (79-01-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| **GC/MS FRACTION – ACID COMPOUNDS** | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9A. Pentachlorophenol (87-86-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 10A. Phenol (108-95-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11A. 2,4,6-Trichlorophenol (88-06-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONT FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | 2. MARK 'X' b. BELIEVED PRESENT | 2. MARK 'X' c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | 3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS | 3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | 3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (2) MASS | 3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | 3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (2) MASS | 3. EFFLUENT d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE (optional) b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 2B. Acenaphtylene (208-96-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3B. Anthracene (120-12-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4B. Benzidine (92-87-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5B. Benzo *(a)* Anthracene (56-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 6B. Benzo *(a)* Pyrene (50-32-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 8B. Benzo *(ghi)* Perylene (191-24-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9B. Benzo *(k)* Fluoranthene (207-08-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 10B. Bis *(2-Chloro-ethoxy)* Methane (111-91-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11B. Bis *(2-Chloro-ethyl)* Ether (111-44-4) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 12B. Bis *(2-Chloroiso-propyl)* Ether (102-60-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 13B. Bis *(2-Ethyl-hexyl)* Phthalate (117-81-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 14B. 4-Bromo-phenyl Phenyl Ether (101-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 18B. Chrysene (218-01-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 19B. Dibenzo *(a,h)* Anthracene (53-70-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 21B. 1,3-Dichloro-benzene (541-73-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-7

CONTINUED FROM PAGE V-6

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 22B. 1,4-Dichlorobenzene (106-46-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 23B. 3,3'-Dichlorobenzidine (91-94-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 25B. Dimethyl Phthalate (131-11-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 31B. Fluoranthene (206-44-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 32B. Fluorene (86-73-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 36B. Hexachloroethane (67-72-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 37B. Indeno (1,2,3-cd) Pyrene (193-39-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 38B. Isophorone (78-59-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 39B. Naphthalene (91-20-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 43B. N-Nitrosodiphenylamine (86-30-6) | | | ✓ | <0.019 | | | | | | 1 | mg/L | | | | |
| 44B. Phenanthrene (85-01-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 45B. Pyrene (129-00-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 46B. 1,2,4-Trichlorobenzene (120-82-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| **GC/MS FRACTION – PESTICIDES** | | | | | | | | | | | | | | | |
| 1P. Aldrin (309-00-2) | | | ✓ | | | | | | | 0 | | | | | |
| 2P. α-BHC (319-84-6) | | | ✓ | | | | | | | 0 | | | | | |
| 3P. β-BHC (319-85-7) | | | ✓ | | | | | | | 0 | | | | | |
| 4P. γ-BHC (58-89-9) | | | ✓ | | | | | | | 0 | | | | | |
| 5P. δ-BHC (319-86-8) | | | ✓ | | | | | | | 0 | | | | | |
| 6P. Chlordane (57-74-9) | | | ✓ | | | | | | | 0 | | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | ✓ | | | | | | | 0 | | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | ✓ | | | | | | | 0 | | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | ✓ | | | | | | | 0 | | | | | |
| 10P. Dieldrin (60-57-1) | | | ✓ | | | | | | | 0 | | | | | |
| 11P. α-Endosulfan (115-29-7) | | | ✓ | | | | | | | 0 | | | | | |
| 12P. β-Endosulfan (115-29-7) | | | ✓ | | | | | | | 0 | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | ✓ | | | | | | | 0 | | | | | |
| 14P. Endrin (72-20-8) | | | ✓ | | | | | | | 0 | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | ✓ | | | | | | | 0 | | | | | |
| 16P. Heptachlor (76-44-8) | | | ✓ | | | | | | | 0 | | | | | |



CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-8

| EPA I.D. NUMBER (copy from Item 1 of Form 1) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 004 |

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| **GC/MS FRACTION — PESTICIDES (continued)** | | | | | | | | | | | | | | | |
| 17P. Heptachlor Epoxide (1024-57-3) | | | ✓ | | | | | | | 0 | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | ✓ | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | ✓ | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | ✓ | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | ✓ | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | ✓ | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | ✓ | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | ✓ | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | ✓ | | | | | | | 0 | | | | | |

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

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 31B00002

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

OUTFALL NO.: 604

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

| 1. POLLUTANT | 2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 3. UNITS (specify if blank) a. CONCENTRATION | 3. UNITS b. MASS | 4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 4. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand *(BOD)* | <2 | | | | | | 1 | mg/L | | | | |
| b. Chemical Oxygen Demand *(COD)* | <10 | | | | | | 1 | mg/L | | | | |
| c. Total Organic Carbon *(TOC)* | <1.0 | | | | | | 1 | mg/L | | | | |
| d. Total Suspended Solids *(TSS)* | <5 | | | | | | 1 | mg/L | | | | |
| e. Ammonia *(as N)* | 1.85 | 7.71E-02 | | | | | 1 | mg/L | lb/day | | | |
| f. Flow | VALUE 0.005 | | VALUE | | VALUE | | 1 | mgd | | VALUE | | |
| g. Temperature *(winter)* | VALUE 8.88 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| h. Temperature *(summer)* | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| i. pH | MINIMUM 9.90 | MAXIMUM 9.90 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. *(if available)* | 2. MARK 'X' a. BELIEVED PRESENT | 2. MARK 'X' b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | | ✓ | 0.12 | 5.0E-03 | | | | | 1 | mg/L | lb/day | | | |
| b. Chlorine, Total Residual | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| c. Color | | ✓ | <5 | | | | | | 1 | CU | | | | |
| d. Fecal Coliform | | ✓ | 9 | NA | | | | | 1 | CFU100ml | NA | | | |
| e. Fluoride (16984-48-8) | | ✓ | 0.054 | 2.2E-03 | | | | | 1 | mg/L | lb/day | | | |
| f. Nitrate-Nitrite *(as N)* | | ✓ | <0.05 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

ITEM V-C CONTINUED FROM FRONT

| 1. POLLUTANT AND CAS NO. (if available) | 2. MARK 'X' a. BELIEVED PRESENT | 2. MARK 'X' b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE (optional) b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| g. Nitrogen, Total Organic (as N) | | ✓ | <0.2 | | | | | | 1 | mg/L | | | | |
| h. Oil and Grease | ✓ | | <5 | | | | | | 1 | mg/L | | | | |
| i. Phosphorus (as P), Total (7723-14-0) | | ✓ | 1.15 | 4.80E-02 | | | | | 1 | mg/L | lb/day | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | ✓ | | | | | | | 0 | | | | | |
| (2) Beta, Total | | ✓ | | | | | | | 0 | | | | | |
| (3) Radium, Total | | ✓ | | | | | | | 0 | | | | | |
| (4) Radium 228, Total | | ✓ | | | | | | | 0 | | | | | |
| k. Sulfate (as $SO_4$) (14808-79-8) | | ✓ | 5.3 | 2.21E-01 | | | | | 1 | mg/L | lb/day | | | |
| l. Sulfide (as S) | | ✓ | <0.05 | | | | | | 1 | mg/L | | | | |
| m. Sulfite (as $SO_3$) (14265-45-3) | | ✓ | <2 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | ✓ | <0.1 | | | | | | 1 | mg/L | | | | |
| o. Aluminum, Total (7429-90-5) | | ✓ | 0.143 | 5.96E-03 | | | | | 1 | mg/L | lb/day | | | |
| p. Barium, Total (7440-39-3) | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| q. Boron, Total (7440-42-8) | | ✓ | <0.05 | | | | | | 1 | mg/L | | | | |
| r. Cobalt, Total (7440-48-4) | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| s. Iron, Total (7439-89-6) | | ✓ | <0.05 | | | | | | 1 | mg/L | | | | |
| t. Magnesium, Total (7439-95-4) | | ✓ | <0.1 | | | | | | 1 | mg/L | | | | |
| u. Molybdenum, Total (7439-98-7) | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| v. Manganese, Total (7439-96-5) | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| w. Tin, Total (7440-31-5) | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| x. Titanium, Total (7440-32-6) | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-3

| EPA I.D. NUMBER (copy from Item 1 of Form 1) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 604 |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | 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) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 2M. Arsenic, Total (7440-38-2) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 3M. Beryllium, Total, 7440-41-7) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | | | ✓ | <0.002 | | | | | | 1 | mg/L | | | | |
| 5M. Chromium, Total (7440-47-3) | | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| 6M. Copper, Total (7440-50-8) | | ✓ | | 0.0211 | 8.80E-04 | | | | | 1 | mg/L | lb/day | | | |
| 7M. Lead, Total (7439-92-1) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 8M. Mercury, Total (7439-97-6) | | | ✓ | <0.0002 | | | | | | 1 | mg/L | | | | |
| 9M. Nickel, Total (7440-02-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 10M. Selenium, Total (7782-49-2) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 11M. Silver, Total (7440-22-4) | | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 13M. Zinc, Total (7440-66-6) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 14M. Cyanide, Total (57-12-5) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| **DIOXIN** | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6) | | | ✓ | DESCRIBE RESULTS negative | | | | | | | | | | | |

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – VOLATILE COMPOUNDS** | | | | | | | | | | | | | | | |
| 1V. Acrolein (107-02-8) | | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| 2V. Acrylonitrile (107-13-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 3V. Benzene (71-43-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 4V. Bis (Chloromethyl) Ether (542-88-1) | | | ✓ | | | | | | | 0 | | | | | |
| 5V. Bromoform (75-25-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 9V. Chloroethane (75-00-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 11V. Chloroform (67-66-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-5

CONTINUED FROM PAGE V-4

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | d. NO. OF ANALYSES | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (if available) | | c. LONG TERM AVRG. VALUE (if available) | | | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| **GC/MS FRACTION — VOLATILE COMPOUNDS (continued)** | | | | | | | | | | | | | | | |
| 22V. Methylene Chloride (75-09-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 24V. Tetrachloroethylene (127-18-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 25V. Toluene (108-88-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 29V. Trichloroethylene (79-01-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| **GC/MS FRACTION — ACID COMPOUNDS** | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9A. Pentachlorophenol (87-86-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 10A. Phenol (108-95-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11A. 2,4,6-Trichlorophenol (88-06-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONT ) FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 2B. Acenaphtylene (208-96-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3B. Anthracene (120-12-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4B. Benzidine (92-87-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5B. Benzo *(a)* Anthracene (56-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 6B. Benzo *(a)* Pyrene (50-32-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 8B. Benzo *(ghi)* Perylene (191-24-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9B. Benzo *(k)* Fluoranthene (207-08-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 10B. Bis *(2-Chloro-ethoxy)* Methane (111-91-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11B. Bis *(2-Chloro-ethyl)* Ether (111-44-4) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 12B. Bis *(2-Chloroiso-propyl)* Ether (102-60-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 13B. Bis *(2-Ethyl-hexyl)* Phthalate (117-81-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 14B. 4-Bromo-phenyl Phenyl Ether (101-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 18B. Chrysene (218-01-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 19B. Dibenzo *(a,h)* Anthracene (53-70-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 21B. 1,3-Dichloro-benzene (541-73-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-7

CONTINUED FROM PAGE V-6

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)** | | | | | | | | | | | | | | | |
| 22B. 1,4-Dichlorobenzene (106-46-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 23B. 3,3'-Dichlorobenzidine (91-94-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 25B. Dimethyl Phthalate (131-11-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 31B. Fluoranthene (206-44-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 32B. Fluorene (86-73-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 36B. Hexachloroethane (67-72-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 37B. Indeno (1,2,3-cd) Pyrene (193-39-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 38B. Isophorone (78-59-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 39B. Naphthalene (91-20-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | b. MAXIMUM 30 DAY VALUE (if available) | | c. LONG TERM AVRG. VALUE (if available) | | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE | | b. NO. OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 43B. N-Nitrosodiphenylamine (86-30-6) | | | ✓ | <0.019 | | | | | | 1 | mg/L | | | | |
| 44B. Phenanthrene (85-01-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 45B. Pyrene (129-00-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 46B. 1,2,4 - Trichlorobenzene (120-82-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| **GC/MS FRACTION – PESTICIDES** | | | | | | | | | | | | | | | |
| 1P. Alorin (309-00-2) | | | ✓ | | | | | | | 0 | | | | | |
| 2P. α-BHC (319-84-6) | | | ✓ | | | | | | | 0 | | | | | |
| 3P. β-BHC (319-85-7) | | | ✓ | | | | | | | 0 | | | | | |
| 4P. γ-BHC (58-89-9) | | | ✓ | | | | | | | 0 | | | | | |
| 5P. δ-BHC (319-86-8) | | | ✓ | | | | | | | 0 | | | | | |
| 6P. Chlordane (57-74-9) | | | ✓ | | | | | | | 0 | | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | ✓ | | | | | | | 0 | | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | ✓ | | | | | | | 0 | | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | ✓ | | | | | | | 0 | | | | | |
| 10P. Dieldrin (60-57-1) | | | ✓ | | | | | | | 0 | | | | | |
| 11P. α-Endosulfan (115-29-7) | | | ✓ | | | | | | | 0 | | | | | |
| 12P. β-Endosulfan (115-29-7) | | | ✓ | | | | | | | 0 | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | ✓ | | | | | | | 0 | | | | | |
| 14P. Endrin (72-20-8) | | | ✓ | | | | | | | 0 | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | ✓ | | | | | | | 0 | | | | | |
| 16P. Heptachlor (76-44-8) | | | ✓ | | | | | | | 0 | | | | | |



CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-8

| EPA I.D. NUMBER (copy from Item 1 of Form 1) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 604 |

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| **GC/MS FRACTION – PESTICIDES (continued)** | | | | | | | | | | | | | | | |
| 17P. Heptachlor Epoxide (1024-57-3) | | | ✓ | | | | | | | 0 | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | ✓ | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | ✓ | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | ✓ | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | ✓ | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | ✓ | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | ✓ | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | ✓ | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | ✓ | | | | | | | 0 | | | | | |

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

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 31B00002

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

OUTFALL NO.: 610

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 | | | | | | | 3. UNITS *(specify if blank)* | | 4. INTAKE *(optional)* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 | |
| a. Biochemical Oxygen Demand *(BOD)* | 4.48 | 6.13E+00 | | | | | 1 | mg/L | lb/day | | | |
| b. Chemical Oxygen Demand *(COD)* | 21 | 2.9E+01 | | | | | 1 | mg/L | lb/day | | | |
| c. Total Organic Carbon *(TOC)* | 8.0 | 1.1E+01 | | | | | 1 | mg/L | lb/day | | | |
| d. Total Suspended Solids *(TSS)* | 8.0 | 1.1E+01 | | | | | 1 | mg/L | lb/day | | | |
| e. Ammonia *(as N)* | <0.10 | | | | | | 1 | mg/L | | | | |
| f. Flow | VALUE 0.164 | | VALUE | | VALUE | | 1 | mgd | | VALUE | | |
| g. Temperature *(winter)* | VALUE 5 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| h. Temperature *(summer)* | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| i. pH | MINIMUM 8.25 | MAXIMUM 8.25 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. *(if available)* | 2. MARK 'X' | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE *(optional)* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. BELIEVED PRESENT | b. 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 | |
| a. Bromide (24959-67-9) | | ✓ | 1.53 | 2.09E+00 | | | | | 1 | mg/L | lb/day | | | |
| b. Chlorine, Total Residual | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| c. Color | | ✓ | 25 | NA | | | | | 1 | CU | NA | | | |
| d. Fecal Coliform | | ✓ | 9 | NA | | | | | 1 | CFU100ml | NA | | | |
| e. Fluoride (16984-48-8) | | ✓ | 0.414 | 5.66E-01 | | | | | 1 | mg/L | lb/day | | | |
| f. Nitrate-Nitrite *(as N)* | | ✓ | 3.1 | 4.2E+00 | | | | | 1 | mg/L | lb/day | | | |



CONTINUE ON REVERSE

ITEM V-C CONTINUED FROM FRONT

| 1. POLLUTANT AND CAS NO. (If available) | 2. MARK 'X' a. BELIEVED PRESENT | 2. MARK 'X' b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | 3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS | 3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | 3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (2) MASS | 3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | 3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (2) MASS | 3. EFFLUENT d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE (optional) b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| g. Nitrogen, Total Organic (as N) | | ✓ | 0.50 | 6.8E-01 | | | | | 1 | mg/L | lb/day | | | |
| h. Oil and Grease | | ✓ | <5 | | | | | | 1 | mg/L | | | | |
| i. Phosphorus (as P), Total (7723-14-0) | | ✓ | <0.10 | | | | | | 1 | mg/L | | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | ✓ | | | | | | | 0 | | | | | |
| (2) Beta, Total | | ✓ | | | | | | | 0 | | | | | |
| (3) Radium, Total | | ✓ | | | | | | | 0 | | | | | |
| (4) Radium 226, Total | | ✓ | | | | | | | 0 | | | | | |
| k. Sulfate (as $SO_4$) (14808-79-8) | | ✓ | 1,242 | 1.70E+03 | | | | | 1 | mg/L | lb/day | | | |
| l. Sulfide (as S) | | ✓ | <0.05 | | | | | | 1 | mg/L | | | | |
| m. Sulfite (as $SO_3$) (14265-45-3) | | ✓ | <2 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | ✓ | <0.1 | | | | | | 1 | mg/L | | | | |
| o. Aluminum, Total (7429-90-5) | | ✓ | 0.556 | 7.60E-01 | | | | | 1 | mg/L | lb/day | | | |
| p. Barium, Total (7440-39-3) | | ✓ | 0.0152 | 2.08E-02 | | | | | 1 | mg/L | lb/day | | | |
| q. Boron, Total (7440-42-8) | | ✓ | 0.2 | 3E-01 | | | | | 1 | mg/L | lb/day | | | |
| r. Cobalt, Total (7440-48-4) | | ✓ | 0.00558 | 7.63E-03 | | | | | 1 | mg/L | lb/day | | | |
| s. Iron, Total (7439-89-6) | | ✓ | 2.06 | 2.82E+00 | | | | | 1 | mg/L | lb/day | | | |
| t. Magnesium, Total (7439-95-4) | | ✓ | 72.4 | 9.90E+01 | | | | | 1 | mg/L | lb/day | | | |
| u. Molybdenum, Total (7439-98-7) | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| v. Manganese, Total (7439-96-5) | | ✓ | 0.862 | 1.18E+00 | | | | | 1 | mg/L | lb/day | | | |
| w. Tin, Total (7440-31-5) | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| x. Titanium, Total (7440-32-6) | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-3

| EPA I.D. NUMBER (copy from Item 1 of Form 1) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 610 |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE | | 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) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 2M. Arsenic, Total (7440-38-2) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 3M. Beryllium, Total, 7440-41-7) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | | | ✓ | <0.002 | | | | | | 1 | mg/L | | | | |
| 5M. Chromium, Total (7440-47-3) | | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| 6M. Copper, Total (7440-50-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7M. Lead, Total (7439-92-1) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 8M. Mercury, Total (7439-97-6) | | | ✓ | <0.0002 | | | | | | 1 | mg/L | | | | |
| 9M. Nickel, Total (7440-02-0) | | | ✓ | 0.0162 | 2.22E-02 | | | | | 1 | mg/L | lb/day | | | |
| 10M. Selenium, Total (7782-49-2) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 11M. Silver, Total (7440-22-4) | | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 13M. Zinc, Total (7440-66-6) | | | ✓ | 0.0211 | 2.89E-02 | | | | | 1 | mg/L | lb/day | | | |
| 14M. Cyanide, Total (57-12-5) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| **DIOXIN** | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6) | | | ✓ | DESCRIBE RESULTS negative | | | | | | | | | | | |

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – VOLATILE COMPOUNDS** | | | | | | | | | | | | | | | |
| 1V. Acrolein (107-02-8) | | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| 2V. Acrylonitrile (107-13-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 3V. Benzene (71-43-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 4V. Bis (Chloromethyl) Ether (542-88-1) | | | ✓ | | | | | | | 0 | | | | | |
| 5V. Bromoform (75-25-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 9V. Chloroethane (75-00-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 11V. Chloroform (67-66-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-5

CONTINUED FROM PAGE V-4

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' a. TEST-ING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – VOLATILE COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 22V. Methylene Chloride (75-09-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 24V. Tetrachloroethylene (127-18-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 25V. Toluene (108-88-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 29V. Trichloroethylene (79-01-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| **GC/MS FRACTION – ACID COMPOUNDS** | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9A. Pentachlorophenol (87-86-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 10A. Phenol (108-95-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11A. 2,4,6-Trichlorophenol (88-06-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONT ) FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | 2. MARK 'X' b. BELIEVED PRESENT | 2. MARK 'X' c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | 3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS | 3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | 3. EFFLUENT b. MAXIMUM 30 DAY VALUE (If available) (2) MASS | 3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | 3. EFFLUENT c. LONG TERM AVRG. VALUE (If available) (2) MASS | 3. EFFLUENT d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE (optional) b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS** | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 2B. Acenaphtylene (208-96-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3B. Anthracene (120-12-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4B. Benzidine (92-87-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5B. Benzo *(a)* Anthracene (56-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 6B. Benzo *(a)* Pyrene (50-32-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 8B. Benzo *(ghi)* Perylene (191-24-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9B. Benzo *(k)* Fluoranthene (207-08-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 10B. Bis *(2-Chloro-ethoxy)* Methane (111-91-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11B. Bis *(2-Chloro-ethyl)* Ether (111-44-4) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 12B. Bis *(2-Chloroiso-propyl)* Ether (102-80-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 13B. Bis *(2-Ethyl-hexyl)* Phthalate (117-81-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 14B. 4-Bromo-phenyl Phenyl Ether (101-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 18B. Chrysene (218-01-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 19B. Dibenzo *(a,h)* Anthracene (53-70-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 21B. 1,3-Dichloro-benzene (541-73-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-7

CONT.....) FROM PAGE V-6

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 22B. 1,4-Dichlorobenzene (106-46-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 23B. 3,3'-Dichlorobenzidine (91-94-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 25B. Dimethyl Phthalate (131-11-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 31B. Fluoranthene (206-44-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 32B. Fluorene (86-73-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 36B. Hexachloroethane (67-72-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 38B. Isophorone (78-59-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 39B. Naphthalene (91-20-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 43B. N-Nitrosodiphenylamine (86-30-6) | | | ✓ | <0.019 | | | | | | 1 | mg/L | | | | |
| 44B. Phenanthrene (85-01-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 45B. Pyrene (129-00-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 46B. 1,2,4-Trichlorobenzene (120-82-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| **GC/MS FRACTION – PESTICIDES** | | | | | | | | | | | | | | | |
| 1P. Aldrin (309-00-2) | | | ✓ | | | | | | | 0 | | | | | |
| 2P. α-BHC (319-84-6) | | | ✓ | | | | | | | 0 | | | | | |
| 3P. β-BHC (319-85-7) | | | ✓ | | | | | | | 0 | | | | | |
| 4P. γ-BHC (58-89-9) | | | ✓ | | | | | | | 0 | | | | | |
| 5P. δ-BHC (319-86-8) | | | ✓ | | | | | | | 0 | | | | | |
| 6P. Chlordane (57-74-9) | | | ✓ | | | | | | | 0 | | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | ✓ | | | | | | | 0 | | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | ✓ | | | | | | | 0 | | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | ✓ | | | | | | | 0 | | | | | |
| 10P. Dieldrin (60-57-1) | | | ✓ | | | | | | | 0 | | | | | |
| 11P. α-Endosulfan (115-29-7) | | | ✓ | | | | | | | 0 | | | | | |
| 12P. β-Endosulfan (115-29-7) | | | ✓ | | | | | | | 0 | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | ✓ | | | | | | | 0 | | | | | |
| 14P. Endrin (72-20-8) | | | ✓ | | | | | | | 0 | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | ✓ | | | | | | | 0 | | | | | |
| 16P. Heptachlor (76-44-8) | | | ✓ | | | | | | | 0 | | | | | |



CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-8

EPA I.D. NUMBER (copy from Item 1 of Form 1): 31B00002 | OUTFALL NUMBER: 610

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| **GC/MS FRACTION – PESTICIDES (continued)** | | | | | | | | | | | | | | | |
| 17P. Heptachlor Epoxide (1024-57-3) | | | ✓ | | | | | | | 0 | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | ✓ | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | ✓ | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | ✓ | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | ✓ | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | ✓ | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | ✓ | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | ✓ | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | ✓ | | | | | | | 0 | | | | | |

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

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 31B00002

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

OUTFALL NO.: 612

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

| 1. POLLUTANT | 2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 3. UNITS (specify if blank) a. CONCENTRATION | 3. UNITS b. MASS | 4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 4. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand *(BOD)* | <2 | | | | | | 1 | mg/L | | | | |
| b. Chemical Oxygen Demand *(COD)* | <10 | | | | | | 1 | mg/L | | | | |
| c. Total Organic Carbon *(TOC)* | 3.1 | 4.1E+01 | | | | | 1 | mg/L | lb/day | | | |
| d. Total Suspended Solids *(TSS)* | 19 | 2.5E+02 | | | | | 1 | mg/L | lb/day | | | |
| e. Ammonia *(as N)* | <0.10 | | | | | | 1 | mg/L | | | | |
| f. Flow | VALUE 1.6 | | VALUE | | VALUE | | 1 | mgd | | VALUE | | |
| g. Temperature *(winter)* | VALUE 31.1 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| h. Temperature *(summer)* | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| i. pH | MINIMUM 7.85 | MAXIMUM 7.85 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. *(if available)* | 2. MARK 'X' a. BELIEVED PRESENT | 2. MARK 'X' b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | | ✓ | 0.3 | 4.0E+00 | | | | | 1 | mg/L | lb/day | | | |
| b. Chlorine, Total Residual | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| c. Color | | ✓ | 70 | NA | | | | | 1 | CU | NA | | | |
| d. Fecal Coliform | | ✓ | 30 | NA | | | | | 1 | CFU100ml | NA | | | |
| e. Fluoride (16984-48-8) | | ✓ | 0.146 | 1.9E+00 | | | | | 1 | mg/L | lb/day | | | |
| f. Nitrate-Nitrite *(as N)* | | ✓ | 1.7 | 2.3E+01 | | | | | 1 | mg/L | lb/day | | | |



CONTINUE ON REVERSE

ITEI CONTINUED FROM FRONT

| 1. POLLUTANT AND CAS NO. (if available) | 2. MARK 'X' a. BELIEVED PRESENT | 2. MARK 'X' b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE (optional) b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| g. Nitrogen, Total Organic (as N) | | ✓ | <0.20 | | | | | | 1 | mg/L | | | | |
| h. Oil and Grease | ✓ | | <5.618 | | | | | | 1 | mg/L | | | | |
| i. Phosphorus (as P), Total (7723-14-0) | | ✓ | <0.10 | | | | | | 1 | mg/L | | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | ✓ | | | | | | | 0 | | | | | |
| (2) Beta, Total | | ✓ | | | | | | | 0 | | | | | |
| (3) Radium, Total | | ✓ | | | | | | | 0 | | | | | |
| (4) Radium 226, Total | | ✓ | | | | | | | 0 | | | | | |
| k. Sulfate (as $SO_4$) (14808-79-8) | | ✓ | 38.1 | 5.1E+02 | | | | | 1 | mg/L | lb/day | | | |
| l. Sulfide (as S) | | ✓ | <0.05 | | | | | | 1 | mg/L | | | | |
| m. Sulfite (as $SO_3$) (14265-45-3) | | ✓ | <2 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | ✓ | <0.1 | | | | | | 1 | mg/L | | | | |
| o. Aluminum, Total (7429-90-5) | | ✓ | 0.722 | 9.6E+00 | | | | | 1 | mg/L | lb/day | | | |
| p. Barium, Total (7440-39-3) | | ✓ | 0.0287 | 3.8E-01 | | | | | 1 | mg/L | lb/day | | | |
| q. Boron, Total (7440-42-8) | | ✓ | <0.05 | | | | | | 1 | mg/L | | | | |
| r. Cobalt, Total (7440-48-4) | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| s. Iron, Total (7439-89-6) | | ✓ | 1.21 | 1.6E+01 | | | | | 1 | mg/L | lb/day | | | |
| t. Magnesium, Total (7439-95-4) | | ✓ | 9.78 | 1.3E+02 | | | | | 1 | mg/L | lb/day | | | |
| u. Molybdenum, Total (7439-98-7) | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| v. Manganese, Total (7439-96-5) | | ✓ | 0.0288 | 3.8E-01 | | | | | 1 | mg/L | lb/day | | | |
| w. Tin, Total (7440-31-5) | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| x. Titanium, Total (7440-32-6) | | ✓ | 0.0102 | 1.4E-01 | | | | | 1 | mg/L | lb/day | | | |



CONTINUE ON PAGE V-3

| EPA I.D. NUMBER (copy from Item 1 of Form 1) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 612 |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| **METALS, CYANIDE, AND TOTAL PHENOLS** | | | | | | | | | | | | | | | |
| 1M. Antimony, Total (7440-36-0) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 2M. Arsenic, Total (7440-38-2) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 3M. Beryllium, Total, 7440-41-7) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | | | ✓ | <0.002 | | | | | | 1 | mg/L | | | | |
| 5M. Chromium, Total (7440-47-3) | | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| 6M. Copper, Total (7440-50-8) | | | ✓ | 0.0317 | 4.2E-01 | | | | | 1 | mg/L | lb/day | | | |
| 7M. Lead, Total (7439-92-1) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 8M. Mercury, Total (7439-97-6) | | | ✓ | <0.0002 | | | | | | 1 | mg/L | | | | |
| 9M. Nickel, Total (7440-02-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 10M. Selenium, Total (7782-49-2) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 11M. Silver, Total (7440-22-4) | | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 13M. Zinc, Total (7440-66-6) | | | ✓ | 0.0352 | 4.7E-01 | | | | | 1 | mg/L | lb/day | | | |
| 14M. Cyanide, Total (57-12-5) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| **DIOXIN** | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6) | | | ✓ | DESCRIBE RESULTS negative | | | | | | | | | | | |

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION — VOLATILE COMPOUNDS** | | | | | | | | | | | | | | | |
| 1V. Acrolein (107-02-8) | | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| 2V. Acrylonitrile (107-13-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 3V. Benzene (71-43-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 4V. Bis (Chloromethyl) Ether (542-88-1) | | | ✓ | | | | | | | 0 | | | | | |
| 5V. Bromoform (75-25-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 9V. Chloroethane (75-00-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 11V. Chloroform (67-66-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-5

CONTINUED FROM PAGE V-4

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – VOLATILE COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 22V. Methylene Chloride (75-09-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 24V. Tetrachloroethylene (127-18-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 25V. Toluene (108-88-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 29V. Trichloroethylene (79-01-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| **GC/MS FRACTION – ACID COMPOUNDS** | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9A. Pentachlorophenol (87-86-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 10A. Phenol (108-95-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11A. 2,4,6-Trichlorophenol (88-06-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONTI FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 2B. Acenaphtylene (208-96-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3B. Anthracene (120-12-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4B. Benzidine (92-87-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5B. Benzo (a) Anthracene (56-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 6B. Benzo (a) Pyrene (50-32-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 8B. Benzo (ghi) Perylene (191-24-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9B. Benzo (k) Fluoranthene (207-08-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 10B. Bis (2-Chloro-ethoxy) Methane (111-91-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11B. Bis (2-Chloro-ethyl) Ether (111-44-4) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 12B. Bis (2-Chloroiso-propyl) Ether (102-60-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 14B. 4-Bromo-phenyl Phenyl Ether (101-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 18B. Chrysene (218-01-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 19B. Dibenzo (a,h) Anthracene (53-70-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 21B. 1,3-Dichloro-benzene (541-73-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-7

CONT_____ FROM PAGE V-6

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TEST-ING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 22B. 1,4-Dichlorobenzene (106-46-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 23B. 3,3'-Dichlorobenzidine (91-94-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 25B. Dimethyl Phthalate (131-11-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 31B. Fluoranthene (206-44-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 32B. Fluorene (86-73-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 36B. Hexachloroethane (67-72-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 38B. Isophorone (78-59-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 39B. Naphthalene (91-20-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 43B. N-Nitrosodiphenylamine (86-30-6) | | | ✓ | <0.019 | | | | | | | | | | | |
| 44B. Phenanthrene (85-01-8) | | | ✓ | <0.01 | | | | | | | 1 | mg/L | | | |
| 45B. Pyrene (129-00-0) | | | ✓ | <0.01 | | | | | | | 1 | mg/L | | | |
| 46B. 1,2,4 - Trichlorobenzene (120-82-1) | | | ✓ | <0.01 | | | | | | | 1 | mg/L | | | |
| **GC/MS FRACTION – PESTICIDES** | | | | | | | | | | | 1 | mg/L | | | |
| 1P. Aldrin (309-00-2) | | | ✓ | | | | | | | | | | | | |
| 2P. α-BHC (319-84-6) | | | ✓ | | | | | | | | 0 | | | | |
| 3P. β-BHC (319-85-7) | | | ✓ | | | | | | | | 0 | | | | |
| 4P. γ-BHC (58-89-9) | | | ✓ | | | | | | | | 0 | | | | |
| 5P. δ-BHC (319-86-8) | | | ✓ | | | | | | | | 0 | | | | |
| 6P. Chlordane (57-74-9) | | | ✓ | | | | | | | | 0 | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | ✓ | | | | | | | | 0 | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | ✓ | | | | | | | | 0 | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | ✓ | | | | | | | | 0 | | | | |
| 10P. Dieldrin (60-57-1) | | | ✓ | | | | | | | | 0 | | | | |
| 11P. α-Endosulfan (115-29-7) | | | ✓ | | | | | | | | 0 | | | | |
| 12P. β-Endosulfan (115-29-7) | | | ✓ | | | | | | | | 0 | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | ✓ | | | | | | | | 0 | | | | |
| 14P. Endrin (72-20-8) | | | ✓ | | | | | | | | 0 | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | ✓ | | | | | | | | 0 | | | | |
| 16P. Heptachlor (76-44-8) | | | ✓ | | | | | | | | 0 | | | | |



CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-8

EPA I.D. NUMBER (copy from Item 1 of Form 1): 31B00002 | OUTFALL NUMBER: 612

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| **GC/MS FRACTION — PESTICIDES (continued)** | | | | | | | | | | | | | | | |
| 17P. Heptachlor Epoxide (1024-57-3) | | | ✓ | | | | | | | 0 | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | ✓ | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | ✓ | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | ✓ | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | ✓ | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | ✓ | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | ✓ | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | ✓ | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | ✓ | | | | | | | 0 | | | | | |

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

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: 31B00002

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

OUTFALL NO.: 800 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 | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 3. UNITS (specify if blank) a. CONCENTRATION | 3. UNITS b. MASS | 4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 4. INTAKE (2) MASS | 4. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand *(BOD)* | <2 | | | | | | 1 | mg/L | | | | |
| b. Chemical Oxygen Demand *(COD)* | <10 | | | | | | 1 | mg/L | | | | |
| c. Total Organic Carbon *(TOC)* | 3.1 | 9.99E+03 | | | | | 1 | mg/L | lb/day | | | |
| d. Total Suspended Solids *(TSS)* | 17 | 5.4E+04 | | | | | 1 | mg/L | lb/day | | | |
| e. Ammonia *(as N)* | <0.10 | | | | | | 1 | mg/L | | | | |
| f. Flow | VALUE 382.3 | | VALUE | | VALUE | | 1 | mgd | | VALUE | | |
| g. Temperature *(winter)* | VALUE 3.33 | | VALUE | | VALUE | | 1 | °C | | VALUE | | |
| h. Temperature *(summer)* | VALUE | | VALUE | | VALUE | | | °C | | VALUE | | |
| i. pH | MINIMUM 7.70 | MAXIMUM 7.70 | MINIMUM | MAXIMUM | | | 1 | STANDARD UNITS | | | | |

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

| 1. POLLUTANT AND CAS NO. *(if available)* | 2. MARK 'X' a. BELIEVED PRESENT | 2. MARK 'X' b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE (2) MASS | 5. INTAKE b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | | ✓ | 0.35 | 1.1E+03 | | | | | 1 | mg/L | lb/day | | | |
| b. Chlorine, Total Residual | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| c. Color | ✓ | | 50 | NA | | | | | 1 | CU | NA | | | |
| d. Fecal Coliform | ✓ | | 23 | NA | | | | | 1 | CFU100ml | NA | | | |
| e. Fluoride (16984-48-8) | | ✓ | 0.154 | 4.91E+02 | | | | | 1 | mg/L | lb/day | | | |
| f. Nitrate-Nitrite *(as N)* | ✓ | | 1.7 | 5.4E+03 | | | | | 1 | mg/L | lb/day | | | |



CONTINUE ON REVERSE

ITEM V-C CONTINUED FROM FRONT

| 1. POLLUTANT AND CAS NO. (if available) | 2. MARK 'X' a. BELIEVED PRESENT | 2. MARK 'X' b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | 3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS | 3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | 3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | 3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | 3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS | 3. EFFLUENT d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | 4. UNITS b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS | 5. INTAKE (optional) b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| g. Nitrogen, Total Organic (as N) | ✓ | | <0.20 | | | | | | 1 | mg/L | | | | |
| h. Oil and Grease | | ✓ | <5 | | | | | | 1 | mg/L | | | | |
| i. Phosphorus (as P), Total (7723-14-0) | ✓ | | <0.10 | | | | | | 1 | mg/L | | | | |
| j. Radioactivity | | | | | | | | | | | | | | |
| (1) Alpha, Total | | ✓ | | | | | | | 0 | | | | | |
| (2) Beta, Total | | ✓ | | | | | | | 0 | | | | | |
| (3) Radium, Total | | ✓ | | | | | | | 0 | | | | | |
| (4) Radium 226, Total | | ✓ | | | | | | | 0 | | | | | |
| k. Sulfate (as $SO_4$) (14808-79-8) | ✓ | | 35.1 | 1.12E+05 | | | | | 1 | mg/L | lb/day | | | |
| l. Sulfide (as S) | | ✓ | <0.05 | | | | | | 1 | mg/L | | | | |
| m. Sulfite (as $SO_3$) (14265-45-3) | | ✓ | <2 | | | | | | 1 | mg/L | | | | |
| n. Surfactants | | ✓ | 0.144 | 4.59E+02 | | | | | 1 | mg/L | lb/day | | | |
| o. Aluminum, Total (7429-90-5) | ✓ | | 0.89 | 2.8E+03 | | | | | 1 | mg/L | lb/day | | | |
| p. Barium, Total (7440-39-3) | ✓ | | 0.0296 | 9.44E+01 | | | | | 1 | mg/L | lb/day | | | |
| q. Boron, Total (7440-42-8) | ✓ | | <0.05 | | | | | | 1 | mg/L | | | | |
| r. Cobalt, Total (7440-48-4) | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| s. Iron, Total (7439-89-6) | ✓ | | 1.35 | 4.30E+03 | | | | | 1 | mg/L | lb/day | | | |
| t. Magnesium, Total (7439-95-4) | ✓ | | 9.93 | 3.17E+04 | | | | | 1 | mg/L | lb/day | | | |
| u. Molybdenum, Total (7439-98-7) | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| v. Manganese, Total (7439-96-5) | ✓ | | 0.027 | 8.61E+01 | | | | | 1 | mg/L | lb/day | | | |
| w. Tin, Total (7440-31-5) | | ✓ | <0.020 | | | | | | 1 | mg/L | | | | |
| x. Titanium, Total (7440-32-6) | ✓ | | 0.0124 | 3.95E+01 | | | | | 1 | mg/L | lb/day | | | |



CONTINUE ON PAGE V-3

| EPA I.D. NUMBER (copy from Item 1 of Form 1) | OUTFALL NUMBER |
|---|---|
| 31B00002 | 800-Intake |

CONTINUED FROM PAGE 3 OF FORM 2-C

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

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| **METALS, CYANIDE, AND TOTAL PHENOLS** | | | | | | | | | | | | | | | |
| 1M. Antimony, Total (7440-36-0) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 2M. Arsenic, Total (7440-38-2) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 3M. Beryllium, Total, 7440-41-7) | | ✓ | | <0.001 | | | | | | 1 | mg/L | | | | |
| 4M. Cadmium, Total (7440-43-9) | | ✓ | | <0.002 | | | | | | 1 | mg/L | | | | |
| 5M. Chromium, Total (7440-47-3) | | ✓ | | 0.00843 | 2.69E+01 | | | | | 1 | mg/L | lb/day | | | |
| 6M. Copper, Total (7440-50-8) | | ✓ | | <0.01 | | | | | | 1 | mg/L | | | | |
| 7M. Lead, Total (7439-92-1) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 8M. Mercury, Total (7439-97-6) | | ✓ | | <0.0002 | | | | | | 1 | mg/L | | | | |
| 9M. Nickel, Total (7440-02-0) | | ✓ | | 0.0103 | 3.28E+01 | | | | | 1 | mg/L | lb/day | | | |
| 10M. Selenium, Total (7782-49-2) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 11M. Silver, Total (7440-22-4) | | ✓ | | <0.005 | | | | | | 1 | mg/L | | | | |
| 12M. Thallium, Total (7440-28-0) | | ✓ | | <0.02 | | | | | | 1 | mg/L | | | | |
| 13M. Zinc, Total (7440-66-6) | | ✓ | | 0.0108 | 3.44E+01 | | | | | 1 | mg/L | lb/day | | | |
| 14M. Cyanide, Total (57-12-5) | | | ✓ | <0.02 | | | | | | 1 | mg/L | | | | |
| 15M. Phenols, Total | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| **DIOXIN** | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6) | | | ✓ | DESCRIBE RESULTS: negative | | | | | | | | | | | |

CONTI FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TEST-ING 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) | | | ✓ | <0.005 | | | | | | 1 | mg/L | | | | |
| 2V. Acrylonitrile (107-13-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 3V. Benzene (71-43-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 4V. Bis (Chloromethyl) Ether (542-88-1) | | | ✓ | | | | | | | 0 | | | | | |
| 5V. Bromoform (75-25-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 7V. Chlorobenzene (108-90-7) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 8V. Chlorodibromomethane (124-48-1) | | | ✓ | <0.001 | | | | | | 1 | mg/L | | | | |
| 9V. Chloroethane (75-00-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 11V. Chloroform (67-66-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 12V. Dichlorobromomethane (75-27-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 14V. 1,1-Dichloroethane (75-34-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 15V. 1,2-Dichloroethane (107-06-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 16V. 1,1-Dichloroethylene (75-35-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 17V. 1,2-Dichloropropane (78-87-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 18V. 1,3-Dichloropropylene (542-75-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 19V. Ethylbenzene (100-41-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 20V. Methyl Bromide (74-83-9) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 21V. Methyl Chloride (74-87-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-5

CONTINUED FROM PAGE V-4

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – VOLATILE COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 22V. Methylene Chloride (75-09-2) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 24V. Tetrachloroethylene (127-18-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 25V. Toluene (108-88-3) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 29V. Trichloroethylene (79-01-6) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| 31V. Vinyl Chloride (75-01-4) | | | ✓ | <0.0005 | | | | | | 1 | mg/L | | | | |
| **GC/MS FRACTION – ACID COMPOUNDS** | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 6A. 2-Nitrophenol (88-75-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7A. 4-Nitrophenol (100-02-7) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9A. Pentachlorophenol (87-86-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 10A. Phenol (108-95-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11A. 2,4,6-Trichlorophenol (88-06-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (If available) (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (If available) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 2B. Acenaphtylene (208-96-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 3B. Anthracene (120-12-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 4B. Benzidine (92-87-5) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 5B. Benzo (a) Anthracene (56-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 6B. Benzo (a) Pyrene (50-32-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 7B. 3,4-Benzo-fluoranthene (205-99-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 8B. Benzo (ghi) Perylene (191-24-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 9B. Benzo (k) Fluoranthene (207-08-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 10B. Bis (2-Chloro-ethoxy) Methane (111-91-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 11B. Bis (2-Chloro-ethyl) Ether (111-44-4) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 12B. Bis (2-Chloroiso-propyl) Ether (102-60-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 14B. 4-Bromo-phenyl Phenyl Ether (101-55-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 16B. 2-Chloro-naphthalene (91-58-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 18B. Chrysene (218-01-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 19B. Dibenzo (a,h) Anthracene (53-70-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 20B. 1,2-Dichloro-benzene (95-50-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 21B. 1,3-Dichloro-benzene (541-73-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON PAGE V-7

CONT ) FROM PAGE V-6

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 22B. 1,4-Dichlorobenzene (106-46-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 23B. 3,3'-Dichlorobenzidine (91-94-1) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 24B. Diethyl Phthalate (84-66-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 25B. Dimethyl Phthalate (131-11-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 31B. Fluoranthene (206-44-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 32B. Fluorene (86-73-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 33B. Hexachlorobenzene (118-74-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | | | ✓ | <0.048 | | | | | | 1 | mg/L | | | | |
| 36B. Hexachloroethane (67-72-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 38B. Isophorone (78-59-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 39B. Naphthalene (91-20-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 40B. Nitrobenzene (98-95-3) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |



CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 43B. N-Nitrosodiphenylamine (86-30-6) | | | ✓ | <0.019 | | | | | | 1 | mg/L | | | | |
| 44B. Phenanthrene (85-01-8) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 45B. Pyrene (129-00-0) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| 46B. 1,2,4-Trichlorobenzene (120-82-1) | | | ✓ | <0.01 | | | | | | 1 | mg/L | | | | |
| **GC/MS FRACTION – PESTICIDES** | | | | | | | | | | | | | | | |
| 1P. Aldrin (309-00-2) | | | ✓ | | | | | | | 0 | | | | | |
| 2P. α-BHC (319-84-6) | | | ✓ | | | | | | | 0 | | | | | |
| 3P. β-BHC (319-85-7) | | | ✓ | | | | | | | 0 | | | | | |
| 4P. γ-BHC (58-89-9) | | | ✓ | | | | | | | 0 | | | | | |
| 5P. δ-BHC (319-86-8) | | | ✓ | | | | | | | 0 | | | | | |
| 6P. Chlordane (57-74-9) | | | ✓ | | | | | | | 0 | | | | | |
| 7P. 4,4'-DDT (50-29-3) | | | ✓ | | | | | | | 0 | | | | | |
| 8P. 4,4'-DDE (72-55-9) | | | ✓ | | | | | | | 0 | | | | | |
| 9P. 4,4'-DDD (72-54-8) | | | ✓ | | | | | | | 0 | | | | | |
| 10P. Dieldrin (60-57-1) | | | ✓ | | | | | | | 0 | | | | | |
| 11P. α-Endosulfan (115-29-7) | | | ✓ | | | | | | | 0 | | | | | |
| 12P. β-Endosulfan (115-29-7) | | | ✓ | | | | | | | 0 | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | | | ✓ | | | | | | | 0 | | | | | |
| 14P. Endrin (72-20-8) | | | ✓ | | | | | | | 0 | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | | | ✓ | | | | | | | 0 | | | | | |
| 16P. Heptachlor (76-44-8) | | | ✓ | | | | | | | 0 | | | | | |



CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-8

EPA I.D. NUMBER (copy from Item 1 of Form 1): 31B00002

OUTFALL NUMBER: 800-Intake

| 1. POLLUTANT AND CAS NUMBER (If available) | 2. MARK 'X' a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – PESTICIDES** (continued) | | | | | | | | | | | | | | | |
| 17P. Heptachlor Epoxide (1024-57-3) | | | ✓ | | | | | | | 0 | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | ✓ | | | | | | | 0 | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | ✓ | | | | | | | 0 | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | ✓ | | | | | | | 0 | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | ✓ | | | | | | | 0 | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | ✓ | | | | | | | 0 | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | ✓ | | | | | | | 0 | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | ✓ | | | | | | | 0 | | | | | |
| 25P. Toxaphene (8001-35-2) | | | ✓ | | | | | | | 0 | | | | | |

Reliant Energy

*Titus Power Plant, 296 Poplar Neck Rd., Birdsboro, PA 19508*
*Tel.: 610/378-8439 Fax: 610/378-8486*

Date: April 22, 2005 Location: Titus Station

From: R. L. Grove – Senior Chemist

Subject: AVON LAKE SAMPLING - PHTHALATE CONTAMINATION

To: R. Laeng – Environmental Manager

From the analysis of the 2005 sampling conducted at the Avon Lake Power Plant, Geochemical Testing Laboratory discovered that the sampling revealed Bis (2-ethylhexyl) phthalate from the GC/MS Fraction – Base/Neutral Compounds.

Phthalate contamination has also been discovered at our Keystone, Conemaugh, Portland, Shawville, Hunterstown, Warren and Seward Stations as well as Three Mile Island under similar sampling conditions. What we revealed has been documented by the EPA. It appears that phthalates will leach from plastic sample containers, lids or PVC piping. The leachability of phthalates is directly proportional to the pH of the sample stream. The lower the pH the greater the likelihood of phthalates being leached from the wall of the bottle, sampling container or PVC piping. The EPA documented this phenomenon in their solid waste manual Test Methods for Evaluating Solid Waste, SW-846, Volume 1B: Laboratory Manual Physical/Chemical Methods, 3rd Edition, Revision 3, December 1996. Attachment #1, page FOUR – 3 of the above reference, reveals the potential for phthalate contamination.

The reason for this memo is to explain the incident of phthalate in the composited samples and to explain their source. It appears that the main source of this phthalate species is from the plastic receiving containers used in the multiple composite samplers placed into service. Reliant Energy Chemistry Technical Support has cleaned these containers several times between use even to the extent of filling the containers with deionized water and hydrochloric acid and allowing them to leach for several days. It now appears that for a permanent fix either long term conditioning of the plastic Nalgene containers is required or convert to glass containers. With glass, unfortunately, handling and transportation becomes a big issue.

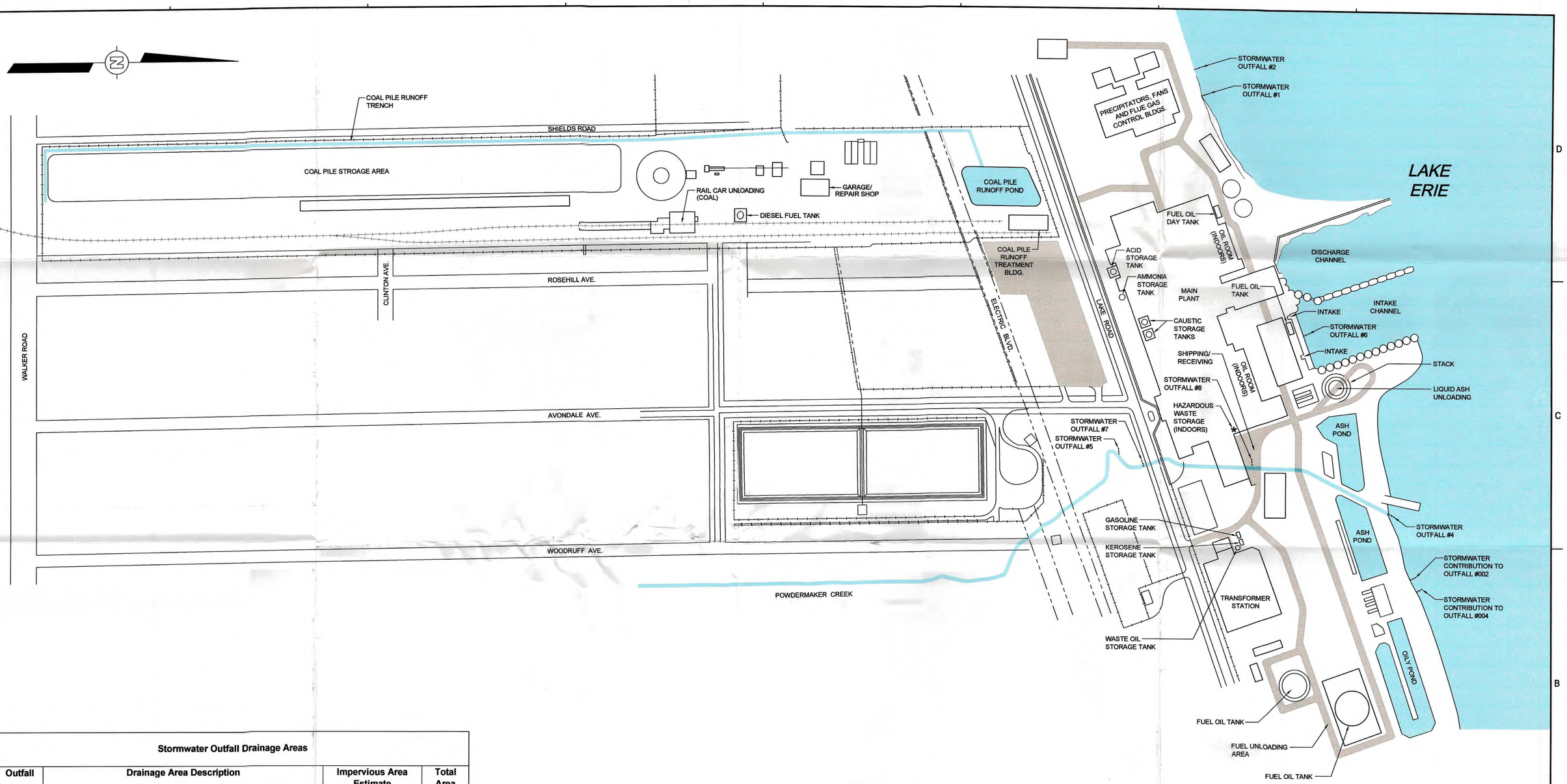
The OEPA should recognize our position and realize that phthalates present in certain samples can be attributed to the composite sampling equipment. I would find it highly unlikely that phthalates would exist in the influent or waste streams under normal conditions.

If you have any questions, please contact me at 610-378-8439.

Sincerely,

Ronald L. Grove
Senior Chemist

OFFICE Pittsburgh, PA | DRAWING NUMBER 110870-E2




VERIFY SCALE 0 1"

Xref: .. Image: ORION scan375

O:\Project\110870\110870E2.dwg Plot Date/Time: 11/29/05 09:20am Plotted by: william.snyder

**Stormwater Outfall Drainage Areas**

| Outfall | Drainage Area Description | Impervious Area Estimate | Total Area Estimate |
|---|---|---|---|
| #1 | Roof drains and surface areas near western boundary of plant grounds. | 55,000 sq feet | 130,000 sq feet |
| #2 | Roof drains and surface areas near western boundary of plant grounds. | 75,000 sq feet | 90,000 sq feet |
| #4 | Powder Maker Creek discharge point. Receives groundwater infiltration and discharge from Stormwater outfalls #5, #7 and #8. | > 0.2 square mile | > 2 square miles |
| #5(1) | Portion of plant parking lot. Also serves as discharge point for emergency overflow from the coal pile runoff pond. | 60,000 sq feet | 90,000 sq feet |
| #6 | Roadway and surface drains along northern face of main plant area. | 2,000 sq feet | 2,000 sq feet |
| #7(1) | Portion of plant parking lot and road drains along Lake Road and Avondale Road. | 0.2 square miles | 2 square miles |
| #8 | Warehouse roof and associated asphalt area to the south and west of warehouse. | 12,000 sq feet | 12,000 sq feet |
| 002(2) | Roof drains and surface in main plant area. | 33,600 sq feet | 33,600 sq feet |
| 004(2) | Roadway surfaces around ash ponds and oily waste pond. | 45,000 sq feet | 45,0000 sq feet |

(1) Stormwater outfalls shared with First Energy.
(2) Process water outfalls with stormwater contribution.

LEGEND:
- PAVED ARES
- SURFACE WATER AND SITE PONDS

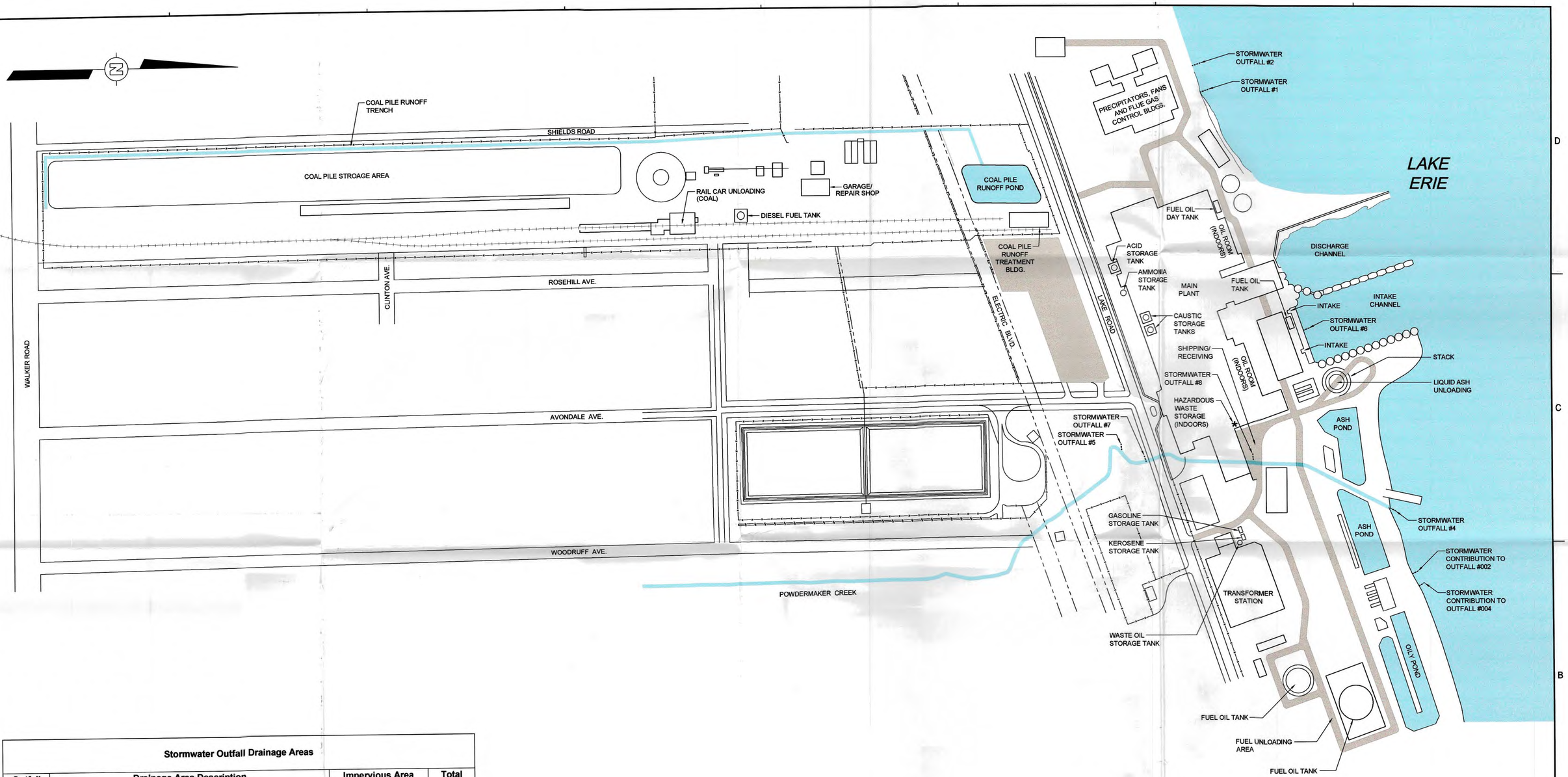
NOTE:
REFERENCES FOR BASE DRAWING AND INFORMATION ON SITE FEATURES PROVIDED BY RELIANT ENERGY INC.

APPROXIMATE SCALE
0 150 300 450 FEET

Shaw Shaw Environmental, Inc.

| | |
|---|---|
| DESIGNED BY: -- | ORION POWER MIDWEST, L.P. AVON LAKE POWER PLANT |
| DRAWN BY: B. Snyder | FIGURE 2 FACILITY LAYOUT AVON LAKE POWER PLANT AVON LAKE, OHIO |
| CHECKED BY: S. Zummo Forney | |
| APPROVED BY: -- | DATE: 11/3/05 \| SCALE: AS NOTED \| DRAWING NO. 110870-E2 \| SHEET NO. -- |

OFFICE Pittsburgh, PA | DRAWING NUMBER 110870-E2




| Stormwater Outfall Drainage Areas | | | |
|---|---|---|---|
| **Outfall** | **Drainage Area Description** | **Impervious Area Estimate** | **Total Area Estimate** |
| #1 | Roof drains and surface areas near western boundary of plant grounds. | 55,000 sq feet | 130,000 sq feet |
| #2 | Roof drains and surface areas near western boundary of plant grounds. | 75,000 sq feet | 90,000 sq feet |
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(1) Stormwater outfalls shared with First Energy.
(2) Process water outfalls with stormwater contribution.

LEGEND:
- PAVED ARES
- SURFACE WATER AND SITE PONDS

NOTE:
REFERENCES FOR BASE DRAWING AND INFORMATION ON SITE FEATURES PROVIDED BY RELIANT ENERGY INC.

APPROXIMATE SCALE
0 150 300 450 FEET

VERIFY SCALE 0 1"

Xref: . .
Image: ORION scan375

O:\Project\110870\110870E2.dwg
Plot Date/Time: 11/29/05 09:20am
Plotted by: william.snyder

Shaw Shaw Environmental, Inc.

| | | | | |
|---|---|---|---|---|
| DESIGNED BY: -- | ORION POWER MIDWEST | ORION POWER MIDWEST, L.P. AVON LAKE POWER PLANT | | |
| DRAWN BY: B. Snyder | FIGURE 2 FACILITY LAYOUT AVON LAKE POWER PLANT AVON LAKE, OHIO | | | |
| CHECKED BY: S. Zummo Forney | | | | |
| APPROVED BY: -- | DATE: 11/3/05 | SCALE: AS NOTED | DRAWING NO. 110870-E2 | SHEET NO. -- |