

Application No. OH0006092

Issue Date: June 19, 2020

Effective Date: July 1, 2020

Expiration Date: June 30, 2025

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),

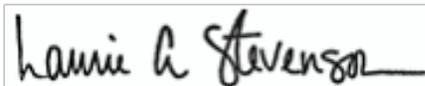
Fluor-BWXT Portsmouth, LLC

is authorized by the Ohio Environmental Protection Agency, hereinafter referred to as "Ohio EPA," to discharge from the Fluor-BWXT Portsmouth LLC wastewater treatment works located at 3930 US Route 23 South, Piketon, Ohio, Pike County and discharging to Little Beaver Creek, the Scioto River, West Ditch and Big Run in accordance with the conditions specified in Parts I, II, III, IV, V and IV of this permit.

I have determined that a lowering of water quality in the Scioto River is necessary. In accordance with OAC 3745-1-05, this decision was reached only after examining a series of technical alternatives, reviewing social and economic issues related to the degradation, and considering all public and appropriate intergovernmental comments.

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.



Laurie A. Stevenson  
Director

Total Pages: 90

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

1. During the period beginning on the effective date of this permit and through April 30, 2023, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 0IO00000001. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 001 - Initial - 001 - Initial - 001 - Initial

| Effluent Characteristic<br><br>Parameter          | Discharge Limitations         |         |        |         |                 |        |         | Monitoring Requirements |                |                   |
|---|-------------------------------|---------|--------|---------|-----------------|--------|---------|-------------------------|----------------|-------------------|
|   | Concentration Specified Units |         |        |         | Loading* kg/day |        |         | Measuring Frequency     | Sampling Type  | Monitoring Months |
|   | Maximum                       | Minimum | Weekly | Monthly | Daily           | Weekly | Monthly |                         |                |                   |
| 00045 - Total Precipitation - Inches              | -                             | -       | -      | -       | -               | -      | -       | 1/Day                   | 24hr Total     | All               |
| 00400 - pH - S.U.                                 | 9.0                           | 6.5     | -      | -       | -               | -      | -       | 1/Week                  | Grab           | All               |
| 00530 - Total Suspended Solids - mg/l             | 45                            | -       | -      | 20      | -               | -      | -       | 1/Week                  | 24hr Composite | All               |
| 00552 - Oil and Grease, Hexane Extr Method - mg/l | 10                            | -       | -      | -       | -               | -      | -       | 1/Week                  | Grab           | All               |
| 00951 - Fluoride, Total (F) - mg/l                | -                             | -       | -      | -       | -               | -      | -       | 1/Quarter               | 24hr Composite | Quarterly         |
| 01079 - Silver, Total Recoverable - ug/l          | -                             | -       | -      | -       | -               | -      | -       | 1/Quarter               | 24hr Composite | Quarterly         |
| 01094 - Zinc, Total Recoverable - ug/l            | -                             | -       | -      | -       | -               | -      | -       | 1/Quarter               | 24hr Composite | Quarterly         |
| 01119 - Copper, Total Recoverable - ug/l          | -                             | -       | -      | -       | -               | -      | -       | 1/Quarter               | 24hr Composite | Quarterly         |
| 50050 - Flow Rate - MGD                           | -                             | -       | -      | -       | -               | -      | -       | 1/Day                   | 24hr Total     | All               |
| 50060 - Chlorine, Total Residual - mg/l           | 0.019                         | -       | -      | 0.011   | -               | -      | -       | 1/Week                  | Grab           | All               |
| 50092 - Mercury, Total (Low Level) - ng/l         | 1700                          | -       | -      | 20      | -               | -      | -       | 1/Month                 | Grab           | All               |

Notes for Station Number 0IO00000001:

a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

b. This discharge is limited to non-contact cooling water, steam condensate, foundation drainage, storm runoff, hydrotesting water from cylinders, groundwater infiltration, fire suppression system water, sanitary water for eyewash/shower testing and flushing. It shall be free from process waste.

d. Mercury - See Part II, Item G.

e. Total Residual Chlorine - See Part II, Items K.

f. Total Suspended Solids Alternative Effluent Limits - Discharges from this outfall may, as an option, comply with effluent limitations and monitoring requirements listed in Part II, Item Q, provided that all conditions of Part II, Item Q.2 are met. When alternative effluent limits are claimed insert "AC" into the discharge monitoring report for total suspended solids and report the analytical result in the comments section. See Part II, Item Q.2 for additional information that should be submitted as documentation.

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

2. During the period beginning May 1, 2023 and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 0IO00000001. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 001 - Final

| Effluent Characteristic<br><br>Parameter          | Discharge Limitations         |        |                 |       |        |                     | Monitoring Requirements |                   |                |           |
|---|-------------------------------|--------|-----------------|-------|--------|---------------------|-------------------------|-------------------|----------------|-----------|
|   | Concentration Specified Units |        | Loading* kg/day |       |        | Measuring Frequency | Sampling Type           | Monitoring Months |                |           |
| Maximum   | Minimum                       | Weekly | Monthly         | Daily | Weekly |                     |                         |                   | Monthly        |           |
| 00045 - Total Precipitation - Inches              | -                             | -      | -               | -     | -      | -                   | -                       | 1/Day             | 24hr Total     | All       |
| 00400 - pH - S.U.                                 | 9.0                           | 6.5    | -               | -     | -      | -                   | -                       | 1/Week            | Grab           | All       |
| 00530 - Total Suspended Solids - mg/l             | 45                            | -      | -               | 20    | -      | -                   | -                       | 1/Week            | 24hr Composite | All       |
| 00552 - Oil and Grease, Hexane Extr Method - mg/l | 10                            | -      | -               | -     | -      | -                   | -                       | 1/Week            | Grab           | All       |
| 00951 - Fluoride, Total (F) - mg/l                | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | 24hr Composite | Quarterly |
| 01079 - Silver, Total Recoverable - ug/l          | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | 24hr Composite | Quarterly |
| 01094 - Zinc, Total Recoverable - ug/l            | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | 24hr Composite | Quarterly |
| 01119 - Copper, Total Recoverable - ug/l          | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | 24hr Composite | Quarterly |
| 50050 - Flow Rate - MGD                           | -                             | -      | -               | -     | -      | -                   | -                       | 1/Day             | 24hr Total     | All       |
| 50060 - Chlorine, Total Residual - mg/l           | 0.019                         | -      | -               | 0.011 | -      | -                   | -                       | 1/Week            | Grab           | All       |
| 50092 - Mercury, Total (Low Level) - ng/l         | 1700                          | -      | -               | 12    | -      | -                   | -                       | 1/Month           | Grab           | All       |

Notes for Station Number 0IO00000001:

a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

b. This discharge is limited to non-contact cooling water, steam condensate, foundation drainage, storm runoff, hydrotesting water from cylinders, groundwater infiltration, fire suppression system water, sanitary water for eyewash/shower testing and flushing. It shall be free from process waste.

d. Mercury - See Part II, Item G.

e. Total Residual Chlorine - See Part II, Item K.

f. Total Suspended Solids Alternative Effluent Limits - Discharges from this outfall may, as an option, comply with effluent limitations and monitoring requirements listed in Part II, Item Q, provided that all conditions of Part II, Item Q.2 are met. When alternative effluent limits are claimed insert "AC" into the discharge monitoring report for total suspended solids and report the analytical result in the comments section. See Part II, Item Q.2 for additional information that should be submitted as documentation.

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

3. During the period beginning on effective date of this permit and lasting 18 months, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 0IO00000002. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 002 - Initial - 002 - Initial - 002 - Initial

| Effluent Characteristic<br>Parameter              | Discharge Limitations         |        |                 |       |        |                     | Monitoring Requirements |                   |                |           |
|---|-------------------------------|--------|-----------------|-------|--------|---------------------|-------------------------|-------------------|----------------|-----------|
|   | Concentration Specified Units |        | Loading* kg/day |       |        | Measuring Frequency | Sampling Type           | Monitoring Months |                |           |
| Maximum   | Minimum                       | Weekly | Monthly         | Daily | Weekly |                     |                         |                   | Monthly        |           |
| 00400 - pH - S.U.                                 | 9.0                           | 6.5    | -               | -     | -      | -                   | -                       | 1/Week            | Grab           | All       |
| 00530 - Total Suspended Solids - mg/l             | 45                            | -      | -               | 20    | -      | -                   | -                       | 1/Week            | 24hr Composite | All       |
| 00552 - Oil and Grease, Hexane Extr Method - mg/l | 10                            | -      | -               | -     | -      | -                   | -                       | 1/Week            | Grab           | All       |
| 00951 - Fluoride, Total (F) - mg/l                | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | 24hr Composite | Quarterly |
| 00981 - Selenium, Total Recoverable - ug/l        | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | 24hr Composite | Quarterly |
| 39100 - Bis(2-ethylhexyl) Phthalate - ug/l        | 1100                          | -      | -               | 8.4   | -      | -                   | -                       | 1/Month           | Multiple Grab  | All       |
| 50050 - Flow Rate - MGD                           | -                             | -      | -               | -     | -      | -                   | -                       | 1/Day             | 24hr Total     | All       |
| 50060 - Chlorine, Total Residual - mg/l           | -                             | -      | -               | -     | -      | -                   | -                       | 1/Week            | Grab           | All       |
| 50092 - Mercury, Total (Low Level) - ng/l         | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | Grab           | Quarterly |

Notes for Station Number 0IO00000002:

a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

b. This discharge is limited to non-contact cooling water, steam condensate, foundation drainage, storm runoff, fire-fighting training and fire suppression system water, boiler blowdown, water softener regeneration, groundwater infiltration, sanitary water for eyewash/shower station testing and flushing, and the discharge from the X621 coal pile treatment facility. It shall be free of process waste.

d. Mercury - See Part II, Item G.

e. Total Residual Chlorine - See Part II, Items K.

f. Bis(2-ethylhexyl) phthalate - See Part II, Items H and K.

g. Total Suspended Solids Alternative Effluent Limits - Discharges from this outfall may, as an option, comply with effluent limitations and monitoring requirements listed in Part II, Item Q, provided that all conditions of Part II, Item Q.2 are met. When alternative effluent limits are claimed insert "AC" into the discharge monitoring report for total suspended solids and report the analytical result in the comments section. See Part II, Item Q.2 for additional information that should be submitted as documentation.

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

4. During the period beginning 18 months from 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 01O00000002. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 002 - Final

| Effluent Characteristic<br><br>Parameter          | Discharge Limitations         |         |        |         |                 |        |         | Monitoring Requirements |                |                   |
|---|-------------------------------|---------|--------|---------|-----------------|--------|---------|-------------------------|----------------|-------------------|
|   | Concentration Specified Units |         |        |         | Loading* kg/day |        |         | Measuring Frequency     | Sampling Type  | Monitoring Months |
|   | Maximum                       | Minimum | Weekly | Monthly | Daily           | Weekly | Monthly |                         |                |                   |
| 00400 - pH - S.U.                                 | 9.0                           | 6.5     | -      | -       | -               | -      | -       | 1/Week                  | Grab           | All               |
| 00530 - Total Suspended Solids - mg/l             | 45                            | -       | -      | 20      | -               | -      | -       | 1/Week                  | 24hr Composite | All               |
| 00552 - Oil and Grease, Hexane Extr Method - mg/l | 10                            | -       | -      | -       | -               | -      | -       | 1/Week                  | Grab           | All               |
| 00951 - Fluoride, Total (F) - mg/l                | -                             | -       | -      | -       | -               | -      | -       | 1/Quarter               | 24hr Composite | Quarterly         |
| 00981 - Selenium, Total Recoverable - ug/l        | -                             | -       | -      | -       | -               | -      | -       | 1/Quarter               | 24hr Composite | Quarterly         |
| 39100 - Bis(2-ethylhexyl) Phthalate - ug/l        | 1100                          | -       | -      | 8.4     | -               | -      | -       | 1/Month                 | Multiple Grab  | All               |
| 50050 - Flow Rate - MGD                           | -                             | -       | -      | -       | -               | -      | -       | 1/Day                   | 24hr Total     | All               |
| 50060 - Chlorine, Total Residual - mg/l           | 0.019                         | -       | -      | 0.011   | -               | -      | -       | 1/Week                  | Grab           | All               |
| 50092 - Mercury, Total (Low Level) - ng/l         | -                             | -       | -      | -       | -               | -      | -       | 1/Quarter               | Grab           | Quarterly         |

Notes for Station Number 01O00000002:

a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

b. This discharge is limited to non-contact cooling water, steam condensate, foundation drainage, storm runoff, fire-fighting training and fire suppression system water, boiler blowdown, water softener regeneration, groundwater infiltration, sanitary water for eyewash/shower station testing and flushing, and the discharge from the X621 coal pile treatment facility. It shall be free of process waste.

d. Mercury - See Part II, Item G.

e. Total Residual Chlorine - See Part II, Items K.

f. Bis(2-ethylhexyl) phthalate - See Part II, Items H and K.

g. Total Suspended Solids Alternative Effluent Limits - Discharges from this outfall may, as an option, comply with effluent limitations and monitoring requirements listed in Part II, Item Q, provided that all conditions of Part II, Item Q.2 are met. When alternative effluent limits are claimed insert "AC" into the discharge monitoring report for total suspended solids and report the analytical result in the comments section. See Part II, Item Q.2 for additional information that should be submitted as documentation.

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

5. During the period beginning on the effective date of this permit and lasting 36 months, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 003 - Initial - 003 - Initial - 003 - Initial

| Effluent Characteristic<br>Parameter              | Discharge Limitations         |         |                 |         |        |                     | Monitoring Requirements |                   |                |                  |
|---|-------------------------------|---------|-----------------|---------|--------|---------------------|-------------------------|-------------------|----------------|------------------|
|   | Concentration Specified Units |         | Loading* kg/day |         |        | Measuring Frequency | Sampling Type           | Monitoring Months |                |                  |
|   | Maximum                       | Minimum | Weekly          | Monthly | Daily  | Weekly              | Monthly                 |                   |                |                  |
| 00400 - pH - S.U.                                 | 9.0                           | 6.5     | -               | -       | -      | -                   | -                       | 3/Week            | Grab           | All              |
| 00530 - Total Suspended Solids - mg/l             | 18                            | -       | -               | 12      | 26.6   | -                   | 17.8                    | 1/Week            | 24hr Composite | All              |
| 00552 - Oil and Grease, Hexane Extr Method - mg/l | -                             | -       | -               | -       | -      | -                   | -                       | 1/Quarter         | Grab           | Quarterly - Tox3 |
| 00610 - Nitrogen, Ammonia (NH3) - mg/l            | -                             | -       | -               | -       | -      | -                   | -                       | 1 / 2 Weeks       | 24hr Composite | All              |
| 00630 - Nitrite Plus Nitrate, Total - mg/l        | -                             | -       | -               | -       | -      | -                   | -                       | 1/Quarter         | 24hr Composite | Quarterly - Tox3 |
| 31648 - E. coli - #/100 ml                        | 284                           | -       | -               | 126     | -      | -                   | -                       | 1/Week            | Grab           | Summer           |
| 50050 - Flow Rate - MGD                           | -                             | -       | -               | -       | -      | -                   | -                       | 1/Day             | 24hr Total     | All              |
| 50092 - Mercury, Total (Low Level) - ng/l         | 1700                          | -       | -               | 27      | 0.0025 | -                   | 0.000040                | 1/Month           | Grab           | All              |
| 61425 - Acute Toxicity, Ceriodaphnia dubia - TUa  | -                             | -       | -               | -       | -      | -                   | -                       | 1/Year            | 24hr Composite | July             |
| 61427 - Acute Toxicity, Pimephales promelas - TUa | -                             | -       | -               | -       | -      | -                   | -                       | 1/Year            | 24hr Composite | July             |
| 80082 - CBOD 5 day - mg/l                         | 15                            | -       | -               | 10      | 22.2   | -                   | 14.8                    | 1/Week            | 24hr Composite | All              |

Notes for Station Number 01O00000003:

a. Effluent loadings based on average flow of 0.39 MGD.

b. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

c. The discharge is limited to storm water, sanitary wastewater, and indirect discharges including non-contact cooling water, steam condensate, fire-fighting training and suppression system waters and laboratory decontamination, biodenitrification, X-622, X-623, and X-627 groundwater treatment facility effluents, X-670A cooling tower blowdown, and other miscellaneous wastewaters.

- d. Quarterly-Tox 3 sampling months are February, May, July, and November.
- e. Mercury - See Part II, Item G & M.
- f. Biomonitoring - See Part II, Item P.

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

6. During the period beginning 36 months from 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 01O00000003. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 003 - Final

| Effluent Characteristic<br>Parameter              | Discharge Limitations         |         |                 |         |        |                     | Monitoring Requirements |                   |                |                  |
|---|-------------------------------|---------|-----------------|---------|--------|---------------------|-------------------------|-------------------|----------------|------------------|
|   | Concentration Specified Units |         | Loading* kg/day |         |        | Measuring Frequency | Sampling Type           | Monitoring Months |                |                  |
|   | Maximum                       | Minimum | Weekly          | Monthly | Daily  | Weekly              | Monthly                 |                   |                |                  |
| 00400 - pH - S.U.                                 | 9.0                           | 6.5     | -               | -       | -      | -                   | -                       | 3/Week            | Grab           | All              |
| 00530 - Total Suspended Solids - mg/l             | 18                            | -       | -               | 12      | 26.6   | -                   | 17.8                    | 1/Week            | 24hr Composite | All              |
| 00552 - Oil and Grease, Hexane Extr Method - mg/l | -                             | -       | -               | -       | -      | -                   | -                       | 1/Quarter         | Grab           | Quarterly - Tox3 |
| 00610 - Nitrogen, Ammonia (NH3) - mg/l            | -                             | -       | -               | -       | -      | -                   | -                       | 1 / 2 Weeks       | 24hr Composite | All              |
| 00630 - Nitrite Plus Nitrate, Total - mg/l        | -                             | -       | -               | -       | -      | -                   | -                       | 1/Quarter         | 24hr Composite | Quarterly - Tox3 |
| 31648 - E. coli - #/100 ml                        | 284                           | -       | -               | 126     | -      | -                   | -                       | 1/Week            | Grab           | Summer           |
| 50050 - Flow Rate - MGD                           | -                             | -       | -               | -       | -      | -                   | -                       | 1/Day             | 24hr Total     | All              |
| 50092 - Mercury, Total (Low Level) - ng/l         | 1700                          | -       | -               | 12      | 0.0025 | -                   | 0.000018                | 1/Month           | Grab           | All              |
| 61425 - Acute Toxicity, Ceriodaphnia dubia - TUa  | -                             | -       | -               | -       | -      | -                   | -                       | 1/Year            | 24hr Composite | July             |
| 61427 - Acute Toxicity, Pimephales promelas - TUa | -                             | -       | -               | -       | -      | -                   | -                       | 1/Year            | 24hr Composite | July             |
| 80082 - CBOD 5 day - mg/l                         | 15                            | -       | -               | 10      | 22.2   | -                   | 14.8                    | 1/Week            | 24hr Composite | All              |

Notes for Station Number 01O00000003:

a. Effluent loadings based on average flow of 0.39 MGD.

b. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

c. The discharge is limited to storm water, sanitary wastewater, and indirect discharges including non-contact cooling water, steam condensate, fire-fighting training and suppression system waters and laboratory decontamination, biodenitrification, X-622, X-623, and X-627 groundwater treatment facility effluents, X-670A cooling tower blowdown, and other miscellaneous wastewaters.

- d. Quarterly-Tox 3 sampling months are February, May, July, and November.
- e. Mercury - See Part II, Item G & M.
- f. Biomonitoring - See Part II, Item P.

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 01000000004. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 004 - Final

| Effluent Characteristic<br>Parameter              | Discharge Limitations         |         |                 |         |        |                     | Monitoring Requirements |                   |                |     |
|---|-------------------------------|---------|-----------------|---------|--------|---------------------|-------------------------|-------------------|----------------|-----|
|   | Concentration Specified Units |         | Loading* kg/day |         |        | Measuring Frequency | Sampling Type           | Monitoring Months |                |     |
|   | Maximum                       | Minimum | Weekly          | Monthly | Daily  | Weekly              | Monthly                 |                   |                |     |
| 00400 - pH - S.U.                                 | 9.0                           | 6.5     | -               | -       | -      | -                   | -                       | 1/Week            | Grab           | All |
| 00530 - Total Suspended Solids - mg/l             | 12.5                          | -       | -               | 11.2    | 109    | -                   | 97.6                    | 1/Week            | 24hr Composite | All |
| 00552 - Oil and Grease, Hexane Extr Method - mg/l | 10                            | -       | -               | -       | -      | -                   | -                       | 1/Week            | Grab           | All |
| 00951 - Fluoride, Total (F) - mg/l                | -                             | -       | -               | -       | -      | -                   | -                       | 1/Month           | 24hr Composite | All |
| 00979 - Cobalt, Total Recoverable - ug/l          | -                             | -       | -               | -       | -      | -                   | -                       | 1/Month           | 24hr Composite | All |
| 00981 - Selenium, Total Recoverable - ug/l        | -                             | -       | -               | -       | -      | -                   | -                       | 1/Month           | 24hr Composite | All |
| 00998 - Beryllium, Total Recoverable - ug/l       | -                             | -       | -               | -       | -      | -                   | -                       | 1/Month           | 24hr Composite | All |
| 01074 - Nickel, Total Recoverable - ug/l          | -                             | -       | -               | -       | -      | -                   | -                       | 1/Month           | 24hr Composite | All |
| 01079 - Silver, Total Recoverable - ug/l          | -                             | -       | -               | -       | -      | -                   | -                       | 1/Month           | 24hr Composite | All |
| 01094 - Zinc, Total Recoverable - ug/l            | -                             | -       | -               | -       | -      | -                   | -                       | 1/Month           | 24hr Composite | All |
| 01113 - Cadmium, Total Recoverable - ug/l         | -                             | -       | -               | -       | -      | -                   | -                       | 1/Month           | 24hr Composite | All |
| 01118 - Chromium, Total Recoverable - ug/l        | -                             | -       | -               | -       | -      | -                   | -                       | 1/Month           | 24hr Composite | All |
| 01119 - Copper, Total Recoverable - ug/l          | 66                            | -       | -               | -       | 0.575  | -                   | -                       | 1/Month           | 24hr Composite | All |
| 01128 - Vanadium, Total Recoverable - ug/l        | -                             | -       | -               | -       | -      | -                   | -                       | 1/Month           | 24hr Composite | All |
| 39516 - PCBS - ug/l                               | -                             | -       | -               | -       | -      | -                   | -                       | 1/Month           | 24hr Composite | All |
| 50050 - Flow Rate - MGD                           | -                             | -       | -               | -       | -      | -                   | -                       | 1/Day             | 24hr Total     | All |
| 50060 - Chlorine, Total Residual - mg/l           | 0.038                         | -       | -               | -       | -      | -                   | -                       | 1/Week            | Grab           | All |
| 50092 - Mercury, Total (Low Level) - ng/l         | 1700                          | -       | -               | 12      | 0.0148 | -                   | 0.000105                | 1/Month           | Grab           | All |

| <u>Effluent Characteristic</u>                    | <u>Discharge Limitations</u>  |         |                 |         |       |        | <u>Monitoring Requirements</u> |               |                   |                  |
|---|-------------------------------|---------|-----------------|---------|-------|--------|--------------------------------|---------------|-------------------|------------------|
|   | Concentration Specified Units |         | Loading* kg/day |         |       |        | Measuring Frequency            | Sampling Type | Monitoring Months |                  |
| Parameter   | Maximum                       | Minimum | Weekly          | Monthly | Daily | Weekly |                                |               |                   | Monthly          |
| 61425 - Acute Toxicity, Ceriodaphnia dubia - TUa  | -                             | -       | -               | -       | -     | -      | -                              | 1/Quarter     | 24hr Composite    | Quarterly - Tox3 |
| 61427 - Acute Toxicity, Pimephales promelas - TUa | -                             | -       | -               | -       | -     | -      | -                              | 1/Quarter     | 24hr Composite    | Quarterly - Tox3 |
| 70300 - Residue, Total Filterable - mg/l          | -                             | -       | -               | -       | -     | -      | -                              | 1/Month       | 24hr Composite    | All              |

Notes for Station Number 0IO00000004:

- a. Effluent loadings based on average flow of 2.3 MGD.
- b. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.
- c. This discharge is limited to cooling tower blowdown and modular treatment system trains A, B, C, & D.
- d. Mercury - See Part II, Item G.
- e. Total Residual Chlorine - See Part II, Item K.
- f. Biomonitoring - See Part II, Item P.
- g. There shall be no detectable amount of polychlorinated biphenyls. The permittee shall use Method 608 as indicated in 40 CFR 136, Appendix A.

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 0IO00000005. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 005 - Final

| Effluent Characteristic<br>Parameter       | Discharge Limitations         |        |                 |       |        |                     | Monitoring Requirements |                   |                     |           |
|--|-------------------------------|--------|-----------------|-------|--------|---------------------|-------------------------|-------------------|---------------------|-----------|
|  | Concentration Specified Units |        | Loading* kg/day |       |        | Measuring Frequency | Sampling Type           | Monitoring Months |                     |           |
| Maximum                                    | Minimum                       | Weekly | Monthly         | Daily | Weekly |                     |                         |                   | Monthly             |           |
| 00400 - pH - S.U.                          | 9.0                           | 6.5    | -               | -     | -      | -                   | -                       | 1/Week            | Grab                | All       |
| 00530 - Total Suspended Solids - mg/l      | 15                            | -      | -               | 10    | -      | -                   | -                       | 1/Week            | Grab                | All       |
| 00981 - Selenium, Total Recoverable - ug/l | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | Grab                | Quarterly |
| 50050 - Flow Rate - MGD                    | -                             | -      | -               | -     | -      | -                   | -                       | 1/Day             | 24hr Total Estimate | All       |
| 50092 - Mercury, Total (Low Level) - ng/l  | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | Grab                | Quarterly |

Notes for Station Number 0IO00000005:

- a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.
- b. This discharge is limited to water treatment lime-softened wastewater and storm water runoff
- c. Mercury - See Part II, Item G.
- d. Total Suspended Solids Alternative Effluent Limits - Discharges from this outfall may, as an option, comply with effluent limitations and monitoring requirements listed in Part II, Item Q, provided that all conditions of Part II, Item Q.2 are met. When alternative effluent limits are claimed insert "AC" into the discharge monitoring report for total suspended solids and report the analytical result in the comments section. See Part II, Item Q.2 for additional information that should be submitted as documentation.

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

9. During the period beginning on effective date of this permit and lasting 18 months, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 0IO00000009. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 009 - Initial - 009 - Interim

| Effluent Characteristic<br>Parameter              | Discharge Limitations         |         |                 |         |       |                     | Monitoring Requirements |                   |            |           |
|---|-------------------------------|---------|-----------------|---------|-------|---------------------|-------------------------|-------------------|------------|-----------|
|   | Concentration Specified Units |         | Loading* kg/day |         |       | Measuring Frequency | Sampling Type           | Monitoring Months |            |           |
|   | Maximum                       | Minimum | Weekly          | Monthly | Daily | Weekly              | Monthly                 |                   |            |           |
| 00400 - pH - S.U.                                 | 9.0                           | 6.5     | -               | -       | -     | -                   | -                       | 1/Week            | Grab       | All       |
| 00530 - Total Suspended Solids - mg/l             | 45                            | -       | -               | 30      | -     | -                   | -                       | 1/Week            | Grab       | All       |
| 00552 - Oil and Grease, Hexane Extr Method - mg/l | 10                            | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab       | All       |
| 00980 - Iron, Total Recoverable - ug/l            | -                             | -       | -               | -       | -     | -                   | -                       | 1/Quarter         | Grab       | Quarterly |
| 00982 - Thallium, Total Recoverable - ug/l        | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab       | All       |
| 01009 - Barium, Total Recoverable - ug/l          | -                             | -       | -               | -       | -     | -                   | -                       | 1/Quarter         | Grab       | Quarterly |
| 01094 - Zinc, Total Recoverable - ug/l            | -                             | -       | -               | -       | -     | -                   | -                       | 1/Quarter         | Grab       | Quarterly |
| 01118 - Chromium, Total Recoverable - ug/l        | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab       | All       |
| 01119 - Copper, Total Recoverable - ug/l          | -                             | -       | -               | -       | -     | -                   | -                       | 1/Quarter         | Grab       | Quarterly |
| 39180 - Trichloroethylene - ug/l                  | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab       | All       |
| 39516 - PCBS - ug/l                               | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab       | All       |
| 50050 - Flow Rate - MGD                           | -                             | -       | -               | -       | -     | -                   | -                       | 1/Day             | 24hr Total | All       |
| 50060 - Chlorine, Total Residual - mg/l           | -                             | -       | -               | -       | -     | -                   | -                       | 1/Week            | Grab       | All       |
| 50092 - Mercury, Total (Low Level) - ng/l         | -                             | -       | -               | -       | -     | -                   | -                       | 1/Quarter         | Grab       | Quarterly |

Notes for Station Number 0IO00000009:

a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

b. This discharge is limited to non-contact cooling water, storm water runoff, steam condensate, fire suppression system water, groundwater infiltration, and sanitary water for eyewash/shower station testing and flushing.

d. Mercury - See Part II, Item G.

e. Total Residual Chlorine - See Part II, Item K.

f. There shall be no detectable amount of polychlorinated biphenyls. The permittee shall use Method 608 as indicated in 40 CFR 136, Appendix A.

g. Total Suspended Solids Alternative Effluent Limits - Discharges from this outfall may, as an option, comply with effluent limitations and monitoring requirements listed in Part II, Item Q, provided that all conditions of Part II, Item Q.2 are met. When alternative effluent limits are claimed insert "AC" into the discharge monitoring report for total suspended solids and report the analytical result in the comments section. See Part II, Item Q.2 for additional information that should be submitted as documentation.

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

10. During the period beginning 18 months from 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 0IO00000009. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 009 - Final

| Effluent Characteristic<br><br>Parameter          | Discharge Limitations         |         |        |         |                 |        | Monitoring Requirements |               |                   |           |
|---|-------------------------------|---------|--------|---------|-----------------|--------|-------------------------|---------------|-------------------|-----------|
|   | Concentration Specified Units |         |        |         | Loading* kg/day |        | Measuring Frequency     | Sampling Type | Monitoring Months |           |
|   | Maximum                       | Minimum | Weekly | Monthly | Daily           | Weekly |                         |               |                   | Monthly   |
| 00400 - pH - S.U.                                 | 9.0                           | 6.5     | -      | -       | -               | -      | -                       | 1/Week        | Grab              | All       |
| 00530 - Total Suspended Solids - mg/l             | 45                            | -       | -      | 30      | -               | -      | -                       | 1/Week        | Grab              | All       |
| 00552 - Oil and Grease, Hexane Extr Method - mg/l | 10                            | -       | -      | -       | -               | -      | -                       | 1/Month       | Grab              | All       |
| 00980 - Iron, Total Recoverable - ug/l            | -                             | -       | -      | -       | -               | -      | -                       | 1/Quarter     | Grab              | Quarterly |
| 00982 - Thallium, Total Recoverable - ug/l        | -                             | -       | -      | -       | -               | -      | -                       | 1/Month       | Grab              | All       |
| 01009 - Barium, Total Recoverable - ug/l          | -                             | -       | -      | -       | -               | -      | -                       | 1/Quarter     | Grab              | Quarterly |
| 01094 - Zinc, Total Recoverable - ug/l            | -                             | -       | -      | -       | -               | -      | -                       | 1/Quarter     | Grab              | Quarterly |
| 01118 - Chromium, Total Recoverable - ug/l        | -                             | -       | -      | -       | -               | -      | -                       | 1/Month       | Grab              | All       |
| 01119 - Copper, Total Recoverable - ug/l          | -                             | -       | -      | -       | -               | -      | -                       | 1/Quarter     | Grab              | Quarterly |
| 39180 - Trichloroethylene - ug/l                  | -                             | -       | -      | -       | -               | -      | -                       | 1/Month       | Grab              | All       |
| 39516 - PCBS - ug/l                               | -                             | -       | -      | -       | -               | -      | -                       | 1/Month       | Grab              | All       |
| 50050 - Flow Rate - MGD                           | -                             | -       | -      | -       | -               | -      | -                       | 1/Day         | 24hr Total        | All       |
| 50060 - Chlorine, Total Residual - mg/l           | 0.038                         | -       | -      | 0.030   | -               | -      | -                       | 1/Week        | Grab              | All       |
| 50092 - Mercury, Total (Low Level) - ng/l         | -                             | -       | -      | -       | -               | -      | -                       | 1/Quarter     | Grab              | Quarterly |

Notes for Station Number 0IO00000009:

a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

b. This discharge is limited to non-contact cooling water, storm water runoff, steam condensate, fire suppression system water, groundwater infiltration, and sanitary water for eyewash/shower station testing and flushing.

d. Mercury - See Part II, Item G.

e. Total Residual Chlorine - See Part II, Item K.

f. There shall be no detectable amount of polychlorinated biphenyls. The permittee shall use Method 608 as indicated in 40 CFR 136, Appendix A.

g. Total Suspended Solids Alternative Effluent Limits - Discharges from this outfall may, as an option, comply with effluent limitations and monitoring requirements listed in Part II, Item Q, provided that all conditions of Part II, Item Q.2 are met. When alternative effluent limits are claimed insert "AC" into the discharge monitoring report for total suspended solids and report the analytical result in the comments section. See Part II, Item Q.2 for additional information that should be submitted as documentation.

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

11. 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 0IO00000010. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 010 - Final

| Effluent Characteristic<br>Parameter              | Discharge Limitations         |        |                 |       |        |                     | Monitoring Requirements |                   |                |           |
|---|-------------------------------|--------|-----------------|-------|--------|---------------------|-------------------------|-------------------|----------------|-----------|
|   | Concentration Specified Units |        | Loading* kg/day |       |        | Measuring Frequency | Sampling Type           | Monitoring Months |                |           |
| Maximum   | Minimum                       | Weekly | Monthly         | Daily | Weekly |                     |                         |                   | Monthly        |           |
| 00045 - Total Precipitation - Inches              | -                             | -      | -               | -     | -      | -                   | -                       | 1/Day             | 24hr Total     | All       |
| 00400 - pH - S.U.                                 | 9.0                           | 6.5    | -               | -     | -      | -                   | -                       | 1 / 2 Weeks       | Grab           | All       |
| 00530 - Total Suspended Solids - mg/l             | 45                            | -      | -               | 30    | -      | -                   | -                       | 1 / 2 Weeks       | 24hr Composite | All       |
| 00552 - Oil and Grease, Hexane Extr Method - mg/l | 10                            | -      | -               | -     | -      | -                   | -                       | 1/Month           | Grab           | All       |
| 00980 - Iron, Total Recoverable - ug/l            | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | 24hr Composite | Quarterly |
| 00981 - Selenium, Total Recoverable - ug/l        | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | 24hr Composite | Quarterly |
| 00982 - Thallium, Total Recoverable - ug/l        | -                             | -      | -               | -     | -      | -                   | -                       | 1/Month           | 24hr Composite | All       |
| 01094 - Zinc, Total Recoverable - ug/l            | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | 24hr Composite | Quarterly |
| 01114 - Lead, Total Recoverable - ug/l            | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | 24hr Composite | Quarterly |
| 01118 - Chromium, Total Recoverable - ug/l        | -                             | -      | -               | -     | -      | -                   | -                       | 1/Month           | 24hr Composite | All       |
| 01119 - Copper, Total Recoverable - ug/l          | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | 24hr Composite | Quarterly |
| 39180 - Trichloroethylene - ug/l                  | -                             | -      | -               | -     | -      | -                   | -                       | 1/Month           | Grab           | All       |
| 39516 - PCBS - ug/l                               | -                             | -      | -               | -     | -      | -                   | -                       | 1/Month           | 24hr Composite | All       |
| 50050 - Flow Rate - MGD                           | -                             | -      | -               | -     | -      | -                   | -                       | 1/Day             | 24hr Total     | All       |
| 50092 - Mercury, Total (Low Level) - ng/l         | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | Grab           | Quarterly |

Notes for Station Number 0IO00000010:

a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

b. This discharge is limited to non-contact cooling water, storm water runoff, steam condensate, sanitary water for eyewash/shower station testing and flushing, fire-fighting training, fire suppression system waters, and groundwater infiltration.

d. Mercury - See Part II, Item G.

e. There shall be no detectable amount of polychlorinated biphenyls. The permittee shall use Method 608 as indicated in 40 CFR 136, Appendix A.

f. Total Suspended Solids Alternative Effluent Limits - Discharges from this outfall may, as an option, comply with effluent limitations and monitoring requirements listed in Part II, Item Q, provided that all conditions of Part II, Item Q.2 are met. When alternative effluent limits are claimed insert "AC" into the discharge monitoring report for total suspended solids and report the analytical result in the comments section. See Part II, Item Q.2 for additional information that should be submitted as documentation.

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

12. 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 0IO00000011. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 011 - Final

| Effluent Characteristic<br>Parameter              | Discharge Limitations         |         |                 |         |       |                     | Monitoring Requirements |                   |            |           |
|---|-------------------------------|---------|-----------------|---------|-------|---------------------|-------------------------|-------------------|------------|-----------|
|   | Concentration Specified Units |         | Loading* kg/day |         |       | Measuring Frequency | Sampling Type           | Monitoring Months |            |           |
|   | Maximum                       | Minimum | Weekly          | Monthly | Daily | Weekly              | Monthly                 |                   |            |           |
| 00045 - Total Precipitation - Inches              | -                             | -       | -               | -       | -     | -                   | -                       | 1/Day             | 24hr Total | All       |
| 00400 - pH - S.U.                                 | 9.0                           | 6.5     | -               | -       | -     | -                   | -                       | 1 / 2 Weeks       | Grab       | All       |
| 00530 - Total Suspended Solids - mg/l             | 45                            | -       | -               | 30      | -     | -                   | -                       | 1 / 2 Weeks       | Grab       | All       |
| 00552 - Oil and Grease, Hexane Extr Method - mg/l | 10                            | -       | -               | -       | -     | -                   | -                       | 1 / 2 Weeks       | Grab       | All       |
| 00951 - Fluoride, Total (F) - mg/l                | -                             | -       | -               | -       | -     | -                   | -                       | 1/Quarter         | Grab       | Quarterly |
| 00981 - Selenium, Total Recoverable - ug/l        | -                             | -       | -               | -       | -     | -                   | -                       | 1/Quarter         | Grab       | Quarterly |
| 00982 - Thallium, Total Recoverable - ug/l        | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab       | All       |
| 01094 - Zinc, Total Recoverable - ug/l            | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab       | All       |
| 01118 - Chromium, Total Recoverable - ug/l        | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab       | All       |
| 01119 - Copper, Total Recoverable - ug/l          | -                             | -       | -               | -       | -     | -                   | -                       | 1/Quarter         | Grab       | Quarterly |
| 39180 - Trichloroethylene - ug/l                  | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab       | All       |
| 39516 - PCBS - ug/l                               | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab       | All       |
| 50050 - Flow Rate - MGD                           | -                             | -       | -               | -       | -     | -                   | -                       | 1/Day             | 24hr Total | All       |
| 50060 - Chlorine, Total Residual - mg/l           | 0.019                         | -       | -               | 0.011   | -     | -                   | -                       | 1 / 2 Weeks       | Grab       | All       |

Notes for Station Number 0IO00000011:

a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

b. This discharge is limited to non-contact cooling water, storm water runoff, steam condensate, sanitary water for eyewash/shower station testing and flushing, fire suppression system water, and groundwater infiltration

d. Total Residual Chlorine - See Part II, Item K.

e. There shall be no detectable amount of polychlorinated biphenyls. The permittee shall use Method 608 as indicated in 40 CFR 136, Appendix A.

f. Total Suspended Solids Alternative Effluent Limits - Discharges from this outfall may, as an option, comply with effluent limitations and monitoring requirements listed in Part II, Item Q, provided that all conditions of Part II, Item Q.2 are met. When alternative effluent limits are claimed insert "AC" into the discharge monitoring report for total suspended solids and report the analytical result in the comments section. See Part II, Item Q.2 for additional information that should be submitted as documentation.

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

13. 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 01O00000015. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 015 - Final

| Effluent Characteristic<br>Parameter      | Discharge Limitations         |        |                 |       |        |                     | Monitoring Requirements |                   |            |           |
|---|-------------------------------|--------|-----------------|-------|--------|---------------------|-------------------------|-------------------|------------|-----------|
|   | Concentration Specified Units |        | Loading* kg/day |       |        | Measuring Frequency | Sampling Type           | Monitoring Months |            |           |
| Maximum                                   | Minimum                       | Weekly | Monthly         | Daily | Weekly |                     |                         |                   | Monthly    |           |
| 00400 - pH - S.U.                         | 9.0                           | 6.5    | -               | -     | -      | -                   | -                       | 1 / 2 Weeks       | Grab       | All       |
| 00978 - Arsenic, Total Recoverable - ug/l | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | Grab       | Quarterly |
| 01009 - Barium, Total Recoverable - ug/l  | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | Grab       | Quarterly |
| 39180 - Trichloroethylene - ug/l          | 10                            | -      | -               | 10    | -      | -                   | -                       | 1 / 2 Weeks       | Grab       | All       |
| 39516 - PCBS - ug/l                       | -                             | -      | -               | -     | -      | -                   | -                       | 1/Quarter         | Grab       | Quarterly |
| 50050 - Flow Rate - MGD                   | -                             | -      | -               | -     | -      | -                   | -                       | 1/Day             | 24hr Total | All       |

Notes for Station Number 01O00000015:

a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

b. There shall be no detectable amount of polychlorinated biphenyls. The permittee shall use Method 608 as indicated in 40 CFR 136, Appendix A.

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

14. 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 0IO00000602. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 602 - Final

| Effluent Characteristic<br><br>Parameter    | Discharge Limitations         |        |                 |       |        |                     | Monitoring Requirements |                   |                     |     |
|---|-------------------------------|--------|-----------------|-------|--------|---------------------|-------------------------|-------------------|---------------------|-----|
|   | Concentration Specified Units |        | Loading* kg/day |       |        | Measuring Frequency | Sampling Type           | Monitoring Months |                     |     |
| Maximum                                     | Minimum                       | Weekly | Monthly         | Daily | Weekly |                     |                         |                   | Monthly             |     |
| 00045 - Total Precipitation - Inches        | -                             | -      | -               | -     | -      | -                   | -                       | 1/Day             | 24hr Total          | All |
| 00400 - pH - S.U.                           | -                             | -      | -               | -     | -      | -                   | -                       | 1 / 2 Weeks       | Grab                | All |
| 00530 - Total Suspended Solids - mg/l       | 50                            | -      | -               | 35    | -      | -                   | -                       | 1 / 2 Weeks       | Grab                | All |
| 00545 - Residue, Settleable (Volume) - mL/L | -                             | -      | -               | -     | -      | -                   | -                       | When Disch.       | Grab                | All |
| 01045 - Iron, Total (Fe) - ug/l             | 7000                          | -      | -               | 3500  | -      | -                   | -                       | 1 / 2 Weeks       | Grab                | All |
| 01055 - Manganese, Total (Mn) - ug/l        | 4000                          | -      | -               | 2000  | -      | -                   | -                       | 1 / 2 Weeks       | Grab                | All |
| 50050 - Flow Rate - MGD                     | -                             | -      | -               | -     | -      | -                   | -                       | 1/Day             | 24hr Total Estimate | All |

Notes for station 0IO00000602:

- a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.
- b. This discharge is limited to treated effluent from the X-621 treatment facility.
- c. Alternative Effluent Limits - Discharges from this outfall may, as an option, comply with effluent limitations and monitoring requirements listed in Part II, Item L provided that all conditions of Part II, Item L.2 are met.
- d. Settleable Residue - Shall be reported 1/2 weeks when alternative limits are invoked. When alternative limits are not invoked, eDMR may be left blank.

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

15. 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 01O00000604. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 604 - Final

| Effluent Characteristic<br><br>Parameter | Discharge Limitations         |         |                 |         |       |                     | Monitoring Requirements |                   |                     |         |
|--|-------------------------------|---------|-----------------|---------|-------|---------------------|-------------------------|-------------------|---------------------|---------|
|  | Concentration Specified Units |         | Loading* kg/day |         |       | Measuring Frequency | Sampling Type           | Monitoring Months |                     |         |
|  | Maximum                       | Minimum | Weekly          | Monthly | Daily |                     |                         |                   | Weekly              | Monthly |
| 00400 - pH - S.U.                        | 9.0                           | 6.5     | -               | -       | -     | -                   | -                       | 1/Month           | Grab                | All     |
| 00620 - Nitrogen, Nitrate (NO3) - mg/l   | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab                | All     |
| 01042 - Copper, Total (Cu) - ug/l        | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab                | All     |
| 01045 - Iron, Total (Fe) - ug/l          | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab                | All     |
| 01067 - Nickel, Total (Ni) - ug/l        | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab                | All     |
| 01092 - Zinc, Total (Zn) - ug/l          | -                             | -       | -               | -       | -     | -                   | -                       | 1/Month           | Grab                | All     |
| 50050 - Flow Rate - MGD                  | -                             | -       | -               | -       | -     | -                   | -                       | 1/Day             | 24hr Total Estimate | All     |

Notes for station 01O00000604:

- a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.
- b. This discharge is limited to treated wastewater from the X-700 Biondenitrification Facility

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

16. 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 01O00000605. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 605 - Final

| Effluent Characteristic<br>Parameter              | Discharge Limitations         |        |                 |       |        |         | Monitoring Requirements |               |                   |     |
|---|-------------------------------|--------|-----------------|-------|--------|---------|-------------------------|---------------|-------------------|-----|
|   | Concentration Specified Units |        | Loading* kg/day |       |        |         | Measuring Frequency     | Sampling Type | Monitoring Months |     |
| Maximum   | Minimum                       | Weekly | Monthly         | Daily | Weekly | Monthly |                         |               |                   |     |
| 00400 - pH - S.U.                                 | 10                            | 6.5    | -               | -     | -      | -       | -                       | 1/Month       | Grab              | All |
| 00530 - Total Suspended Solids - mg/l             | 30                            | -      | -               | 20    | -      | -       | -                       | 1/Month       | Grab              | All |
| 00552 - Oil and Grease, Hexane Extr Method - mg/l | -                             | -      | -               | -     | -      | -       | -                       | 1/Month       | Grab              | All |
| 00610 - Nitrogen, Ammonia (NH3) - mg/l            | -                             | -      | -               | -     | -      | -       | -                       | 1/Month       | Grab              | All |
| 00615 - Nitrogen, Nitrite (NO2) - mg/l            | -                             | -      | -               | -     | -      | -       | -                       | 1/Month       | Grab              | All |
| 00620 - Nitrogen, Nitrate (NO3) - mg/l            | -                             | -      | -               | -     | -      | -       | -                       | 1/Month       | Grab              | All |
| 00625 - Nitrogen Kjeldahl, Total - mg/l           | -                             | -      | -               | -     | -      | -       | -                       | 1/Month       | Grab              | All |
| 00945 - Sulfate, (SO4) - mg/l                     | -                             | -      | -               | -     | -      | -       | -                       | 1/Month       | Grab              | All |
| 01032 - Chromium, Hexavalent (Cr +6) - ug/l       | -                             | -      | -               | -     | -      | -       | -                       | 1/Month       | Grab              | All |
| 01034 - Chromium, Total (Cr) - ug/l               | -                             | -      | -               | -     | -      | -       | -                       | 1/Month       | Grab              | All |
| 01042 - Copper, Total (Cu) - ug/l                 | -                             | -      | -               | -     | -      | -       | -                       | 1/Month       | Grab              | All |
| 01067 - Nickel, Total (Ni) - ug/l                 | -                             | -      | -               | -     | -      | -       | -                       | 1/Month       | Grab              | All |
| 01092 - Zinc, Total (Zn) - ug/l                   | -                             | -      | -               | -     | -      | -       | -                       | 1/Month       | Grab              | All |
| 39180 - Trichloroethylene - ug/l                  | -                             | -      | -               | -     | -      | -       | -                       | 1/Month       | Grab              | All |
| 50050 - Flow Rate - MGD                           | -                             | -      | -               | -     | -      | -       | -                       | 1/Day         | 24hr Total        | All |

Notes for station 01O00000605:

a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

b. This discharge is limited to process equipment decontamination wastewaters and miscellaneous process support wastewater solutions which may be treated by the X-705 Microfiltration Treatment System.

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

17. 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 0IO00000608. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 608 - Final

| Effluent Characteristic<br>Parameter      | Discharge Limitations         |        |                 |       |        |                     | Monitoring Requirements |                   |            |     |
|---|-------------------------------|--------|-----------------|-------|--------|---------------------|-------------------------|-------------------|------------|-----|
|   | Concentration Specified Units |        | Loading* kg/day |       |        | Measuring Frequency | Sampling Type           | Monitoring Months |            |     |
| Maximum                                   | Minimum                       | Weekly | Monthly         | Daily | Weekly |                     |                         |                   | Monthly    |     |
| 00400 - pH - S.U.                         | -                             | -      | -               | -     | -      | -                   | -                       | 1 / 2 Weeks       | Grab       | All |
| 34546 - 1,2-trans-Dichloroethylene - ug/l | 66                            | -      | -               | 25    | -      | -                   | -                       | 1 / 2 Weeks       | Grab       | All |
| 39180 - Trichloroethylene - ug/l          | 10                            | -      | -               | 10    | -      | -                   | -                       | 1 / 2 Weeks       | Grab       | All |
| 50050 - Flow Rate - MGD                   | -                             | -      | -               | -     | -      | -                   | -                       | 1/Day             | 24hr Total | All |

Notes for station 0IO00000608:

a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

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

18. 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 0IO00000610. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 610 - Final

| Effluent Characteristic<br>Parameter      | Discharge Limitations         |         |                 |         |       |        |         | Monitoring Requirements |               |                   |
|---|-------------------------------|---------|-----------------|---------|-------|--------|---------|-------------------------|---------------|-------------------|
|   | Concentration Specified Units |         | Loading* kg/day |         |       |        |         | Measuring Frequency     | Sampling Type | Monitoring Months |
|   | Maximum                       | Minimum | Weekly          | Monthly | Daily | Weekly | Monthly |                         |               |                   |
| 00400 - pH - S.U.                         | -                             | -       | -               | -       | -     | -      | -       | 1 / 2 Weeks             | Grab          | All               |
| 34546 - 1,2-trans-Dichloroethylene - ug/l | 66                            | -       | -               | 25      | -     | -      | -       | 1 / 2 Weeks             | Grab          | All               |
| 39180 - Trichloroethylene - ug/l          | 10                            | -       | -               | 10      | -     | -      | -       | 1 / 2 Weeks             | Grab          | All               |
| 50050 - Flow Rate - MGD                   | -                             | -       | -               | -       | -     | -      | -       | 1/Day                   | 24hr Total    | All               |

Notes for station 0IO00000610:

a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

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

19. 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 0IO00000611. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 611 - Final

| Effluent Characteristic<br><br>Parameter | Discharge Limitations         |         |        |         |                 |        |         | Monitoring Requirements |               |                   |
|--|-------------------------------|---------|--------|---------|-----------------|--------|---------|-------------------------|---------------|-------------------|
|  | Concentration Specified Units |         |        |         | Loading* kg/day |        |         | Measuring Frequency     | Sampling Type | Monitoring Months |
|  | Maximum                       | Minimum | Weekly | Monthly | Daily           | Weekly | Monthly |                         |               |                   |
| 00400 - pH - S.U.                        | -                             | -       | -      | -       | -               | -      | -       | 1 / 2 Weeks             | Grab          | All               |
| 39180 - Trichloroethylene - ug/l         | 10                            | -       | -      | 10      | -               | -      | -       | 1 / 2 Weeks             | Grab          | All               |
| 50050 - Flow Rate - MGD                  | -                             | -       | -      | -       | -               | -      | -       | 1/Day                   | 24hr Total    | All               |

Notes for station 0IO00000611:

a. Sampling should happen when discharging, if no applicable discharge occurs during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

Part I, B. - UPSTREAM MONITORING REQUIREMENTS

1. Upstream Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor the receiving stream, upstream of the point of discharge at Station Number 0IO00000801, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - Upstream Monitoring - 801 - Final

| Effluent Characteristic<br>Parameter                          | Discharge Limitations         |        |                 |       |        |         | Monitoring Requirements |               |                   |                  |
|---|-------------------------------|--------|-----------------|-------|--------|---------|-------------------------|---------------|-------------------|------------------|
|   | Concentration Specified Units |        | Loading* kg/day |       |        |         | Measuring Frequency     | Sampling Type | Monitoring Months |                  |
| Maximum   | Minimum                       | Weekly | Monthly         | Daily | Weekly | Monthly |                         |               |                   |                  |
| 61432 - 48-Hr. Acute Toxicity Ceriodaphnia dubia - % Affected | -                             | -      | -               | -     | -      | -       | -                       | 1/Quarter     | Grab              | Quarterly - Tox3 |
| 61435 - 96-Hr. Acute Toxicity Pimephales promela - % Affected | -                             | -      | -               | -     | -      | -       | -                       | 1/Quarter     | Grab              | Quarterly - Tox3 |

NOTES for Station Number 0IO00000801:

- a. Quarterly-Tox 3 sampling months are February, May, July, and November.
- b. Samples at this station do not need to be collected during February if sampling would be hazardous to personnel. Report "AH" on the discharge monitoring report and explain in the comments section if this occurs. Laboratory controls shall be used for toxicity testing in this case.
- c. Biomonitoring - See Part II, Item P.

Part I, B. - DOWNSTREAM-FARFIELD MONITORING REQUIREMENTS

2. Downstream-Farfield Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor the receiving stream, downstream of the point of discharge, at Station Number 0IO00000902, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - Downstream-Farfield Monitoring - 902 - Final

| <u>Effluent Characteristic</u><br>Parameter | <u>Discharge Limitations</u>  |        |                 |       |        |         |   | <u>Monitoring Requirements</u> |                                |                   |
|---|-------------------------------|--------|-----------------|-------|--------|---------|---|--------------------------------|--------------------------------|-------------------|
|   | Concentration Specified Units |        | Loading* kg/day |       |        |         |   | Measuring Frequency            | Sampling Type                  | Monitoring Months |
| Maximum                                     | Minimum                       | Weekly | Monthly         | Daily | Weekly | Monthly |   |                                |                                |                   |
| 00010 - Water Temperature - C               | 29.4                          | -      | -               | 27.8  | -      | -       | - | 2/Week                         | Maximum Indicating Thermometer | Summer            |
| 00010 - Water Temperature - C               | -                             | -      | -               | -     | -      | -       | - | 2/Week                         | Maximum Indicating Thermometer | Winter            |

NOTES for Station Number 0IO00000902:

- a. 24 hour maximums shall be reported. Use of a maximum indicating thermometer is acceptable.

Part I, B. - DOWNSTREAM-FARFIELD MONITORING REQUIREMENTS

3. Downstream-Farfield Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor the receiving stream, downstream of the point of discharge, at Station Number 0IO00000903, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - Downstream-Farfield Monitoring - 903 - Final

| <u>Effluent Characteristic</u><br>Parameter | <u>Discharge Limitations</u>  |        |                 |       |        |         |   | <u>Monitoring Requirements</u> |                                |                   |
|---|-------------------------------|--------|-----------------|-------|--------|---------|---|--------------------------------|--------------------------------|-------------------|
|   | Concentration Specified Units |        | Loading* kg/day |       |        |         |   | Measuring Frequency            | Sampling Type                  | Monitoring Months |
| Maximum                                     | Minimum                       | Weekly | Monthly         | Daily | Weekly | Monthly |   |                                |                                |                   |
| 00010 - Water Temperature - C               | 29.4                          | -      | -               | 27.8  | -      | -       | - | 2/Week                         | Maximum Indicating Thermometer | Summer            |
| 00010 - Water Temperature - C               | -                             | -      | -               | -     | -      | -       | - | 2/Week                         | Maximum Indicating Thermometer | Winter            |

NOTES for Station Number 0IO00000903:

- a. 24 hour maximums shall be reported. Use of a maximum indicating thermometer is acceptable.

## Part I, C. - SCHEDULE OF COMPLIANCE

### 1. Compliance Schedule for Meeting Final Effluent Limits at 0IO00000001

The permittee shall attain compliance with the final effluent limits for mercury at outfall 0IO00000001 as soon as possible. The facility will take steps to meet the final effluent limits no later than the dates in the following schedule:

- a. Not later than 12 Months after the effective date of this permit the permittee shall submit a copy of an annual report to the Ohio EPA Southeast District Office, Division of Surface Water and the Ohio EPA, Division of Surface Water, NPDES Permit Unit, P.O. Box 1049, Columbus, OH, 43216-1049. Requirements of the annual report are detailed in Part II, Item N. (Event Code 23099)
- b. Not later than 24 Months after the effective date of this permit the permittee shall submit a copy of an annual report to the Ohio EPA Southeast District Office, Division of Surface Water and the Ohio EPA, Division of Surface Water, NPDES Permit Unit, P.O. Box 1049, Columbus, OH, 43216-1049. Requirements of the annual report are detailed in Part II, Item N. (Event Code 23099)
- c. Not later than May 1, 2023 the permittee shall meet the final effluent limits and submit a copy of an annual report to the Ohio EPA Southeast District Office, Division of Surface Water and the Ohio EPA, Division of Surface Water, NPDES Permit Unit, P.O. Box 1049, Columbus, OH, 43216-1049. Requirements of the annual report are detailed in Part II, Item N. (Event Code 23099)

### 2. Compliance Schedule for Meeting Final Effluent Limits at 0IO00000003

The permittee shall attain compliance with the final effluent limits for mercury at outfall 0IO00000003 as soon as possible. The facility will take steps to meet the final effluent limits no later than the dates in the following schedule:

- a. Not later than 12 Months after the effective date of this permit the permittee shall submit a copy of an annual report to the Ohio EPA Southeast District Office, Division of Surface Water and the Ohio EPA, Division of Surface Water, NPDES Permit Unit, P.O. Box 1049, Columbus, OH, 43216-1049. Requirements of the annual report are detailed in Part II, Item N. (Event Code 23099)
- b. Not later than 24 Months after the effective date of this permit the permittee shall submit a copy of an annual report to the Ohio EPA Southeast District Office, Division of Surface Water and the Ohio EPA, Division of Surface Water, NPDES Permit Unit, P.O. Box 1049, Columbus, OH, 43216-1049. Requirements of the annual report are detailed in Part II, Item N. (Event Code 23099)

c. Not later than 36 Months after the effective date of this permit the permittee shall meet the final effluent limits and submit a copy of an annual report to the Ohio EPA Southeast District Office, Division of Surface Water and the Ohio EPA, Division of Surface Water, NPDES Permit Unit, P.O. Box 1049, Columbus, OH, 43216-1049. Requirements of the annual report are detailed in Part II, Item N. (Event Code 23099)

3. Compliance Schedule for Meeting Final Effluent Limits at 0IO00000002 and 0IO00000009

The permittee shall attain compliance with the final effluent limits for total residual chlorine at outfall 0IO00000002 and outfall 0IO00000009 as soon as possible. The facility will take steps to meet the final effluent limits no later than the dates in the following schedule:

a. Not later than 6 Months after the effective date of this permit the permittee shall submit a plan of action for meeting the final effluent limits at outfall 0IO00000002 and 0IO00000009 to the Southeast District Office. (Event Code 1799)

b. The permittee shall attain compliance with the final effluent limits for total residual chlorine at outfall 0IO00000002 and 0IO00000009 as soon as possible but no later than 18 Months after the effective date of this permit. (Event Code 5699)

## Part II, OTHER REQUIREMENTS

### A. Operator Certification Requirements

#### 1. Classification

a. In accordance with Ohio Administrative Code 3745-7-04, the sewage treatment facility at this facility shall be classified as a Class II facility. The permittee shall designate one or more professional operator of record to oversee the technical operation of the treatment works with a valid certification of a class equal to or greater than the classification of the treatment works.

b. All sewerage (collection) systems that are tributary to this treatment works are Class II sewerage systems in accordance with paragraph (B)(1)(b) of rule 3745-7-04 of the Ohio Administrative Code. The permittee shall designate one or more professional operator of record to oversee the technical operation of the sewerage (collection) system with a valid certification of a class equal to or greater than the classification of the sewerage (collection) system.

#### 2. Professional Operator of Record

a. Within three days of a change in a professional operator of record, the permittee shall notify the Director of the Ohio EPA of any such change on a form acceptable to Ohio EPA. The appropriate form can be found at the following website:

<http://epa.ohio.gov/Portals/28/documents/opcert/Operator%20of%20Record%20Notification>

b. All applications for renewal of this NPDES permit shall include an updated Operator of Record Notification form along with other necessary forms and fees to be considered a complete application.

c. The professional operator of record for a class II, III, or IV treatment works or class II sewerage system may be replaced by a backup professional operator with a certificate one classification lower than the treatment works or sewerage system for a period of up to thirty consecutive days. The use of this provision does not require notification to the agency. This provision may not be used to routinely circumvent minimum staffing requirements.

d. Upon proper justification, such as military leave or long term illness, the director may authorize the replacement of the professional operator of record for a class II, III, or IV treatment works or class II sewerage system by a backup professional operator with a certificate one classification lower than the facility for a period of greater than thirty consecutive days. Such requests shall be made in writing to the appropriate district office.

### 3. Minimum Staffing Requirements

- a. The permittee shall ensure that the treatment works professional operator of record is physically present at the facility in accordance with the minimum staffing requirements per paragraph (C)(1) of rule 3745-7-04 of the Ohio Administrative Code or the requirements from an approved 3745-7-04(C) minimum staffing hour reduction plan.
- b. The permittee shall ensure that the collection system professional operator of record or a professional operator that is certified in the field of wastewater collection or wastewater treatment, class A operators excluded, is physically present at the collection system in accordance with the minimum staffing requirements per paragraph (C)(2) of rule 3745-7-04 of the Ohio Administrative Code.
- c. If Ohio EPA approves a reduction in minimum staffing requirements based upon a facility operating plan, any change in the criteria under which the operating plan was approved (e.g., retirement of a professional operator listed in the approved staffing plan, loss of the professional operator of record, reduction in the workforce, removal or failure of automation or continuous monitoring, etc.) will require that the treatment works immediately return to the minimum staffing requirements included in paragraph (C)(1) of rule 3745-7-04 of the Ohio Administrative Code.

### 4. Additional Staffing Requirements

Visits to all treatment works shall be performed by the permittee, the permittee's representative, or agent five days a week and noted in the operational and maintenance records required by rule 3745-7-09 of the Administrative Code. Visits shall not be necessary when the treatment works is not in operation.

B. Descriptions and location of the permitted/authorized discharges and outfalls and sampling/monitoring stations are as follows:

| Sampling Station | Description  |
|------------------|--|
| 0IO00000001      | X-230J-7 East Holding Pond; samples are to be collected from the East Holding Pond discharge prior to discharge to Little Beaver Creek.<br>(Lat: 39N 01' 00"; Long: 82W 59' 15")                     |
| 0IO00000002      | X-230K South Holding Pond; samples are to be collected from the South Holding Pond prior to discharge to Big Run.<br>(Lat: 39N 00' 00"; Long: 82W 59' 60")   |
| 0IO00000003      | X-6619 Sewage Treatment Plant; samples are to be collected from the final discharge from the Sewage Treatment Plant prior to discharge to the Scioto River.<br>(Lat: 39N 00' 45"; Long: 83W 00' 45") |
| 0IO00000004      | Samples are to be collected from the combined discharges into the X-230G pipeline prior to discharge to the Scioto River.<br>(Lat. 38N 59' 59"; Long: 83W 01' 58")                                   |
| 0IO00000005      | Samples are to be collected from the combined discharges of X-611B Lime Sludge Lagoon prior to discharge to Little Beaver Creek.<br>(Lat: 39N 01' 38"; Long: 82W 59' 27")                            |
| 0IO00000009      | X-230L North Holding Pond; samples are to be collected from the North Holding Pond discharge prior to discharging to Little Beaver Creek.<br>(Lat: 39N 01' 45"; Long: 83W 00' 15")                   |
| 0IO00000010      | X-230J-5 North West Holding Pond; samples are to be collected from the North West Holding Pond discharge prior to discharging to the West Ditch.<br>(Lat: 39N 01' 45"; Long: 83W 00' 60")            |
| 0IO00000011      | X-230J-6 North East Holding Pond; samples are to be collected from the North East Holding Pond discharge prior to discharging to Little Beaver Creek.<br>(Lat: 39N 01' 20"; Long: 82W 59' 20")       |

0IO00000015 X-624 Groundwater Treatment Facility; samples are to be  
. collected from the X-624 treatment system prior to  
. discharging to an unnamed tributary of Little Beaver Creek.  
. (Lat: 39N 01' 15"; Long: 82W 59' 15")

0IO00000602 X-621 Coal Pile Runoff Treatment Facility; samples are to be  
. collected at the discharge from the Coal Pile Runoff Treatment  
. Facility prior to discharging to the X-230K South Holding Pond.  
. (Lat: 39N 00' 15"; Long: 82W 59' 45")

0IO00000604 X-700 Bionitrification Facility; samples are to be collected  
. at the discharge from the Bionitrification Facility prior to  
. discharging to the X-6619 Sewage Treatment Plant.  
. (Lat: 39N 00' 60"; Long: 82W 59' 45")

0IO00000605 X-705 Microfiltration Treatment System; samples are to be  
. collected from the discharge from the Microfiltration System  
. prior to discharging to the X-6619 Sewage Treatment Plant.  
. (Lat: 39N 00' 60"; Long: 82W 59' 45")

0IO00000608 X-622 Groundwater Treatment Facility; samples are to be  
. collected from the X-622 treatment system prior to discharge  
. to the X-6619 Sewage Treatment Plant.  
. (Lat: 39N 00' 15"; Long: 82W 59' 60")

0IO00000610 X-623 Groundwater Treatment Facility; samples are to be  
. collected from the X-623 treatment system prior to discharge  
. to the X-6619 Sewage Treatment Plant.  
. (Lat: 39N 00' 60"; Long: 82W 59' 30")

0IO00000611 X-627 Groundwater Treatment Facility; samples are to be  
. collected from the X-627 treatment system prior to discharge  
. to the X-6619 Sewage Treatment Plant.  
. (Lat: 39N 00' 60"; Long: 82W 59' 45")

0IO00000801 A site in the Scioto River upstream from outfalls  
. 0IO00000003 and 0IO00000004 outside the zone of  
. effluent and receiving water interaction.

0IO00000902 A site in Little Beaver Creek downstream from outfall  
. 0IO00000001 outside the mixing zone.

0IO00000903 A site in Big Run downstream from outfall 0IO00000002  
. outside the mixing zone.

### C. Outfall Signage

The permittee shall maintain a permanent sign on the streambank at each outfall that is regulated under this NPDES permit. This includes final outfalls, bypasses, and combined sewer overflows. The sign shall include, at a minimum, 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 sign 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 sign is replaced or reset, the new sign shall comply with the requirements of this section.

D. Water quality based permit limitations in this permit may be revised based on updated wasteload allocations or use designation rules. This permit may be modified, or revoked and reissued, to include new water quality based effluent limits or other conditions that are necessary to comply with a revised wasteload allocation, or an approved total maximum daily loads (TMDL) report as required under Section 303 (d) of the Clean Water Act.

E. Composite samples shall be comprised of a series of grab samples collected over a 24-hour period and proportionate in volume to the wastewater flow rate at the time of sampling. Such samples shall be collected at such times and locations, and in such a fashion, as to be representative of the facility's monitored discharges.

F. Grab samples shall be collected at such times and locations, and in such fashion, as to be representative of the facility's monitored discharges.

G. The permittee shall use either EPA Method 1631 or EPA Method 245.7 promulgated under 40 CFR 136 to comply with the influent and effluent mercury monitoring requirements of this permit.

### H. Monitoring for Bis(2-ethylhexyl) phthalate

Composite samples for Bis(2-ethylhexyl) phthalate shall be comprised of at least three manual grab samples collected at intervals of at least 3 hours, during an 8 hour period that the plant is staffed for sampling. The samples shall be collected and composited in glass to eliminate the potential for contamination from plastic containers; and they shall be collected at such times and locations, and in such fashion, as to be representative of the facility's overall performance.

I. Written permission must be obtained from the director of the Ohio EPA prior to the use of any treatment additives, except for those exempt in rule. If additives are being used that have not previously been approved, an approval must be obtained for continued use. Discharges of these additives must meet Ohio Water Quality Standards and shall not be harmful or inimical to aquatic life. Request for approvals shall be filed in accordance with OAC 3745-33-03(G) and should be filed at least forty-five days prior to use or immediately if the additive is currently being used. Application forms are available for download on the DSW website:

<http://www.epa.ohio.gov/Portals/35/permits/Additive-Form.docx>

J. There shall be no detectable amount of any priority pollutant attributable to cooling tower maintenance chemicals in the cooling tower blowdown wastewater.

#### K. Limits Below Quantification

The parameters below have had effluent limitations established that are below the Ohio EPA Quantification Level (OEPA QL) for the approved analytical procedure promulgated at 40 CFR 136. OEPA QLs may be expressed as Practical Quantification Levels (PQL) or Minimum Levels (ML). Compliance with an effluent limit that is below the OEPA QL is determined in accordance with ORC Section 6111.13 and OAC Rule 3745-33-07(C). For maximum effluent limits, any value reported below the OEPA QL shall be considered in compliance with the effluent limit. For average effluent limits, compliance shall be determined by taking the arithmetic mean of values reported for a specified averaging period, using zero (0) for any value reported at a concentration less than the OEPA QL, and comparing that mean to the appropriate average effluent limit. An arithmetic mean that is less than or equal to the average effluent limit shall be considered in compliance with that limit.

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 | -- |
| Bis(2-ethyhexyl) phthalate | 10 µg/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).

L. ALTERNATIVE EFFLUENT LIMITS

Coal facilities are eligible for the alternative effluent limits listed in sections (1) and (2) below provided that the applicability and submission requirements listed in section (3) below are met. All other monitoring requirements and limitations listed in the tables of Part 1, A for the respective outfalls remain unchanged.

1. Alternative Effluent Limits for Outfall 0IO00000602

- a. If the discharge or increase in the volume of the discharge is caused by precipitation within any 24-hour period greater than 0.75 inches, but less than or equal to 3.79 inches, which is a 10-year, 24-hour precipitation event, the alternative limits are as follows:

| . EFFLUENT<br>. CHARACTERISTIC |                        | DISCHARGE MONITORING<br>LIMITATIONS REQUIREMENTS |              |         |              |                          |                      |
|--------------------------------|------------------------|--|--------------|---------|--------------|--------------------------|----------------------|
| Reporting<br>Code/Units        | Parameter              | Concentration                                    |              | Loading |              | Measurement<br>Frequency | Sample<br>Type       |
|                                |                        | Other Units (Specify)                            | 30 Day Daily | Kg/day  | 30 Day Daily |                          |                      |
| 00045 IN                       | Total Precipitation    | -  | -            | -       | -            | Daily 24 Hr.             | Total                |
| 00400 S.U.                     | pH                     | -  | -            | -       | -            | 1/2 Weeks                | Grab                 |
| 00530 mg/l                     | Total Suspended Solids | -  | -            | -       | -            | 1/2 Weeks                | Grab                 |
| 00545 ml/l                     | Residue, Settleable    | -  | 0.5          | -       | -            | 1/2 Weeks                | Grab                 |
| 01045 ug/l                     | Iron, Total (Fe)       | -  | -            | -       | -            | 1/2 Weeks                | Grab                 |
| 01055 ug/l                     | Manganese, Total (Mn)  | -  | -            | -       | -            | 1/2 Weeks                | Grab                 |
| 50050 MGD                      | Flow Rate              | -  | -            | -       | -            | Daily                    | 24-hr Total Estimate |

b. If the discharge or increase in the volume of the discharge is caused by precipitation greater than 3.79 inches (the 10 year, 24 hour precipitation event or snowmelt of equivalent volume), the alternative limits (with monitoring/reporting requirements) are as follows:

| . EFFLUENT<br>. CHARACTERISTIC |                        | DISCHARGE MONITORING<br>LIMITATIONS REQUIREMENTS |              |         |              |                          |                      |
|--------------------------------|------------------------|--|--------------|---------|--------------|--------------------------|----------------------|
| Reporting<br>Code/Units        | Parameter              | Concentration                                    |              | Loading |              | Measurement<br>Frequency | Sample<br>Type       |
|                                |                        | Other Units (Specify)                            | 30 Day Daily | Kg/day  | 30 Day Daily |                          |                      |
| 00045 IN                       | Total Precipitation    | -  | -            | -       | -            | Daily 24 Hr.             | Total                |
| 00400 S.U.                     | pH                     | -  | -            | -       | -            | 1/2 Weeks                | Grab                 |
| 00530 mg/l                     | Total Suspended Solids | -  | -            | -       | -            | 1/2 Weeks                | Grab                 |
| 00545 ml/l                     | Residue, Settleable    | -  | -            | -       | -            | 1/2 Weeks                | Grab                 |
| 01045 ug/l                     | Iron, Total (Fe)       | -  | -            | -       | -            | 1/2 Weeks                | Grab                 |
| 01055 ug/l                     | Manganese, Total (Mn)  | -  | -            | -       | -            | 1/2 Weeks                | Grab                 |
| 50050 MGD                      | Flow Rate              | -  | -            | -       | -            | Daily                    | 24-hr Total Estimate |

## 2. Applicability and Submission Requirements

a. The samples of the discharge for all parameters listed are collected during, or within 24 hours after the applicable precipitation event.

b. The operator proves that the discharge or the increase in the discharge was caused by the applicable precipitation event. The following information must be submitted by the permittee as proof of qualification for the alternative effluent limitations:

i. A statement of the precipitation event for which the alternative limits are being sought and the amount of rainfall specified for that precipitation event as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Atlas of the United States", May 1961, or equivalent regional rainfall probability information developed therefrom;

ii. The date, duration (time begin/time end), and total 24-hour accumulation (inches), of the precipitation which caused the discharge or increase in volume of the discharge; and

ii. The date and time grab samples were collected.

c. The permittee should report "AH" in the appropriate location on the Discharge Monitoring Report (DMR) Form 4500 where the data would have gone if alternative limits were not applicable. The information required above in Part II, Item (L)(2)(b) should be included in the "Additional Remarks" section of the DMR form.

### M. RESERVED

### N. Annual Mercury Compliance Report

The compliance schedule for mercury requires submitting an annual report that contains at a minimum:

i. All program monitoring results for the year; including those taken to identify pollutant minimization opportunities

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

### O. RESERVED

### P. Biomonitoring Program Requirements

#### 1. 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, July 1998 (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.

## 2. Testing Requirements

### a. Acute Bioassays

For the duration of the permit, the permittee shall conduct quarterly definitive acute toxicity tests using *Ceriodaphnia dubia* and fathead minnows (*Pimephales promelas*) on effluent samples from outfall 0IO00000004. For the duration of the permit, the permittee shall conduct annual definitive acute toxicity tests using *Ceriodaphnia dubia* and fathead minnows (*Pimephales promelas*) on effluent samples from outfall 0IO00000003. These tests shall be conducted as specified in Section 2 of the biomonitoring guidance.

### 3. Testing of Ambient Water

In conjunction with the acute toxicity tests, upstream control water shall be collected at a point outside the zone of effluent and receiving water interaction at station 0IO00000801. Testing of ambient waters shall be done in accordance with Section 2 of the biomonitoring guidance.

## 4. Data Review

### a. Reporting

Following completion of each quarterly or annual bioassay requirement, the permittee shall report results of the tests in accordance with Sections 2.H.1., 2.H.2.a., 3.H.1., and 3.H.2.a. of the biomonitoring guidance, including reporting the results on the monthly DMR and submitting a copy of the complete test report to Ohio EPA, Division of Surface Water. The test report may be submitted electronically using the acute or chronic NPDES Biomonitoring Report Form available through the Ohio EPA eBusiness Center, Division of Surface Water NPDES Permit Applications service. Alternatively, the permittee may submit a hard copy of the report to Ohio EPA, Division of Surface Water, NPDES Permit Unit, P.O. Box 1049, Columbus, OH, 43216-1049.

### b. Definitions

TU<sub>a</sub> = Acute Toxic Units = 100/LC<sub>50</sub>

Q. ALTERNATIVE EFFLUENT LIMITS

The final effluent limits for the treatment ponds are eligible for the alternative effluent limits listed in section (1) below provided that the applicability and submission requirements listed in section (2) below are met. All other monitoring requirements and limitations listed in the tables of Part 1, A for the respective outfalls remain unchanged.

1. Alternative Effluent Limits for outfalls 0IO00000001, 0IO00000002, 0IO00000005, 0IO00000009, 0IO00000010, and 0IO00000011.

a. Alternate limits are applicable if the discharge or increase in the volume of the discharge is caused by precipitation within any 24-hour period greater than the 24-hour rain event capacity of the treatment pond:

| Outfall No. | 24-hour Hydraulic Capacity (in) |
|-------------|---------------------------------|
| 0IO00000001 | 0.47                            |
| 0IO00000002 | 4.82                            |
| 0IO00000005 | 3.79*                           |
| 0IO00000009 | 0.77                            |
| 0IO00000010 | 0.08                            |
| 0IO00000011 | 0.18                            |

\*Alternate limits are applicable when discharging through the overflow weir and the overflow is caused by a 3.79 inch 24-hr rainfall event (the 10 year, 24 hour precipitation event or snowmelt of equivalent volume)

b. Alternate Effluent Limits for outfall 0IO00000001, 0IO00000002, 0IO00000005, and 0IO00000009

| EFFLUENT CHARACTERISTIC |                        | DISCHARGE LIMITATIONS |        |         |              | MONITORING REQUIREMENTS |                 |
|-------------------------|------------------------|-----------------------|--------|---------|--------------|-------------------------|-----------------|
| Reporting Code/Units    | Parameter              | Concentration         |        | Loading |              | Measurement Frequency   | Sample Type     |
|                         |                        | Other Units (Specify) | 30 Day | Daily   | 30 Day Daily |                         |                 |
| 00530 mg/L              | Total Suspended Solids | -                     | -      | -       | -            | 1/week                  | 24-hr Composite |

c. Alternate Effluent Limits for outfall 0IO00000011

| EFFLUENT CHARACTERISTIC |                        | DISCHARGE LIMITATIONS |        |         |              | MONITORING REQUIREMENTS |                 |
|-------------------------|------------------------|-----------------------|--------|---------|--------------|-------------------------|-----------------|
| Reporting Code/Units    | Parameter              | Concentration         |        | Loading |              | Measurement Frequency   | Sample Type     |
|                         |                        | Other Units (Specify) | 30 Day | Daily   | 30 Day Daily |                         |                 |
| 00530 mg/L              | Total Suspended Solids | -                     | -      | -       | -            | 1/2 weeks               | 24-hr Composite |

d. Alternate Effluent Limits for outfall 01000000011

| EFFLUENT CHARACTERISTIC |                             | DISCHARGE LIMITATIONS |        |         |        | MONITORING REQUIREMENTS |             |
|-------------------------|-----------------------------|-----------------------|--------|---------|--------|-------------------------|-------------|
| Reporting Code/Units    | Parameter                   | Concentration         |        | Loading |        | Measurement Frequency   | Sample Type |
|                         |                             | Other Units (Specify) | 30 Day | Daily   | Kg/day |                         |             |
| 00530                   | mg/L Total Suspended Solids | -                     | -      | -       | -      | 1/2 weeks               | Grab        |

e. When alternative effluent limits are claimed benchmark concentrations listed below apply to these outfalls. The benchmark concentrations are not effluent limitations; a benchmark exceedance, therefore, is not a permit violation. Benchmark monitoring data are for your use to determine the overall effectiveness of your control measures and to assist you in knowing when additional corrective action(s) may be necessary to comply with the control measures/best management practices (BMPs) in Part IV. Items A-C. See Part V.A.4 for the dates when benchmark concentrations become applicable.

| Parameter              | Benchmark |
|------------------------|-----------|
| Total Suspended Solids | 100 mg/l  |

2. Applicability and Submission Requirements

a. The samples of the discharge for all parameters listed are collected during, or within 24 hours after the applicable precipitation event.

b. The operator proves that the discharge or the increase in the discharge was caused by the applicable precipitation event. The following information must be submitted by the permittee as proof of qualification for the alternative effluent limitations:

- i. A statement of the precipitation event for which the alternative limits are being sought and the amount of rainfall specified for that precipitation event.
- ii. The date, duration (time begin/time end), and total 24-hour accumulation (inches), of the precipitation which caused the discharge or increase in volume of the discharge; and
- ii. The date and time grab samples were collected.

## 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," "not 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 monthly 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://epa.ohio.gov/dsw/edmr/eDMR.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. 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.

E. 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 under the Monitoring and Reporting - Non-Compliance Notification section:

<http://epa.ohio.gov/dsw/permits/individuals.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

Notwithstanding 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 Control Measures and Pollution Prevention Programs**

In Part IV and in Part VI, the term “minimize” means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.

### **A. Control Measures.**

You shall select, design, install, and implement control measures (including best management practices) to address the selection and design considerations in Part IV.B, and meet the control measures/best management practices in Part IV.C and any applicable numeric effluent limits in Part I. The selection, design, installation, and implementation of these control measures shall be in accordance with good engineering practices and manufacturer’s specifications. Note that you may deviate from such manufacturer’s specifications where you provide justification for such deviation and include documentation of your rationale in the part of your SWPPP that describes your control measures, consistent with Part IV.J.3. If you find that your control measures are not achieving their intended effect of minimizing pollutant discharges, you shall modify these control measures as expeditiously as practicable. Regulated storm water discharges from your facility include storm water run-on that commingles with storm water discharges associated with industrial activity at your facility.

### **B. Control Measure Selection and Design Considerations.**

You shall consider the following when selecting and designing control measures:

1. Preventing storm water from coming into contact with polluting materials is generally more effective, and less costly, than trying to remove pollutants from storm water;
2. Using control measures in combination is more effective than using control measures in isolation for minimizing pollutants in your storm water discharge;
3. Assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in this permit;
4. Minimizing impervious areas at your facility and infiltrating runoff onsite (including bioretention cells, green roofs, and pervious pavement, among other approaches) can reduce runoff and improve groundwater recharge and stream base flows in local streams, although care shall be taken to avoid ground water contamination;
5. Attenuating flow using open vegetated swales and natural depressions can reduce in-stream impacts of erosive flows;
6. Conserving and/or restoring of riparian buffers will help protect streams from storm water runoff and improve water quality; and

7. Using treatment interceptors (e.g., swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants.

**C. Control Measures/Best Management Practices (BMPs)**

1. Minimize Exposure. You shall minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by either locating these industrial materials and activities inside or protecting them with storm resistant coverings (although significant enlargement of impervious surface area is not recommended). In minimizing exposure, you should pay particular attention to the following:
  - a. Use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas;
  - b. Locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas);
  - c. Clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants;
  - d. Use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible;
  - e. Use spill/overflow protection equipment;
  - f. Drain fluids from equipment and vehicles prior to on-site storage or disposal;
  - g. Perform all cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray; and
  - h. Ensure that all washwater drains to a proper collection system (i.e., not the storm water drainage system).

The discharge of vehicle and equipment washwater, including tank cleaning operations, is not authorized by this permit.

2. Good Housekeeping. You shall keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and storing materials in appropriate containers.
3. Maintenance. You shall regularly inspect, test, maintain, and repair all industrial equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in storm water discharged to receiving waters. You shall maintain all control measures that are used to achieve the control measures/best management practices (BMPs) required by this permit in

effective operating condition. Nonstructural control measures shall also be diligently maintained (e.g., spill response supplies available, personnel appropriately trained). If you find that your control measures need to be replaced or repaired, you shall make the necessary repairs or modifications as expeditiously as practicable.

4. Spill Prevention and Response Procedures. You shall minimize the potential for leaks, spills and other releases that may be exposed to storm water and develop plans for effective response to such spills if or when they occur. At a minimum, you shall implement:
  - a. Procedures for plainly labeling containers (e.g., “Used Oil,” “Spent Solvents,” “Fertilizers and Pesticides,” etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;
  - b. Preventative measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;
  - c. Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect, or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of your storm water pollution prevention team (Part IV.J.1); and
  - d. Where a leak, spill or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302, occurs during a 24-hour period, you shall notify the Ohio EPA in accordance with the requirements of Part III Item 12 of this permit.
5. Erosion and Sediment Controls. You shall stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants. Among other actions you shall take to meet this limit, you shall place flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion and/or settle out pollutants. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to consult with the Ohio Department of Natural Resources (ODNR) Division of Soil and Water Conservation’s Rainwater and Land Development manual ([http://epa.ohio.gov/dsw/storm/technical\\_guidance.aspx](http://epa.ohio.gov/dsw/storm/technical_guidance.aspx)), U.S. EPA’s internet-based resources relating to BMPs for erosion and sedimentation, including the sector-specific *Industrial Storm Water Fact Sheet Series*, ([www.epa.gov/npdes/stormwater/msgp](http://www.epa.gov/npdes/stormwater/msgp)), *National Menu of Storm Water BMPs* ([www.epa.gov/npdes/stormwater/menuofbmps](http://www.epa.gov/npdes/stormwater/menuofbmps)), and *National Management Measures to Control Nonpoint Source Pollution from Urban Areas* ([www.epa.gov/owow/nps/urbanmm/index.html](http://www.epa.gov/owow/nps/urbanmm/index.html)).
6. Management of Runoff. You shall divert, infiltrate, reuse, contain, or otherwise reduce storm water runoff, to minimize pollutants in your discharges. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to consult with the Ohio

Department of Natural Resources (ODNR) Division of Soil and Water Conservation's Rainwater and Land Development manual ([http://epa.ohio.gov/dsw/storm/technical\\_guidance.aspx](http://epa.ohio.gov/dsw/storm/technical_guidance.aspx)), U.S. EPA's internet-based resources relating to runoff management, including the sector-specific *Industrial Storm Water Fact Sheet Series*, ([www.epa.gov/npdes/stormwater/msgp](http://www.epa.gov/npdes/stormwater/msgp)), *National Menu of Storm Water BMPs* ([www.epa.gov/npdes/stormwater/menuofbmps](http://www.epa.gov/npdes/stormwater/menuofbmps)), and *National Management Measures to Control Nonpoint Source Pollution from Urban Areas* ([www.epa.gov/owow/nps/urbanmm/index.html](http://www.epa.gov/owow/nps/urbanmm/index.html)).

7. Salt Storage Piles or Piles Containing Salt. You shall enclose or cover storage piles of salt, or piles containing salt, used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces. You shall implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile.
8. Sector Specific Control Measures/Best Management Practices (BMPs). You shall achieve any additional control measures/best management practices (BMPs) stipulated in the relevant sector-specific section(s) of Part IV.K. of this permit.
9. Employee Training. You shall train all employees who work in areas where industrial materials or activities are exposed to storm water, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of your Pollution Prevention Team. Training shall cover both the specific control measures used to achieve the conditions in this Part, and monitoring, inspection, planning, reporting, and documentation requirements in other parts of this permit. Ohio EPA requires that training be conducted at least annually (or more often if employee turnover is high).
10. Non-Storm Water Discharges. You shall eliminate non-storm water discharges not authorized in Part I and Part II of this NPDES permit. The following are additional non-storm water discharges authorized under this permit:
  - a. Discharges from fire-fighting activities (not planned exercises);
  - b. Fire hydrant flushings;
  - c. Potable water, including water line flushings;
  - d. Uncontaminated condensate from air conditioners, coolers/chillers, and other compressors and from the outside storage of refrigerated gases or liquids;
  - e. Irrigation drainage;
  - f. Landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
  - g. Pavement wash waters where no detergents or hazardous cleaning products are used (e.g., bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols, etc.), and the wash

- waters do not come into contact with oil and grease deposits, sources of pollutants associated with industrial activities (see Part IV.J.2), or any other toxic or hazardous materials, unless residues are first cleaned up using dry clean-up methods (e.g., applying absorbent materials and sweeping, using hydrophobic mops/rags) and you have implemented appropriate control measures to minimize discharges of mobilized solids and other pollutants (e.g., filtration, detention, settlement);
- h. Routine external building washdown/power wash water that does not use detergents or hazardous cleaning products (e.g., those containing bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols, etc.);
  - i. Uncontaminated ground water or spring water;
  - j. Foundation or footing drains where flows are not contaminated with process materials; and
  - k. Incidental windblown mist from cooling towers that collect on rooftops or adjacent portions of your facility, but not intentional discharges from the cooling tower (e.g., “piped” cooling tower blowdowns or drains).
11. Waste, Garbage and Floatable Debris. You shall ensure that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged.
12. Dust Generation and Vehicle Tracking of Industrial Materials. You shall minimize generation of dust and off-site tracking of raw, final, or waste materials.

#### **D. Corrective Actions**

1. Conditions Requiring Review and Revision to Eliminate Problem. If any of the following conditions occur, you shall review and revise the selection, design, installation, and implementation of your control measures to ensure that the condition is eliminated and will not be repeated in the future:
- a. An unauthorized release or discharge (e.g., spill, leak, or discharge of non-storm water not authorized by this or another NPDES permit) occurs at your facility;
  - b. A discharge violates a numeric effluent limit;
  - c. You become aware, or Ohio EPA determines, that your control measures are not stringent enough for the discharge to meet applicable water quality standards;
  - d. An inspection or evaluation of your facility by an Ohio EPA official or local MS4 operator determines that modifications to the control measures are necessary to meet the control measures/best management practices (BMPs) in this permit; or

- e. You find in your routine facility inspection or quarterly visual assessment that your control measures are not being properly operated and maintained.
2. Conditions Requiring Review to Determine if Modifications Are Necessary. If any of the following conditions occur, you shall review the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the Part IV.A conditions in this permit:
    - a. Construction or a change in design, operation, or maintenance at your facility significantly changes the nature of pollutants discharged in storm water from your facility, or significantly increases the quantity of pollutants discharged; or
    - b. Sampling results exceeds an applicable benchmark.
  3. Corrective Action Deadlines. You shall document your discovery of any of the conditions listed in Part IV.D.1 and Part IV.D.2 within 24 hours of making such discovery. Subsequently, within 30 days of such discovery, you shall document any corrective action(s) to be taken to eliminate or further investigate the deficiency, or if no corrective action is needed, the basis for that determination. Specific documentation required within 24 hours and 30 days is detailed in Part IV.D.4. If you determine that changes are necessary following your review, any modifications to your control measures shall be made before the next storm event if possible, or as soon as practicable following that storm event. These time intervals are not grace periods, but are schedules considered reasonable for documenting your findings and for making repairs and improvements. They are included in this permit to ensure that the conditions prompting the need for these repairs and improvements are not allowed to persist indefinitely.
  4. Corrective Action Report. Within 24 hours of discovery of any condition listed in Part IV.D.1 and Part IV.D.2, you shall document the following information (i.e., question 4 of the Corrective Actions section in the Annual Reporting Form, available at [http://www.epa.state.oh.us/portals/35/permits/IndustrialStormWater\\_Final\\_GP\\_AppI\\_dec11.pdf](http://www.epa.state.oh.us/portals/35/permits/IndustrialStormWater_Final_GP_AppI_dec11.pdf)):
    - Identification of the condition triggering the need for corrective action review;
    - Description of the problem identified; and
    - Date the problem was identified.

Within 30 days of discovery of any condition listed in Part IV.D.1 and Part IV.D.2, you shall document the following information (i.e., questions 7-11 of the Corrective Actions section in the Annual Reporting Form):

- Summary of corrective action taken or to be taken (or, for triggering events identified in Part IV.D.2 where you determine that corrective action is not necessary, the basis for this determination);

- Notice of whether SWPPP modifications are required as a result of this discovery or corrective action;
- Date corrective action initiated; and
- Date corrective action completed or expected to be completed.

You shall include this documentation in an annual report as required in Part V. A.2 and retain onsite with your SWPPP.

5. Effect of Corrective Action. If the event triggering the review is a permit violation (e.g., non-compliance with an effluent limit), correcting it does not remove the original violation. Additionally, failing to take corrective action in accordance with this section is an additional permit violation. Ohio EPA will consider the appropriateness and promptness of corrective action in determining enforcement responses to permit violations.
6. Substantially Identical Outfalls. If the event triggering corrective action is linked to an outfall that represents other substantially identical outfalls, your review shall assess the need for corrective action for each outfall represented by the outfall that triggered the review. Any necessary changes to control measures that affect these other outfalls shall also be made before the next storm event if possible, or as soon as practicable following that storm event.

## **E. Inspections**

Beginning on the effective date of this permit, you shall conduct the inspections in Part IV.E.1 and Part IV.E.2 at your facility.

1. Routine Facility Inspections.
  - a. Conduct routine facility inspections of all areas of the facility where industrial materials or activities are exposed to storm water, and of all storm water control measures used to comply with Part IV. Items A-C conditions contained in this permit. Routine facility inspections shall be conducted at least quarterly (i.e., once each calendar quarter) although in many instances, more frequent inspection (e.g., monthly) may be appropriate for some types of equipment, processes, and control measures or areas of the facility with significant activities and materials exposed to storm water. Perform these inspections during periods when the facility is in operation. You shall specify the relevant inspection schedules in your SWPPP document as required in Part IV. Items A-C. These routine inspections shall be performed by qualified personnel (for definition see VI - Definitions) with at least one member of your storm water pollution prevention team participating. At least once each calendar year, the routine facility inspection shall be conducted during a period when a storm water discharge is occurring.

You shall document the findings of each routine facility inspection performed and maintain this documentation onsite with your SWPPP. You are not required to submit your routine

facility inspection findings to Ohio EPA, unless specifically requested to do so. At a minimum, your documentation of each routine facility inspection shall include:

- i. The inspection date and time;
- ii. The name(s) and signature(s) of the inspector(s);
- iii. Weather information and a description of any discharges occurring at the time of the inspection;
- iv. Any previously unidentified discharges of pollutants from the site;
- v. Any control measures needing maintenance or repairs;
- vi. Any failed control measures that need replacement;
- vii. Any incidents of noncompliance observed; and
- viii. Any additional control measures needed to comply with the permit requirements.

Any corrective action required as a result of a routine facility inspection shall be performed consistent with Part IV.D of this permit.

b. Exceptions to Routine Facility Inspections:

*Inactive and Unstaffed Sites:* The requirement to conduct routine facility inspections on a quarterly basis does not apply at a facility that is inactive and unstaffed, as long as there are no industrial materials or activities exposed to storm water. Such a facility is only required to conduct an annual site inspection in accordance with the requirements of Part IV.E.1. To invoke this exception, you shall maintain a statement in your SWPPP pursuant to Part IV.F indicating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to precipitation, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii). The statement shall be signed and certified in accordance with Appendix B, Subsection 11. If circumstances change and industrial materials or activities become exposed to storm water or your facility becomes active and/or staffed, this exception no longer applies and you shall immediately resume quarterly facility inspections. If you are not qualified for this exception at the time you are authorized under this permit, but during the permit term you become qualified because your facility is inactive and unstaffed, and there are no industrial materials or activities that are exposed to storm water, then you shall include the same signed and certified statement as above and retain it with your records pursuant to Part IV.J.5.

Inactive and unstaffed facilities covered under Sectors D (Asphalt Paving and Roofing Materials and Lubricant Manufacturing), E (Glass, Clay, Cement, Concrete, and Gypsum Products) and J (Non-Metallic Mineral Mining and Dressing), are not required to meet the “no industrial materials or activities exposed to storm water” standard to be eligible for this

exception from routine inspections, consistent with the requirements established in relevant sector requirements.

Ohio EPA's Encouraging Environmental Excellence (E3) Program: If your facility has been recognized under the Gold and Platinum levels by Ohio EPA's Encouraging Environmental Excellence (E3) Program, you only need to conduct routine facility inspections for two quarters each year. If Part IV.K of this permit requires your facility to conduct routine facility inspections on a monthly basis, you only need to conduct routine facility inspections on a quarterly basis.

2. Quarterly Visual Assessment of Storm Water Discharges.

a. Quarterly Visual Assessment Procedures

Once each calendar quarter for the entire permit term you shall collect a storm water sample from outfalls 0IO00000001, 0IO00000002, 0IO00000005, 0IO00000009, 0IO00000010, and 0IO00000011; and conduct a visual assessment of each of these samples. These samples are not required to be collected consistent with 40 CFR Part 136 procedures but should be collected in such a manner that the samples are representative of the storm water discharge. The visual assessment shall be made:

- Of a sample in a clean, clear glass, or plastic container, and examined in a well-lit area;
- On samples collected within the first 30 minutes of an actual discharge from a storm event. If it is not possible to collect the sample within the first 30 minutes of discharge, the sample shall be collected as soon as practicable after the first 30 minutes and you shall document why it was not possible to take samples within the first 30 minutes. In the case of snowmelt, samples shall be taken during a period with a measurable discharge from your site; and
- For storm events, on discharges that occur at least 72 hours (3 days) from the previous discharge. The 72-hour (3-day) storm interval does not apply if you document that less than a 72-hour (3-day) interval is representative for local storm events during the sampling period. If it is not possible to collect the sample on discharges that occur at least 72 hours (3 days) from the previous discharge, the sample shall be collected as close to this storm interval as practicable and you shall document why it was not possible to take samples from a 72 hour (3 day) storm interval.
- Areas Subject to Snow: In areas subject to snow, at least one quarterly visual assessment shall capture snowmelt discharge.
- For the following water quality characteristics: color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution.

b. Quarterly Visual Assessment Documentation

You shall document the results of your visual assessments and maintain this documentation onsite with your SWPPP. You are not required to submit your visual assessment findings to Ohio EPA, unless specifically requested to do so. At a minimum, your documentation of the visual assessment shall include:

- Sample location(s);
- Sample collection date and time, and visual assessment date and time for each sample;
- Personnel collecting the sample and performing visual assessment, and their signatures;
- Nature of the discharge (i.e., runoff or snowmelt);
- Results of observations of the storm water discharge;
- Probable sources of any observed storm water contamination; and
- If applicable, why it was not possible to take samples within the first 30 minutes and/or from a 72 hour (3 day) storm interval.

Any corrective action required as a result of a quarterly visual assessment shall be performed consistent with Part IV.D of this permit.

c. Exceptions to Quarterly Visual Assessments

The following are exceptions to quarterly visual assessments:

- Adverse Weather Conditions: When adverse weather conditions prevent the collection of samples during the quarter, you shall take a substitute sample during the next qualifying storm event. Documentation of the rationale for no visual assessment for the quarter shall be included with your SWPPP records. Adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make sampling impractical, such as drought or extended frozen conditions.
- Substantially identical outfalls: If your facility has two or more outfalls that you believe discharge substantially identical effluents, as documented in Part IV.J.2.a.iii, you may conduct quarterly visual assessments of the discharge at just one of the outfalls and report that the results also apply to the substantially identical outfall(s) provided that you perform visual assessments on a rotating basis of each substantially identical outfall throughout the period of your coverage under this permit. If storm water contamination is identified through visual assessment performed at a substantially identical outfall, you shall assess and modify your control measures as appropriate for each outfall represented by the monitored outfall.

- Inactive and unstaffed sites: The requirement for a quarterly visual assessment does not apply at a facility that is inactive and unstaffed, as long as there are no industrial materials or activities exposed to storm water. To invoke this exception, you shall maintain a statement in your SWPPP indicating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to precipitation, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii). The statement shall be signed and certified in accordance with Part III.28 of this permit. If circumstances change and industrial materials or activities become exposed to storm water or your facility becomes active and/or staffed, this exception no longer applies and you shall immediately resume quarterly visual assessments. If you are not qualified for this exception at the time you are authorized under this permit, but during the permit term you become qualified because your facility is inactive and unstaffed, and there are no industrial materials or activities that are exposed to storm water, then you shall include the same signed and certified statement as above and retain it with your records.
- Ohio EPA's Encouraging Environmental Excellence (E3) Program: If your facility has been recognized under the Gold and Platinum levels by Ohio EPA's Encouraging Environmental Excellence (E3) Program, you only need to conduct quarterly visual assessment of storm water discharges for two quarters each year.

#### **F. Storm Water Pollution Prevention Plan (SWPPP)**

A storm water pollution prevention plan (SWPPP) 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 SWPPP 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. The SWPPP 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.

The SWPPP does not contain effluent limitations; the limitations or benchmarks are contained in Part I. The SWPPP is intended to document the selection, design, and installation of control measures. As distinct from the SWPPP, the documentation requirements are intended to document the implementation (including inspection, maintenance, monitoring, and corrective action) of the permit requirements.

#### **G. Deadlines to Update the SWPPP.**

1. The permittee shall continue to implement and be in compliance with the SWPPP required by the previous permit. Within six months of the effective date of this permit, the permittee shall update the SWPPP as necessary to address any new or reviewed requirements of this permit.

#### **H. Signature and Plan Review.**

1. The plan shall be signed and dated in accordance with Part III, Item 28, and be retained on-site at the facility which generates the storm water discharge.
2. The permittee shall make plans immediately available upon request to the Ohio EPA Director, or authorized representative, or Regional Administrator of U.S. EPA, a local agency approving storm water management plans, 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. Confidential Business Information (CBI) may be withheld from the public, but may not be withheld from those staff cleared for CBI review within Ohio EPA. An interested party wishing a copy of a discharger's SWPPP will have to contact the Ohio EPA to obtain a copy.

#### **I. Keeping SWPPP Current**

The permittee shall modify the plan whenever necessary to address any of the triggering conditions for corrective action in Part IV.D and to ensure that they do not reoccur, or to reflect changes implemented when a review following the triggering conditions in Part IV.D.2 indicates that changes to your control measures are necessary to meet the control measures/best management practices (BMPs) in this permit. Changes to your SWPPP document shall be made in accordance with the corrective action deadlines in Part IV.D.3 and Part IV.D.4.

Amendments to the plan may be reviewed by Ohio EPA in the same manner as Part IV.H above.

#### **J. Contents of SWPPP.**

The plan shall include, at a minimum, the following items:

1. Pollution Prevention Team. You shall identify the staff members (by name or title) that comprise the facility's storm water pollution prevention team as well as their individual responsibilities. Your storm water pollution prevention team is responsible for assisting the facility manager in developing and revising the facility's SWPPP as well as maintaining control measures and taking corrective actions where required. Each member of the storm water pollution prevention team shall have ready access to either an electronic or paper copy of applicable portions of this permit and your SWPPP.

2. Description of Potential Pollutant Sources. You shall document at your facility where industrial materials or activities are exposed to storm water and from which allowable non-storm water discharges are released. Industrial materials or activities, include, but are not limited to: material handling equipment or activities; industrial machinery; raw materials; industrial production and processes; and intermediate products, by-products, final product or waste product. For each area identified, the description shall include, at a minimum:

a. Site Description. Your SWPPP shall include:

- i. A description of the industrial activities at your facility;
- ii. A general location map (e.g. U.S. Geologic Survey (USGS) quadrangle map) with enough detail to identify the location of your facility and all receiving waters for your storm water discharges.
- iii. A site map showing
  - The size of the property in acres;
  - The location and extent of significant structures and impervious surfaces;
  - Directions of storm water flow (use arrows);
  - Locations of all existing structural control measures;
  - Locations of all receiving waters in the immediate vicinity of your facility;
  - Locations of all storm water conveyances including ditches, pipes and swales;
  - Locations of potential pollutant sources identified under Part IV J. 2.b;
  - Locations where significant spills or leaks identified under Part IV J. 2.b. have occurred;
  - Locations of all storm water monitoring points;
  - Locations of storm water inlets and outfalls, with a unique identification code for each outfall (e.g. Outfall 001, Outfall 002, etc), indicating any outfalls that are considered substantially identical to another outfall, and an approximate outline of the areas draining to each outfall;
  - Municipal separate storm sewer systems, where your storm water discharges to them;
  - Locations and descriptions of all non-storm water discharges identified under Part IV. C. 10;

- 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;
    - 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;
    - Transfer areas for substances in bulk;
    - Machinery; and
  - Locations and sources of run-on to your site from adjacent property that contains significant quantities of pollutants.
- b. Inventory of Exposed Materials. This includes a list of industrial activities exposed to storm water (e.g., material storage; equipment fueling, maintenance, and cleaning; cutting steel beams). This also includes a list of the pollutant(s) or pollutant constituents (e.g., crankcase oil, zinc, sulfuric acid, and cleaning solvents) associated with each identified activity. The pollutant list shall include all significant materials that have been handled, treated, stored, or disposed, and that have been exposed to storm water in the three years prior to the data you prepare or amend your SWPPP.
- c. Spills and Leaks. You shall document where potential spills and leaks could occur that could contribute pollutants to storm water discharges, and the corresponding outfall(s) that would be affected by such spills and leaks. You shall document all significant spills and leaks of oil or toxic or hazardous pollutants that actually occurred at exposed areas, or that drained to a storm water conveyance, in the three years prior to the date you prepare or amend your SWPPP. Note that significant spills and leaks include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under CWA Section 311 (see 40 CFR 110.6 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC Section 9602. This permit does not relieve you of the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302 relating to spills or other releases of oil or hazardous substances.
- d. Sampling Data. A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility.
- e. Non-Storm Water Discharges. You shall document that you have evaluated for the presence of non-storm water discharges, except for those listed in Part I and Part IV.C.10, and that all unauthorized discharges have been eliminated. Documentation of your evaluation shall

- include: 1) The date of any evaluation; 2) A description of the evaluation criteria used; 3) A list of the outfalls or onsite drainage points that were directly observed during the evaluation; 4) The different types of non-storm water discharge(s) and source locations; and 5) The action(s) taken, such as a list of control measures used to eliminate unauthorized discharge(s), if any were identified. For example, a floor drain was sealed, a sink drain was re-routed to sanitary, or an NPDES permit application was submitted for an unauthorized cooling water discharge.
- f. Salt Storage. You shall document the location of any storage piles containing salt used for deicing or other commercial or industrial purposes.
3. Description of Control Measures. You shall document the location and type of control measures you have installed and implemented at your site to achieve the control measures/best management practices (BMPs) in Part IV.C, and where applicable, in Part IV.K. You shall describe how you addressed the control measure selection and design considerations in Part IV.B. This documentation shall describe how the control measures at your site address both the pollutant sources identified in Part IV.J.2 and any storm water run-on that commingles with any discharges covered under this permit.
4. Schedules and Procedures.
- a. Pertaining to Control Measures used to Comply with the Control Measures/Best Management Practices (BMPs). The following shall be documented in your SWPPP:
- i. Good Housekeeping (See Part IV.C.2) – A schedule for regular pickup and disposal of waste materials, along with routine inspections for leaks and conditions of drums, tanks and containers.
  - ii. Maintenance (See Part IV.C.3) – Preventative maintenance procedures, including regular inspections, testing, maintenance, and repair of all industrial equipment and systems, and control measures, to avoid situations that may result in leaks, spills, and other releases, and any back-up practices in place should a runoff event occur while a control measure is off-line;
  - iii. Spill Prevention and Response Procedures (See Part IV.C.4) – Procedures for preventing and responding to spills and leaks. You may reference the existence of other plans for Spill Prevention Control and Countermeasure (SPCC) developed for the facility under Section 311 of the CWA or BMP programs otherwise required by an NPDES permit for the facility, provided that you keep a copy of that other plan onsite (hard copy or electronic) and make it available for review consistent with Part IV.J.5; and
  - iv. Employee Training (See Part IV.C.9) – A schedule for all types of necessary training.

- b. Pertaining to Monitoring and Inspection. Where applicable, you shall document in your SWPPP your procedures for conducting analytical storm water monitoring. You shall document in your SWPPP your procedures for performing, as appropriate, the two types of inspections specified by this permit, including: 1) Routine facility inspections (See Part IV.E.1) and 2) Quarterly visual assessment of storm water discharges (See Part IV.E.2).

For each type of monitoring, your SWPPP shall document:

- Locations where samples are collected, including any determination that two or more outfalls are substantially identical;
- Parameters for sampling and the frequency of sampling for each parameter;
- Schedules for monitoring at your facility (see Part 6.1.6);
- Any numeric control values (benchmarks, effluent limitations guidelines, or other requirements) applicable to discharges from each outfall; and
- Procedures (e.g., responsible staff, logistics, laboratory to be used, etc.) for gathering storm event data.

You shall document the following in your SWPPP if you plan to use the substantially identical outfall exception for your quarterly visual assessment requirements in Part IV.E.2 or your benchmark monitoring requirements in Part V:

- Location of each of the substantially identical outfalls;
- Description of the general industrial activities conducted in the drainage area of each outfall;
- Description of the control measures implemented in the drainage area of each outfall;
- Description of the exposed materials located in the drainage area of each outfall that are likely to be significant contributors of pollutants to storm water discharges;
- An estimate of the runoff coefficient of the drainage areas (low = under 40%; medium = 40 to 65%; high = above 65%); and
- Why the outfalls are expected to discharge substantially identical effluents.

5. Documentation Requirements. You are required to keep inspection, monitoring, and certification records with your SWPPP that together keep your records complete and up-to-date, and demonstrate your full compliance with the conditions of this permit. You shall retain a copy of the current SWPPP required by this permit at the facility, and it shall be immediately available to Ohio EPA; a local agency approving storm water management plans; and the operator of an MS4 receiving discharges from the site. Ohio EPA may provide access to portions of your SWPPP to a member of the public upon request. Confidential Business Information (CBI) may be withheld from the public, but may not be withheld from those staff cleared for CBI review within Ohio EPA. Your current SWPPP or certain information from your current SWPPP shall be made available to the public, except any confidential business information (CBI) or restricted

information, but you must clearly identify those portions of the SWPPP that are being withheld from public access. See 40 CFR Part 2 for relevant definitions of CBI: <http://www.gpo.gov/fdsys/pkg/CFR-2013-title40-vol1/pdf/CFR-2013-title40-vol1-part2-subpartB.pdf>.

#### **K. Sector-Specific Requirements**

Reserved

## **Part V. Monitoring and Reporting Requirements**

### **A. Reporting and Recordkeeping**

1. Reporting Benchmark Monitoring Data to Ohio EPA. Benchmark monitoring data shall be submitted to Ohio EPA in accordance with Part III Item 4. of this permit.
2. Annual Report. You shall complete an annual report using the Annual Reporting Form provided by Ohio EPA at the following location:

<http://www.epa.ohio.gov/portals/35/permits/OHR000006/ARForm.docx>

You are not required to submit your annual report to Ohio EPA unless specifically requested. The timeframe to complete the report is at the discretion of the permittee but the same schedule to complete shall be maintained throughout this permit term. You shall keep the completed annual reports with your SWPPP.

### **B. Storm Water Monitoring Requirements**

1. Monitored Outfalls. Applicable benchmark monitoring requirements apply storm water outfalls: 0IO00000001, 0IO00000002, 0IO00000005, 0IO00000009, 0IO00000010, and 0IO00000011; except as otherwise exempt from monitoring as a “substantially identical outfall”. The allowance for monitoring only one of the substantially identical outfalls is not applicable to any outfalls with numeric effluent limitations. You are required to monitor each outfall covered by a numeric effluent limit as identified in Part I. For monitoring purposes, an outfall can include a discrete conveyance (i.e., pipe, ditch, channel tunnel or conduit) or a location where sheet flow leaves your facility’s property.
2. Measurable Storm Event. All required monitoring shall be performed on a storm event that results in an actual discharge from your site (“measurable storm event”) that follows the preceding measurable storm event by at least 72 hours (3 days). The 72-hour (3-day ) storm interval does not apply if you are able to document that less than a 72-hour (3-day) interval is representative for local storm events during the sampling period. In the case of snowmelt, the monitoring shall be performed at a time when a measurable discharge occurs at your site.

For each monitoring event, except snowmelt monitoring, you shall identify the date and duration (in hours) of the rainfall event, rainfall total (in inches) for that rainfall event, and time (in days) since the previous measurable storm event. For snowmelt monitoring, you shall identify the date of the sampling event.

3. Sample Type. You shall take a minimum of one grab sample from a discharge resulting from a measurable storm event as described in Part V.B.2. Samples shall be collected within the first 30 minutes of a measurable storm event. If it is not possible to collect the sample within the first 30 minutes of a measurable storm event, the sample shall be collected as soon as practicable after the first 30 minutes and documentation shall be kept with the SWPPP explaining why it was not

possible to take samples within the first 30 minutes. In the case of snowmelt, samples shall be taken during a period with a measurable discharge.

4. Benchmark Monitoring. This permit stipulates pollutant benchmark concentrations that are applicable to certain sectors and subsectors and must be monitored when sampling coincides with a discharge caused by a rain event that exceeds the 24-hour hydraulic capacity of the pond. **The benchmark concentrations are not effluent limitations; a benchmark exceedance, therefore, is not a permit violation.** Benchmark monitoring data are for your use to determine the overall effectiveness of your control measures and to assist you in knowing when additional corrective action(s) may be necessary to comply with the control measures/best management practices (BMPs) in Part IV. Items A-C.
  - a. Based on the average of your applicable monitoring results of the three-year benchmark evaluation period, if the monitoring values for any parameter exceeds the benchmark, you shall perform the following within one year of exceeding the benchmark:
    - i. In accordance with Part IV.D.2, review the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the Part IV. Items A-C control measures/best management practices (BMPs) of this permit; or
    - ii. Make a determination that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice to meet the control measures/best management practices (BMPs) in Part IV. Items A-C of this permit. You shall also document your rationale for concluding that no further pollutant reductions are achievable, and retain all records related to this documentation with your SWPPP. You shall also notify Ohio EPA and, if applicable, the MS4 operator of this determination within 30 days.

Ideally your storm water samples will contain only runoff from your site. However, storm water from a neighboring facility can run-on and come along with your regulated storm water discharge, possibly adding contaminants not found at your facility. The SWPPP site description shall document the locations and sources of any run-on. If you feel your discharge is exceeding a benchmark value due to, run-on from neighboring properties, you may collect and analyze samples of the run-on. Determined contaminant concentrations of run-on from neighboring properties may be deducted from your storm water discharge when determining whether a benchmark has been exceeded. This information shall be documented within eDMR's comment section. All sample data and findings shall be maintained with your SWPPP.

If it is determined that a water quality standard is less restrictive than this permit's benchmark value, you may use the less restrictive value for benchmark monitoring purposes.

Pollutant concentrations from your facility's structures (roofs, walls, fencing, etc.) can be considered to determine if it is technologically available and economically practical and

achievable in light of best industry practice to implement additional control measures or not when a benchmark has been exceeded.

In accordance with Part IV.D.2, you shall review your control measures and perform any required corrective action immediately or document why no corrective action is required.

- b. If you determine that exceedance of the benchmark is attributable solely to the presence of that pollutant in the natural background, you are not required to perform corrective action provided that:
  - i. The concentration of your benchmark monitoring result is less than or equal to the concentration of that pollutant in the natural background;
  - ii. You document and maintain with your SWPPP your supporting rationale for concluding that benchmark exceedances are in fact attributable solely to natural background levels. You shall include in your supporting rationale any data previously collected by you or others (including literature studies) that describe the levels of natural background pollutants in your storm water discharge.

Natural background pollutants include those substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from earlier activity on your site, or pollutants in run-on from neighboring sources which are not naturally occurring.

- c. *Exception for Inactive and Unstaffed Sites.* The requirement for benchmark monitoring does not apply at a facility that is inactive and unstaffed, as long as there are no industrial materials or activities exposed to storm water. To invoke this exception, you shall do the following:
  - i. Maintain a statement onsite with your SWPPP stating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to storm water in accordance with the substantive requirements in 40 CFR 122.26(g) and sign and certify the statement in accordance with Part IV.E.1.b.
  - ii. If circumstances change and your facility becomes active and/or staffed, this exception no longer applies and you shall immediately begin complying with the applicable benchmark monitoring requirements under Part V. B; and
  - iii. If you are not qualified for this exception at the time you are authorized under this permit, but during the permit term you become qualified because your facility is inactive and unstaffed, and there are no industrial materials or activities that are exposed to storm water, then you shall notify the appropriate district office of Ohio EPA of this change in your next benchmark monitoring report. You may discontinue benchmark monitoring once you have notified Ohio EPA, and prepared and signed the certification statement described above concerning your facility's qualification for this special exception.

## Part VI. Definitions and Acronyms

**Action Area** – all areas to be affected directly or indirectly by the storm water discharges, allowable non-storm water discharges, and storm water discharge-related activities, and not merely the immediate area involved in these discharges and activities.

**Best Management Practices (BMPs)** – schedules of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to surface waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. See 40 CFR 122.2.

**Co-located Industrial Activities** – Any industrial activities, excluding your primary industrial activity(ies), located on-site that are defined by the storm water regulations at 122.26(b)(14)(i)-(ix) and (xi). An activity at a facility is not considered co-located if the activity, when considered separately, does not meet the description of a category of industrial activity covered by the storm water regulations or identified by the SIC code list in Appendix D.

**Control Measure** – refers to any BMP or other method (including effluent limitations) used to prevent or reduce the discharge of pollutants to surface waters of the State.

**Director** – the Director of the Ohio Environmental Protection Agency (Ohio EPA).

**Discharge** – when used without qualification, means the "discharge of a pollutant." See 40 CFR 122.2.

**Discharge of a pollutant** – any addition of any “pollutant” or combination of pollutants to “surface waters of the State” from any “point source,” or any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This includes additions of pollutants into surface waters of the State from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. See 40 CFR 122.2.

**Discharge-related activities** – activities that cause, contribute to, or result in storm water and allowable non-storm water point source discharges, and measures such as the siting, construction and operation of BMPs to control, reduce, or prevent pollution in the discharges.

**Drought-stricken area** – a period of below average water content in streams, reservoirs, ground-water aquifers, lakes and soils.

**U.S. EPA Approved or Established Total Maximum Daily Loads (TMDLs)** – “U.S. EPA Approved TMDLs” are those that are developed by a State and approved by U.S. EPA. “U.S. EPA Established TMDLs” are those that are developed by U.S. EPA.

**Existing Discharger** – an operator applying for coverage under this permit for discharges authorized previously under an NPDES general or individual permit.

**Facility or Activity** – any NPDES “point source” (including land or appurtenances thereto) that is subject to regulation under the NPDES program. See 40 CFR 122.2.

**Federal Facility** – any buildings, installations, structures, land, public works, equipment, aircraft, vessels, and other vehicles and property, owned by, or constructed or manufactured for the purpose of leasing to, the federal government.

**Illicit Discharge** – is defined at 40 CFR 122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities.

**Impaired Water** (or “Water Quality Impaired Water” or “Water Quality Limited Segment”) – A water is impaired for purposes of this permit if it has been identified by a State or U.S. EPA pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards (these waters are called “water quality limited segments” under 40 CFR 30.2(j)). Impaired waters include both waters with approved or established TMDLs, and those for which a TMDL has not yet been approved or established.

**Industrial Activity** – the 10 categories of industrial activities included in the definition of “storm water discharges associated with industrial activity” as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi).

**Industrial Storm Water** – storm water runoff from industrial activity.

**Municipal Separate Storm Sewer** – a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;
- (ii) Designed or used for collecting or conveying storm water;
- (iii) Which is not a combined sewer; and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2. See 40 CFR 122.26(b)(4) and (b)(7).

**New Discharger** – a facility from which there is a discharge, that did not commence the discharge at a particular site prior to August 13, 1979, which is not a new source, and which has never received a finally effective NPDES permit for discharges at that site. See 40 CFR 122.2.

**New Source** – any building, structure, facility, or installation from which there is or may be a “discharge of pollutants,” the construction of which commenced:

- after promulgation of standards of performance under section 306 of the CWA which are applicable to such source, or
- after proposal of standards of performance in accordance with section 306 of the CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal. See 40 CFR 122.2.

**New Source Performance Standards (NSPS)** – technology-based standards for facilities that qualify as new sources under 40 CFR 122.2 and 40 CFR 122.29.

**No exposure** – all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. See 40 CFR 122.26(g).

**Ohio EPA** – the Ohio Environmental Protection Agency.

**Operator** – any entity with a storm water discharge associated with industrial activity that meets either of the following two criteria:

- (i) The entity has operational control over industrial activities, including the ability to modify those activities; or
- (ii) The entity has day-to-day operational control of activities at a facility necessary to ensure compliance with the permit (e.g., the entity is authorized to direct workers at a facility to carry out activities required by the permit).

**Person** – an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. See 40 CFR 122.2.

**Point source** – any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff. See 40 CFR 122.2.

**Pollutant** – dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal and agricultural waste discharged into water. See 40 CFR 122.2.

**Pollutant of concern** – A pollutant which causes or contributes to a violation of a water quality standard, including a pollutant which is identified as causing an impairment in a state's 303(d) list.

**Primary industrial activity** – includes any activities performed on-site which are (1) identified by the facility's primary SIC code; or (2) included in the narrative descriptions of 122.26(b)(14)(i), (iv), (v), or (vii), and (ix). [For co-located activities covered by multiple SIC codes, it is recommended that the primary industrial determination be based on the value of receipts or revenues or, if such information is not available for a particular facility, the number of employees or production rate for each process may be compared. The operation that generates the most revenue or employs the most personnel is the operation in which the facility is primarily engaged. In situations where the vast majority of on-site activity falls within one SIC code, that activity may be the primary industrial activity.] Narrative descriptions in 40 CFR 122.26(b)(14) identified above include: (i) activities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards; (iv) hazardous waste treatment storage, or disposal facilities including those that are operating under interim status or a permit under subtitle C of the Resource Conservation and Recovery Act (RCRA); (v) landfills, land application sites and open dumps that receive or have received industrial wastes; (vii) steam electric power generating facilities; and (ix) sewage treatment works with a design flow of 1.0 mgd or more.

**Qualified Personnel** – Qualified personnel are those who possess the knowledge and skills to assess conditions and activities that could impact storm water quality at your facility, and who can also evaluate the effectiveness of control measures.

**Reportable Quantity Release** – a release of a hazardous substance at or above the established legal threshold that requires emergency notification. Refer to 40 CFR Parts 110, 117, and 302 for complete definitions and reportable quantities for which notification is required.

**Runoff coefficient** – the fraction of total rainfall that will appear at the conveyance as runoff. See 40 CFR 122.26(b)(11).

**Semi-Arid Climate** – areas where annual rainfall averages from 10 to 20 inches.

**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. See 40 CFR 122.26(b)(12).

**Special Aquatic Sites** – sites identified in 40 CFR 230 Subpart E. These are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region.

**Storm Water** – storm water runoff, snow melt runoff, and surface runoff and drainage. See 40 CFR 122.26(b)(13).

**Storm Water Discharges Associated with Construction Activity** – a discharge of pollutants in storm water runoff from areas where soil disturbing activities (e.g., clearing, grading, or excavating), construction materials, or equipment storage or maintenance (e.g., fill piles, borrow areas, concrete truck washout, fueling), or other industrial storm water directly related to the construction process (e.g., concrete or asphalt batch plants) are located. See 40 CFR 122.26(b)(14)(x) and 40 CFR 122.26(b)(15).

**Storm Water Discharges Associated with Industrial Activity** – the discharge from any conveyance that is used for collecting and conveying storm water and that 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 under Part 122. For the categories of industries identified in this section, 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 part 401 of this chapter); 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 final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final 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 include those that are federally, State, or municipally owned or operated that meet the description of the facilities listed in 40 CFR 122.26(b)(14).

**Surface Waters of the State** - Means all streams, lakes, ponds, marshes, watercourses, waterways, springs, irrigation systems, drainage systems, and all other bodies or accumulations of surface water, natural or artificial, which are situated wholly or partly within, or border upon, this state, or are within its jurisdiction, except those private waters which do not combine or effect a junction with natural surface waters.

**Total Maximum Daily Loads (TMDLs)** – A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL includes wasteload allocations (WLAs) for point source discharges; load allocations (LAs) for nonpoint sources and/or natural background, and shall include a margin of safety (MOS) and account for seasonal variations. (See section 303(d) of the Clean Water Act and 40 CFR 130.2 and 130.7).

**Water Quality Impaired** – See 'Impaired Water'.

**Water Quality Standards** – A water quality standard defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses. States and U.S. EPA adopt water quality standards to protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act (See CWA sections 101(a)2 and 303(c)). Water quality standards also include an antidegradation policy. See P.U.D. o. 1 of Jefferson County et al v. Wash Dept of Ecology et al, 511 US 701, 705 (1994).

**“You” and “Your”** – as used in this permit are intended to refer to the permittee, the operator, or the discharger as the context indicates and that party’s facility or responsibilities. The use of “you” and “your” refers to a particular facility and not to all facilities operated by a particular entity. For example, “you shall submit” means the permittee shall submit something for that particular facility. Likewise, “all your discharges” would refer only to discharges at that one facility.

## **ABBREVIATIONS AND ACRONYMS**

BAT – Best Available Technology Economically Achievable

BOD5 – Biochemical Oxygen Demand (5-day test)

BMP – Best Management Practice

BPJ – Best Professional Judgment

BPT – Best Practicable Control Technology Currently Available

CERCLA – Comprehensive Environmental Response, Compensation and Liability Act

CGP – Construction General Permit

COD – Chemical Oxygen Demand

CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 *et seq*)

CWT – Centralized Waste Treatment

DMR – Discharge Monitoring Report

U.S. EPA – U. S. Environmental Protection Agency

FWS – U. S. Fish and Wildlife Service

LA – Load Allocations

MDMR – MSGP Discharge Monitoring Report

MGD – Million Gallons per Day

MOS – Margin of Safety

MS4 – Municipal Separate Storm Sewer System

MSDS – Material Safety Data Sheet

MSGP – Multi-Sector General Permit

NAICS – North American Industry Classification System

NMFS – U. S. National Marine Fisheries Service

NOI – Notice of Intent

NOT – Notice of Termination

NPDES – National Pollutant Discharge Elimination System

NRC – National Response Center

NTU – Nephelometric Turbidity Unit

OMB – U. S. Office of Management and Budget

ORW – Outstanding Resource Water

OSM – U. S. Office of Surface Mining

POTW – Publicly Owned Treatment Works

RCRA – Resource Conservation and Recovery Act

RQ – Reportable Quantity

SARA – Superfund Amendments and Reauthorization Act

SIC – Standard Industrial Classification

SMCRA – Surface Mining Control and Reclamation Act

SPCC – Spill Prevention, Control, and Countermeasures

SWPPP – Storm Water Pollution Prevention Plan

TMDL – Total Maximum Daily Load

TSDf – Treatment, Storage, or Disposal Facility

TSS – Total Suspended Solids

USGS – United States Geological Survey

WLA – Wasteload Allocation

WQS – Water Quality Standard



## Division of Surface Water Response to Comments

**Facility: Fluor-BWXT Portsmouth, LLC**  
**Permit #: 01O00000\*OD**

### Agency Contacts for this Project

Division District Contact: Dustin Tschudy, (740) 380-5251  
Central Office Contact: Joshua Griffin, (614) 644-2874  
Public Involvement Coordinator: Jessica Langdon, (614) 644-2160

Ohio EPA held a public comment period from March 5, 2020 to May 15, 2020, regarding a draft permit for Fluor-BWXT Portsmouth, LLC (01O00000\*OD). This document summarizes the comments and questions received during the associated comment period.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to the protection of the environment and public health. Some public comments may fall outside of that authority. To help you review this document, the comments and questions are grouped by topic and organized in a consistent format.

### Comments from Interested Parties

Comments were received from interested parties on the draft permit during the public hearing and the comments are summarized below. Comments were received from: Dennis Foreman (Piketon City Council), the Pike County Commissioners, the Pike County General Health District, Bobby Vaughn Jr., Pat Merida (Sierra Club), Joni Arends (Concerned Citizens for Nuclear Safety), Dave McCoy (Citizen Action NM), Jeffrey Walburn, Lee Blackburn and Vina Colley.

**Comment 1:**           **There were several comments made that some of the public had difficulty connecting to the virtual public hearing.**

**Response 1:**       Ohio EPA was responsive to anyone who reached out to staff with difficulty connecting to the virtual public meeting prior to its start and during its broadcast.

Ohio EPA recorded the virtual public meeting. The Agency posted a recording of the public meeting to its website for those who had difficulty connecting or who missed the virtual public meeting altogether. The link and captured comments

and questions were sent to all those who registered for the virtual public meeting. You can view the recorded meeting here:

<https://ohioepa.webex.com/recording/service/sites/ohioepa/recording/9e67b77ead8c4a5e8ca992c65533a05d>

Comments and questions were accepted through May 15, 2020, providing ample time to review the recorded public meeting and officially provide input.

**Comment 2:** **There was a comment that there was a limit on the characters that could be submitted through the virtual public meeting chat.**

**Response 2:** In the virtual public meeting format, there is a limit on characters in the “Q&A” feature. Ohio EPA encouraged citizens who were participating in the virtual public meeting to submit questions and comments using the “Chat” feature, which did not have a character limit. This was communicated on a slide in the presentation and verbally several times by Ohio EPA staff during the virtual public meeting.

The virtual public meeting was not the only opportunity for citizens to submit questions and comments for the public record. Ohio EPA public noticed the public comment period on March 5, 2020. The original public comment period lasted until April 29, 2020, a week after the virtual public meeting. Following the virtual public meeting, the comment period was extended until May 15, 2020, giving citizens a longer period to submit comments.

**Comment 3:** **There was a question about why people asking questions were not identified during the virtual public meeting.**

**Response 3:** To ensure the connection was as smooth and glitch free as possible because Ohio EPA staff were working from home on their own networks, the Agency did not make the attendance list visible during the virtual public meeting. The application the Agency uses for virtual public meetings can get bogged down when the attendance list is visible during large meetings. Attendees had an opportunity to submit questions via the “Chat” feature. Ohio EPA staff read aloud the questions to be answered. Any testimony submitted was

also read aloud. After a request was made to have the names of those who were asking the questions be identified during the virtual public meeting, Ohio EPA began to do so.

**Comment 4:** **There was a comment that the virtual public meeting had poor audio.**

**Response 4:** Ohio EPA was responsive to anyone who reached out to staff with difficulty connecting to the virtual public meeting prior to its start and during the broadcast. Agency staff attempted to alleviate any of these concerns.

It is also why Ohio EPA recorded the virtual public meeting. The Agency posted a recording of the public meeting to its website for those who had difficulty connecting or who missed the virtual public meeting altogether. The link and captured comments and questions were sent to all those who registered for the webinar. You can view the recorded meeting here:

<https://ohioepa.webex.com/recording/service/sites/ohioepa/recording/9e67b77ead8c4a5e8ca992c65533a05d>

**Comment 5:** **There was a comment that the virtual public meeting was conducted on Earth Day.**

**Response 5:** The virtual public meeting was scheduled to coordinate the schedules of all staff who were involved in the presentation and facilitation of the virtual public meeting. The fact that it was scheduled on Earth Day was not intentional.

**Comment 6:** **There was a comment requesting Ohio EPA to hold an in-person meeting.**

**Response 6:** At the time of the virtual public meeting, Ohio EPA staff were working remotely as a precaution against COVID-19. A stay-at-home order was issued by Governor DeWine to lessen the spread of coronavirus. During this time, the Ohio General Assembly gave state agencies the authority to conduct such public meetings remotely via House Bill 197.

**Comment 7:** **There were comments received concerning the National Pollutant Discharge Elimination System (NPDES) required sampling at the facility to monitor the effluent quality and how Ohio EPA responds to permit limit**

**violations. Commenters also recommended that Ohio EPA conduct split sampling or require a non-Department of Energy (DOE) entity to collect the surface water samples to ensure that Fluor-BWXT sample results are valid and credible.**

**Response 7:**

All of the monitoring required by the proposed permit will be collected by Fluor. This is consistent with how the Clean Water Act is administered nationally and is true with Ohio's over 3,400 individual NPDES permits. The NPDES permit is specific in the required frequency of sampling and sampling methods required. Ohio EPA conducts frequent reviews of the data submitted by Fluor-BWXT to ensure that sampling is conducted in accordance with the NPDES permit. Ohio EPA conducts inspections of all facilities and has the authority to collect samples. The parameters that are required to be sampled in the NPDES permit are outfall specific and determined based on the potential for a water quality standard to be exceeded.

Ohio EPA requires notification and corrective action for permit limit violations. Ohio EPA Division of Surface Water (DSW) has an Enforcement Program that can take legal action to require injunctive relief and penalties for NPDES permit violations.

**Comment 8:**

**“The purpose of an NPDES permit is to prevent degradation of navigable waters of the U.S. The permit in question seems designed specifically to allow degradation of the Scioto River. The amount of degradation and effects on the human environment were minimized or not discussed at all in the webinar.”**

**Response 8:**

The purpose of the NPDES permit is to ensure that point source discharges comply with technology based effluent limits and are protective of water quality standards. Part of water quality standards are the provisions in Ohio Administrative Code (OAC) Rule 3745-1-05, the “Antidegradation Rule”. These provisions define how the director may allow for discharges of pollution while still protecting water quality. The amount of degradation, which may not result in a loss of use, has been evaluated as well as the social and economic benefits of the project and potential alternatives. The proposed permit is protective of all beneficial uses for the Scioto River.

**Comment 9:** “The intent of the permit to allow higher levels of mercury is appalling as the change to methylated mercury in aquatic environments is devastating and poisons humans using the aquatic food chain. Mercury is a Resource Conservation and Recovery Act (RCRA) regulated metal.”

**Response 9:** There was an increase in loading at Outfall 004. The water quality standard for mercury that is most restrictive is the human health standard for fish consumption. The water quality standard accounts for bioaccumulation in aquatic food webs impacting human consumption of fish. Since mercury bioaccumulates, it is identified as a bioaccumulative chemical of concern (BCC) and OAC Rule 3745-2-05(A)(2) includes a prohibition of mixing zones for BCCs and they have to meet the water quality standard at the end of the pipe. The authorized increase in load at Outfall 004 is protective of human fish consumption that might be impacted by mercury in the discharge.

**Comment 10:** “The Dept. of Energy and Fluor BWXT Portsmouth are externalizing the costs when they do not fully clean up their discharges. Instead of isolating dangerous pollutants at the source, and paying that cost, the environment, including plants, animals and people downstream will pay the costs with their health and well-being. Dilution is not the solution for pollution. Our rivers and lands are being destroyed by a hundred thousand cuts. And some of those cuts are radioactive.”

**Response 10:** For the new discharge to be authorized the facility must implement the best available demonstrated control technologies (BADCT). The requirement to utilize BADCT is not impacted by ability of the receiving water to accommodate higher levels of pollution without exceeding water quality standards. Based on the expected concentrations from the treatment units utilizing BADCT, the discharge was evaluated for the reasonable potential to exceed water quality standards, including those specifically developed to protect aquatic life, recreation and human health. The proposed permit is protective of all water quality criteria. See response 25 for more information about radioactivity.

**Comment 11:**        **Requesting to: “Perform a comprehensive analysis on the effects resulting from higher levels of contamination to waters of the state.”**

**Response 11:**     A comprehensive analysis is completed for all effluents discharged from existing and proposed discharges during an NPDES permit evaluation. Form 2d of the application discusses the effluent characteristics from the new sources of wastewater to Outfall 004 in addition to the existing sources. The form provides the expected effluent concentrations for 54 different parameters that have the potential to be present in the discharge. Prior to evaluating the impact of the effluent on water quality in the Scioto River, Ohio EPA conservatively multiplied the maximum values by 6.2 (a factor for estimating effluent quality when there is only one sample) to determine the ‘projected effluent quality’ presented in Table 13 in the draft fact sheet. Following those conservative estimates of effluent quality, the need for new effluent limits was evaluated.

Copper, mercury and total residual chlorine are the only pollutants that received limitations based on having the reasonable potential to impact water quality in the Scioto River. The limitations for copper and total residual chlorine are based on the impact from existing cooling water discharges from the outfall. Mercury is considered a bioaccumulative chemical of concern, which based on OAC 3745-2-05(A)(e), is prohibited from using dilution to meet water quality standards. The water quality standard was developed to be protective of the accumulation of mercury in fish tissue for human consumption. Based on the water quality standard and the prohibition of dilution to meet effluent limits the increase in loading will be protective of water quality in the Scioto River.

**Comment 12:**        **There were comments about the new discharge impacting future growth in the region as more of the assimilative capacity of the Scioto River is consumed by U.S. DOE in the proposed permit.**

**Response 12:**     The proposed project takes up a very small percentage of assimilative capacity of the Scioto River. The Scioto River is a large receiving water and there are several things that work to preserve much of the Scioto River’s assimilative capacity. The proposed discharge does not get dilution from the entire flow of the Scioto River. Due to the ratio of the

discharge to the streamflow only 75 percent of the streamflow is available to evaluate the need for effluent limits. Even 75 percent of the flow of the Scioto River provides a lot of assimilative capacity, however, the discharge is not allowed to be acutely toxic to aquatic life inside the mixing zone maximum (IMZM). The IMZMs are limiting for all parameters that waste load allocations were evaluated for and dilution is allowed to meet water quality standards. At most the IMZM was 53 percent of the next most restrictive value. Combining these conservative principles to evaluate the impact of effluent discharges on water quality standards a minimum of 65 percent of the assimilative capacity is conserved for the Scioto River. This amount of the Scioto River's assimilative capacity is not automatically allocated to the discharge. As detailed in Response 17, most parameters did not have reasonable potential to exceed these projected effluent limits and no limitation was required. For example, copper, one of the parameters that did receive a limitation in the proposed permit, is limited to a mass loading of 0.575 kg/day. This is 2.7 percent of the total assimilative capacity of the Scioto River.

The addition of 2.0 million gallons per day (MGD) of effluent is substantial, however, the conservative evaluations made in the NPDES permitting process combined with the size of the receiving stream preserve the majority of the Scioto River's assimilative capacity.

**Comment 13:** **There were comments submitted about the mercury variance being renewed and the impact to the limits of mercury being discharged.**

**Response 13:** The limits in the draft permit for mercury are lower at both Outfall 001 and Outfall 003, outfalls that were previously granted a general mercury variance. New data became available after the public hearing and neither outfall is eligible for the general mercury variance any longer. Details about each outfall follow.

Outfall 001 was first granted a mercury variance in 2018, the pollutant minimization plan was developed through 2023. Based on recent data, Ohio EPA expects that they will meet the water quality-based effluent limit by that time. The variance was not renewed but the outfall was granted a compliance schedule to continue implementing the pollutant

minimization plan. The facility must meet the water quality-based effluent limit as soon as possible but not later than May 1, 2023. The interim limit for the outfall was calculated following the same procedures as the water quality variance. Again, the level of mercury authorized in the proposed permit is less than the current permit.

Data submitted to the Agency subsequent to the public hearing caused the 12-month rolling average mercury concentration at Outfall 003 to exceed the 12 ng/L level required for general mercury variance eligibility. Following the requirements of the mercury variance the facility notified Ohio EPA within 30 days of exceeding the 12 ng/L rolling average for mercury. The facility has two options at this point, apply for an individual variance or request a modification of the permit to include a compliance schedule to meet the limit, both within six months of the exceedance (October 31, 2020). Since the permit was currently being renewed, the draft permit was modified to include a compliance schedule for mercury at Outfall 003. The variance-based limit included in the draft permit is now an interim limit in the proposed permit and the facility has up to 36 months to meet final effluent limit of 12 ng/L as a monthly average at Outfall 003.

**Comment 14:** **A comment was submitted asking when the new discharges covered by the permit would begin.**

**Response 14:** The new discharges covered by this proposed permit are not authorized by the existing permit therefore, they cannot begin until the proposed permit becomes effective.

**Comment 15:** **A comment was submitted with concerns about the impacts of toxicity to aquatic life. The concerns were then directed at the frequency of toxicity monitoring at Outfalls 003 and 004 and the impact of spikes 'certain materials' to effluent toxicity.**

**Response 15:** First, a correction to the monitoring frequency that was mentioned during the virtual public meeting: the frequency at Outfall 004 is quarterly rather than semiannually as was stated.

Ohio EPA evaluates multiple factors when determining the need for toxicity monitoring. One of those factors is the ambient biology in the streams. At Outfalls 003 and 004 the

Scioto River is in full attainment of the designated warmwater habitat use. No toxicity related signatures were noted within the Scioto River outside of the mixing zones for Outfalls 003 and 004. Ohio EPA's biological monitoring program measures the cumulative effects of all environmental stressors. The monitoring occurs during the summer low flow period of June 15 - October 15.

The acute toxicity monitoring using *P. promelas* (fathead minnows) and *C. dubia* at Outfall 003 did not exhibit acute toxicity in any of the quarterly samples collected between September 2014 and July 2019. Chemical effluent data and expected effluent data were evaluated and it was determined that the effluent is not likely to be toxic. Following the Ohio River weight of evidence procedures in Ohio EPA Permit Guidance 13 the outfall was placed in 'Category 4' or that the effluent was not toxic. Monitoring is optional for outfalls in this category however, rather than eliminating monitoring it was reduced from once per quarter (four times per year) to one time per year.

The same weight of evidence evaluation was applied to Outfall 004 and the outfall was placed in 'Category 3' or that toxicity is possible in the effluent. From September 2014 - July 2019 one quarterly sample was greater than the water quality-based effluent limit of 1.0 TUa for both *P. promelas* and *C. dubia*. Also, the IMZM limit for copper was exceeded four times. Following Ohio EPA Permitting Guidance 13 limits are not implemented for Category 3 but the monitoring frequency of once per quarter was maintained.

Following the weight of evidence procedure each of the remaining outfalls was evaluated and determined not to have toxicity concerns. This was following the observations of ambient biology in Little Beaver Creek, Big Run and West Ditch completed by Ohio EPA and the chemical effluent data of each of the outfalls.

**Comment 16:** **There were comments received regarding risk related to radioactivity including:**

**“Although OEPA stated that radionuclides are not within its purview, the fact is that OEPA was hiding the ball on a serious issue that is of interest to NGOs such as Citizen Action New Mexico (CANM).”**

**“For two decades, the Department of Energy (DOE) brought in reprocessed high level radioactive waste and ran it through the approximately 100 acres of process building, contaminating the entire site with plutonium, other transuranics as well as other dangerously radioactive elements. Ohio EPA does not regulate radioactivity, so transuranics, technetium and other highly radioactive elements are not listed with the elements being discharged. Radioactivity being discharged is listed as alpha, beta, and radium, though Ohio EPA does not regulate this radioactivity.**

**The DOE oversees radioactivity, and they in turn share their data on radioactivity with Ohio EPA. Ohio EPA then shares the data with the Ohio Department of Health (ODH). Their respective activities are difficult for the public to discern. The public hears very little from either the DOE or the ODH on the topic of radioactive contamination and emissions at PORTS.**

**DOE monitoring its own waste discharges is a classic case of the fox guarding the henhouse. Discharges are based on calculated estimates. We have concerns that actual discharges of pollutants could be considerably higher. This is the same DOE that maintains that radioactivity found in offsite air quality monitors and in local streams and attics came from atomic weapons testing during the cold war. Expert analysis has unequivocally proven that offsite americium, neptunium and plutonium have the PORTS signature. This same DOE called a recent fire at PORTS an ‘exothermic event’.”**

**“How can we the public know if the dose rate factors for exposure to a contaminated ground surface ground plane coefficients (Gy/y per Bq/m<sup>2</sup>) are reflected in determining if the effluent being released does not exceed the guidelines for exposure to the breast, lungs, R Marrow, Thyroid. The specific limits are found in the Health Physics and Radiological Health Handbook Table 13.27.”**

**“Communicate and evaluate through non-DOE providers, the effects of radiation that would result from this permit.”**

**Response 16:** Monitoring for radiological parameters and an evaluation of the associated risk is not included in the NPDES permit because Ohio EPA does not have the regulatory authority to enforce limits or monitoring for radiological parameters. U.S. DOE conducts radiological monitoring per U.S. DOE Orders. Ohio EPA receives the radiological data that U.S. DOE collects at the NPDES outfalls through a data sharing agreement. Ohio EPA then asks the Ohio Department of Health to review the data to ensure that there is not an unacceptable level of contaminants in the outfall. For specific information regarding what are safe levels of radiological contaminants in the discharges from the U.S. DOE Portsmouth facility, please contact:

U.S. DOE Portsmouth Project Office  
Telephone: (740) 897-5010

Ohio Department of Health  
Bureau of Environmental Health and Radiation Protection  
Telephone: (614) 644-2727

**Comment 17:** **Comments received requested reopening the 2015 Waste Disposition Record of Decision (WD ROD) for the Portsmouth facility due to inaccuracies in the document that were identified by a third party assessment, primarily related to fractured bedrock at the On-Site Waste Disposal Facility (OSWDF), due to the fact that the draft permit includes modifications to allow for discharges from the remedial alternative that was selected in the 2015 WD ROD. Comments also reference miscalculations made for air monitoring data over a ten-year period.**

**Response 17:** The NPDES permit is not a mechanism to revisit issues relating to the 2015 WD ROD. Rather the NPDES permit is merely a mechanism to control the wastewater discharge issues that are a product of the remedial approach contained in the ROD.

**Comment 18:** **“Allowing additional discharges of deadly toxins goes against the morals and ethics that EPA was founded on. As a democracy – We the People – we DO NOT CONSENT to OEPA's additional discharges, and hereby, by the reading of these words, order you to stop additional discharging.”**

**Response 18:** Ohio EPA is a state agency whose mission is to protect the environment and public health by ensuring compliance with environmental rules and regulations. During the permitting process, staff reviewed and evaluated the application, effluent data, projected effluent data and stream data before drafting the NPDES permit. The NPDES permit requires monitoring, effluent limits, and other conditions to ensure that discharges from Fluor do not cause exceedances of water quality standards in the receiving streams. Water quality standards are developed to protect aquatic life, recreation, human health, industrial water use and agricultural water use.

**Comment 19:** **There was a question asking what information was considered in the socioeconomic analysis. The comment specifically inquired about additional leachate being sent to the village of Piketon's wastewater treatment plant from the Rumpke Landfill, increases in radiological contamination from open air demolition at the U.S. DOE Portsmouth facility, and a previous NPDES permit modification for a change in the mercury limit and if these were considered in the socioeconomic analysis.**

**Response 19:** A permit to Rumpke and air quality are outside the scope of this NPDES permit renewal. The proposed permit would authorize an increase of pollutants being discharged to the Scioto River associated with remedial activities. All information required under Rule OAC 3745-1-05 was submitted by Fluor and evaluated by Ohio EPA. The socioeconomic analysis evaluated for the increase in loading within the NPDES permit is not a re-evaluation of all activities at the site. The director has examined non-degradation, minimal degradation and mitigative technique alternatives, reviewed the social and economic issues and evaluated and responded to all public comments. The preferred alternative mitigates the existing sources to the greatest extent by consolidating and isolating the waste to reduce the mobility of pollutants. The alternative also employs high levels of treatment to water that contacts the waste as it is processed and placed into the on-site waste disposal facility.

**Comment 20:** **There was a comment about the use of the NPDES permit in lieu of Resource Conservation and Recovery Act (RCRA) requirements.**

- Response 20:** Facilities that are subject to RCRA regulations and have a wastewater discharge are required to obtain a NPDES permit for the discharge. The requirements imposed by the NPDES permit are in addition to any requirements imposed by RCRA.
- Comment 21:** **There was a comment to add a 2002 “Groundwater Movement at Ports” report, completed by Radioactive Waste Management Associates to the record.**
- Response 21:** The report was added to the permit file.
- Comment 22:** **There were comments to allow more time to understand the impacts of the permit.**
- Response 22:** Ohio EPA has provided ample time, beyond what is legally required, for the public to provide input on the draft permit. Public outreach included: issuing a public notice on Oct. 10, 2020, that the application was received to inform the public that Ohio EPA was evaluating a new discharge permit; issuing a public notice on Mar. 5, 2020, of the draft permit and fact sheet; and, extending the public comment period that initially concluded on Apr. 29, 2020. The comment period was extended to May 15, 2020, following requests from local stakeholders.
- Comment 23:** **There was a comment to make available to the public all analytical results.**
- Response 23:** All information submitted to satisfy NPDES requirements including analytical data, reports and the application are public records that are available to the public upon request. A fact sheet that gives instructions for how to request records is available at the following link:  
<https://epa.ohio.gov/portals/47/facts/records.pdf>.
- Additionally, all data submitted to Ohio EPA is summarized monthly and submitted to U.S. EPA for compliance tracking. The compliance data for the facility are available at:  
<https://echo.epa.gov/detailed-facility-report?fid=110046552930>.
- Comment 24:** **There was a comment about the of the level of detail contained in the presentation.**

**Response 24:** In order to present the information contained in the permit and allow ample time for discussion, the presentation was designed to take 20-30 minutes. The draft permit and fact sheet were included with the public notice when it was issued on Mar. 5, 2020. Due to time constraints, it would not have been possible to provide detail about individual changes at each outfall in the presentation. The presentation focused on where changes occurred, the new waste stream, and antidegradation considerations at Outfall 004.

**Comment 25:** **“I’m also very concerned about the comment of reduced monitoring when the parameters do not exhibit reasonable potential to exceed water quality standards, followed by saying new monitoring will be done for beryllium, cadmium, chromium, cobalt, total dissolved solids, fluoride, nickel, selenium, silver and vanadium but without limits being set. I am uncertain as to how you can be certain the limits for these chemicals will not be exceeded when there is no way to determine exactly what will be in the leachate from the on-site waste disposal facility (OSWDF). Especially given that landfills on the property will be dug up and used as fill dirt for the OSWDF even though complete records don’t exist for what may be in those landfills. And while the Waste Acceptance Criteria (WAC) may regulate what can and can’t go into the OSWDF, there is no way to prevent the concentration of chemicals that might accumulate and leach from the buried debris. I would strongly urge the Ohio EPA to not only set limits on the aforementioned chemicals but to also refrain from reduced monitoring for them; at least for this permit extension.”**

**Response 25:** Each time a permit is renewed, Ohio EPA evaluates all pertinent water quality data. For each outfall a projected effluent quality (PEQ) is determined following the provisions in OAC 3745-02-04. When the PEQ is compared to the water quality standards and preliminary effluent limitations the pollutant is assigned to a specific group. Depending on the grouping, Ohio EPA can require certain actions. Parameters with reduced monitoring were either in group 2 or 3. For these groups the PEQ was either less than 25 percent of the water quality standard (group 2) or less than 50 percent of the projected effluent limit (group 3).

Monitoring for group 2 and 3 parameters is not required. However, Ohio EPA can utilize judgment to include monitoring. Ongoing monitoring was not required but was elected to ensure that these pollutants remain at low levels.

Monitoring for new parameters at Outfall 004 (influenced by the OSWDF leachate) is based parameters that are treated in the proposed modular treatment units and might be detected at the final outfall. The larger U.S. DOE Portsmouth site is subject to the jurisdiction of multiple Ohio EPA programs. To better manage the site and integrate overlap between programs, Ohio EPA issued Directors Final Findings and Orders (DFF&O) to DOE on Sept. 12, 2011. In part, the orders agreed to utilize the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) framework to manage all deactivation and decommissioning activities and to, “work together to identify opportunities to merge or combine multiple documents to accelerate/streamline the documentation process.”

Technology based effluent limits required at internal outfalls require a more stringent level of control than if water quality-based limits were included at the final outfall. The new wastewater proposed to discharge through Outfall 004 is required to utilize the Best Available Demonstrated Control Technology (BADCT). Utilizing BADCT is a technology-based requirement, meaning the facility is required to meet the standard regardless of the assimilative capacity of the receiving stream and need for water quality-based effluent limits. There was an opportunity to merge two documents per the DFFO and with the Performance Sampling Verification Plan (PSVP), a CERCLA document, and the sampling for technology-based requirements in the NPDES permit. Ohio EPA agreed that the sampling and monitoring for the new treatment units and applicable BADCT standards would be managed through the PSVP. The discharges are more stringently limited by the BADCT requirements than the associated water quality-based effluent limits once the new discharge is combined with the existing wastewater flow in Outfall 004.

**Comment 26:** **There was a comment that expressed concern about new monitoring for polychlorinated biphenyls (PCBs)**

**and trichloroethylene (TCE) at outfalls influenced by the haul road to the OSWDF and whether or not those outfalls included the OSWDF.**

**Response 26:** The area that contains the OSWDF is not tributary to any outfalls that are covered by this NPDES permit. The haul road is being maintained as a clean road. The new monitoring is included to collect data to evaluate that status. There is no anticipated increase in loading of these parameters at these outfalls.

**Comment 27:** **There was a comment that the presentation did not mention the new X-622-1 Water Treatment System.**

**Response 27:** The presentation was not intended to cover every detail about the project. For more detailed information, please see the fact sheet. However, in this case, the X-622-1 Water Treatment System is the location where the Modular Treatment System Trains C & D will be initially deployed. The effluent from these modular treatment trains will be tributary to Outfall 004 and was covered in the presentation.

**Comments from Fluor-BWXT (FBP)**

**Comment 28:** **FBP believes it appropriate to add dust control water in the source description for each of the regulated effluent holding ponds (Outfalls 001, 002, 005, 009, 010, 011). While FBP's intent when implementing dust control is to apply water such that any resultant runoff is minimal, it is appropriate to includes dust control as a potential source of wastewater.**

**Response 28:** Dust control was not identified in the NPDES application; however, it has been an important component of managing pollution at the site. These existing activities are part of existing site operations. However, new sources of dust control water require independent evaluation. The nature of the deactivation and decommissioning activities are such that dust suppression waters from any specific site might result in unique pollutants. An evaluation of new activities is necessary to determine if existing treatment and monitoring are adequate for the activity. No change is being made to the NPDES permit and any additional monitoring and/or investigation will need to be handled through work plans submitted to Ohio EPA's Division of Environmental

Response and Revitalization in accordance with the *April 13, 2010 Director's Final Findings and Orders for Removal Action and Remedial Investigation and Feasibility Study and Remedial Design and Remedial Action including the July 16, 2012 modification thereto* (DFF&O). The NPDES program should continue to be consulted to ensure the impact to any existing NPDES outfall does not conflict with what is authorized.

**Comment 29:** **The monitoring month for both Parameter 61425 - Acute Toxicity, Ceriodaphnia dubia – Tu<sub>a</sub> and Parameter 61427 - Acute Toxicity, Pimaphales promelas – Tu<sub>a</sub> at Outfall 003 needs changed to July to align with a Quarterly Tox3 monitoring month.**

**Response 29:** This change was made.

**Comment 30:** **There has been no basis explained in the fact sheet for limiting PCBs at Outfall 004 to a method detection limit while PCBs were categorized as being a group 2 parameter (no limit; monitoring optional). Based on Ohio EPA's protocols for regulating pollutants, FBP believes that only monitoring for PCBs at Outfall 004 is justified and requests the limit for PCBs specified under Note (g) be removed.**

**The same comment was made regarding the footnote for PCBs on Outfalls 009, 010, and 011.**

**Response 30:** Due to the nature of the activity's tributary to the identified outfalls, there is reasonable potential that the pollutant is present in the discharge. The quantification level for PCBs in method 608 specified in 40 CFR 136, Appendix A is 0.5 µg/L. The water quality standard for PCBs, which as a bioaccumulative chemical of concern, must meet water quality standards at the end of pipe, is 0.0017 µg/L. The method returns a result two orders of magnitude greater than the water quality standard. Since all data reported is less than the quantification level, no PEQ is calculated and the parameter is placed in group 2. No numeric effluent limit is given, however, since the quantification level for the method is two orders of magnitude greater than the water quality standard and it is likely present in the discharge, a general prohibition of detectable levels of PCBs is appropriate.

**Comment 31:** **Part I; C - Schedule of Compliance for Outfalls 002 and 009: FBP believes that conditions may have changed subsequent to renewal application sampling relative to the discharge of chlorinated water to these outfalls. FBP is requesting that the plan of action include the provision of demonstrating compliance with the proposed limit for total residual chlorine through 6 months of data for each outfall. If data are satisfactory relative to the proposed limit, then no additional actions would be warranted, and FBP would begin complying with the permit limit immediately after 6 months. If the data are unsatisfactory, FBP would provide a schedule for installing dechlorination equipment and compliance with the limit 18 months subsequent to the submission of the plan of action.**

**Response 31:** Based on communications with FBP since the application data was collected, Ohio EPA agrees that FBP may demonstrate compliance with the effluent limit without the need for further treatment. To facilitate compliance with the final effluent limit, the interim 12-month milestone has been removed from the permit. FBP should comply with the final effluent limit as soon as possible after the 6-month evaluation period. However, 12 months should be ample time to install any necessary equipment following the initial 6-month evaluation period and the total length of the compliance schedule has not changed.

**Comment 32:** **The figure presented on page 29 of the Fact Sheet is difficult to read and as such could be misleading as to the RCRA Permitted Storage Areas. RCRA permitted storage areas are located only in X-330, X-345, and X-705. FBP recommends that a note be added to the figure as well as appropriate symbols to identify the RCRA permitted storage areas. FBP can revise the figure and provide to Ohio EPA for their use.**

**Response 32:** FBP provided a revised figure and it is incorporated into the fact sheet.

**Comment 33:** **Add dust control water as a wastewater source to Outfalls 001, 002, 005, 009, 010, and 011 in Table 1 of the Fact Sheet.**

**Response 33:** See response to Comment 1.

- Comment 34:** There are errors in the “number of observations” column for Outfall 003 in Table 12 of the Fact Sheet.
- Response 34:** There was a transcription error; the changes have been made.
- Comment 35:** There is no longer any basis for regulating Outfall 602. Coal handling operations are not occurring. There are sufficient limits at Outfall 002. Internal limits are only required for exceptional circumstances that make monitoring and/or effluent limits necessary. FBP requests eliminating Outfall 602 as a regulated outfall.
- Response 35:** The coal handling area has not been remediated and coal material residuals are still present on the site. It is appropriate to maintain the internal monitoring and limits to ensure compliance with coal handling technology limits based on best professional judgement. If the area is remediated, the associated technology-based limits will no longer be applicable and the outfall can be removed from the permit.
- Comment 36:** There is no longer any basis for regulating Outfalls 604 and 605. Historical data justify elimination of monitoring requirements. Sufficient limits at Outfall 003 are in place limiting key parameters. Internal limits are only required for exceptional circumstances that make monitoring and/or limits necessary. Given these conditions, FBP requests eliminating Outfalls 604 and 605 as regulated outfalls.
- Response 36:** Technology-based limits for pH (both outfalls) and total suspended solids (TSS) (Outfall 605) are applied at the internal station. These monitoring stations are necessary to ensure that technology-based limits are met before waste streams are diluted. Federal rules prohibit attaining treatment standards by dilution.

**End of Response to Comments**

National Pollutant Discharge Elimination System (NPDES) Permit Program

FACT SHEET

Regarding an NPDES Permit To Discharge to Waters of the State of Ohio  
for Fluor-BWXT Portsmouth, LLC

Public Notice No.: 20-03-003  
Public Notice Date: March 5, 2020  
Comment Period Ends: April 5, 2020

Ohio EPA Permit No.: 01O00000\*OD  
Application No.: OH0006092

Name and Address of Applicant:

Fluor-BWXT Portsmouth, LLC  
P.O. Box 548  
Piketon, OH 45661

Name and Address of Facility Where

Discharge Occurs:

Fluor-BWXT Portsmouth, LLC  
3930 US Route 23 South  
Piketon, OH 45661  
Pike County

Receiving Water: Little Beaver Creek; Scioto River; West Ditch; Big Run

Subsequent Stream Network: Scioto River; Ohio River

**INTRODUCTION**

Development of a Fact Sheet for NPDES permits is mandated by Title 40 of the Code of Federal Regulations (CFR), 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 (Ohio EPA), 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, existing effluent quality, instream biological, chemical and physical conditions, and the relative risk of alternative effluent limitations. This Fact Sheet details the discretionary decision-making process empowered to the Director by the Clean Water Act (CWA) and Ohio Water Pollution Control Law (Ohio Revised Code [ORC] 6111). Decisions to award variances to Water Quality Standards (WQS) or promulgated effluent guidelines for economic or technological reasons will also be justified in the Fact Sheet where necessary.

A lowering of water quality in the Scioto River is necessary. In accordance with OAC 3745-1-05, this decision was reached only after examining a series of technical alternatives, reviewing social and economic issues related to the degradation, and considering all public and appropriate intergovernmental comments.

Effluent limits based on available treatment technologies are required by Section 301(b) of the CWA. Many of these have already been established by the United States Environmental Protection Agency (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 (WLAs) 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 WLA for a pollutant to a measure of the effluent quality. The measure of effluent quality is called Projected Effluent Quality (PEQ). 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 PERMIT CONDITIONS**

### *Outfall 001*

Lower effluent limits are proposed for mercury because the variance granted on 5/1/2018 had a pollutant minimization plan scheduled to be completed in March 2023. The remaining portions of the plan are incorporated as a compliance schedule with final effluent limits effective in May 2023.

Lower effluent limits are proposed for oil and grease because water quality standards are limiting for the outfall discharging to a small stream. The existing limits are based on the treatment design, however effluent data collected over the last five years show Fluor-BWXT can meet the lower limit.

Monitoring for silver is proposed to continue at a reduced frequency to document that the pollutant remains at low levels.

Monitoring requirements are proposed to be removed for cadmium and total dissolved solids because they do not have reasonable potential to exceed water quality standards.

### *Outfall 002*

New limits are proposed for total residual chlorine and bis(2-ethylhexyl) phthalate due to the parameters having reasonable potential to exceed water quality standards. An 18-month compliance schedule for total residual chlorine is included to allow the facility time to implement necessary treatment.

Monitoring for selenium is proposed to continue at a reduced frequency to document that the pollutant remains at low levels.

Monitoring requirements are proposed to be removed for ammonia, cadmium, thallium, and silver because they do not have reasonable potential to exceed water quality standards.

### *Outfall 003*

Lower effluent limits are proposed for mercury based on a reevaluation of the facilities effluent data to determine the variance based effluent limit.

Monitoring requirements are proposed to be removed for thallium, silver, zinc and copper because they do not have reasonable potential to exceed water quality standards.

Monitoring requirements for whole effluent toxicity (WET) are proposed to be reduced because the weight of evidence evaluation of the facilities WET data and other factors placed the outfall in category 4, identifying that effluent toxicity is not suspected. Previously the outfall was placed in category 3 where WET was possible.

#### *Outfall 004*

Increased loading limits are proposed for copper and total suspended solids because an antidegradation review was completed and a degradation of water quality was necessary. The concentration limits were not increased for the parameters.

New monitoring is proposed for beryllium, cadmium, chromium, cobalt, total dissolved solids, fluoride, nickel, selenium, silver, and vanadium to confirm the pollutants are discharged at low levels.

#### *Outfall 005*

New limits for pH are proposed because the discharge now needs to meet WQS because it no longer meets the criteria for an intermittent discharge.

Monitoring for selenium and mercury is proposed to continue at a reduced frequency to document that the pollutant remains at low levels.

Monitoring requirements are proposed to be removed for lead because it does not have reasonable potential to exceed water quality standards.

#### *Outfall 009*

Lower effluent limits are proposed for oil and grease because water quality standards are limiting for the outfall. The existing limits are based on the treatment design, however effluent data collected over the last five years show Fluor-BWXT can meet the lower limit.

New limits are proposed for total residual chlorine because the parameter was determined to have reasonable potential to exceed water quality standards. An 18-month compliance schedule is included to allow the facility time to implement necessary treatment.

New monitoring is proposed for barium and iron because the parameters were determined to have reasonable potential to exceed water quality standards.

New monitoring is proposed for chromium, polychlorinated biphenyls, and trichloroethylene as indicator parameters to verify the clean status of the haul road being established to transport debris to the onsite waste disposal facility.

Monitoring for bis(2-ethylhexyl) phthalate, fluoride, and silver is proposed to be removed because the parameters do not have the potential to exceed water quality standards.

#### *Outfall 010*

Lower effluent limits are proposed for oil and grease because water quality standards are limiting for the outfall discharging to a small stream. The existing limits are based on the treatment design, however effluent data collected over the last five years show Fluor-BWXT can meet the lower limit.

New monitoring is proposed at a low frequency for copper and iron because the parameters showed reasonable potential to contribute to exceedances of water quality standards.

New monitoring is proposed for chromium, polychlorinated biphenyls, and trichloroethylene as indicator parameters to verify the clean status of the haul road being established to transport debris to the onsite waste disposal facility.

*Outfall 011*

Lower effluent limits are proposed for oil and grease because water quality standards are limiting for the outfall. The existing limits are based on the treatment design, however effluent data collected over the last five years show Fluor-BWXT can meet the lower limit.

New monitoring is proposed for chromium, polychlorinated biphenyls, and trichloroethylene as indicator parameters to verify the clean status of the haul road being established to transport debris to the onsite waste disposal facility.

*Outfall 015*

Monitoring requirements are proposed to be removed for cadmium and thallium because they do not have reasonable potential to exceed water quality standards.

*Internal Monitoring Station 602*

Limits for pH are proposed to be removed because the provisions in 40 CFR Part 420.07 allow for pH limits based on ELG to be applied at final outfalls.

*Internal Monitoring Stations 604, 605, 608, 610, and 611*

No changes are proposed for these internal stations.

In Part II of the permit, special conditions are included that address storm water compliance; operator certification, minimum staffing and operator of record; whole effluent toxicity (WET) testing; mercury variance; and outfall signage.

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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  
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 Processing Unit  
P.O. Box 1049  
Columbus, Ohio 43216-1049**

The Ohio EPA 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: Joshua Griffin, 614-644-2874, [joshua.griffin@epa.ohio.gov](mailto:joshua.griffin@epa.ohio.gov).

## **INFORMATION REGARDING CERTAIN WATER QUALITY BASED EFFLUENT LIMITS**

This draft permit may contain proposed water-quality-based effluent limits (WQBELs) for parameters that **are not** priority pollutants. (See the following link for a list of the priority pollutants: [http://epa.ohio.gov/portals/35/pretreatment/Pretreatment\\_Program\\_Priority\\_Pollutant\\_Detection\\_Limits.pdf](http://epa.ohio.gov/portals/35/pretreatment/Pretreatment_Program_Priority_Pollutant_Detection_Limits.pdf).) In accordance with ORC 6111.03(J)(3), the Director established these WQBELs after considering, to the extent consistent with the Federal Water Pollution Control Act, evidence relating to the technical feasibility and economic reasonableness of removing the polluting properties from those wastes and to evidence relating to conditions calculated to result from that action and their relation to benefits to the people of the state and to accomplishment of the purposes of this chapter. This determination was made based on data and information

available at the time the permit was drafted, which included the contents of the timely submitted NPDES permit renewal application, along with any and all pertinent information available to the Director.

This public notice allows the permittee to provide to the Director for consideration during this public comment period additional site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness for achieving compliance with the proposed final effluent limitations for these parameters. The permittee shall deliver or mail this information to:

**Ohio Environmental Protection Agency  
Attention: Division of Surface Water  
Permits Processing Unit  
P.O. Box 1049  
Columbus, Ohio 43216-1049**

Should the applicant need additional time to review, obtain or develop site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness of achieving compliance with these limitations, a written request for any additional time shall be sent to the above address no later than 30 days after the Public Notice Date on Page 1.

Should the applicant determine that compliance with the proposed WQBELs for parameters other than the priority pollutants is technically and/or economically unattainable, the permittee may submit an application for a variance to the applicable WQS used to develop the proposed effluent limitation in accordance with the terms and conditions set forth in OAC 3745-33-07(D). The permittee shall submit this application to the above address no later than 30 days after the Public Notice Date.

Alternately, the applicant may propose the development of site-specific WQS pursuant to OAC 3745-1-39. The permittee shall submit written notification regarding their intent to develop site specific WQS for parameters that are not priority pollutants to the above address no later than 30 days after the Public Notice Date.

## LOCATION OF DISCHARGE/RECEIVING WATER USE CLASSIFICATION

Fluor-B&W Portsmouth, LLC (Fluor-B&W) discharges to: an unnamed tributary at River Mile (RM) 3.14 of Little Beaver Creek (outfall 001 and 015); Little Beaver Creek at RM 2.53 (outfall 005), RM 2.41 (outfall 009), and RM 2.55 (outfall 011); to the Scioto River at RM 25.38 (outfalls 003 and 004); to West Ditch (outfall 010) at RM 2.2; and to Big Run (outfall 002) at RM 4.85. Figure 1 shows the approximate location of the facility.

All receiving streams are in Pike County and the Western Allegheny Plateau ecoregion. They are designated for uses listed in Ohio's WQS (OAC 3745-1-09). All receiving streams are classified as general high quality waters under the antidegradation rule (OAC 3745-1-05).

The unnamed tributary to Little Beaver Creek is not designated in the OAC. As an undesignated water, the minimum water quality criteria that apply are those criteria associated with the Warmwater Habitat (WWH) aquatic life use, and human health protection criteria associated with fish consumption.

This segment of Little Beaver Creek is described by Ohio EPA River Code 02-023, the 12-digit Hydrologic Unit Code (HUC12) 05060002 13 03, and is designated for: State Resource Water (SRW), WWH, Agricultural Water Supply (AWS), Industrial Water Supply (IWS), and Primary Contact Recreation (PCR).

This segment of the Scioto River is described by Ohio EPA River Code: 02-001, the HUC12 05060002 16 02, and is designated for: WWH, AWS, IWS, and PCR.

This segment of the West Ditch is described by Ohio EPA River Code 02-247, the HUC12 05060002 16 02, and is designated for: WWH, AWS, IWS, and Secondary Contact Recreation (SCR).

This segment of Big Run is described by Ohio EPA River Code 02-012, the HUC12 05060002 16 02, and is designated for: WWH, AWS, IWS, and PCR.

Use designations define the goals and expectations of a waterbody. These goals are set for aquatic life protection, recreation use and water supply use, and are defined in the Ohio WQS (OAC 3745-1-07). The use designations for individual waterbodies are listed in rules -08 through -32 of the Ohio WQS. Once the goals are set, numeric WQS are developed to protect these uses. Different uses have different 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 CWA. Ohio WQS also include aquatic life use designations for waterbodies which cannot meet the CWA goals because of human-caused conditions that cannot 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 Recreation) and wading only (Secondary Contact which are 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 water supply and industrial water supply.

## FACILITY DESCRIPTION

The Portsmouth Gaseous Diffusion Plant located in Pike County, Ohio operated from 1954 to 2001. The plant occupied 1200 acres of a 3,777-acre federally owned site. The facility produced enriched uranium for use by the United States Navy (Navy) and in commercial reactors. Today two private contractors operate at the site: Mid-America Conversion Services, LLC (Ohio EPA No: 0IS00034) and Centrus Energy Corp American Centrifuge Operating, LLC (Ohio EPA No: 0IS00023). Centrus operates on leased property.

Currently, under contract to the US Department of Energy - Fluor-BWXT performs the following activities on non-leased facilities at the Portsmouth Gaseous Diffusion plant site: 1) decontamination and decommissioning of inactive facilities; 2) environmental remediation; 3) surveillance and maintenance; 4) utility operations (e.g. steam generation, power distribution, non-contact cooling water, sanitary water and sewage, etc.); 5) regulatory monitoring and reporting; 6) waste characterization, storage, and disposition; 7) waste disposal facility operation, and 8) recovery and/or repackaging of uranium.

US DOE Portsmouth facility is subject to the following additional conditions: the 1989 Ohio EPA Consent Decree that requires the investigation and remediation of solid and hazardous waste units in accordance with RCRA, between Ohio EPA and DOE; the 1992 Toxic Substances Control Act Compliance Agreement that brings DOE into compliance with TSCA regulations; establishes D&D milestones for TSCA waste, as modified in 1997; the current Ohio Hazardous Waste Facility Installation and Operation Permit that allows RCRA-permitted container storage for hazardous waste; the 1995 Ohio Director's Final Findings and Orders for Site Treatment Plan that allows for the storage of mixed hazardous waste beyond the 1-year regulatory limit; the 1999 Ohio Director's Final Findings and Orders for Integration that integrates five RCRA closures into the RCRA Corrective Action Program and provided for integration of groundwater monitoring and surveillance; maintenance of RCRA and solid waste units; 2008 Ohio Director's Final Findings and Orders for Depleted Uranium Hexafluoride that requires DOE and assigned parties to generate and comply with the Depleted Uranium Hexafluoride Management Plan; 2010 Ohio Director's Final Findings and Orders for Removal Action and Remedial Investigation and Feasibility Study and Remedial Design and Remedial Action that provides the framework for DOE to address the D&D of the GDP and support facilities using the CERCLA process. The facility is also subject to Orders imposed by the U.S. Department of Energy.

## **DESCRIPTION OF EXISTING DISCHARGE**

Fluor-BWXT has nine final outfalls, five internal monitoring stations, one upstream ambient monitoring station, and two downstream ambient monitoring stations. Table 1 identifies these stations and the wastewater sources, treatment processes, discharge/receiving streams, and associated flows at Fluor-BWXT. A flow schematic submitted with the application was evaluated to validate process water sources and flows. The format was not compatible with the factsheet but a copy is maintained in Ohio EPA's records.

Sanitary waste is treated by the follow processes: screening, grit removal, activated sludge, slow sand filtration, and disinfection. Treated wastewater discharges through outfall 003 and sludge is processed by aerobic digestion with drying beds and disposed of in a landfill.

Effluent violations can be found in Table 2.

The average flow rates for the permit cycle for all outfalls are shown in Table 3.

Table 4 presents data compiled from the NPDES permit renewal application Form 2C.

Table 12 presents a summary of unaltered Discharge Monitoring Report (DMR). Data are presented for the period September 2014 – August 2019, and current permit limits are provided for comparison.

Table 13 summarizes the chemical specific data for outfalls 001, 002, 003, 004, 005, 007, 009, 010, 011 and 015 by presenting the average and maximum PEQ values.

Table 14 summarizes the results of acute and chronic WET tests of the final effluent.

## ASSESSMENT OF IMPACT ON RECEIVING WATERS

Fluor-BWXT outfalls discharge to two HUC12 assessment units: Little Beaver Creek-Big Beaver Creek (05060002 13 03) and Big Run-Scioto River (05060002 16 02). Two outfalls also discharge to the Scioto River Mainstem (Sunfish Creek to Ohio River) large river assessment unit. The Little Beaver Creek-Big Beaver Creek watershed assessment unit, which includes Little Beaver Creek in the vicinity of Fluor-BWXT, is listed as impaired for Aquatic Life and Recreation on Ohio's 303(d) list. The Big Run-Scioto River watershed assessment unit, which includes West Ditch and Big Run in the vicinity of Fluor-BWXT, is listed as impaired for Aquatic Life and Human Health (Fish Tissue) on Ohio's 303(d) list. The Scioto River Mainstem (Sunfish Creek to Ohio River) watershed assessment unit is listed as impaired for Human Health (Fish Tissue) on Ohio's 303(d) list.

The attainment status of the receiving streams is reported in the final *Ohio 2018 Integrated Water Quality Monitoring and Assessment Report*. An assessment of the impact of a permitted point source on the immediate receiving waters includes an evaluation of the available chemical/physical, biological, and habitat data which have been collected by Ohio EPA. Other data may be used provided it was collected in accordance with Ohio EPA methods and protocols as specified by the Ohio WQS and Ohio EPA guidance documents. Other information which may be evaluated includes but is not limited to: NPDES permittee self-monitoring data; effluent and mixing zone bioassays conducted by Ohio EPA, the permittee, or U.S. EPA.

In evaluating this data, Ohio EPA attempts to link environmental stresses and measured pollutant exposure to the health and diversity of biological communities. Stresses can include pollutant discharges (permitted and unpermitted), land use effects, and habitat modifications. Indicators of exposure to these stresses include whole effluent toxicity tests, fish tissue chemical data, and fish health biomarkers (for example, fish blood tests).

Use attainment is a term which describes the degree to which environmental indicators are either above or below criteria specified by the Ohio WQS (OAC 3745-1). Assessing use attainment status for aquatic life uses primarily relies on the Ohio EPA biological criteria (OAC 3745-1-07; Table 7-1). These criteria apply to rivers and streams outside of mixing zones. Numerical biological criteria are based on measuring several characteristics of the fish and macroinvertebrate communities; these characteristics are combined into multimetric biological indices including the Index of Biotic Integrity and modified Index of Well-Being, which indicate the response of the fish community, and the Invertebrate Community Index, which indicates the response of the macroinvertebrate community. Numerical criteria are broken down by ecoregion, use designation, and stream or river size. Ohio has five ecoregions defined by common topography, land use, potential vegetation and soil type.

Three attainment status results are possible at each sampling location -full, partial, or non-attainment. Full attainment means that all of the applicable indices meet the biocriteria. Partial attainment means that one or more of the applicable indices fails meet the biocriteria. Nonattainment means that either none of the applicable indices meet the biocriteria or one of the organism groups indicates poor or very poor performance. An aquatic life use attainment table (see Table 15) is constructed based on the sampling results and is arranged from upstream to downstream and includes the sampling locations indicated by river mile, the applicable biological indices, the use attainment status (i.e., full, partial, or non), the Qualitative Habitat Evaluation Index, and comments and observations for each sampling location.

The most recent data available for the streams impacted by Fluor-BWXT outfalls is from 2011. All aquatic life data attained the designated uses in the 2011 survey. Impairments listed in the 2018 Integrated report reflect earlier sampling data. The most complete assessment report is the 2006 *Biological and Water Quality Study of Portsmouth Gaseous Diffusion Plant Streams, Little Beaver Creek, Big Beaver Creek, Big Run, West Ditch and Scioto River*. The overall purpose of the study was to evaluate the abovementioned waterbodies for various criteria and determine the influence of USEC on those waterbodies. Segments of Little Beaver Creek, Big Run, and the West Ditch were either in non-attainment or partial attainment. Little Beaver Creek and Big Run are on the CWA Section 303(d) list of priority impaired waters. The report can be found at this website: <http://www.epa.state.oh.us/portals/35/documents/PortsmouthTSD2006.pdf>

Biological communities were generally meeting biological criteria for the protection of aquatic life. Two sites on Big Run were not attaining the criteria due to organically enriched water quality. One site on West Ditch was impaired due to unknown causes. Elevated total polychlorinated biphenyl (PCB) concentrations in fish tissue samples were noted in all sampled streams. Recommendations include determining the source of PCBs to the receiving streams, further sampling of thallium and silver at outfall 002, and further analysis of West Ditch to determine the unknown cause of partial attainment of the WWH designation.

## **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.

### **Parameter Selection**

Effluent data for the Fluor-BWXT were used to determine what parameters should undergo WLA. The parameters discharged are identified by the data available to Ohio EPA DMR 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 application or by pretreatment, or other special conditions in the NPDES permit. The sources of effluent data used in this evaluation are as follows:

|                                |                                    |
|--------------------------------|------------------------------------|
| Self-monitoring data (DMR)     | September 2014 through August 2019 |
| NPDES application Form 2C data | 2019                               |

### **Statistical Outliers and Other Non-representative Data**

The data were examined and the following values were removed from the evaluation to give a more reliable PEQ at outfall 003: Copper – 23 µg/L, 7/12/2017, because the value was an order of magnitude larger than the other data reported for the outfall.

This data is evaluated statistically, and PEQ values are calculated for each pollutant. Average PEQ (PEQ<sub>avg</sub>) values represent the 95<sup>th</sup> percentile of monthly average data, and maximum PEQ (PEQ<sub>max</sub>) values represent the 95<sup>th</sup> percentile of all data points (see Table 13).

The 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 pollutant does not have the reasonable potential to cause or contribute to exceedances of WQS, and no WLA is done for that parameter. If either PEQ<sub>avg</sub> or PEQ<sub>max</sub> is greater than 25 percent of the applicable WQS, a WLA is conducted to determine whether the parameter exhibits reasonable potential and needs to have a limit or if monitoring is required (see Table 16).

### **Wasteload Allocation**

For those parameters that require a 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 WQS (OAC 3745-1). Most pollutants are allocated by a mass-balance method because they do not degrade in the receiving water. For free flowing streams, WLAs using this method are done using the following general equation: Discharger WLA = (downstream flow x WQS) - (upstream flow x background concentration). Discharger WLAs are divided by the discharge flow so that the allocations are expressed as concentrations. Several of the Fluor-BWXT outfalls were interactive with each other. Outfalls 003 and 004 were considered interactive discharging to the Scioto River. Outfall 010 is considered interactive with Centrus Energy Corp (0IS00023) Outfall 013; however, the receiving stream for the outfalls is zero flow. Without dilution Outfall 010 was conservatively evaluated without interaction with the Centrus outfall. The following outfalls to an unnamed tributary of Little Beaver Creek, Outfalls 001 and 015, were considered interactive with Little Beaver Creek Outfalls 011, 005 and 009. See Figure 2 for a schematic of the facilities outfalls.

The available assimilative capacity was distributed among them using the conservative substance wasteload allocation (CONSWLA) water quality model for conservative parameters. CONSWLA is the model Ohio EPA typically uses in multiple discharger situations. CONSWLA model inputs for flow are fixed at their critical low levels and inputs for effluent flow are fixed at their design or 50th percentile levels. Background concentrations are fixed at a representative value (generally a 50th percentile). A mass balancing method is then used to allocate effluent concentrations that maintain WQS under these conditions. This technique is appropriate when data bases are unavailable to generate statistical distributions for inputs and if the parameters modeled are conservative.

The applicable waterbody uses for this facility’s discharge and the associated stream design flows are as follows:

|                                  |         |                    |
|----------------------------------|---------|--------------------|
| Aquatic life (Warmwater Habitat) |         |                    |
| Toxics (metals, organics, etc.)  | Average | Annual 7Q10        |
|                                  | Maximum | Annual 1Q10        |
| Ammonia                          | Average | Summer 30Q10       |
|                                  |         | Winter 30Q10       |
| Agricultural Water Supply        |         | Harmonic mean flow |
| Human Health (nondrinking)       |         | Harmonic mean flow |

Allocations are developed using a percentage of stream design flow as specified in Table 19 through Table 21 and allocations cannot exceed the Inside Mixing Zone Maximum (IMZM) criteria.

**Whole Effluent Toxicity Wasteload Allocation**

Whole effluent toxicity (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.

WQS 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). WLAs can then be calculated using TUs as if they were water quality criteria.

The WLA calculations for WET are similar to those for aquatic life criteria - using the chronic toxicity unit (TU<sub>c</sub>) and 7Q10 flow for the average and the acute toxicity unit (TU<sub>a</sub>) and 1Q10 flow for the maximum. These values are the levels of effluent toxicity that should not cause instream toxicity during critical low-flow conditions. For Fluor-BWXT, the WLA values are:

| <u>Outfall</u> | <u>Acute (TU<sub>a</sub>)</u> | <u>Chronic (TU<sub>c</sub>)</u> |
|----------------|-------------------------------|---------------------------------|
| 001            | 0.3                           | 1.0                             |
| 002            | 0.3                           | 1.0                             |
| 003            | 1.0                           | 156                             |
| 004            | 1.0                           | 68.6                            |
| 005            | 0.3                           | 1.0                             |
| 009            | 0.3                           | 1.0                             |
| 010            | 0.3                           | 1.0                             |
| 011            | 0.3                           | 1.05                            |
| 015            | 0.3                           | 1.0                             |

The chronic toxicity unit (TU<sub>c</sub>) is defined as 100 divided by the estimate of the effluent concentration which causes a 25% reduction in growth or reproduction of test organisms (IC<sub>25</sub>):

$$TU_c = 100/IC_{25}$$

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):

$$TU_c = 100/\text{geometric mean of No Observed Effect Concentration and Lowest Observed Effect Concentration}$$

The acute toxicity unit (TU<sub>a</sub>) is defined as 100 divided by the concentration in water having 50% chance of causing death to aquatic life (LC<sub>50</sub>) for the most sensitive test species:

$$TU_a = 100/LC_{50}$$

This equation applies outside the mixing zone for all designated waters.

When the acute WLA is less than 1.0 TU<sub>a</sub>, it may be defined as:

| <u>Dilution Ratio</u><br><u>(downstream flow to discharger flow)</u> | <u>Allowable Effluent Toxicity</u><br><u>(percent effects in 100% effluent)</u> |
|--|---|
| up to 2 to 1   | 30  |
| greater than 2 to 1 but less than 2.7 to 1                           | 40  |
| 2.7 to 1 to 3.3 to 1   | 50  |

The acute WLA for outfalls 001, 002, 005, 009, 010, 011, and 015 is 30% percent mortality in 100 percent effluent based on the dilution ratio of 1 to 1.

## **REASONABLE POTENTIAL/EFFLUENT LIMITS/MANAGEMENT DECISIONS**

After appropriate effluent limits are calculated, the reasonable potential of the discharger to violate the WQS must be determined. Each parameter is examined and placed in a defined "group". Parameters that do not have a WQS or do not require a WLA based on the initial screening are assigned to either group 1 or 2. For the allocated parameters, the preliminary effluent limits (PEL) based on the most restrictive average and maximum WLAs are selected from Table 22. The average PEL (PEL<sub>avg</sub>) is compared to the average PEQ (PEQ<sub>avg</sub>) from

Table 13, and the  $PEL_{max}$  is compared to the  $PEQ_{max}$ . Based on the calculated percentage of the allocated value  $[(PEQ_{avg} \div PEL_{avg}) \times 100, \text{ or } (PEQ_{max} \div PEL_{max}) \times 100]$ , the parameters are assigned to group 3, 4, or 5. The groupings are listed in Table 23.

The final effluent limits are determined by evaluating the groupings in conjunction with other applicable rules and regulations. Table 32 presents the final effluent limits and monitoring requirements proposed for Fluor-BWXT outfalls 001, 002, 003, 004, 005, 009, 010, 011 and 015; internal monitoring stations 602, 604, 605, 608, 610 and 611; and the basis for their recommendation. Unless otherwise indicated, the monitoring frequencies proposed in the permit are continued from the existing permit.

### **Final Outfall 001**

#### *pH and Oil & Grease*

Limits for pH are based on WQS and are proposed to continue. Lower limits are proposed for Oil & Grease based on WQS.

#### *Total Suspended Solids*

Limits for TSS are based on treatment design and are proposed to continue. Alternate limits can be claimed when the 24-hour hydraulic capacity of the pond is exceeded. When the alternative limits are claimed a 100 mg/L benchmark applies.

#### *Total Residual Chlorine and Mercury*

The Ohio EPA risk assessment (Table 23) places total residual chlorine and mercury in group 5. This placement, as well as the data in Table 12 and Table 13, indicates that the reasonable potential to exceed WQS exists and limits are necessary to protect water quality. For these parameters, the PEQ is greater than 100 percent of the WLA. Pollutants that meet this requirement must have permit limits under OAC 3745-33-07(A)(1). The thirty-day average mercury limit is subject to a compliance schedule detailed in the permit in Part I.C.

The proposed limit for total residual chlorine is based on WLA as limited by the OMZM and OMZA. The OMZM is a value calculated to avoid acute toxicity outside of the mixing zone and the OMZA is calculated to avoid chronic toxicity outside of the mixing zone. The effluent limit for chlorine at outfall 001 is less than the quantification level of 0.050 mg/L. Part II of the permit details additional conditions for the parameter.

#### *Copper, Fluoride, Silver, and Zinc*

The Ohio EPA risk assessment (Table 23) places copper, fluoride and zinc in groups 2 and 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring at a reduced frequency for silver is proposed to document that the pollutant remains at low levels. Monitoring at a low frequency is proposed to continue for copper, fluoride, and zinc to document that the pollutants remain at low levels.

#### *Ammonia, Barium, Boron, Cadmium, Cobalt, Iron, Lead, Molybdenum, Nickel, Nitrate+Nitrite, Total Dissolved Solids, and Trichloroethylene*

The Ohio EPA risk assessment (Table 23) places these parameters in groups 2 and 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. No new monitoring is proposed. Monitoring for cadmium and total dissolved solids are proposed to be removed.

#### *Total Precipitation and Flow Rate*

Monitoring for precipitation is proposed to continue in order to evaluate the effectiveness of wastewater treatment at this outfall. Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge for load calculations.

#### *Whole Effluent Toxicity*

No WET data was collected for other outfall in the last five years, but other pertinent data under the provisions of OAC 3745-33-07(B) place the outfall in Category 4 with respect to WET. Biological sampling in Little Beaver Creek did not show toxic signatures from the outfalls. The only chemical parameter that implied toxicity might exist in the last five years was total residual chlorine which is now chemically controlled. No monitoring is proposed at this time.

#### **Final Outfall 002**

##### *pH and Oil & Grease*

Limits for pH and oil & grease are based on WQS and are proposed to continue.

##### *Total Suspended Solids*

Limits for these parameters are based on treatment design and are proposed to continue. Alternate limits can be claimed when the 24-hour hydraulic capacity of the pond is exceeded. When the alternative limits are claimed a 100 mg/L benchmark applies.

##### *Total Residual Chlorine and Bis(2-ethylhexyl)phthalate*

The Ohio EPA risk assessment (Table 24) places total residual chlorine and bis(2-ethylhexyl)phthalate in group 5. This placement, as well as the data in Table 12 and Table 13, indicates that the reasonable potential to exceed WQS exists and limits are necessary to protect water quality. For these parameters, the PEQ is greater than 100 percent of the WLA. Pollutants that meet this requirement must have permit limits under OAC 3745-33-07(A)(1). The new limits for chlorine are subject to a compliance schedule detailed in the permit in Part I.C.

The proposed limit for total residual chlorine is based on WLA as limited by the OMZM and OMZA. The OMZM is a value calculated to avoid acute toxicity outside of the mixing zone and the OMZA is calculated to avoid chronic toxicity outside of the mixing zone. The effluent limit for chlorine at outfall 002 is less than the quantification level of 0.050 mg/L. Part II of the permit details additional conditions for the parameter.

The proposed limit for bis(2-ethylhexyl) phthalate is based on WLA as limited by the OMZA. The OMZA is calculated to avoid chronic toxicity outside of the mixing zone. The effluent limit for bis(2-ethylhexyl) phthalate at outfall 002 is less than the quantification level of 10 µg/L. Part II of the permit details additional conditions for the parameter.

##### *Mercury*

The Ohio EPA risk assessment (Table 24) places mercury in group 4. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring for Group 4 pollutants (where PEQ exceeds 50 percent of the WLA) is required by OAC 3745-33-07(A)(2).

##### *Fluoride and Selenium*

The Ohio EPA risk assessment (Table 24) places Fluoride and Selenium in groups 2 and 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring at a reduced frequency is proposed to document that the pollutant continue to remain at low levels. Monitoring at a low frequency is proposed to continue for fluoride to document that the pollutants remain at low levels.

*Ammonia, Barium, Boron, Cadmium, Cobalt, Free Cyanide, Iron, Lead, Molybdenum, Nickel, Nitrate+Nitrite, Silver, Thallium and Zinc*

The Ohio EPA risk assessment (Table 24) places these parameters in groups 2 and 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. No new monitoring is proposed. Monitoring for ammonia, cadmium, thallium and silver are proposed to be removed.

#### *Flow Rate*

Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge for load calculations.

#### *Whole Effluent Toxicity*

No WET data was collected for other outfall in the last five years, but other pertinent data under the provisions of OAC 3745-33-07(B) place them Category 4 with respect to WET. Biological sampling in Big Run did not show toxic signatures from the outfall. The only chemical parameter that implied toxicity might exist in the last five years was total residual chlorine which has a compliance schedule to meet water quality standards. No monitoring is proposed at this time.

### **Final Outfall 003**

#### *pH and E. coli*

Limits for these parameters are based on WQS and are proposed to continue.

#### *Total Suspended Solids and Carbonaceous Biochemical Oxygen Demand (5 day)*

Limits for these parameters are based on treatment design and are proposed to continue.

#### *Mercury*

The Ohio EPA risk assessment (Table 25) places mercury in group 5. This placement, as well as the data in Table 12 and Table 13, indicates that the reasonable potential to exceed WQS exists and limits are necessary to protect water quality. For these parameters, the PEQ is greater than 100 percent of the WLA. Pollutants that meet this requirement must have permit limits under OAC 3745-33-07(A)(1). The thirty-day average mercury limit is subject to a compliance schedule detailed in the permit in Part I.C.

*Barium, Boron, Chlorodibromomethane, Chloroform, Cobalt, Copper, Fluoride, Iron, Molybdenum, Nickel, Silver, Thallium, trans-1,2-Dichloroethylene, and Zinc*

The Ohio EPA risk assessment (Table 25) places these parameters in groups 2 and 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. No new monitoring is proposed. Monitoring for thallium, silver, zinc and copper are proposed to be removed.

#### *Ammonia, Flow Rate, Oil & Grease, and Nitrate+Nitrite*

Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge for load calculations. Monitoring for the remaining parameters is proposed to continue in order to evaluate the effectiveness of wastewater treatment at this outfall.

#### *Whole Effluent Toxicity*

Based on evaluating the WET data presented in Table 14 and other pertinent data under the provisions of OAC 3745-33-07(B), the Fluor-BWXT Outfall 003 is placed in Category 4 with respect to WET. A reduction in monitoring is proposed for the outfall.

#### **Final Outfall 004**

Outfall 004 will receive new effluent sources as the result of D&D activities at the Portsmouth DOE facility and from the construction of an Onsite Waste Disposal Facility (OSWSF). Ohio EPA entered an agreement with DOE under Director's Final Findings and Orders (DFF&O's) to manage activities for the D&D of the DOE Portsmouth Gaseous Diffusion Plant, entered into the Director's Journal on September 12, 2011. In the agreement the parties agreed that D&D activities would use the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Further, DOE and Ohio EPA agreed to: "work together to identify opportunities to merge or combine multiple documents to accelerate/streamline the documentation process." The DFF&O's further outline the responsibility of Ohio EPA and DOE at the site. Fluor-BWXT has obtained a contract to facilitate the D&D activities and is one of three private entities that have individual NPDES permits on the larger DOE property. The D&D activities will result in a new wastewater source from treated leachate and stormwater from demolition areas. The proposed activity involved discharging this wastewater through the existing NPDES outfall. Since this is an increase in loading at the outfall antidegradation is being considered as part of the evaluation.

Following the provisions of the DFF&O's Fluor-BWXT identified the performance standards verification plan (PSVP), a CERCLA document, and the technology-based guidelines and standards from the Clean Water Act to be an opportunity for streamlining. Ohio EPA, through the Division of Environmental Response and Revitalization (DERR), concurs with these plans. As part of the concurrence the agency evaluates the compliance with applicable or relevant and appropriate requirements (ARARs) of other environmental and public health statutes. Through the concurrence process Ohio EPA will evaluate all ARARs, including technology based effluent limitations for the new treatment processes. Ohio's Antidegradation rule (OAC 3745-1-05) requires that new discharges are treated to levels associated with the Best Available Demonstrated Control Technology (BADCT). These limitations ensure that economically achievable treatment actions are taken to allow for any discharge regardless of the need for treatment to meet water quality-based effluent limits. Any necessary water quality-based effluent limitations are incorporated into the proposed NPDES permit.

#### *pH and Oil & Grease*

Limits for these parameters are based on WQS. Lower concentration limits are proposed for Oil & Grease with an increase in loading limits based on the antidegradation provisions in Ohio's WQS. Limits for pH are proposed to continue.

#### *Total Suspended Solids*

Limits for total suspended are based on treatment design.

An antidegradation application was submitted for the permit renewal and it was determined that a reduction in water quality was necessary. The application was for the addition of 2.3 MGD of flow from four modular treatment units. The new treatment units have a design to discharge <10 mg/L TSS. The concentration limits were calculated using the flow weighted average of the existing discharge and the flow from the new treatment units. The loading limits are proposed to increase due to the increase in discharge contributed at the outfall.

#### *Copper, Total Residual Chlorine and Mercury*

The Ohio EPA risk assessment (Table 26) places these parameters in group 5. This placement, as well as the data in Table 12 and Table 13, indicates that the reasonable potential to exceed WQS exists and limits are necessary to protect water quality. For these parameters, the PEQ is greater than 100 percent of the WLA. Pollutants that meet this requirement must have permit limits under OAC 3745-33-07(A)(1).

An antidegradation application was submitted for the permit renewal and it was determined that a reduction in water quality was necessary. The application was for the addition of 2.3 MGD of flow from four modular treatment units. The current WLA would allow for higher concentration limits for copper due to new hardness data collected in the Scioto River downstream of the outfall. However, since the new discharge is not expected

to increase concentrations in the outfall the concentration limit is not being increased. The loading limits are proposed to be increased due to the increase in discharge contributed at the outfall.

The proposed limit for total residual chlorine is based on WLA as limited by the IMZM. The IMZM is a value calculated to avoid acute toxicity inside of the mixing zone. The effluent limit for chlorine at outfall 004 is less than the quantification level of 0.050 mg/L. Part II of the permit details additional conditions for the parameter.

*Beryllium, Cadmium, Chromium, Cobalt, Dissolved Solids, Fluoride, Nickel, Selenium, Silver, Vanadium and Zinc*

The Ohio EPA risk assessment (Table 26) places these parameters in group 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring at a low frequency is proposed to ensure that these parameters are discharged at a low level.

*Ammonia, Arsenic, Trans-1,2-Dichloroethylene, 1,4-Dioxane, Iron, Lead, Methylene Chloride, Thallium, 1,1,1-Trichloroethane, and Trichloroethylene*

The Ohio EPA risk assessment (Table 26) places these parameters in group 2. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. No new monitoring is proposed.

*Flow Rate*

Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge for load calculations.

*Whole Effluent Toxicity*

Based on evaluating the WET data presented in Table 14 and other pertinent data under the provisions of OAC 3745-33-07(B), the Fluor-BWXT Outfall 004 is placed in Category 3 with respect to WET. One of 19 samples from September 2014 – August 2019 exhibited acute toxicity and copper exceeded the IMZM five times in the the same time period. Additional loading is also proposed for outfall 004 and no toxicity data has been collected with the new discharge. No limits are proposed, but acute testing is proposed for *Pimephales Promelas* and *Ceriodaphnia Dubia* for the duration of the permit.

**Final Outfall 005**

*pH*

New limits for this parameter are proposed based on WQS. The previous limits were based on treatment plant design and the intermittent nature of the discharge.

*Total Suspended Solids*

Limits for this parameter are based on treatment design and are proposed to continue. Alternate limits can be claimed when the 24-hour hydraulic capacity of the pond is exceeded. When the alternative limits are claimed a 100 mg/L benchmark applies.

*Selenium and Mercury*

The Ohio EPA risk assessment (Table 27) places these parameters in group 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring at a reduced frequency is proposed to document that the pollutants remain at low levels.

*Ammonia, Barium, Boron, Cobalt, Copper, Iron, Lead, Molybdenum, Nickel, Nitrate+Nitrite, PCBs, Toluene and Zinc*

The Ohio EPA risk assessment (Table 27) places these parameters in groups 2 and 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. No new monitoring is proposed. Monitoring for lead is proposed to be removed.

#### *Flow Rate*

Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge for load calculations.

#### **Final Outfall 009**

##### *pH and Oil & Grease*

Limits for pH are based on WQS and are proposed to continue. Lower limits are proposed for Oil & Grease based on WQS.

##### *Total Suspended Solids*

Limits for TSS are based on treatment design and are proposed to continue. Alternate limits can be claimed when the 24-hour hydraulic capacity of the pond is exceeded. When the alternative limits are claimed a 100 mg/L benchmark applies.

##### *Total Residual Chlorine*

The Ohio EPA risk assessment (Table 26) places total residual chlorine in group 5. This placement, as well as the data in Table 12 and Table 13, indicates that the reasonable potential to exceed WQS exists and limits are necessary to protect water quality. For these parameters, the PEQ is greater than 100 percent of the WLA. Pollutants that meet this requirement must have permit limits under OAC 3745-33-07(A)(1). The new limits for chlorine are subject to a compliance schedule detailed in the permit in Part I.C.

The proposed limit for total residual chlorine is based on WLA as limited by the IMZM and OMZA. The IMZM is a value calculated to avoid acute toxicity inside of the mixing zone and the OMZA is calculated to avoid chronic toxicity outside of the mixing zone. The effluent limit for chlorine at outfall 009 is less than the quantification level of 0.050 mg/L. Part II of the permit details additional conditions for the parameter.

##### *Barium and Iron*

The Ohio EPA risk assessment (Table 28) places these parameters in group 4. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring for Group 4 pollutants (where PEQ exceeds 50 percent of the WLA) is required by OAC 3745-33-07(A)(2). Monitoring is proposed at a low frequency since the PEQ was based on two samples.

##### *Chromium, Copper, Mercury, Polychlorinated Biphenyls, Trichloroethylene, Thallium, and Zinc*

The Ohio EPA risk assessment (Table 28) places these parameters in group 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring at a reduced frequency is proposed for copper to document that the pollutants remain at low levels. Monitoring for mercury and zinc is proposed to continue at a reduced frequency to document that the pollutants remain at low levels. New monitoring is proposed for chromium, thallium, polychlorinated biphenyls, and trichloroethylene as indicator parameters to verify the clean status of the haul road being established to transport debris to the onsite waste disposal facility.

*Ammonia, Bis(2-ethylhexyl)phthalate, Boron, Cadmium, Cobalt, Fluoride, Lead, Molybdenum, Nickel, Nitrate+Nitrite, Silver, and Toluene*

The Ohio EPA risk assessment (Table 28) places these parameters in groups 2 and 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. No new monitoring is proposed. Monitoring for bis(2-ethylhexyl) phthalate, fluoride, and silver is proposed to be removed.

#### *Flow Rate*

Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge for load calculations.

#### *Whole Effluent Toxicity*

No WET data was collected for other outfall in the last five years, but other pertinent data under the provisions of OAC 3745-33-07(B) place them Category 4 with respect to WET. Biological sampling in Little Beaver Creek did not show toxic signatures from the outfall. Further no chemical data suggested that there might be an issue with toxicity at the outfall. No monitoring is proposed at this time.

#### **Final Outfall 010**

##### *pH and Oil & Grease*

Limits for pH are based on WQS and are proposed to continue. Lower limits are proposed for Oil & Grease based on WQS.

##### *Total Suspended Solids*

Limits for these parameters are based on treatment design and are proposed to continue. Alternate limits can be claimed when the 24-hour hydraulic capacity of the pond is exceeded. When the alternative limits are claimed a 100 mg/L benchmark applies.

##### *Copper and Iron*

The Ohio EPA risk assessment (Table 29) places these parameters in group 4. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring for Group 4 pollutants (where PEQ exceeds 50 percent of the WLA) is required by OAC 3745-33-07(A)(2). Monitoring is proposed at a low frequency since the PEQ was based on two samples.

##### *Chromium, Lead, Mercury, Polychlorinated Biphenyls, Selenium, Thallium, Trichloroethylene, and Zinc*

The Ohio EPA risk assessment (Table 29) places these parameters in groups 2 and 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring at a low or reduced frequency is proposed to continue to document that the pollutants remain at low levels. New monitoring is proposed for chromium, thallium, polychlorinated biphenyls, and trichloroethylene as indicator parameters to verify the clean status of the haul road being established to transport debris to the onsite waste disposal facility.

##### *Ammonia, Barium, Boron, Cadmium, Cobalt, Lead, Molybdenum, Nickel, and Nitrate+Nitrite*

The Ohio EPA risk assessment (Table 29) places these parameters in groups 2 and 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. No new monitoring is proposed.

##### *Total Precipitation and Flow Rate*

Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge for load calculations.

##### *Whole Effluent Toxicity*

No WET data was collected for other outfall in the last five years, but other pertinent data under the provisions of OAC 3745-33-07(B) place them Category 4 with respect to WET. Biological sampling in the West Drainage Ditch did not show toxic signatures from the outfall. Further no chemical data suggested that there might be an issue with toxicity at the outfall. No monitoring is proposed at this time.

### **Final Outfall 011**

#### *pH and Oil & Grease*

Limits for pH are based on WQS and are proposed to continue. Lower limits are proposed for Oil & Grease based on WQS.

#### *Total Suspended Solids*

Limits for these parameters are based on treatment design and are proposed to continue. Alternate limits can be claimed when the 24-hour hydraulic capacity of the pond is exceeded. When the alternative limits are claimed a 100 mg/L benchmark applies.

#### *Total Residual Chlorine*

The Ohio EPA risk assessment (Table 30) places this parameter in group 5. This placement, as well as the data in Table 12 and Table 13, indicates that the reasonable potential to exceed WQS exists and limits are necessary to protect water quality. For this parameter, the PEQ is greater than 100 percent of the WLA. Pollutants that meet this requirement must have permit limits under OAC 3745-33-07(A)(1).

The proposed limit for total residual chlorine is based on WLA as limited by the OMZM and OMZA. The OMZM is a value calculated to avoid acute toxicity outside of the mixing zone and the OMZA is calculated to avoid chronic toxicity outside of the mixing zone. The effluent limit for chlorine at outfall 011 is less than the quantification level of 0.050 mg/L. Part II of the permit details additional conditions for the parameter.

Although the current WLA would allow higher limits for total residual chlorine, anti-backsliding provisions in the OAC prevent the imposition of less stringent limits than those in the existing permit unless specific conditions have been satisfied. In the case of the Fluor-BWXT, none of those conditions have been satisfied, so the existing limits are proposed to continue. The anti-backsliding provisions of OAC 3745-33-05 require that an anti-degradation review must be completed before an existing permit limit can be made less stringent. The rule requires other conditions to be satisfied as well.

#### *Zinc*

The Ohio EPA risk assessment (Table 30) places this parameter in group 4. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring for Group 4 pollutants (where PEQ exceeds 50 percent of the WLA) is required by OAC 3745-33-07(A)(2).

#### *Chromium, Copper, Fluoride, Polychlorinated Biphenyls, Thallium, Trichloroethylene, and Selenium*

The Ohio EPA risk assessment (Table 30) places these parameters in groups 2 and 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring at a reduced frequency is proposed to continue to document that the pollutants remain at low levels. New monitoring is proposed for chromium, polychlorinated biphenyls, and trichloroethylene as indicator parameters to verify the clean status of the haul road being established to transport debris to the onsite waste disposal facility.

#### *Ammonia, Barium, Boron, Cadmium, Iron, Lead, Molybdenum, Nickel, and Nitrate+Nitrite*

The Ohio EPA risk assessment (Table 30) places these parameters in groups 2 and 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to

contribute to WQS exceedances, and limits are not necessary to protect water quality. No new monitoring is proposed. Monitoring for cadmium is proposed to be removed.

#### *Total Precipitation and Flow Rate*

Monitoring for total precipitation is proposed to continue in order to evaluate the effectiveness of wastewater treatment at this outfall. Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge for load calculations.

#### *Whole Effluent Toxicity*

No WET data was collected for other outfall in the last five years, but other pertinent data under the provisions of OAC 3745-33-07(B) place them Category 4 with respect to WET. Biological sampling in Little Beaver Creek did not show toxic signatures from the outfall. The only chemical parameter that implied toxicity might exist in the last five years was total residual chlorine which is now chemically controlled. No monitoring is proposed at this time.

### **Final Outfall 015**

#### *pH*

Limits for this parameter is based on WQS and are proposed to continue.

#### *Trichloroethylene*

Limits for this parameter are based on treatment design and are proposed to continue.

#### *Arsenic, Barium, and PCBs*

The Ohio EPA risk assessment (Table 31) places these parameters in groups 2 and 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring at a low frequency is proposed to continue to document that the pollutants remain at low levels.

#### *Ammonia, Barium, Boron, Cadmium, Iron, Lead, Molybdenum, Nickel, Nitrate+Nitrite, and Thallium*

The Ohio EPA risk assessment (Table 31) places these parameters in groups 2 and 3. This placement, as well as the data in Table 12 and Table 13, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. No new monitoring is proposed. Monitoring for cadmium and thallium is proposed to be removed.

#### *Flow Rate*

Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge for load calculations.

#### *Whole Effluent Toxicity*

No WET data was collected for other outfall in the last five years, but other pertinent data under the provisions of OAC 3745-33-07(B) place them Category 4 with respect to WET. Biological sampling in Little Beaver Creek did not show toxic signatures from the outfall. Further no chemical data suggested that there might be an issue with toxicity at the outfall. No monitoring is proposed at this time.

### **Internal Monitoring Station 602**

#### *pH*

The monitoring requirement for pH is based on using BPJ to identify appropriate treatment standards for a non-categorical industrial activity. Limits and monitoring at this internal sampling location are considered necessary to track the effectiveness of the treatment system prior to the discharge mixing with other discharges. The ELGs for coal preparation plants and coal preparation plant associated areas found in 40 CFR 434.22(a) were used for

the coal storage pile. Limits are not applied at the internal monitoring station based on the provisions in 40 CFR Part 420.07.

*Iron, Manganese, Total Suspended Solids, and Settleable Solids*

The limits for these parameters are based on using BPJ to identify appropriate treatment standards for a non-categorical industrial activity. Limits and monitoring at this internal sampling location are considered necessary to track the effectiveness of the treatment system prior to the discharge mixing with other discharges. The ELGs for coal preparation plants and coal preparation plant associated areas found in 40 CFR 434.22(a) were used for the coal storage pile. The total suspended solids, iron and manganese limits apply during dry weather periods, alternative limits found in 40 CFR 434.63 apply to discharges caused by rain events. For discharges caused by rain events less than the 10-year, 24-hour storm, settleable solids apply in place of total suspended solids, and iron and manganese limits do not apply. For discharges greater than the 10-year, 24-hour storm neither solids, iron nor manganese limits apply because these large storm events are beyond the design capabilities of the treatment system.

*Flow Rate and Total Precipitation*

Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge rate. Monitoring for total precipitation is proposed to continue to evaluate the effectiveness of the treatment system.

**Internal Monitoring Station 604**

*pH*

The limits for pH are based on a BPJ evaluation of the biodenitrification treatment system.

*Nitrate, Copper, Iron, Nickel, Zinc, and Flow Rate*

Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge rate. Monitoring for the remaining parameters is proposed to continue to provide data on the effectiveness of the biodenitrification treatment system.

**Internal Monitoring Station 605**

*pH and Total Suspended Solids*

The limits for pH and total suspended solids are based on a BPJ evaluation of the microfiltration treatment system.

*Oil & Grease, Ammonia, Nitrite, Nitrate, Total Kjeldahl Nitrogen, Sulfate, Hexavalent Chromium, Total Chromium, Copper, Nickel, Zinc, Trichloroethylene, and Flow Rate*

Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge rate. Monitoring for the remaining parameters is proposed to continue to provide data on the effectiveness of the microfiltration treatment system.

**Internal Monitoring Station 608**

*1,2-trans-Dichloroethylene and Trichloroethylene*

The limits for these parameters are based on a BPJ evaluation to establish BADCT limits for volatile organic compounds treated with the groundwater remediation system.

*pH and Flow Rate*

Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge rate. Monitoring for pH is proposed to continue to provide data on the effectiveness of the treatment system.

**Internal Monitoring Station 610**

*1,2-trans-Dichloroethylene and Trichloroethylene*

The limits for these parameters are based on a BPJ evaluation to establish BADCT limits for volatile organic compounds treated with the groundwater remediation system.

#### *pH and Flow Rate*

Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge rate.

Monitoring for pH is proposed to continue to provide data on the effectiveness of the treatment system.

#### **Internal Monitoring Station 611**

##### *Trichloroethylene*

The limits for trichloroethylene are based on a BPJ evaluation to establish BADCT limits for volatile organic compounds treated with the groundwater remediation system.

#### *pH and Flow Rate*

Monitoring for flow rate is proposed to continue in order to get an accurate measure of discharge rate.

Monitoring for pH is proposed to continue to provide data on the effectiveness of the treatment system.

#### **Instream Monitoring Stations**

##### *Stations 902 and 903*

Stations 902 and 903 are in Big Run and Little Beaver Creek downstream from outfalls 002 and 001, respectively. Summer and winter monitoring for temperature with limits summer are proposed to be continued. These limits and monitoring help assure that temperature does not impair the stream use in these waters.

#### **Additional Monitoring Requirements**

##### *Upstream Monitoring Station 801*

Monitoring for whole effluent toxicity is proposed to continue at upstream monitoring station 801 to document the effects of toxicity from outfalls 003 and 004.

Additional monitoring requirements proposed at the final effluent, influent and upstream/downstream stations are included for all facilities in Ohio and vary according to the type and size of the discharge. In addition to permit compliance, this data is used to assist in the evaluation of effluent quality and treatment plant performance and for designing plant improvements and conducting future stream studies.

#### **OTHER REQUIREMENTS**

#### **Compliance Schedules**

**Outfall 001** - A compliance schedule is proposed for the Fluor-BWXT outfall 001 to meet the new monthly average concentration limits for mercury by 5/1/2023. A modification to the permit effective 5/1/2018 incorporated a mercury variance at the outfall that detailed a pollutant minimization plan (PMP) that occurred of a five-year period. A variance renewal was submitted requesting the time remaining in the original PMP with a variance-based limit. Details are in Part I.C of the permit.

**Outfall 002** – An 18-month compliance schedule is proposed for the Fluor-BWXT outfall 002 to meet the new daily max and monthly average concentration limits for total residual chlorine. Details are in Part I.C of the permit.

#### **Outfall Signage**

Part II of the permit includes requirements for the permittee to place and maintain a sign at discharge location for each outfall providing information about the discharge. Signage at outfalls is required pursuant to OAC 3745-33-08(A).

#### **Part III**

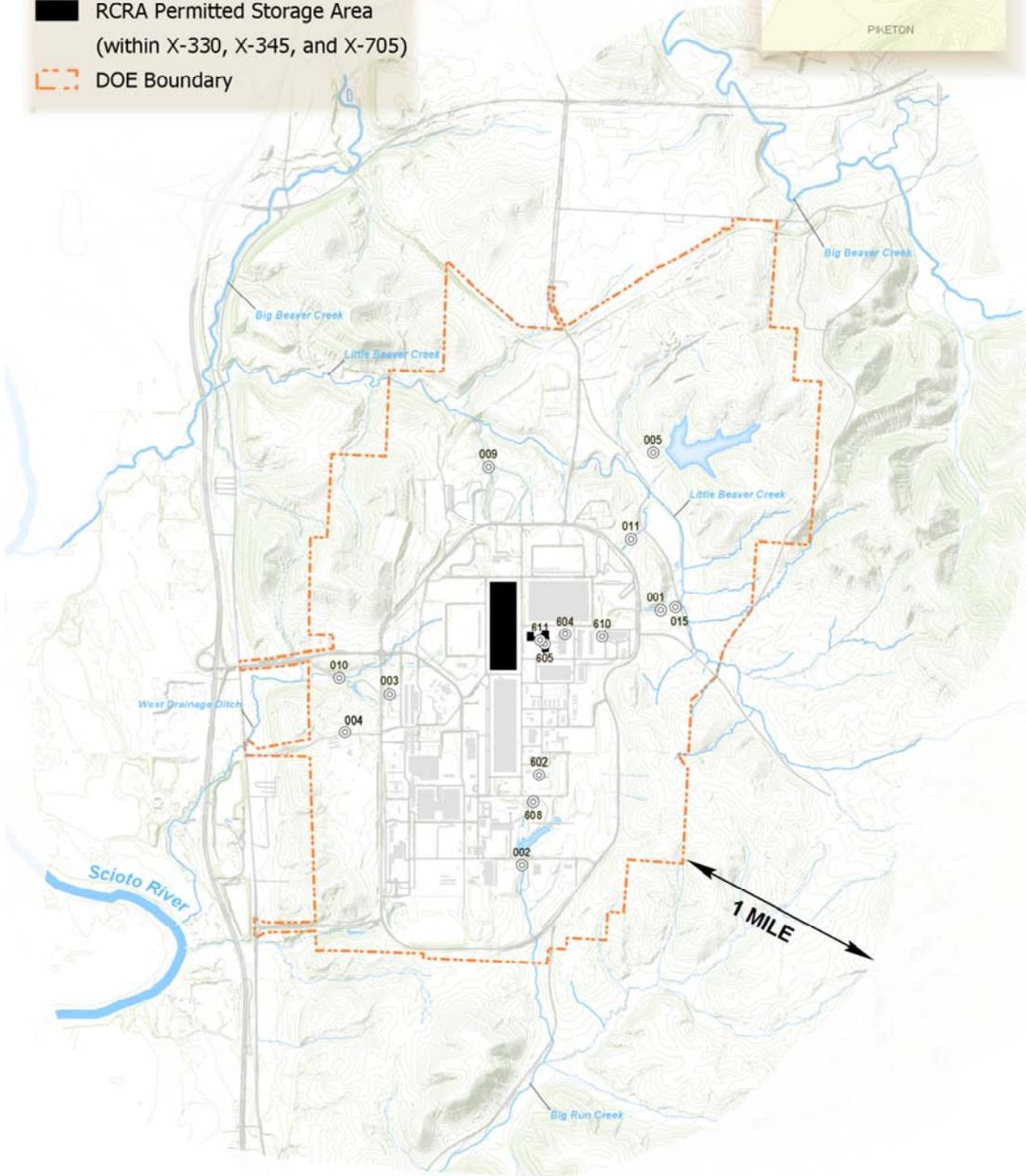
Part III of the permit details standard conditions that include monitoring, reporting requirements, compliance responsibilities, and general requirements.

### **Storm Water Compliance**

Parts IV, V, and VI have been included with the draft permit to ensure that any storm water flows from the facility site are properly regulated and managed. As an alternative to complying with Parts IV, V, and VI, the Fluor-BWXT may seek permit coverage under the general permit for industrial storm water (permit # OHR000005) or submit a “No Exposure Certification.” Parts IV, V, and VI will be removed from the final permit if: 1) the Fluor-BWXT submits a Notice of Intent (NOI) for coverage under the general permit for industrial storm water or submits a No Exposure Certification, 2) Ohio EPA determines that the facility is eligible for coverage under the general permit or meets the requirements for a No Exposure Certification, and 3) the determination by Ohio EPA can be made prior to the issuance of the final permit.

### **Figure 1. Location of Fluor-BWXT Portsmouth, LLC.**

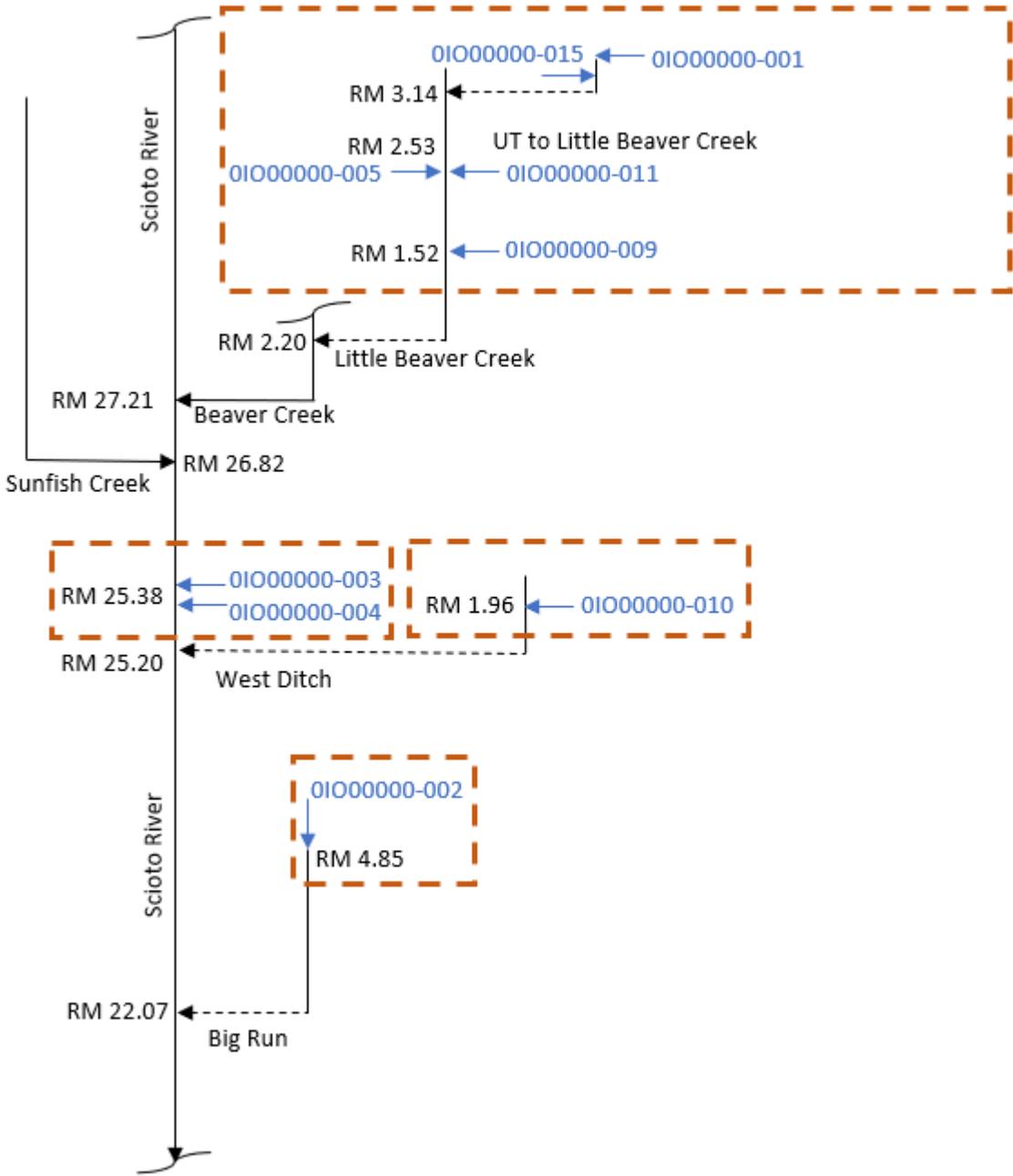
- ⊙ NPDES Permit Outfall
- Elevation Contour (10 ft)
- RCRA Permitted Storage Area (within X-330, X-345, and X-705)
- ⋯ DOE Boundary



UNITED STATES DEPARTMENT OF ENERGY  
 PORTSMOUTH GASEOUS DIFFUSION PLANT  
 PIKETON, OH

0 2,000 4,000 Feet

Figure 2. Study Area with interactive outfalls grouped within dashed lines.



**Table 1. Monitoring Stations, Wastewater Sources, Treatment Processes, Discharge Points, and Flow Rates for Fluor-BWXT Outfalls**

| Location | Description                               | Wastewater Source(s)  | Treatment  | Receiving Water                          |
|----------|---|---|--|--|
| 001      | X-230J-7 East Holding Pond                | Non-contact Cooling Water, Precipitation Runoff, Miscellaneous Condensation   | Flotation, Evaporation, Sedimentation, Dechlorination  | Unnamed Tributary to Little Beaver Creek |
| 002      | X-230K South Holding Pond                 | Non-contact Cooling Water, X-690 Boiler Blowdown, Station 602, precipitation runoff, groundwater, miscellaneous condensation, sodium zeolite regeneration   | Evaporation, Sedimentation, Flotation, Neutralization  | Big Run                                  |
| 003      | X-6619 Sewage Treatment Facility Effluent | Stations 604, 605, 608, 610, 611, Sanitary Wastewater, Recirculated Heated Water Blowdown, X-670 Air Plant, X-670A Cooling Tower, X-640-1 Boiler Blowdown, X-530 Utility System Blowdown, DUF6 Facility Process Water, Liquid Effluent Collection Tanks | Drying Beds, Screening, Grit Removal, Sedimentation, Activated Sludge, Aerobic Digestion, Sand Filtration, Ultraviolet Disinfection  | Scioto River                             |
| 004      | Recirculated Cooling Water Blowdown       | Recirculated Cooling Water Blowdown   | Reduction, Chlorination  | Scioto River                             |
|          | Modular Treatment Systems A, B, C, & D    | Landfill leachate, stormwater and dust suppression water from bermed demolition sites, Storm water from soil excavation areas, groundwater  | Flocculation, Flotation, Multimedia Filtration, Sedimentation, Carbon adsorption, Chemical Oxidation, Chemical Precipitation, Coagulation, Ion Exchange, Neutralization, Reduction, Gravity Thickening, Chemical Conditioning, and Pressure Filtration |  |
| 005      | X-611B Lime Sludge Lagoon                 | Lime Softening Sludge, Precipitation Runoff   | Sedimentation, Pressure Filtration   | Little Beaver Creek                      |
| 009      | X-230L North Holding Pond                 | Non-contact Cooling Water, Precipitation Runoff, Miscellaneous Condensation   | Flotation, Evaporation, Sedimentation  | Little Beaver Creek                      |
| 010      | X-230J-5 Northwest Holding Pond           | Non-contact Cooling Water, Precipitation Runoff, Miscellaneous Condensation   | Flotation, Evaporation, Sedimentation  | West Ditch                               |

| Location | Description                               | Wastewater Source(s)   | Treatment   | Receiving Water                          |
|----------|---|--|---|--|
| 011      | X-230J-6 Northeast Holding Pond           | Non-contact Cooling Water, Precipitation Runoff              | Flotation, Evaporation, Sedimentation; dechlorination   | Little Beaver Creek                      |
| 015      | X-624 Groundwater Treatment Facility      | Groundwater remediation/treatment                            | Neutralization, Gas-phase Separation, Carbon Adsorption   | Unnamed Tributary to Little Beaver Creek |
| 602      | X-621 Coal Pile Runoff Treatment Facility | Coal Storage Area Runoff, X-600 Floor Drains (Precipitation) | Neutralization, Sedimentation, Pressure Filtration  | Outfall 002                              |
| 604      | X-700 Bionitrification Facility           | Raffinate wastestream  | Ion Exchange, Neutralization, Flocculation, Nitrification, Denitrification, Pressure Filtration | Outfall 003                              |
| 605      | X-705 Microfiltration Treatment Facility  | Decontamination wastewater                                   | Neutralization, Pressure Filtration, Reverse Osmosis  | Outfall 003                              |
| 608      | X-622 Groundwater Treatment Facility      | Groundwater remediation/treatment                            | Neutralization, Gas-phase Separation, Carbon Adsorption   | Outfall 003                              |
| 610      | X-623 Groundwater Treatment Facility      | Groundwater remediation/treatment                            | Neutralization, Gas-phase Separation, Carbon Adsorption   | Outfall 003                              |
| 611      | X-627 Groundwater Treatment Facility      | Groundwater remediation/treatment                            | Gas-phase Separation, Carbon Adsorption   | Outfall 003                              |
| 801      | Upstream monitoring                       | Not applicable   | Not applicable  | Scioto River                             |
| 902      | Downstream monitoring                     | Not applicable   | Not applicable  | Little Beaver Creek                      |
| 903      | Downstream monitoring                     | Not applicable   | Not applicable  | Big Run                                  |

**Table 2. Effluent Violations for Fluor-BWXT for 1/1/2015 – 8/31/2019.**

| Outfall      | Parameter                 | 2015      | 2016      | 2017     | 2018     | 2019      |
|--------------|---------------------------|-----------|-----------|----------|----------|-----------|
| 001          | pH                        | 0         | 0         | 0        | 1        | 0         |
| 002          | pH                        | 0         | 0         | 1        | 0        | 0         |
|              | Total Suspended solids    | 0         | 0         | 0        | 0        | 1         |
| 003          | CBOD 5-day                | 0         | 0         | 2        | 1        | 0         |
|              | Chlorine, Total Residual  | 6         | 1         | 0        | 0        | 0         |
|              | <i>E. coli</i>            | 0         | 4         | 1        | 0        | 0         |
|              | Mercury                   | 4         | 2         | 0        | 0        | 0         |
|              | Total Suspended Solids    | 0         | 0         | 0        | 0        | 5         |
| 004          | Acute Toxicity, Ceriod    | 1         | 0         | 0        | 0        | 0         |
|              | Acute Toxicity, Pimeph    | 1         | 0         | 0        | 0        | 0         |
|              | Chlorine, Total Residual  | 5         | 0         | 0        | 0        | 0         |
|              | Copper, Total Recoverable | 0         | 0         | 3        | 2        | 0         |
|              | pH                        | 0         | 0         | 1        | 1        | 0         |
|              | Total Suspended Solids    | 0         | 0         | 0        | 2        | 0         |
| 005          | Total Suspended Solids    | 0         | 0         | 0        | 1        | 8         |
| 009          | Total Suspended Solids    | 0         | 0         | 0        | 0        | 4         |
| 010          | Total Suspended Solids    | 0         | 0         | 0        | 0        | 2         |
| 902          | Water Temperature         | 0         | 5         | 0        | 0        | 0         |
| 903          | Water Temperature         | 0         | 0         | 0        | 1        | 0         |
| <b>Total</b> |                           | <b>17</b> | <b>12</b> | <b>8</b> | <b>9</b> | <b>20</b> |

**Table 3. Annual Effluent Flow Rates**

| Year               | # Obs. | Annual Flow (Million Gallons/Day) |                 |         |
|--------------------|--------|-----------------------------------|-----------------|---------|
|                    |        | 50th Percentile                   | 95th Percentile | Maximum |
| <b>Outfall 001</b> |        |                                   |                 |         |
| 2015               | 365    | 0.57                              | 1.22            | 2.66    |
| 2016               | 366    | 0.63                              | 1.14            | 2.04    |
| 2017               | 365    | 0.53                              | 1.23            | 2.46    |
| 2018               | 365    | 0.66                              | 1.57            | 2.85    |
| 2019               | 243    | 0.54                              | 1.58            | 2.76    |
| <b>Outfall 002</b> |        |                                   |                 |         |
| 2015               | 365    | 0.35                              | 1.41            | 1.80    |
| 2016               | 366    | 0.37                              | 1.00            | 1.90    |
| 2017               | 365    | 0.42                              | 1.38            | 2.08    |
| 2018               | 365    | 0.67                              | 1.42            | 1.86    |
| 2019               | 243    | 0.54                              | 1.57            | 2.05    |
| <b>Outfall 003</b> |        |                                   |                 |         |

| Year               | # Obs. | Annual Flow (Million Gallons/Day) |                 |         |
|--------------------|--------|-----------------------------------|-----------------|---------|
|                    |        | 50th Percentile                   | 95th Percentile | Maximum |
| 2015               | 365    | 0.26                              | 0.41            | 0.63    |
| 2016               | 366    | 0.31                              | 0.46            | 0.60    |
| 2017               | 358    | 0.31                              | 0.44            | 0.63    |
| 2018               | 352    | 0.31                              | 0.49            | 0.81    |
| 2019               | 243    | 0.29                              | 0.50            | 0.67    |
| <b>Outfall 004</b> |        |                                   |                 |         |
| 2015               | 365    | 0.37                              | 0.41            | 0.44    |
| 2016               | 359    | 0.08                              | 0.10            | 0.12    |
| 2017               | 271    | 0.04                              | 0.05            | 0.13    |
| 2018               | 260    | 0.03                              | 0.05            | 0.14    |
| 2019               | -      | -                                 | -               | -       |
| <b>Outfall 005</b> |        |                                   |                 |         |
| 2015               | 29     | 0.43                              | 8.93            | 9.96    |
| 2016               | 32     | 0.32                              | 2.78            | 3.93    |
| 2017               | 22     | 0.24                              | 3.69            | 7.07    |
| 2018               | 124    | 0.81                              | 4.71            | 9.43    |
| 2019               | 189    | 1.57                              | 4.32            | 4.71    |
| <b>Outfall 009</b> |        |                                   |                 |         |
| 2015               | 365    | 0.33                              | 1.79            | 2.75    |
| 2016               | 366    | 0.28                              | 1.60            | 3.11    |
| 2017               | 365    | 0.29                              | 1.79            | 2.09    |
| 2018               | 365    | 1.11                              | 2.07            | 2.51    |
| 2019               | 243    | 1.73                              | 2.17            | 3.98    |
| <b>Outfall 010</b> |        |                                   |                 |         |
| 2015               | 365    | 0.24                              | 0.61            | 0.88    |
| 2016               | 366    | 0.23                              | 0.54            | 0.76    |
| 2017               | 365    | 0.43                              | 0.78            | 1.82    |
| 2018               | 365    | 0.43                              | 0.83            | 1.37    |
| 2019               | 243    | 0.58                              | 0.89            | 1.23    |
| <b>Outfall 011</b> |        |                                   |                 |         |
| 2015               | 365    | 0.02                              | 0.11            | 0.26    |
| 2016               | 366    | 0.02                              | 0.08            | 0.18    |
| 2017               | 365    | 0.02                              | 0.09            | 0.34    |
| 2018               | 365    | 0.03                              | 0.19            | 1.37    |
| 2019               | 243    | 0.04                              | 0.19            | 0.40    |
| <b>Outfall 015</b> |        |                                   |                 |         |
| 2015               | 303    | 0.01                              | 0.03            | 0.04    |
| 2016               | 346    | 0.01                              | 0.02            | 0.03    |
| 2017               | 363    | 0.01                              | 0.03            | 0.03    |

| Year               | # Obs. | Annual Flow (Million Gallons/Day) |                 |         |
|--------------------|--------|-----------------------------------|-----------------|---------|
|                    |        | 50th Percentile                   | 95th Percentile | Maximum |
| 2018               | 301    | 0.004                             | 0.03            | 0.03    |
| 2019               | 76     | 0.002                             | 0.01            | 0.02    |
| <b>Outfall 602</b> |        |                                   |                 |         |
| 2015               | 28     | 0.13                              | 0.20            | 0.21    |
| 2016               | 14     | 0.08                              | 0.17            | 0.18    |
| 2017               | 21     | 0.10                              | 0.20            | 0.21    |
| 2018               | 43     | 0.10                              | 0.22            | 0.22    |
| 2019               | 38     | 0.09                              | 0.19            | 0.22    |
| <b>Outfall 604</b> |        |                                   |                 |         |
| 2015               | 72     | 0.011                             | 0.011           | 0.011   |
| 2016               | 96     | 0.011                             | 0.011           | 0.011   |
| 2017               | 33     | 0.011                             | 0.011           | 0.011   |
| 2018               | 66     | 0.011                             | 0.011           | 0.011   |
| 2019               | 83     | 0.011                             | 0.011           | 0.011   |
| <b>Outfall 605</b> |        |                                   |                 |         |
| 2015               | 23     | 0.008                             | 0.013           | 0.013   |
| 2016               | 11     | 0.008                             | 0.012           | 0.013   |
| <b>Outfall 608</b> |        |                                   |                 |         |
| 2015               | 363    | 0.05                              | 0.09            | 0.10    |
| 2016               | 340    | 0.05                              | 0.08            | 0.09    |
| 2017               | 365    | 0.06                              | 0.08            | 0.09    |
| 2018               | 352    | 0.06                              | 0.07            | 0.08    |
| 2019               | 233    | 0.06                              | 0.08            | 0.10    |
| <b>Outfall 610</b> |        |                                   |                 |         |
| 2015               | 6      | 0.005                             | 0.010           | 0.011   |
| 2016               | 7      | 0.002                             | 0.010           | 0.011   |
| 2017               | 4      | 0.002                             | 0.006           | 0.007   |
| 2018               | 1      | 0.006                             | 0.006           | 0.006   |
| 2019               | 2      | 0.004                             | 0.005           | 0.005   |
| <b>Outfall 610</b> |        |                                   |                 |         |
| 2015               | 365    | 0.03                              | 0.04            | 0.06    |
| 2016               | 365    | 0.03                              | 0.04            | 0.05    |
| 2017               | 365    | 0.03                              | 0.04            | 0.06    |
| 2018               | 365    | 0.03                              | 0.04            | 0.06    |
| 2019               | 243    | 0.03                              | 0.04            | 0.05    |

**Table 4. Effluent Characterization Based on Form 2C Data for outfall 001.**

| Parameter                             | Units |      | Max daily |         | No. of   |
|---------------------------------------|-------|------|-----------|---------|----------|
|                                       | Conc  | Mass | Conc      | Mass    | Analyses |
| Biological Oxygen Demand              | mg/l  | kg/d | < 5.00    | < 53.9  | 2        |
| Chemical Oxygen Demand                | mg/l  | kg/d | 32.8      | 353     | 2        |
| Total Organic Carbon                  | mg/l  | kg/d | 2.85      | 30.7    | 2        |
| Total Suspended Solids                | mg/l  | kg/d | 26.0      | 280     | 139      |
| Ammonia                               | mg/l  | kg/d | 0.130     | 1.40    | 2        |
| Flow                                  | mgd   | --   | 2.85      |         | 1064     |
| Temperature (Winter)                  | °C    | --   | 16.38     |         | 38       |
| Temperature (Summer)                  | °C    | --   | 26.22     |         | 27       |
|                                       |       |      | pH min    | pH max  |          |
| pH                                    | S.U.  | S.U. | 6.79      | 9.25    | 146      |
| Bromide                               | mg/l  | kg/d | < 0.067   | < 0.722 | 2        |
| Chlorine, Total Residual              | mg/l  | kg/d | 0.024     | 0.259   | 24       |
| Color                                 | --    | --   | 30.0      |         | 2        |
| Fluoride                              | mg/l  | kg/d | 0.200     | 2.15    | 11       |
| Nitrate-Nitrate (as N)                | mg/l  | kg/d | 0.222     | 2.39    | 2        |
| Oil and Grease                        | mg/l  | kg/d | 11.0      | 118     | 140      |
| Phosphorus (as P), Total              | mg/l  | kg/d | 0.023     | 0.243   | 2        |
| Radioactivity:(1) Alpha, Total        |       |      | 16.3      |         | 2        |
| Radioactivity:(2) Beta, Total         |       |      | 44.7      |         | 2        |
| Radioactivity:(3) Radium, Total       |       |      | < 0.491   |         | 2        |
| Radioactivity:(4) Radium 226, Total   |       |      | 0.167     |         | 2        |
| Sulfate (as SO4)                      | mg/l  | kg/d | 53.9      | 580.62  | 2        |
| Sulfide (as S)                        | mg/l  | kg/d | < 0.033   | < 0.355 | 2        |
| Surfactants                           | mg/l  | kg/d | < 0.017   | < 0.183 | 2        |
| Aluminum, Total                       | ug/l  | kg/d | 189.0     | 2.04    | 2        |
| Barium, Total                         | ug/l  | kg/d | 22.4      | 0.241   | 2        |
| Boron, Total                          | ug/l  | kg/d | 26.4      | 0.284   | 2        |
| Cobalt, Total                         | ug/l  | kg/d | 0.543     | 0.006   | 2        |
| Iron, Total                           | ug/L  | kg/d | 383.0     | 4.13    | 2        |
| Magnesium, Total                      | mg/l  | kg/d | 11.9      | 128.2   | 2        |
| Molybdenum, Total                     | ug/L  | kg/d | 3.05      | 0.033   | 2        |
| Manganese, Total                      | ug/l  | kg/d | 84.0      | 0.905   | 2        |
| Tin, Total                            | ug/L  | kg/d | < 1.00    | < 0.011 | 2        |
| Titanium, Total                       | ug/l  | kg/d | 2.65      | 0.029   | 2        |
| <b>GC/MS Fractions</b>                |       |      |           |         |          |
| <b>Metals, Cyanide, Total Phenols</b> |       |      |           |         |          |

| Parameter   | Units |      | Max daily |         | No. of   |
|---|-------|------|-----------|---------|----------|
|   | Conc  | Mass | Conc      | Mass    | Analyses |
| Antimony, Total   | ug/L  | kg/d | < 1.00    | < 0.011 | 2        |
| Arsenic, Total  | ug/L  | kg/d | < 2.00    | < 0.022 | 2        |
| Beryllium, Total  | ug/L  | kg/d | < 0.200   | < 0.002 | 2        |
| Cadmium, Total  | ug/l  | kg/d | 0.099     | 0.001   | 11       |
| Chromium, Total   | ug/l  | kg/d | < 3.00    | < 0.032 | 2        |
| Copper, Total   | ug/l  | kg/d | 2.70      | 0.029   | 11       |
| Lead, Total   | ug/l  | kg/d | 0.742     | 0.008   | 2        |
| Mercury, Total  | ng/l  | kg/d | 27.7      | 0.0003  | 47       |
| Nickel, Total   | ug/l  | kg/d | 1.70      | 0.018   | 2        |
| Selenium, Total   | ug/l  | kg/d | < 2.00    | < 0.022 | 2        |
| Silver, Total   | ug/l  | kg/d | 0.077     | 0.0008  | 35       |
| Thallium, Total   | ug/l  | kg/d | < 0.600   | < 0.006 | 2        |
| Zinc, Total   | ug/l  | kg/d | 43.0      | 0.463   | 11       |
| Cyanide, Total  | ug/l  | kg/d | < 1.67    | < 0.018 | 2        |
| Phenols, Total  | ug/l  | kg/d | < 1.67    | < 0.018 | 2        |
| <b>Volatile Compounds – only detected values included</b>     |       |      |           |         |          |
| Trichloroethylene   | ug/l  | kg/d | 1.48      | 0.016   | 2        |
| <b>Acid Compounds – only detected values included</b>         |       |      |           |         |          |
| No detected values  |       |      |           |         |          |
| <b>Base/Neutral Compounds – only detected values included</b> |       |      |           |         |          |
| Bis (2-Ethylhexyl) Phthalate                                  | ug/l  | kg/d | 5.3       | 0.057   | 2        |
| <b>Pesticides &amp; PCBs</b>                                  |       |      |           |         |          |
| No detected values  |       |      |           |         |          |

**Table 5. Effluent Characterization Based on Form 2C Data for outfall 002.**

| Parameter                | Units |      | Max daily |         | No. of   |
|--------------------------|-------|------|-----------|---------|----------|
|                          | Conc  | Mass | Conc      | Mass    | Analyses |
| Biological Oxygen Demand | mg/l  | kg/d | < 5.00    | < 39.4  | 2        |
| Chemical Oxygen Demand   | mg/l  | kg/d | 164.0     | 1293.0  | 2        |
| Total Organic Carbon     | mg/l  | kg/d | 5.82      | 45.9    | 2        |
| Total Suspended Solids   | mg/l  | kg/d | 44.0      | 346.9   | 140      |
| Ammonia                  | mg/l  | kg/d | 0.29      | 2.29    | 35       |
| Flow                     | mgd   | --   | 2.08      |         | 1064     |
| Temperature (Winter)     | °C    | --   | 14.139    |         | 38       |
| Temperature (Summer)     | °C    | --   | 26.324    |         | 27       |
|                          |       |      | pH min    | pH max  |          |
| pH                       | S.U.  | S.U. | 5.1       | 8.8     | 143      |
| Bromide                  | mg/l  | kg/d | < 0.067   | < 0.528 | 2        |
| Chlorine, Total Residual | mg/l  | kg/d | 0.074     | 0.583   | 8        |

| Parameter                             | Units |      | Max daily |         | No. of   |
|---------------------------------------|-------|------|-----------|---------|----------|
|                                       | Conc  | Mass | Conc      | Mass    | Analyses |
| Color                                 | --    | --   | 10.0      |         | 2        |
| Fluoride                              | mg/l  | kg/d | 0.140     | 1.10    | 11       |
| Nitrate-Nitrate (as N)                | mg/l  | kg/d | 0.210     | 1.66    | 2        |
| Oil and Grease                        | mg/l  | kg/d | 5.60      | 44.2    | 140      |
| Phosphorus (as P), Total              | mg/l  | kg/d | 0.068     | 0.537   | 2        |
| Radioactivity:(1) Alpha, Total        |       |      | 3.75      |         | 2        |
| Radioactivity:(2) Beta, Total         |       |      | 3.72      |         | 2        |
| Radioactivity:(3) Radium, Total       |       |      | < 0.322   |         | 2        |
| Radioactivity:(4) Radium 226, Total   |       |      | 0.219     |         | 2        |
| Sulfate (as SO4)                      | mg/l  | kg/d | 28.7      | 226.3   | 2        |
| Sulfide (as S)                        | mg/l  | kg/d | < 0.033   | < 0.260 | 2        |
| Surfactants                           | mg/l  | kg/d | 0.028     | 0.219   | 2        |
| Aluminum, Total                       | ug/l  | kg/d | 672.0     | 5.30    | 2        |
| Barium, Total                         | ug/l  | kg/d | 25.6      | 0.202   | 2        |
| Boron, Total                          | ug/l  | kg/d | 29.1      | 0.229   | 2        |
| Cobalt, Total                         | ug/l  | kg/d | 0.495     | 0.004   | 2        |
| Iron, Total                           | ug/L  | kg/d | 1230.0    | 9.70    | 8        |
| Magnesium, Total                      | mg/l  | kg/d | 10.0      | 78.8    | 2        |
| Molybdenum, Total                     | ug/L  | kg/d | 6.55      | 0.052   | 2        |
| Manganese, Total                      | ug/l  | kg/d | 74.0      | 0.583   | 2        |
| Tin, Total                            | ug/L  | kg/d | < 1.00    | < 0.008 | 2        |
| Titanium, Total                       | ug/l  | kg/d | 7.87      | 0.062   | 2        |
| <b>GC/MS Fractions</b>                |       |      |           |         |          |
| <b>Metals, Cyanide, Total Phenols</b> |       |      |           |         |          |
| Antimony, Total                       | ug/L  | kg/d | < 1.00    | < 0.008 | 2        |
| Arsenic, Total                        | ug/L  | kg/d | < 2.00    | < 0.016 | 2        |
| Beryllium, Total                      | ug/L  | kg/d | < 0.200   | < 0.002 | 2        |
| Cadmium, Total                        | ug/l  | kg/d | 0.058     | 0.0005  | 11       |
| Chromium, Total                       | ug/l  | kg/d | < 3.00    | < 0.024 | 2        |
| Copper, Total                         | ug/l  | kg/d | 2.51      | 0.020   | 2        |
| Lead, Total                           | ug/l  | kg/d | 0.880     | 0.007   | 2        |
| Mercury, Total                        | ng/l  | kg/d | 6.26      | 0.00005 | 10       |
| Nickel, Total                         | ug/l  | kg/d | 1.86      | 0.015   | 2        |
| Selenium, Total                       | ug/l  | kg/d | 1.50      | 0.011   | 35       |
| Silver, Total                         | ug/l  | kg/d | 0.011     | 0.00009 | 11       |
| Thallium, Total                       | ug/l  | kg/d | < 0.066   | <0.0005 | 11       |
| Zinc, Total                           | ug/l  | kg/d | 14.1      | 0.111   | 2        |

| Parameter   | Units |      | Max daily |       | No. of   |
|---|-------|------|-----------|-------|----------|
|   | Conc  | Mass | Conc      | Mass  | Analyses |
| Cyanide, Total  | ug/l  | kg/d | 2.84      | 0.022 | 8        |
| Phenols, Total  | ug/l  | kg/d | 2.57      | 0.203 | 2        |
| <b>Volatile Compounds – only detected values included</b>     |       |      |           |       |          |
| No detected values.   |       |      |           |       |          |
| <b>Acid Compounds – only detected values included</b>         |       |      |           |       |          |
| No detected values.   |       |      |           |       |          |
| <b>Base/Neutral Compounds – only detected values included</b> |       |      |           |       |          |
| Bis (2-Ethylhexyl) Phthalate                                  | ug/l  | kg/d | 9.69      | 0.077 | 2        |
| <b>Pesticides &amp; PCBs – only detected values included</b>  |       |      |           |       |          |
| No detected values  |       |      |           |       |          |

**Table 6. Effluent Characterization Based on Form 2C Data for outfall 003.**

| Parameter                           | Units |      | Max daily |         | No. of   |
|-------------------------------------|-------|------|-----------|---------|----------|
|                                     | Conc  | Mass | Conc      | Mass    | Analyses |
| Biological Oxygen Demand            | mg/l  | kg/d | 8.00      | 24.4    | 2        |
| Chemical Oxygen Demand              | mg/l  | kg/d | 26.6      | 81.0    | 2        |
| Total Organic Carbon                | mg/l  | kg/d | 3.77      | 5.82    | 2        |
| Total Suspended Solids              | mg/l  | kg/d | 29        | 88.4    | 142      |
| Ammonia                             | mg/l  | kg/d | 5.1       | 15.5    | 71       |
| Flow                                | mgd   | --   | 0.805     |         | 1044     |
| Temperature (Winter)                | °C    | --   | 19.91     |         | 38       |
| Temperature (Summer)                | °C    | --   | 23.58     |         | 27       |
|                                     |       |      | pH min    | pH max  |          |
| pH                                  | S.U.  | S.U. | 6.81      | 8.86    | 599      |
| Bromide                             | mg/l  | kg/d | 0.215     | 0.655   | 2        |
| Chlorine, Total Residual            | mg/l  | kg/d | < 0.020   | < 0.060 | 2        |
| Color                               | --    | --   | 15.0      |         | 2        |
| Fluoride                            | mg/l  | kg/d | 0.288     | 0.878   | 2        |
| Nitrate-Nitrate (as N)              | mg/l  | kg/d | 20.6      | 62.8    | 14       |
| Oil and Grease                      | mg/l  | kg/d | 2.3       | 7.01    | 71       |
| Phosphorus (as P), Total            | mg/l  | kg/d | 1.10      | 3.35    | 2        |
| Radioactivity:(1) Alpha, Total      |       |      | 9.30      |         | 2        |
| Radioactivity:(2) Beta, Total       |       |      | 495.0     |         | 2        |
| Radioactivity:(3) Radium, Total     |       |      | < 0.307   |         | 2        |
| Radioactivity:(4) Radium 226, Total |       |      | < 0.134   |         | 2        |
| Sulfate (as SO4)                    | mg/l  | kg/d | 132.0     | 402.2   | 2        |

| Parameter   | Units |      | Max daily |          | No. of   |
|---|-------|------|-----------|----------|----------|
|   | Conc  | Mass | Conc      | Mass     | Analyses |
| Sulfide (as S)  | mg/l  | kg/d | < 0.033   | < 0.101  | 2        |
| Surfactants   | mg/l  | kg/d | 0.018     | 0.053    | 2        |
| Aluminum, Total   | ug/l  | kg/d | 82.6      | 0.252    | 2        |
| Barium, Total   | ug/l  | kg/d | 30.4      | 0.093    | 2        |
| Boron, Total  | ug/l  | kg/d | 86.6      | 0.264    | 2        |
| Cobalt, Total   | ug/l  | kg/d | 0.423     | 0.001    | 2        |
| Iron, Total   | ug/L  | kg/d | 290.0     | 0.884    | 2        |
| Magnesium, Total  | mg/l  | kg/d | 27.7      | 84.4     | 2        |
| Molybdenum, Total   | ug/L  | kg/d | 161.0     | 0.491    | 2        |
| Manganese, Total  | ug/l  | kg/d | 19.3      | 0.059    | 2        |
| Tin, Total  | ug/L  | kg/d | < 1.00    | < 0.003  | 2        |
| Titanium, Total   | ug/l  | kg/d | < 2.00    | < 0.006  | 2        |
| <b>GC/MS Fractions</b>  |       |      |           |          |          |
| <b>Metals, Cyanide, Total Phenols</b>                         |       |      |           |          |          |
| Antimony, Total   | ug/L  | kg/d | < 1.00    | < 0.003  | 2        |
| Arsenic, Total  | ug/L  | kg/d | < 2.00    | < 0.006  | 2        |
| Beryllium, Total  | ug/L  | kg/d | < 0.200   | < 0.0006 | 2        |
| Cadmium, Total  | ug/l  | kg/d | < 0.300   | < 0.0009 | 2        |
| Chromium, Total   | ug/l  | kg/d | < 3.00    | < 0.009  | 2        |
| Copper, Total   | ug/l  | kg/d | 23.0      | 0.070    | 14       |
| Lead, Total   | ug/l  | kg/d | < 0.500   | < 0.002  | 2        |
| Mercury, Total  | ng/l  | kg/d | 27.9      | 0.00009  | 39       |
| Nickel, Total   | ug/l  | kg/d | 3.58      | 0.011    | 2        |
| Selenium, Total   | ug/l  | kg/d | < 2.00    | < 0.006  | 2        |
| Silver, Total   | ug/l  | kg/d | 0.210     | 0.0006   | 14       |
| Thallium, Total   | ug/l  | kg/d | 2.00      | 0.006    | 14       |
| Zinc, Total   | ug/l  | kg/d | 160       | 0.488    | 14       |
| Cyanide, Total  | ug/l  | kg/d | < 1.67    | < 0.005  | 2        |
| Phenols, Total  | ug/l  | kg/d | 2.30      | 0.007    | 2        |
| <b>Volatile Compounds – only detected values included</b>     |       |      |           |          |          |
| Chlorodibromomethane  | ug/l  | kg/d | 1.98      | 0.006    | 2        |
| Chloroform  | ug/l  | kg/d | 1.09      | 0.003    | 2        |
| <b>Acid Compounds – only detected values included</b>         |       |      |           |          |          |
| No detected values  |       |      |           |          |          |
| <b>Base/Neutral Compounds – only detected values included</b> |       |      |           |          |          |
| No detected values.   |       |      |           |          |          |
| <b>Pesticides &amp; PCBs – only detected values included</b>  |       |      |           |          |          |
| No detected values  |       |      |           |          |          |

**Table 7. Effluent Characterization Based on Form 2C Data for outfall 005.**

| Parameter                             | Units |      | Max daily |         | No. of   |
|---------------------------------------|-------|------|-----------|---------|----------|
|                                       | Conc  | Mass | Conc      | Mass    | Analyses |
| Biological Oxygen Demand              | mg/l  | kg/d | < 5.00    | < 178.4 | 2        |
| Chemical Oxygen Demand                | mg/l  | kg/d | 22.3      | 795.5   | 2        |
| Total Organic Carbon                  | mg/l  | kg/d | 5.41      | 193.0   | 2        |
| Total Suspended Solids                | mg/l  | kg/d | 16.0      | 570.8   | 31       |
| Ammonia                               | mg/l  | kg/d | 0.149     | 5.32    | 2        |
| Flow                                  | mgd   | --   | 9.425     |         | 182      |
| Temperature (Winter)                  | °C    | --   | 17.64     |         | 14       |
| Temperature (Summer)                  | °C    | --   | 21.02     |         | 13       |
|                                       |       |      | pH min    | pH max  |          |
| pH                                    | S.U.  | S.U. | 7.38      | 9.5     | 43       |
| Bromide                               | mg/l  | kg/d | < 0.067   | < 2.39  | 2        |
| Chlorine, Total Residual              | mg/l  | kg/d | < 0.020   | < 0.713 | 2        |
| Color                                 | --    | --   | 35.0      |         | 2        |
| Fluoride                              | mg/l  | kg/d | 0.134     | 4.78    | 2        |
| Nitrate-Nitrate (as N)                | mg/l  | kg/d | 0.341     | 12.2    | 2        |
| Oil and Grease                        | mg/l  | kg/d | 1.7       | 60.6    | 2        |
| Phosphorus (as P), Total              | mg/l  | kg/d | 0.041     | 1.46    | 2        |
| Radioactivity:(1) Alpha, Total        |       |      | 1.73      |         | 2        |
| Radioactivity:(2) Beta, Total         |       |      | 1.46      |         | 2        |
| Radioactivity:(3) Radium, Total       |       |      | 0.510     |         | 2        |
| Radioactivity:(4) Radium 226, Total   |       |      | 0.286     |         | 2        |
| Sulfate (as SO4)                      | mg/l  | kg/d | 29.8      | 1063.1  | 2        |
| Sulfide (as S)                        | mg/l  | kg/d | < 0.033   | < 1.18  | 2        |
| Surfactants                           | mg/l  | kg/d | < 0.017   | < 0.606 | 2        |
| Aluminum, Total                       | ug/l  | kg/d | 803       | 28.6    | 2        |
| Barium, Total                         | ug/l  | kg/d | 26.1      | 0.931   | 2        |
| Boron, Total                          | ug/l  | kg/d | 28.6      | 1.02    | 2        |
| Cobalt, Total                         | ug/l  | kg/d | 0.799     | 0.029   | 2        |
| Iron, Total                           | ug/L  | kg/d | 962.0     | 34.3    | 2        |
| Magnesium, Total                      | mg/l  | kg/d | 11.6      | 413.8   | 2        |
| Molybdenum, Total                     | ug/L  | kg/d | 2.40      | 0.086   | 2        |
| Manganese, Total                      | ug/l  | kg/d | 26.4      | 0.942   | 2        |
| Tin, Total                            | ug/L  | kg/d | < 1.00    | < 0.036 | 2        |
| Titanium, Total                       | ug/l  | kg/d | 8.38      | 0.298   | 2        |
| <b>GC/MS Fractions</b>                |       |      |           |         |          |
| <b>Metals, Cyanide, Total Phenols</b> |       |      |           |         |          |

| Parameter   | Units |      | Max daily |         | No. of   |
|---|-------|------|-----------|---------|----------|
|   | Conc  | Mass | Conc      | Mass    | Analyses |
| Antimony, Total   | ug/L  | kg/d | < 1.00    | < 0.036 | 2        |
| Arsenic, Total  | ug/L  | kg/d | < 2.00    | < 0.071 | 2        |
| Beryllium, Total  | ug/L  | kg/d | < 0.200   | < 0.007 | 2        |
| Cadmium, Total  | ug/l  | kg/d | < 0.300   | < 0.011 | 2        |
| Chromium, Total   | ug/l  | kg/d | < 3.00    | < 0.107 | 2        |
| Copper, Total   | ug/l  | kg/d | 1.38      | 0.049   | 2        |
| Lead, Total   | ug/l  | kg/d | 1.00      | 0.036   | 15       |
| Mercury, Total  | ng/l  | kg/d | 5.69      | 0.0002  | 16       |
| Nickel, Total   | ug/l  | kg/d | 2.42      | 0.086   | 2        |
| Selenium, Total   | ug/l  | kg/d | < 1.00    | < 0.036 | 15       |
| Silver, Total   | ug/l  | kg/d | < 0.300   | < 0.011 | 2        |
| Thallium, Total   | ug/l  | kg/d | < 0.600   | < 0.021 | 2        |
| Zinc, Total   | ug/l  | kg/d | 8.77      | 0.313   | 2        |
| Cyanide, Total  | ug/l  | kg/d | < 1.67    | < 0.060 | 2        |
| Phenols, Total  | ug/l  | kg/d | < 1.67    | < 0.060 | 2        |
| <b>Volatile Compounds – only detected values included</b>     |       |      |           |         |          |
| Toluene   | ug/l  | kg/d | 0.490     | 0.017   | 2        |
| <b>Acid Compounds – only detected values included</b>         |       |      |           |         |          |
| No detected values.   |       |      |           |         |          |
| <b>Base/Neutral Compounds – only detected values included</b> |       |      |           |         |          |
| No detected values.   |       |      |           |         |          |
| <b>Pesticides &amp; PCBs – only detected values included</b>  |       |      |           |         |          |
| No detected values.   |       |      |           |         |          |

**Table 8. Effluent Characterization Based on Form 2C Data for outfall 009.**

| Parameter                | Units |      | Max daily |        | No. of   |
|--------------------------|-------|------|-----------|--------|----------|
|                          | Conc  | Mass | Conc      | Mass   | Analyses |
| Biological Oxygen Demand | mg/l  | kg/d | < 5.00    | < 75.4 | 2        |
| Chemical Oxygen Demand   | mg/l  | kg/d | 24.0      | 361.1  | 2        |
| Total Organic Carbon     | mg/l  | kg/d | 2.90      | 43.6   | 2        |
| Total Suspended Solids   | mg/l  | kg/d | 120.0     | 1809.1 | 132      |
| Ammonia                  | mg/l  | kg/d | 0.132     | 1.98   | 2        |
| Flow                     | mgd   | --   | 3.98      |        | 1064     |
| Temperature (Winter)     | °C    | --   | 16.346    |        | 38       |
| Temperature (Summer)     | °C    | --   | 25.207    |        | 27       |
|                          |       |      | pH min    | pH max |          |
| pH                       | S.U.  | S.U. | 7.39      | 8.67   | 144      |
| Bromide                  | mg/l  | kg/d | 0.097     | 1.47   | 2        |
| Chlorine, Total Residual | mg/l  | kg/d | 0.022     | 0.332  | 2        |

| Parameter                             | Units |      | Max daily |          | No. of   |
|---------------------------------------|-------|------|-----------|----------|----------|
|                                       | Conc  | Mass | Conc      | Mass     | Analyses |
| Color                                 | --    | --   | 27.5      |          | 2        |
| Fluoride                              | mg/l  | kg/d | 5.00      | 75.4     | 11       |
| Nitrate-Nitrate (as N)                | mg/l  | kg/d | 0.064     | 0.966    | 2        |
| Oil and Grease                        | mg/l  | kg/d | 5.00      | 75.4     | 35       |
| Phosphorus (as P), Total              | mg/l  | kg/d | 0.064     | 0.966    | 2        |
| Radioactivity:(1) Alpha, Total        |       |      | 8.27      |          | 2        |
| Radioactivity:(2) Beta, Total         |       |      | 5.94      |          | 2        |
| Radioactivity:(3) Radium, Total       |       |      | 0.494     |          | 2        |
| Radioactivity:(4) Radium 226, Total   |       |      | 0.246     |          | 2        |
| Sulfate (as SO4)                      | mg/l  | kg/d | 64.3      | 968.6    | 2        |
| Sulfide (as S)                        | mg/l  | kg/d | < 0.033   | < 0.497  | 2        |
| Surfactants                           | mg/l  | kg/d | < 0.017   | < 0.257  | 2        |
| Aluminum, Total                       | ug/l  | kg/d | 1030.0    | 15.5     | 2        |
| Barium, Total                         | ug/l  | kg/d | 40.8      | 0.614    | 2        |
| Boron, Total                          | ug/l  | kg/d | 52.5      | 0.791    | 2        |
| Cobalt, Total                         | ug/l  | kg/d | 1.07      | 0.016    | 2        |
| Iron, Total                           | ug/L  | kg/d | 1565      | 23.6     | 2        |
| Magnesium, Total                      | mg/l  | kg/d | 22.8      | 343.7    | 2        |
| Molybdenum, Total                     | ug/L  | kg/d | 2.91      | 0.044    | 2        |
| Manganese, Total                      | ug/l  | kg/d | 92.6      | 1.40     | 2        |
| Tin, Total                            | ug/L  | kg/d | < 1.00    | < 0.015  | 2        |
| Titanium, Total                       | ug/l  | kg/d | 10.6      | 0.159    | 2        |
| <b>GC/MS Fractions</b>                |       |      |           |          |          |
| <b>Metals, Cyanide, Total Phenols</b> |       |      |           |          |          |
| Antimony, Total                       | ug/L  | kg/d | < 1.00    | < 0.015  | 2        |
| Arsenic, Total                        | ug/L  | kg/d | < 2.00    | < 0.030  | 2        |
| Beryllium, Total                      | ug/L  | kg/d | < 0.200   | < 0.0030 | 2        |
| Cadmium, Total                        | ug/l  | kg/d | < 0.300   | < 0.0045 | 2        |
| Chromium, Total                       | ug/l  | kg/d | < 3.00    | < 0.045  | 2        |
| Copper, Total                         | ug/l  | kg/d | 12.0      | 0.181    | 35       |
| Lead, Total                           | ug/l  | kg/d | 1.18      | 0.018    | 2        |
| Mercury, Total                        | ng/l  | kg/d | 3.40      | 0.00005  | 10       |
| Nickel, Total                         | ug/l  | kg/d | 3.33      | 0.050    | 2        |
| Selenium, Total                       | ug/l  | kg/d | < 2.00    | < 0.030  | 2        |
| Silver, Total                         | ug/l  | kg/d | 0.041     | 0.0006   | 35       |
| Thallium, Total                       | ug/l  | kg/d | < 0.600   | < 0.009  | 2        |
| Zinc, Total                           | ug/l  | kg/d | 37.0      | 0.558    | 11       |

| Parameter   | Units |      | Max daily |         | No. of   |
|---|-------|------|-----------|---------|----------|
|   | Conc  | Mass | Conc      | Mass    | Analyses |
| Cyanide, Total  | ug/l  | kg/d | < 1.67    | < 0.025 | 2        |
| Phenols, Total  | ug/l  | kg/d | < 1.67    | < 0.025 | 2        |
| <b>Volatile Compounds – only detected values included</b>     |       |      |           |         |          |
| Toluene   | ug/l  | kg/d | 0.365     | 0.0055  | 2        |
| <b>Acid Compounds – only detected values included</b>         |       |      |           |         |          |
| No detected values  |       |      |           |         |          |
| <b>Base/Neutral Compounds – only detected values included</b> |       |      |           |         |          |
| Bis (2-Ethylhexyl) Phthalate                                  | ug/l  | kg/d | 0.665     | 0.010   | 2        |
| <b>Pesticides &amp; PCBs – only detected values included</b>  |       |      |           |         |          |
| No detected values  |       |      |           |         |          |

**Table 9. Effluent Characterization Based on Form 2C Data for outfall 010.**

| Parameter                           | Units |      | Max daily |         | No. of   |
|-------------------------------------|-------|------|-----------|---------|----------|
|                                     | Conc  | Mass | Conc      | Mass    | Analyses |
| Biological Oxygen Demand            | mg/l  | kg/d | < 5.00    | < 34.4  | 2        |
| Chemical Oxygen Demand              | mg/l  | kg/d | 43.2      | 297.3   | 2        |
| Total Organic Carbon                | mg/l  | kg/d | 3.72      | 25.6    | 2        |
| Total Suspended Solids              | mg/l  | kg/d | 40.0      | 275.2   | 70       |
| Ammonia                             | mg/l  | kg/d | 0.276     | 1.90    | 2        |
| Flow                                | mgd   | --   | 1.82      |         | 1064     |
| Temperature (Winter)                | °C    | --   | 15.468    |         | 38       |
| Temperature (Summer)                | °C    | --   | 25.132    |         | 27       |
|                                     |       |      | pH min    | pH max  |          |
| pH                                  | S.U.  | S.U. | 6.93      | 8.64    | 287      |
| Bromide                             | mg/l  | kg/d | < 0.067   | < 0.461 | 2        |
| Chlorine, Total Residual            | mg/l  | kg/d | < 0.020   | < 0.138 | 2        |
| Color                               | --    | --   | 45.0      |         | 2        |
| Fluoride                            | mg/l  | kg/d | 0.170     | 1.17    | 2        |
| Nitrate-Nitrate (as N)              | mg/l  | kg/d | 0.351     | 2.42    | 2        |
| Oil and Grease                      | mg/l  | kg/d | 3.60      | 24.8    | 36       |
| Phosphorus (as P), Total            | mg/l  | kg/d | 0.044     | 0.304   | 2        |
| Radioactivity:(1) Alpha, Total      |       |      | 4.56      |         | 2        |
| Radioactivity:(2) Beta, Total       |       |      | 4.13      |         | 2        |
| Radioactivity:(3) Radium, Total     |       |      | < 0.423   |         | 2        |
| Radioactivity:(4) Radium 226, Total |       |      | 0.208     |         | 2        |
| Sulfate (as SO4)                    | mg/l  | kg/d | 49.1      | 337.9   | 2        |

| Parameter   | Units |      | Max daily |          | No. of   |
|---|-------|------|-----------|----------|----------|
|   | Conc  | Mass | Conc      | Mass     | Analyses |
| Sulfide (as S)  | mg/l  | kg/d | < 0.033   | < 0.227  | 2        |
| Surfactants   | mg/l  | kg/d | 0.035     | 0.239    | 2        |
| Aluminum, Total   | ug/l  | kg/d | 807.0     | 5.55     | 2        |
| Barium, Total   | ug/l  | kg/d | 24.5      | 0.169    | 2        |
| Boron, Total  | ug/l  | kg/d | 38.2      | 0.263    | 2        |
| Cobalt, Total   | ug/l  | kg/d | 0.589     | 0.004    | 2        |
| Iron, Total   | ug/L  | kg/d | 1020.0    | 7.02     | 2        |
| Magnesium, Total  | mg/l  | kg/d | 13.3      | 91.5     | 2        |
| Molybdenum, Total   | ug/L  | kg/d | 2.06      | 0.014    | 2        |
| Manganese, Total  | ug/l  | kg/d | 41.5      | 0.286    | 1        |
| Tin, Total  | ug/L  | kg/d | < 1.00    | < 0.007  | 2        |
| Titanium, Total   | ug/l  | kg/d | 8.46      | 0.058    | 2        |
| <b>GC/MS Fractions</b>  |       |      |           |          |          |
| <b>Metals, Cyanide, Total Phenols</b>                         |       |      |           |          |          |
| Antimony, Total   | ug/L  | kg/d | < 1.00    | < 0.007  | 2        |
| Arsenic, Total  | ug/L  | kg/d | < 2.00    | < 0.014  | 2        |
| Beryllium, Total  | ug/L  | kg/d | < 0.200   | < 0.0014 | 2        |
| Cadmium, Total  | ug/l  | kg/d | < 0.300   | < 0.002  | 2        |
| Chromium, Total   | ug/l  | kg/d | < 3.00    | < 0.021  | 2        |
| Copper, Total   | ug/l  | kg/d | 2.27      | 0.016    | 2        |
| Lead, Total   | ug/l  | kg/d | 2.30      | 0.016    | 35       |
| Mercury, Total  | ng/l  | kg/d | 3.60      | 0.000025 | 10       |
| Nickel, Total   | ug/l  | kg/d | 1.79      | 0.012    | 2        |
| Selenium, Total   | ug/l  | kg/d | < 1.00    | < 0.007  | 35       |
| Silver, Total   | ug/l  | kg/d | < 0.300   | < 0.002  | 2        |
| Thallium, Total   | ug/l  | kg/d | < 0.600   | < 0.004  | 2        |
| Zinc, Total   | ug/l  | kg/d | 48.0      | 0.131    | 35       |
| Cyanide, Total  | ug/l  | kg/d | < 1.67    | < 0.011  | 2        |
| Phenols, Total  | ug/l  | kg/d | < 1.67    | < 0.011  | 2        |
| <b>Volatile Compounds – only detected values included</b>     |       |      |           |          |          |
| No detected values.   |       |      |           |          |          |
| <b>Acid Compounds – only detected values included</b>         |       |      |           |          |          |
| No detected values.   |       |      |           |          |          |
| <b>Base/Neutral Compounds – only detected values included</b> |       |      |           |          |          |
| No detected values.   |       |      |           |          |          |
| <b>Pesticides &amp; PCBs – only detected values included</b>  |       |      |           |          |          |
| No detected values.   |       |      |           |          |          |

**Table 10. Effluent Characterization Based on Form 2C Data for outfall 011.**

| Parameter                             | Units |      | Max daily |          | No. of   |
|---------------------------------------|-------|------|-----------|----------|----------|
|                                       | Conc  | Mass | Conc      | Mass     | Analyses |
| Biological Oxygen Demand              | mg/l  | kg/d | < 5.00    | < 25.9   | 2        |
| Chemical Oxygen Demand                | mg/l  | kg/d | 15.9      | 82.3     | 2        |
| Total Organic Carbon                  | mg/l  | kg/d | 2.58      | 13.4     | 2        |
| Total Suspended Solids                | mg/l  | kg/d | 12.0      | 62.1     | 70       |
| Ammonia                               | mg/l  | kg/d | 0.116     | 0.600    | 2        |
| Flow                                  | mgd   | --   | 1.37      |          | 1064     |
| Temperature (Winter)                  | °C    | --   | 16.435    |          | 38       |
| Temperature (Summer)                  | °C    | --   | 24.917    |          | 27       |
|                                       |       |      | pH min    | pH max   |          |
| pH                                    | S.U.  | S.U. | 7.06      | 8.92     | 76       |
| Bromide                               | mg/l  | kg/d | 0.123     | 0.639    | 2        |
| Chlorine, Total Residual              | mg/l  | kg/d | 0.022     | 0.114    | 12       |
| Color                                 | --    | --   | 15.0      |          | 2        |
| Fluoride                              | mg/l  | kg/d | 0.250     | 1.29     | 11       |
| Nitrate-Nitrate (as N)                | mg/l  | kg/d | 0.509     | 2.64     | 2        |
| Oil and Grease                        | mg/l  | kg/d | 3.40      | 17.6     | 70       |
| Phosphorus (as P), Total              | mg/l  | kg/d | 0.037     | 0.189    | 2        |
| Radioactivity:(1) Alpha, Total        |       |      | 4.85      |          | 2        |
| Radioactivity:(2) Beta, Total         |       |      | 5.12      |          | 2        |
| Radioactivity:(3) Radium, Total       |       |      | 0.507     |          | 2        |
| Radioactivity:(4) Radium 226, Total   |       |      | 0.269     |          | 2        |
| Sulfate (as SO4)                      | mg/l  | kg/d | 97.7      | 505.9    | 2        |
| Sulfide (as S)                        | mg/l  | kg/d | < 0.033   | < 0.171  | 2        |
| Surfactants                           | mg/l  | kg/d | < 0.017   | < 0.088  | 2        |
| Aluminum, Total                       | ug/l  | kg/d | 197.0     | 1.02     | 2        |
| Barium, Total                         | ug/l  | kg/d | 35.0      | 0.181    | 2        |
| Boron, Total                          | ug/l  | kg/d | 82.2      | 0.426    | 2        |
| Cobalt, Total                         | ug/l  | kg/d | < 0.300   | < 0.0016 | 2        |
| Iron, Total                           | ug/L  | kg/d | 364.0     | 1.88     | 2        |
| Magnesium, Total                      | mg/l  | kg/d | 27.6      | 142.9    | 2        |
| Molybdenum, Total                     | ug/L  | kg/d | 4.78      | 0.025    | 2        |
| Manganese, Total                      | ug/l  | kg/d | 110.0     | 0.570    | 2        |
| Tin, Total                            | ug/L  | kg/d | < 1.00    | < 0.005  | 2        |
| Titanium, Total                       | ug/l  | kg/d | 2.25      | 0.012    | 2        |
| <b>GC/MS Fractions</b>                |       |      |           |          |          |
| <b>Metals, Cyanide, Total Phenols</b> |       |      |           |          |          |

| Parameter   | Units |      | Max daily |          | No. of   |
|---|-------|------|-----------|----------|----------|
|   | Conc  | Mass | Conc      | Mass     | Analyses |
| Antimony, Total   | ug/L  | kg/d | < 1.00    | < 0.005  | 2        |
| Arsenic, Total  | ug/L  | kg/d | < 2.00    | < 0.010  | 2        |
| Beryllium, Total  | ug/L  | kg/d | < 0.200   | < 0.0010 | 2        |
| Cadmium, Total  | ug/l  | kg/d | 0.190     | 0.0010   | 11       |
| Chromium, Total   | ug/l  | kg/d | < 3.00    | < 0.016  | 2        |
| Copper, Total   | ug/l  | kg/d | 3.70      | 0.019    | 35       |
| Lead, Total   | ug/l  | kg/d | 2.64      | 0.013    | 2        |
| Mercury, Total  | ng/l  | kg/d | 1.49      | 0.000008 | 2        |
| Nickel, Total   | ug/l  | kg/d | 1.70      | 0.009    | 2        |
| Selenium, Total   | ug/l  | kg/d | 1.40      | 0.007    | 35       |
| Silver, Total   | ug/l  | kg/d | < 0.300   | < 0.0016 | 2        |
| Thallium, Total   | ug/l  | kg/d | 0.160     | 0.0008   | 11       |
| Zinc, Total   | ug/l  | kg/d | 150.0     | 0.777    | 35       |
| Cyanide, Total  | ug/l  | kg/d | 5.44      | 0.028    | 2        |
| Phenols, Total  | ug/l  | kg/d | < 1.67    | < 0.009  | 2        |
| <b>Volatile Compounds – only detected values included</b>     |       |      |           |          |          |
| No detected values.   |       |      |           |          |          |
| <b>Acid Compounds – only detected values included</b>         |       |      |           |          |          |
| No detected values.   |       |      |           |          |          |
| <b>Base/Neutral Compounds – only detected values included</b> |       |      |           |          |          |
| No detected values.   |       |      |           |          |          |
| <b>Pesticides &amp; PCBs – only detected values included</b>  |       |      |           |          |          |
| No detected values.   |       |      |           |          |          |

**Table 11. Effluent Characterization Based on Form 2C Data for outfall 015.**

| Parameter                | Units |      | Max daily |         | No. of   |
|--------------------------|-------|------|-----------|---------|----------|
|                          | Conc  | Mass | Conc      | Mass    | Analyses |
| Biological Oxygen Demand | mg/l  | kg/d | < 5.00    | < 0.587 | 2        |
| Chemical Oxygen Demand   | mg/l  | kg/d | 9.44      | 1.11    | 2        |
| Total Organic Carbon     | mg/l  | kg/d | 1.22      | 0.143   | 2        |
| Total Suspended Solids   | mg/l  | kg/d | < 0.595   | < 0.070 | 2        |
| Ammonia                  | mg/l  | kg/d | 0.065     | 0.0076  | 2        |
| Flow                     | mgd   | --   | 0.031     |         | 962      |
| Temperature (Winter)     | °C    | --   | 20.1      |         | 24       |
| Temperature (Summer)     | °C    | --   | 26.2      |         | 24       |
|                          |       |      | pH min    | pH max  |          |
| pH                       | S.U.  | S.U. | 7.18      | 8.53    | 71       |
| Bromide                  | mg/l  | kg/d | 0.163     | 0.019   | 2        |

| Parameter                             | Units |      | Max daily |             | No. of   |
|---------------------------------------|-------|------|-----------|-------------|----------|
|                                       | Conc  | Mass | Conc      | Mass        | Analyses |
| Chlorine, Total Residual              | mg/l  | kg/d | < 0.020   | < 0.002     | 2        |
| Color                                 | --    | --   | < 5.00    |             | 2        |
| Fluoride                              | mg/l  | kg/d | 0.142     | 0.017       | 2        |
| Nitrate-Nitrate (as N)                | mg/l  | kg/d | < 0.017   | < 0.002     | 2        |
| Oil and Grease                        | mg/l  | kg/d | < 1.50    | < 0.176     | 2        |
| Phosphorus (as P), Total              | mg/l  | kg/d | < 0.020   | < 0.002     | 2        |
| Radioactivity:(1) Alpha, Total        |       |      | 3.37      |             | 2        |
| Radioactivity:(2) Beta, Total         |       |      | 2.32      |             | 2        |
| Radioactivity:(3) Radium, Total       |       |      | < 0.300   |             | 2        |
| Radioactivity:(4) Radium 226, Total   |       |      | 0.197     |             | 2        |
| Sulfate (as SO4)                      | mg/l  | kg/d | 56.1      | 6.58        | 2        |
| Sulfide (as S)                        | mg/l  | kg/d | < 0.033   | < 0.004     | 2        |
| Surfactants                           | mg/l  | kg/d | 0.0175    | 0.002       | 2        |
| Aluminum, Total                       | ug/l  | kg/d | < 19.3    | < 0.002     | 2        |
| Barium, Total                         | ug/l  | kg/d | 57.0      | 0.0067      | 11       |
| Boron, Total                          | ug/l  | kg/d | 72.3      | 0.0085      | 2        |
| Cobalt, Total                         | ug/l  | kg/d | < 0.300   | < 0.000035  | 2        |
| Iron, Total                           | ug/L  | kg/d | < 33.0    | < 0.0039    | 2        |
| Magnesium, Total                      | mg/l  | kg/d | 29.7      | 3.48        | 2        |
| Molybdenum, Total                     | ug/L  | kg/d | 0.838     | 0.00010     | 2        |
| Manganese, Total                      | ug/l  | kg/d | 36.0      | 0.004       | 2        |
| Tin, Total                            | ug/L  | kg/d | < 1.00    | < 0.0001    | 2        |
| Titanium, Total                       | ug/l  | kg/d | < 2.00    | < 0.0002    | 2        |
| <b>GC/MS Fractions</b>                |       |      |           |             |          |
| <b>Metals, Cyanide, Total Phenols</b> |       |      |           |             |          |
| Antimony, Total                       | ug/L  | kg/d | < 1.00    | < 0.0001    | 2        |
| Arsenic, Total                        | ug/L  | kg/d | 0.625     | 0.00007     | 11       |
| Beryllium, Total                      | ug/L  | kg/d | < 0.200   | < 0.00002   | 2        |
| Cadmium, Total                        | ug/l  | kg/d | < 0.300   | < 0.000035  | 2        |
| Chromium, Total                       | ug/l  | kg/d | < 3.00    | < 0.00035   | 2        |
| Copper, Total                         | ug/l  | kg/d | 0.620     | 0.00007     | 2        |
| Lead, Total                           | ug/l  | kg/d | < 0.500   | < 0.00006   | 2        |
| Mercury, Total                        | ng/l  | kg/d | 0.215     | 0.000000025 | 2        |
| Nickel, Total                         | ug/l  | kg/d | 0.776     | 0.00009     | 2        |
| Selenium, Total                       | ug/l  | kg/d | < 2.00    | < 0.0002    | 2        |
| Silver, Total                         | ug/l  | kg/d | 0.061     | 0.000007    | 35       |
| Thallium, Total                       | ug/l  | kg/d | < 0.600   | < 0.00007   | 2        |

| Parameter   | Units |      | Max daily |          | No. of   |
|---|-------|------|-----------|----------|----------|
|   | Conc  | Mass | Conc      | Mass     | Analyses |
| Zinc, Total   | ug/l  | kg/d | < 3.30    | < 0.0004 | 2        |
| Cyanide, Total  | ug/l  | kg/d | < 1.67    | < 0.0002 | 2        |
| Phenols, Total  | ug/l  | kg/d | < 1.67    | < 0.0002 | 2        |
| <b>Volatile Compounds – only detected values included</b>     |       |      |           |          |          |
| Trichloroethylene   | ug/l  | kg/d | 6.70      | 0.0008   | 70       |
| <b>Acid Compounds – only detected values included</b>         |       |      |           |          |          |
| No detected values.   |       |      |           |          |          |
| <b>Base/Neutral Compounds – only detected values included</b> |       |      |           |          |          |
| No detected values.   |       |      |           |          |          |
| <b>Pesticides &amp; PCBs – only detected values included</b>  |       |      |           |          |          |
| No detected values.   |       |      |           |          |          |

**Table 12. Effluent Characterization Using Self-Monitoring Data**

| Outfall                  | Parameter                         | Unit          | Current Limits |         | # Obs. | Percentiles      |                  | Data Range  |
|--------------------------|-----------------------------------|---------------|----------------|---------|--------|------------------|------------------|-------------|
|                          |                                   |               | 30 Day         | Daily   |        | 50 <sup>th</sup> | 95 <sup>th</sup> |             |
| 001                      | Total Precipitation               | Inches        | -- Monitor --  |         | 1826   | 0                | 0.75             | 0-2.84      |
|                          | pH                                | S.U.          | -              | 6.5-9.0 | 248    | 8                | 8.51             | 6.79-9.25   |
|                          | TSS <sup>2</sup>                  | mg/l          | 20             | 45      | 239    | 2.2              | 12.1             | 0-26        |
|                          | Oil and Grease                    | mg/l          | 10             | 15      | 240    | 0                | 2.3              | 0-11        |
|                          | Fluoride, Total (F)               | mg/l          | -- Monitor --  |         | 28     | 0.12             | 0.193            | 0-1.45      |
|                          | Silver, TR                        | µg/l          | -- Monitor --  |         | 60     | 0                | 0.0415           | 0-0.077     |
|                          | Zinc, TR                          | µg/l          | -- Monitor --  |         | 28     | 15.5             | 50.1             | 6.65-64.5   |
|                          | Cadmium, TR                       | µg/l          | -- Monitor --  |         | 28     | 0                | 0.126            | 0-0.18      |
|                          | Copper, TR                        | µg/l          | -- Monitor --  |         | 16     | 1.45             | 2.78             | 0.76-3      |
|                          | Flow Rate                         | MGD           | -- Monitor --  |         | 1826   | 0.553            | 1.37             | 0.004-2.85  |
|                          | Chlorine, Total Residual          | mg/l          | 0.011          | 0.019   | 239    | 0.02             | 0.05             | 0-0.09      |
|                          | Mercury, Total (LL <sup>3</sup> ) | ng/l          | 25             | 1700    | 61     | 7.95             | 25.8             | 2.41-27.7   |
|                          | Residue, Total Filterable         | mg/l          | -- Monitor --  |         | 60     | 215              | 413              | 130-640     |
|                          | Solids, Dissolved-Sum of          | mg/l          | -- Monitor --  |         | 180    | 200              | 560              | 130-2000    |
| 002                      | Water Temperature                 | °C            |                |         | 27     | 23               | 28.7             | 12-30       |
|                          | pH                                | S.U.          | -              | 6.5-9.0 | 243    | 7.98             | 8.47             | 5.1-8.84    |
|                          | TSS <sup>2</sup>                  | mg/l          | 20             | 45      | 240    | 5.6              | 17.1             | 0-44        |
|                          | Oil and Grease                    | mg/l          | -              | 10      | 240    | 0                | 2.1              | 0-5.6       |
|                          | Ammonia (summer)                  | mg/l          | -- Monitor --  |         | 24     | 0.0225           | 0.0808           | 0-0.11      |
|                          | Ammonia (winter)                  | mg/l          | -- Monitor --  |         | 24     | 0.073            | 0.26             | 0-0.29      |
|                          | Fluoride, Total                   | mg/l          | -- Monitor --  |         | 28     | 0.135            | 0.197            | 0-0.21      |
|                          | Selenium, TR <sup>1</sup>         | ug/l          | -- Monitor --  |         | 48     | 0                | 1.33             | 0-2.55      |
|                          | Thallium, TR <sup>1</sup>         | ug/l          | -- Monitor --  |         | 64     | 0                | 0.163            | 0-0.44      |
|                          | Silver, TR <sup>1</sup>           | ug/l          | -- Monitor --  |         | 64     | 0                | 0.0429           | 0-0.052     |
|                          | Cadmium, TR <sup>1</sup>          | ug/l          | -- Monitor --  |         | 28     | 0                | 0.0559           | 0-0.062     |
|                          | Flow Rate                         | MGD           | -- Monitor --  |         | 1826   | 0.435            | 1.41             | 0.004-2.08  |
|                          | Mercury, Total (LL <sup>3</sup> ) | ng/l          | -- Monitor --  |         | 28     | 2.13             | 6.75             | 0.613-7.49  |
| 003                      | pH                                | S.U.          |                | 6.5-9.0 | 1015   | 7.62             | 8.1              | 6.62-8.86   |
|                          | TSS <sup>2</sup>                  | mg/l          | 12             | 18      | 242    | 2                | 7.59             | 0-29        |
|                          | Oil and Grease                    | mg/l          | -- Monitor --  |         | 22     | 0                | 2.3              | 0-2.5       |
|                          | Ammonia (Summer)                  | mg/l          | -- Monitor --  |         | 0.04   | 2.2              | 0-5.1            | 0.04        |
|                          | Ammonia (Winter)                  | mg/l          | -- Monitor --  |         | 0.16   | 3.1              | 0-5.9            | 0.16        |
|                          | Nitrite+ Nitrate                  | mg/l          | -- Monitor --  |         | 30     | 8.55             | 16.7             | 4.4-21.9    |
|                          | Thallium, TR <sup>1</sup>         | ug/l          | -- Monitor --  |         | 18     | 0                | 0.41             | 0-2         |
|                          | Silver, TR <sup>1</sup>           | ug/l          | -- Monitor --  |         | 30     | 0                | 0.0431           | 0-0.21      |
|                          | Zinc, TR <sup>1</sup>             | ug/l          | -- Monitor --  |         | 30     | 24               | 46               | 7.6-160     |
|                          | Copper, TR <sup>1</sup>           | ug/l          | -- Monitor --  |         | 30     | 2.15             | 3.61             | 0.94-23     |
|                          | Fecal Coliform                    | #/100 ml      | -- Monitor --  |         | 62     | 11.3             | 236              | 2-590       |
|                          | E. coli                           | #/100 ml      | 126            | 103     | 103    | 3.1              | 193              | 0-1010      |
|                          | Flow Rate                         | MGD           | -- Monitor --  |         | 1806   | 0.292            | 0.457            | 0.126-0.805 |
| Chlorine, Total Residual | mg/l                              | -- Monitor -- |                | 252     | 0.03   | 0.05             | 0-0.06           |             |

| Outfall                           | Parameter                           | Unit   | Current Limits |         | # Obs. | Percentiles      |                  | Data Range  |
|-----------------------------------|-------------------------------------|--------|----------------|---------|--------|------------------|------------------|-------------|
|                                   |                                     |        | 30 Day         | Daily   |        | 50 <sup>th</sup> | 95 <sup>th</sup> |             |
|                                   | Mercury, Total (LL <sup>3</sup> )   | ng/l   | 66             | 1700    | 69     | 8.73             | 39.6             | 2.07-230    |
|                                   | Acute Toxicity, Ceriodaphnia dubia  | TUa    | -- Monitor --  |         | 22     | 0                | 0                | 0-0         |
|                                   | Acute Toxicity, Pimephales promelas | TUa    | -- Monitor --  |         | 22     | 0                | 0                | 0-0         |
|                                   | CBOD 5 day                          | mg/l   | 10             | 15      | 240    | 0                | 8.6              | 0-14.7      |
| 004                               | pH                                  | S.U.   |                | 9.0-6.5 | 55     | 7.19             | 8.22             | 6.24-8.35   |
|                                   | TSS <sup>2</sup>                    | mg/l   | 18             | 27      | 52     | 2.7              | 15.6             | 0-31        |
|                                   | Oil and Grease                      | mg/l   | 15             | 20      | 50     | 0                | 2.22             | 0-5.2       |
|                                   | Zinc, TR <sup>1</sup>               | ug/l   | -- Monitor --  |         | 24     | 36               | 56.7             | 7.3-81      |
|                                   | Copper, TR <sup>1</sup>             | ug/l   | --             | 66      | 51     | 30               | 81               | 3.3-140     |
|                                   | Flow Rate                           | MGD    | -- Monitor --  |         | 1377   | 0.08             | 0.392            | 0.002-0.435 |
|                                   | Chlorine, Total Residual            | mg/l   | --             | 0.038   | 204    | 0                | 0.0385           | 0-0.3       |
|                                   | Mercury, Total (LL <sup>3</sup> )   | ng/l   | -- Monitor --  |         | 24     | 1.67             | 4.2              | 0.498-9.61  |
|                                   | Acute Toxicity, Ceriodaphnia dubia  | TUa    | -- Monitor --  |         | 19     | 0                | 0.141            | 0-1.41      |
|                                   | Acute Toxicity, Pimephales promelas | TUa    | -- Monitor --  |         | 19     | 0                | 0.141            | 0-1.41      |
|                                   | Residue, Total Filterable           | mg/l   | 3500           | 4000    | 5      | 580              | 606              | 570-610     |
|                                   | Solids, Dissolved-Sum of            | mg/l   | -- Monitor --  |         | 45     | 360              | 798              | 160-860     |
|                                   | 005                                 | pH     | S.U.           |         | 6.5-10 | 80               | 8.75             | 9.46        |
| TSS <sup>2</sup>                  |                                     | mg/l   | 10             | 15      | 67     | 6.4              | 25.1             | 0-47.4      |
| Selenium, TR <sup>1</sup>         |                                     | ug/l   | -- Monitor --  |         | 25     | 0                | 0                | 0-2.25      |
| Lead, TR <sup>1</sup>             |                                     | ug/l   | -- Monitor --  |         | 25     | 0.36             | 0.906            | 0-1         |
| Flow Rate                         |                                     | MGD    | -- Monitor --  |         | 396    | 1.13             | 4.32             | 0-9.96      |
| Mercury, Total (LL <sup>3</sup> ) |                                     | ng/l   | -- Monitor --  |         | 26     | 2.39             | 5.38             | 0-5.69      |
| 009                               | Total Precipitation                 | Inches |                |         | 365    | 0                | 0.72             | 0-2.39      |
|                                   | pH                                  | S.U.   |                | 6.5-9.0 | 373    | 7.84             | 8.34             | 7-8.67      |
|                                   | TSS <sup>2</sup>                    | mg/l   | 30             | 45      | 228    | 7.2              | 28               | 0-138       |
|                                   | Oil and Grease                      | mg/l   | 10             | 15      | 60     | 0                | 2.11             | 0-5         |
|                                   | Fluoride, Total (F)                 | mg/l   | -- Monitor --  |         | 28     | 0.155            | 0.21             | 0.064-0.215 |
|                                   | Silver, TR <sup>1</sup>             | ug/l   | -- Monitor --  |         | 48     | 0                | 0.0376           | 0-0.041     |
|                                   | Zinc, TR <sup>1</sup>               | ug/l   | -- Monitor --  |         | 28     | 15               | 49.7             | 5.1-72      |
|                                   | Cadmium, TR <sup>1</sup>            | ug/l   | -- Monitor --  |         | 12     | 0                | 0.0629           | 0-0.064     |
|                                   | Copper, TR <sup>1</sup>             | ug/l   | -- Monitor --  |         | 48     | 0.995            | 4                | 0-12        |
|                                   | Bis(2-ethylhexyl) Phthalate         | ug/l   | -- Monitor --  |         | 48     | 0                | 0                | 0-0.8       |
|                                   | Flow Rate                           | MGD    | -- Monitor --  |         | 1826   | 0.716            | 1.9              | 0.006-3.98  |
|                                   | Mercury, Total (LL <sup>3</sup> )   | ng/l   | -- Monitor --  |         | 16     | 1.9              | 3.49             | 0.581-3.76  |
| 010                               | Total Precipitation                 | Inches | -- Monitor --  |         | 1826   | 0                | 0.75             | 0-2.84      |
|                                   | pH                                  | S.U.   |                | 6.5-9.0 | 340    | 7.91             | 8.36             | 6.93-8.64   |
|                                   | TSS <sup>2</sup>                    | mg/l   | 30             | 45      | 117    | 3.6              | 25.2             | 0-46        |
|                                   | Oil and Grease                      | mg/l   | 10             | 15      | 61     | 0                | 1.9              | 0-3.6       |

| Outfall | Parameter                            | Unit   | Current Limits |         | # Obs. | Percentiles      |                  | Data Range     |
|---------|--------------------------------------|--------|----------------|---------|--------|------------------|------------------|----------------|
|         |                                      |        | 30 Day         | Daily   |        | 50 <sup>th</sup> | 95 <sup>th</sup> |                |
|         | Selenium, TR <sup>1</sup>            | ug/l   | -- Monitor --  |         | 48     | 0                | 0                | 0-2.2          |
|         | Zinc, TR <sup>1</sup>                | ug/l   | -- Monitor --  |         | 60     | 19               | 48.1             | 3.3-110        |
|         | Cadmium, TR <sup>1</sup>             | ug/l   | -- Monitor --  |         | 12     | 0.021            | 0.119            | 0-0.13         |
|         | Lead, TR <sup>1</sup>                | ug/l   | -- Monitor --  |         | 48     | 0.32             | 1.89             | 0-2.6          |
|         | Flow Rate                            | MGD    | -- Monitor --  |         | 1826   | 0.29             | 0.771            | 0.004-1.82     |
|         | Mercury, Total (LL <sup>3</sup> )    | ng/l   | -- Monitor --  |         | 28     | 1.89             | 4.1              | 0.587-11.6     |
| 011     | Total Precipitation                  | Inches | -- Monitor --  |         | 1826   | 0                | 0.75             | 0-2.84         |
|         | pH                                   | S.U.   |                | 6.5-9.0 | 139    | 7.95             | 8.62             | 7.06-8.92      |
|         | TSS <sup>2</sup>                     | mg/l   | 30             | 45      | 119    | 2.4              | 8.48             | 0-13           |
|         | Oil and Grease                       | mg/l   | 10             | 15      | 120    | 0                | 2.51             | 0-5.55         |
|         | Fluoride, Total (F)                  | mg/l   | -- Monitor --  |         | 28     | 0.16             | 0.223            | 0.07-0.25      |
|         | Selenium, TR <sup>1</sup>            | ug/l   | -- Monitor --  |         | 48     | 0                | 1.37             | 0-2.5          |
|         | Thallium, TR <sup>1</sup>            | ug/l   | -- Monitor --  |         | 16     | 0.079            | 0.13             | 0-0.16         |
|         | Zinc, TR <sup>1</sup>                | ug/l   | -- Monitor --  |         | 60     | 25.5             | 72.1             | 4.2-150        |
|         | Cadmium, TR <sup>1</sup>             | ug/l   | -- Monitor --  |         | 28     | 0.0458           | 0.153            | 0-0.19         |
|         | Copper, TR <sup>1</sup>              | ug/l   | -- Monitor --  |         | 60     | 1.1              | 3.5              | 0.26-7.1       |
|         | Flow Rate                            | MGD    | -- Monitor --  |         | 1826   | 0.026            | 0.153            | 0.001-1.37     |
|         | Chlorine, Total Residual             | mg/l   | 0.011          | 0.019   | 121    | 0.02             | 0.06             | 0-0.1          |
| 015     | pH                                   | S.U.   |                | 6.5-9.0 | 124    | 7.69             | 8.05             | 7.18-8.72      |
|         | Arsenic, TR <sup>1</sup>             | ug/l   | -- Monitor --  |         | 16     | 0                | 0.744            | 0-1.1          |
|         | Barium, TR <sup>1</sup>              | ug/l   | -- Monitor --  |         | 16     | 32.5             | 54               | 22-57          |
|         | Silver, TR <sup>1</sup>              | ug/l   | -- Monitor --  |         | 48     | 0                | 0.0483           | 0-0.061        |
|         | Trichloroethylene                    | ug/l   | 10             | 10      | 120    | 0.838            | 5.01             | 0-6.7          |
|         | PCBs                                 | ug/l   | -- Monitor --  |         | 20     | 0                | 0                | 0-0            |
|         | Flow Rate                            | MGD    | -- Monitor --  |         | 1510   | 0.0057           | 0.0252           | 0-0.0363       |
| 602     | Total Precipitation                  | Inches | -- Monitor --  |         | 1182   | 0                | 0.93             | 0-2.9          |
|         | pH                                   | S.U.   |                | 6.5-9.0 | 52     | 8.79             | 9.45             | 6.57-9.68      |
|         | TSS <sup>2</sup>                     | mg/l   | 35             | 50      | 52     | 11.3             | 24.9             | 5.6-28         |
|         | Iron, Total (Fe)                     | ug/l   | 3500           | 7000    | 52     | 170              | 468              | 27-655         |
|         | Manganese, Total (Mn)                | ug/l   | 2000           | 4000    | 52     | 150              | 365              | 33-590         |
|         | Flow Rate                            | MGD    | -- Monitor --  |         | 148    | 0.103            | 0.211            | 0.002-0.22     |
| 604     | pH                                   | S.U.   |                | 6.5-9.0 | 37     | 7.92             | 8.53             | 7-8.7          |
|         | Nitrogen, Nitrate (NO <sub>3</sub> ) | mg/l   | -- Monitor --  |         | 37     | 16.2             | 51.2             | 0-70           |
|         | Copper, Total (Cu)                   | ug/l   | -- Monitor --  |         | 37     | 1.3              | 4.72             | 0-10           |
|         | Iron, Total (Fe)                     | ug/l   | -- Monitor --  |         | 37     | 180              | 512              | 25-750         |
|         | Nickel, Total (Ni)                   | ug/l   | -- Monitor --  |         | 37     | 0.73             | 1.12             | 0.3-1.2        |
|         | Zinc, Total (Zn)                     | ug/l   | -- Monitor --  |         | 37     | 5.3              | 17               | 0-18           |
|         | Flow Rate                            | MGD    | -- Monitor --  |         | 367    | 0.0106           | 0.0111           | 0.00048-0.0111 |
| 605     | pH                                   | S.U.   |                | 6.5-9.0 | 8      | 8.37             | 8.59             | 7.56-8.6       |
|         | TSS <sup>2</sup>                     | mg/l   | 20             | 30      | 8      | 0                | 0.78             | 0-1.2          |
|         | Oil and Grease                       | mg/l   |                |         | 8      | 0                | 2.73             | 0-4.2          |

| Outfall   | Parameter                    | Unit | Current Limits |       | # Obs. | Percentiles      |                  | Data Range     |
|---|------------------------------|------|----------------|-------|--------|------------------|------------------|----------------|
|   |                              |      | 30 Day         | Daily |        | 50 <sup>th</sup> | 95 <sup>th</sup> |                |
|   | Nitrogen, Ammonia (NH3)      | mg/l | -- Monitor --  |       | 8      | 0.17             | 0.537            | 0-0.67         |
|   | Nitrogen, Nitrite (NO2)      | mg/l | -- Monitor --  |       | 8      | 0                | 0                | 0-0            |
|   | Nitrogen, Nitrate (NO3)      | mg/l | -- Monitor --  |       | 8      | 6.33             | 21.7             | 0.43-27.3      |
|   | Nitrogen Kjeldahl, Total     | mg/l | -- Monitor --  |       | 8      | 0                | 0.143            | 0-0.22         |
|   | Sulfate, (SO4)               | mg/l | -- Monitor --  |       | 8      | 54.5             | 68               | 42-69          |
|   | Chromium, Hexavalent (Cr +6) | ug/l | -- Monitor --  |       | 8      | 0                | 0                | 0-0            |
|   | Chromium, Total (Cr)         | ug/l | -- Monitor --  |       | 8      | 0.94             | 1.3              | 0-1.3          |
|   | Copper, Total (Cu)           | ug/l | -- Monitor --  |       | 8      | 7.65             | 20.1             | 0.57-25        |
|   | Iron, Total (Fe)             | ug/l | -- Monitor --  |       | 1      | 0                | 0                | 0-0            |
|   | Nickel, Total (Ni)           | ug/l | -- Monitor --  |       | 8      | 9.5              | 27.7             | 2.9-35         |
|   | Zinc, Total (Zn)             | ug/l | -- Monitor --  |       | 8      | 4.1              | 8.83             | 2.3-9.6        |
|   | Trichloroethylene            | ug/l | -- Monitor --  |       | 8      | 0                | 0                | 0-0            |
|   | Flow Rate                    | MGD  | -- Monitor --  |       | 34     | 0.00757          | 0.0129           | 0.00304-0.0134 |
| 608   | pH                           | S.U. | -- Monitor --  |       | 122    | 7.93             | 8.24             | 6.85-8.59      |
|   | 1,2-trans-Dichloroethylene   | ug/l | 25             | 66    | 119    | 0                | 0                | 0-1.7          |
|   | Trichloroethylene            | ug/l | 10             | 10    | 119    | 1.6              | 3.61             | 0-4.9          |
|   | Flow Rate                    | MGD  | -- Monitor --  |       | 1775   | 0.0551           | 0.0794           | 0-0.104        |
| 610   | pH                           | S.U. | -- Monitor --  |       | 20     | 7.32             | 8.01             | 6.5-8.2        |
|   | 1,2-trans-Dichloroethylene   | ug/l | 25             | 66    | 20     | 0                | 0.15             | 0-0.15         |
|   | Trichloroethylene            | ug/l | 10             | 10    | 20     | 0.08             | 0.974            | 0-1.8          |
|   | Flow Rate                    | MGD  | -- Monitor --  |       | 22     | 0.00323          | 0.0105           | 0.0011-0.0114  |
| 611   | pH                           | S.U. | -- Monitor --  |       | 123    | 8.03             | 8.32             | 7.13-8.5       |
|   | Trichloroethylene            | ug/l | 10             | 10    | 120    | 1                | 5.51             | 0-8.5          |
|   | Flow Rate                    | MGD  | -- Monitor --  |       | 1825   | 0.0291           | 0.0397           | 0.0014-0.06    |
| 902   | Water Temperature            | °C   | 27.8           | 29.4  | 474    | 18.3             | 27.9             | 0.65-30        |
| 903   | Water Temperature            | °C   | 27.8           | 29.4  | 497    | 15.1             | 27.2             | 0-29.9         |
| <sup>1</sup> - Total Recoverable<br><sup>2</sup> - Total Suspended Solids<br><sup>3</sup> - Low Level |                              |      |                |       |        |                  |                  |                |

All values are based on annual records unless otherwise indicated. \* = For minimum pH, 5th percentile shown in place of 50th percentile; \*\* = For dissolved oxygen, 5th percentile shown in place of 95th percentile; a = weekly average.”

**Table 13. Projected Effluent Quality**

| <b>Parameter</b>       | <b>Units</b> | <b>Number of Samples</b> | <b>Number &gt; MDL</b> | <b>PEQ Average</b> | <b>PEQ Maximum</b> |
|------------------------|--------------|--------------------------|------------------------|--------------------|--------------------|
| <b>Outfall 001</b>     |              |                          |                        |                    |                    |
| Aluminum, TR           | µg/l         | 2                        | 2                      | 524                | 718                |
| Ammonia (Winter)       | µg/l         | 2                        | 2                      | 0.36               | 0.49               |
| Barium                 | µg/l         | 2                        | 2                      | 62                 | 85                 |
| Boron                  | µg/l         | 2                        | 2                      | 73                 | 100                |
| Cadmium - TR           | µg/l         | 28                       | 12                     | 0.12               | 0.21               |
| Chlorine - Tres        | mg/l         | 239                      | 164                    | 0.04               | 0.05               |
| Cobalt                 | µg/l         | 2                        | 2                      | 1.51               | 2.06               |
| Copper - TR            | µg/l         | 16                       | 16                     | 2.80               | 4.33               |
| Fluoride               | mg/l         | 27                       | 24                     | 0.18               | 0.24               |
| Iron - TR              | µg/l         | 2                        | 2                      | 1062               | 1455               |
| Lead - TR              | µg/l         | 2                        | 2                      | 2.06               | 2.82               |
| Manganese - TR         | µg/l         | 2                        | 2                      | 7.35               | 10.1               |
| Mercury - TR           | µg/l         | 61                       | 61                     | 19.8               | 30.2               |
| Molybdenum             | µg/l         | 2                        | 2                      | 8.46               | 11.6               |
| Nickel - TR            | µg/l         | 2                        | 2                      | 4.72               | 6.46               |
| Nitrite Plus Nitrate   | mg/l         | 2                        | 2                      | 0.62               | 0.84               |
| Silver - TR            | µg/l         | 60                       | 17                     | 0.04               | 0.06               |
| Total Dissolved Solids | mg/l         | 240                      | 240                    | 338                | 447                |
| Trichloroethylene      | µg/l         | 2                        | 2                      | 4.11               | 5.62               |
| Zinc - TR              | µg/l         | 28                       | 28                     | 47.9               | 77.8               |
| <b>Outfall 002</b>     |              |                          |                        |                    |                    |
| Aluminum               | µg/L         | 2                        | 2                      | 1864               | 2554               |
| Ammonia-S              | mg/L         | 16                       | 9                      | 0.053              | 0.09               |
| Ammonia-W              | mg/L         | 12                       | 10                     | 0.34               | 0.46               |
| Barium                 | µg/L         | 2                        | 2                      | 71                 | 97                 |
| Boron                  | µg/L         | 2                        | 2                      | 81                 | 111                |
| Cadmium - TR           | µg/L         | 25                       | 3                      | 0.059              | 0.08               |
| Chlorine - TRes        | mg/L         | 8                        | 8                      | 0.10               | 0.14               |
| Cobalt                 | µg/L         | 2                        | 2                      | 1.4                | 1.9                |
| Copper - TR            | µg/L         | 2                        | 2                      | 7.0                | 9.5                |
| Cyanide, Total         | µg/L         | 2                        | 2                      | 7.9                | 10.8               |
| Fluoride               | mg/L         | 28                       | 27                     | 0.20               | 0.29               |
| Iron - TR              | µg/L         | 8                        | 8                      | 1706               | 2337               |
| Lead - TR              | µg/L         | 2                        | 2                      | 2.44               | 3.3                |
| Manganese - TR         | µg/L         | 2                        | 2                      | 205                | 281.2              |
| Mercury - TR (BCC)     | ng/L         | 28                       | 28                     | 6.13               | 10.1               |
| Molybdenum             | µg/L         | 2                        | 2                      | 18.2               | 24.9               |

| Parameter                      | Units | Number of Samples | Number > MDL | PEQ Average | PEQ Maximum |
|--------------------------------|-------|-------------------|--------------|-------------|-------------|
| Nickel - TR                    | µg/L  | 2                 | 2            | 5.16        | 7.07        |
| Nitrate-N + Nitrite-N          | mg/L  | 2                 | 2            | 0.58        | 0.80        |
| Selenium - TR                  | µg/L  | 48                | 4            | 2.05        | 2.80        |
| Silver                         | µg/L  | 64                | 17           | 0.03        | 0.05        |
| Sulfates                       | mg/L  | 2                 | 2            | 80          | 109         |
| Thallium                       | µg/L  | 64                | 18           | 0.17        | 0.25        |
| Titanium                       | µg/L  | 2                 | 2            | 21.8        | 29.9        |
| Zinc - TR                      | µg/L  | 2                 | 2            | 39.1        | 53.6        |
| Phenolics                      | µg/L  | 2                 | 2            | 7.13        | 9.8         |
| Bis(2-ethylhexyl)phthalate     | µg/L  | 2                 | 2            | 26.9        | 36.8        |
| <b>Outfall 003</b>             |       |                   |              |             |             |
| Aluminum                       | µg/L  | 2                 | 2            | 229         | 314         |
| Ammonia-S                      | mg/L  | 40                | 24           | 1.77        | 2.42        |
| Ammonia-W                      | mg/L  | 30                | 23           | 5.17        | 7.08        |
| Barium                         | µg/L  | 2                 | 2            | 84          | 115         |
| Boron                          | µg/L  | 2                 | 2            | 240         | 329         |
| Chlorine - TRes                | mg/L  | 252               | 203          | 0.03        | 0.04        |
| Chlorodibromomethane           | µg/L  | 2                 | 2            | 5.49        | 7.52        |
| Chloroform (Trichloromethane)  | µg/L  | 2                 | 2            | 3.02        | 4.14        |
| Cobalt                         | µg/L  | 2                 | 2            | 1.17        | 1.61        |
| Copper - TR                    | µg/L  | 29                | 29           | 3.09        | 4.22        |
| Fluoride                       | mg/L  | 2                 | 2            | 0.80        | 1.09        |
| Iron - TR                      | µg/L  | 2                 | 2            | 804         | 1102        |
| Manganese - TR                 | µg/L  | 2                 | 2            | 53          | 73          |
| Mercury - TR (BCC)             | ng/L  | 69                | 69           | 35.9        | 56.5        |
| Molybdenum                     | µg/L  | 2                 | 2            | 446         | 611         |
| Nickel - TR                    | µg/L  | 2                 | 2            | 9.93        | 13.60       |
| Nitrate-N + Nitrite-N          | mg/L  | 30                | 30           | 12.72       | 17.40       |
| Phenolics                      | µg/L  | 2                 | 2            | 6.38        | 8.74        |
| Silver                         | µg/L  | 30                | 12           | 0.18        | 0.25        |
| Sulfates                       | mg/L  | 2                 | 2            | 366         | 501         |
| Thallium                       | µg/L  | 18                | 3            | 2.04        | 2.80        |
| Zinc - TR                      | µg/L  | 30                | 30           | 48          | 72          |
| <b>Outfall 004<sup>1</sup></b> |       |                   |              |             |             |
| Ammonia-S                      | mg/L  | 1                 | 1            | 0.20        | 0.27        |
| Ammonia-W                      | mg/L  | 1                 | 1            | 0.20        | 0.27        |
| Arsenic - TR                   | µg/L  | 1                 | 1            | 16.75       | 22.94       |
| Beryllium                      | µg/L  | 1                 | 1            | 18.10       | 24.80       |

| Parameter                            | Units | Number of Samples | Number > MDL | PEQ Average | PEQ Maximum |
|--------------------------------------|-------|-------------------|--------------|-------------|-------------|
| Cadmium - TR                         | µg/L  | 1                 | 1            | 1.81        | 2.48        |
| Chlorine - TRes                      | mg/L  | 204               | 53           | 0.04        | 0.05        |
| Chromium - TR                        | µg/L  | 1                 | 1            | 101.38      | 138.88      |
| Cobalt                               | µg/L  | 1                 | 1            | 35.30       | 48.36       |
| Copper - TR                          | µg/L  | 51                | 51           | 80.58       | 128.17      |
| trans-1,2-Dichloroethylene           | µg/L  | 1                 | 1            | 20.37       | 27.90       |
| 1,4-Dioxane                          | mg/L  | 1                 | 1            | 0.12        | 0.17        |
| Dissolved solids (ave)               | mg/L  | 50                | 50           | 704.17      | 1038.30     |
| Fluoride                             | mg/L  | 1                 | 1            | 1.46        | 2.00        |
| Iron - TR                            | µg/L  | 1                 | 1            | 271.11      | 371.38      |
| Lead - TR                            | µg/L  | 1                 | 1            | 3.17        | 4.34        |
| Manganese - TR                       | µg/L  | 1                 | 1            | 565.75      | 775.00      |
| Mercury - TR (BCC)                   | ng/L  | 1                 | 1            | 17.56       | 24.06       |
| Methylene chloride (Dichloromethane) | µg/L  | 1                 | 1            | 267.49      | 366.42      |
| Nickel - TR                          | µg/L  | 1                 | 1            | 39.38       | 53.94       |
| Selenium - TR                        | µg/L  | 1                 | 1            | 22.63       | 31.00       |
| Silver                               | µg/L  | 1                 | 1            | 0.91        | 1.24        |
| Sulfates                             | mg/L  | 1                 | 1            | 7467.90     | 10230.00    |
| Thallium                             | µg/L  | 1                 | 1            | 0.13        | 0.17        |
| 1,1,1-Trichloroethane                | µg/L  | 1                 | 1            | 10.86       | 14.88       |
| Trichloroethylene                    | µg/L  | 1                 | 1            | 13.6        | 18.60       |
| Vanadium                             | µg/L  | 1                 | 1            | 59          | 81          |
| Zinc - TR                            | µg/L  | 24                | 24           | 64          | 101         |
| <b>Outfall 005</b>                   |       |                   |              |             |             |
| Aluminum                             | µg/l  | 2                 | 2            | 2227        | 3051        |
| Ammonia (Winter)                     | mg/L  | 2                 | 2            | 0.41        | 0.57        |
| Barium                               | µg/l  | 2                 | 2            | 72.4        | 99.2        |
| Boron                                | µg/l  | 2                 | 2            | 79.3        | 108         |
| Cobalt                               | µg/l  | 2                 | 2            | 2.22        | 3.04        |
| Copper - TR                          | µg/l  | 2                 | 2            | 3.83        | 5.24        |
| Fluoride                             | mg/l  | 2                 | 2            | 0.37        | 0.51        |
| Iron - TR                            | µg/l  | 2                 | 2            | 2668        | 3655        |
| Lead - TR                            | ug/l  | 25                | 23           | 0.78        | 1.24        |
| Manganese - TR                       | µg/l  | 2                 | 2            | 73.2        | 100         |
| Mercury - TR                         | ng/l  | 26                | 25           | 4.15        | 6.12        |
| Molybdenum                           | µg/l  | 2                 | 2            | 6.66        | 9.12        |
| Nickel - TR                          | µg/l  | 2                 | 2            | 6.71        | 9.20        |
| Nitrite Plus Nitrate                 | mg/l  | 2                 | 2            | 0.95        | 1.30        |

| Parameter                   | Units | Number of Samples | Number > MDL | PEQ Average | PEQ Maximum |
|-----------------------------|-------|-------------------|--------------|-------------|-------------|
| Selenium - TR               | µg/l  | 25                | 1            | 2.14        | 2.93        |
| Titanium                    | µg/l  | 2                 | 2            | 23.2        | 31.8        |
| <b>Outfall 009</b>          |       |                   |              |             |             |
| Aluminum                    | µg/l  | 2                 | 2            | 2857        | 3914        |
| Barium                      | µg/l  | 2                 | 2            | 113         | 155         |
| Ammonia (Winter)            | mg/l  | 2                 | 2            | 0.37        | 0.50        |
| Bis(2-ethylhexyl) Phthalate | µg/l  | 48                | 2            | 0.64        | 0.88        |
| Boron                       | µg/l  | 2                 | 2            | 146         | 200         |
| Cadmium - TR                | µg/l  | 12                | 4            | 0.07        | 0.10        |
| Chlorine - TRes             | mg/l  | 2                 | 2            | 0.061       | 0.084       |
| Cobalt                      | µg/l  | 2                 | 2            | 2.97        | 4.07        |
| Copper - TR                 | µg/l  | 48                | 44           | 3.73        | 6.00        |
| Fluoride                    | mg/l  | 28                | 28           | 0.21        | 0.27        |
| Iron - TR                   | µg/l  | 2                 | 2            | 4341        | 5947        |
| Lead - TR                   | µg/l  | 2                 | 2            | 3.27        | 4.48        |
| Manganese - TR              | µg/l  | 2                 | 2            | 256         | 352         |
| Mercury - TR                | ng/l  | 16                | 16           | 3.81        | 6.21        |
| Molybdenum                  | µg/l  | 2                 | 2            | 8.07        | 11.06       |
| Nickel - TR                 | µg/l  | 2                 | 2            | 9.24        | 12.6        |
| Nitrite Plus Nitrate        | mg/l  | 2                 | 2            | 1.57        | 2.15        |
| Silver - TR                 | µg/l  | 48                | 9            | 0.03        | 0.04        |
| Titanium                    | µg/l  | 2                 | 2            | 29.4        | 40.3        |
| Toluene                     | µg/l  | 2                 | 2            | 1.01        | 1.39        |
| Zinc - TR                   | µg/l  | 28                | 28           | 39.0        | 64.2        |
| <b>Outfall 010</b>          |       |                   |              |             |             |
| Aluminum                    | µg/L  | 2                 | 2            | 2239        | 3067        |
| Ammonia-W                   | mg/L  | 2                 | 2            | 0.77        | 1.05        |
| Barium                      | µg/L  | 2                 | 2            | 68          | 93          |
| Boron                       | µg/L  | 2                 | 2            | 106         | 145         |
| Cadmium - TR                | µg/L  | 12                | 6            | 0.14        | 0.27        |
| Cobalt                      | µg/L  | 2                 | 2            | 1.63        | 2.24        |
| Copper - TR                 | µg/L  | 2                 | 2            | 6.30        | 8.63        |
| Fluoride                    | mg/L  | 2                 | 2            | 0.47        | 0.65        |
| Iron - TR                   | µg/L  | 2                 | 2            | 2829        | 3876        |
| Lead - TR                   | µg/L  | 48                | 41           | 1.91        | 2.99        |
| Manganese - TR              | µg/L  | 2                 | 2            | 115         | 158         |
| Mercury - TR (BCC)          | ng/L  | 28                | 28           | 4.42        | 7.22        |
| Molybdenum                  | µg/L  | 2                 | 2            | 5.71        | 7.83        |
| Nickel - TR                 | µg/L  | 2                 | 2            | 4.97        | 6.80        |

| Parameter             | Units | Number of Samples | Number > MDL | PEQ Average | PEQ Maximum |
|-----------------------|-------|-------------------|--------------|-------------|-------------|
| Nitrate-N + Nitrite-N | mg/L  | 2                 | 2            | 0.97        | 1.33        |
| Selenium - TR         | µg/L  | 48                | 2            | 1.77        | 2.42        |
| Sulfates              | mg/L  | 2                 | 2            | 136         | 187         |
| Titanium              | µg/L  | 2                 | 2            | 23.5        | 32.1        |
| Zinc - TR             | µg/L  | 60                | 60           | 43.4        | 67.4        |
| <b>Outfall 011</b>    |       |                   |              |             |             |
| Aluminum              | µg/l  | 2                 | 2            | 546         | 749         |
| Ammonia (Winter)      | mg/l  | 2                 | 2            | 0.44        | 0.32        |
| Barium                | µg/l  | 2                 | 2            | 97          | 133         |
| Boron                 | µg/l  | 2                 | 2            | 228         | 312         |
| Bromide               | µg/l  | 2                 | 2            | 0.34        | 0.47        |
| Cadmium - TR          | µg/l  | 28                | 16           | 0.16        | 0.26        |
| Chlorine - Tres       | mg/l  | 121               | 70           | 0.04        | 0.07        |
| Copper - TR           | µg/l  | 60                | 60           | 2.89        | 4.45        |
| Cyanide, Total        | µg/l  | 2                 | 2            | 15.1        | 20.7        |
| Fluoride              | mg/l  | 28                | 28           | 0.22        | 0.30        |
| Iron - TR             | µg/l  | 2                 | 2            | 1010        | 1383        |
| Lead - TR             | µg/l  | 2                 | 2            | 7.32        | 10.03       |
| Manganese - TR        | µg/l  | 2                 | 2            | 305         | 418         |
| Mercury - TR          | ng/l  | 2                 | 2            | 4.13        | 5.66        |
| Molybdenum            | µg/l  | 2                 | 2            | 13.3        | 18.2        |
| Nickel - TR           | µg/l  | 2                 | 2            | 4.72        | 6.46        |
| Nitrite Plus Nitrate  | mg/l  | 2                 | 2            | 1.41        | 1.93        |
| Selenium - TR         | µg/l  | 48                | 13           | 1.32        | 2.01        |
| Thallium - TR         | µg/l  | 16                | 10           | 0.12        | 0.17        |
| Titanium              | µg/l  | 2                 | 2            | 6.24        | 8.55        |
| Zinc - TR             | µg/l  | 60                | 60           | 74.6        | 118.3       |
| <b>Outfall 015</b>    |       |                   |              |             |             |
| Arsenic - TR          | µg/l  | 16                | 3            | 1.21        | 1.65        |
| Ammonia (Winter)      | mg/l  | 2                 | 2            | 0.18        | 0.25        |
| Barium                | µg/l  | 16                | 16           | 47.8        | 64.0        |
| Boron                 | µg/l  | 2                 | 2            | 201         | 275         |
| Bromide               | µg/l  | 2                 | 2            | 0.45        | 0.62        |
| Copper - TR           | µg/l  | 2                 | 2            | 1.72        | 2.36        |
| Fluoride              | mg/l  | 2                 | 2            | 0.39        | 0.54        |
| Manganese - TR        | µg/l  | 2                 | 2            | 100         | 137         |
| Mercury - TR          | ng/l  | 2                 | 2            | 0.60        | 0.82        |
| Molybdenum            | µg/l  | 2                 | 2            | 2.32        | 3.18        |
| Nickel - TR           | µg/l  | 2                 | 2            | 2.15        | 2.95        |

| <b>Parameter</b>  | <b>Units</b> | <b>Number of Samples</b> | <b>Number &gt; MDL</b> | <b>PEQ Average</b> | <b>PEQ Maximum</b> |
|-------------------|--------------|--------------------------|------------------------|--------------------|--------------------|
| PCBs              | µg/l         | 20                       | 0                      | --                 | --                 |
| Silver - TR       | µg/l         | 48                       | 16                     | 0.04               | 0.06               |
| Silver - TR       | µg/l         | 2                        | 2                      | 0.17               | 0.23               |
| Trichloroethylene | µg/l         | 120                      | 92                     | 3.91               | 5.36               |

<sup>1</sup> – PEQs for outfall 004 were calculated using the maximum expected concentration in form 2d submitted with the permit application for a new discharge. The maximum value was treated as a single sample and method A with an F factor of 6.2 was used. If PEQs for the last five years of DMR data were more conservative than this approach it was used instead.

MDL = analytical method detection limit

PEQ = projected effluent quality

**Table 14. Summary of Acute and Chronic Toxicity Results**

|                    | <i>Ceriodaphnia Dubia</i> |                 | <i>Pimephales promelas</i> |                 |
|--------------------|---------------------------|-----------------|----------------------------|-----------------|
| Date               | TU <sub>a</sub>           | TU <sub>c</sub> | TU <sub>a</sub>            | TU <sub>c</sub> |
| <b>Outfall 003</b> |                           |                 |                            |                 |
| 9/10/2014          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 11/6/2014          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 1/7/2015           | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 3/17/2015          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 5/13/2015          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 7/8/2015           | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 11/3/2015          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 2/3/2016           | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 5/3/2016           | AA (0.0)                  | NT              | AA (0.0)                   | NT              |
| 7/12/2016          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 11/3/2016          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 2/1/2017           | AA (1.0)                  | NT              | NT                         | NT              |
| 2/15/2017          | NT                        | NT              | AA (1.0)                   | NT              |
| 5/3/2017           | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 7/12/2017          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 11/1/2017          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 2/20/2018          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 5/9/2018           | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 7/11/2018          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 11/14/2018         | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 2/20/2019          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 5/2/2019           | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 7/10/2019          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| <b>Outfall 004</b> |                           |                 |                            |                 |
| 9/10/2014          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 11/6/2014          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 1/7/2015           | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 3/17/2015          | 1.41                      | NT              | 1.41                       | NT              |
| 3/26/2015          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 5/13/2015          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 7/8/2015           | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 11/3/2015          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 2/3/2016           | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 5/3/2016           | AA (0.0)                  | NT              | AA (0.0)                   | NT              |
| 7/12/2016          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 11/3/2016          | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 2/1/2017           | AA (1.0)                  | NT              | AA (1.0)                   | NT              |

| Date       | <i>Ceriodaphnia Dubia</i> |                 | <i>Pimephales promelas</i> |                 |
|------------|---------------------------|-----------------|----------------------------|-----------------|
|            | TU <sub>a</sub>           | TU <sub>c</sub> | TU <sub>a</sub>            | TU <sub>c</sub> |
| 5/3/2017   | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 7/19/2017  | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 11/28/2017 | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 2/20/2018  | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 5/9/2018   | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 7/11/2018  | AA (1.0)                  | NT              | AA (1.0)                   | NT              |
| 11/15/2018 | AH ()                     | NT              | AH ()                      | NT              |

AA = non-detection; analytical method detection limit of 0.2 TU<sub>a</sub>, 1.0 TU<sub>c</sub>

TU<sub>a</sub> = acute toxicity unit

TU<sub>c</sub> = chronic toxicity unit

NT = not tested

**Table 15. Aquatic Life Use Attainment Status for Portsmouth Gaseous Diffusion Plant (July – October, 2005)**

| River Mile Sample Site                     | Attainment |                  |      |                  |      |   |
|--|------------|------------------|------|------------------|------|---|
| Fish/Macroinvertebrate                     | Status     | IBI              | MIwb | ICI <sup>a</sup> | QHEI | Comments                                |
| <i>2005 - Little Beaver Creek (WWH)</i>    |            |                  |      |                  |      |   |
| 3.3/3.3                                    | NON        | 39*              | NA   | <u>P*</u>        | 61   | Intermittent flow - very shallow pools. |
| 3.1/3.1                                    | PARTIAL    | 52               | NA   | 18*              | 79   |   |
| 2.4/2.4                                    | FULL       | 51               | NA   | 34 <sup>ns</sup> | 76.5 |   |
| 1.4/1.4                                    | FULL       | 56               | NA   | 46               | 77.5 | Exceptional conditions                  |
| 0.1/0.1                                    | FULL       | 55               | NA   | 48               | 82   | Exceptional conditions                  |
| <i>2011 - Little Beaver Creek (WWH)</i>    |            |                  |      |                  |      |   |
| 0.1/0.6                                    | FULL       | 52               | NA   | VG               | 80.3 |   |
| <i>2005 - Big Beaver Creek (WWH)</i>       |            |                  |      |                  |      |   |
| 5.6/5.6                                    | FULL       | 50               | 9.2  | 38               | 81.5 |   |
| 2.3/2.3                                    | PARTIAL    | 49               | 8.4  | F*               | 63   | Interstitial flow - no riffle.          |
| 1.8/1.8                                    | FULL       | 46               | 9.6  | 38               | 73   |   |
| 1.3/1.3                                    | FULL       | 47               | 9.5  | 42               | 74   |   |
| <i>2005 - Big Run (WWH)</i>                |            |                  |      |                  |      |   |
| 4.8/4.8                                    | NON        | 42 <sup>ns</sup> | NA   | <u>8*</u>        | 57   |   |
| 4.3/4.3                                    | PARTIAL    | 43 <sup>ns</sup> | NA   | 30*              | 60.5 |   |
| 4.0/4.0                                    | FULL       | 45               | NA   | 36               | 55.5 |   |
| <i>2005 - West Ditch (WWH)<sup>b</sup></i> |            |                  |      |                  |      |   |
| 1.2/1.2                                    | PARTIAL    | 44               | NA   | 28*              | 69   |   |
| <i>2005 - Scioto River (WWH)</i>           |            |                  |      |                  |      |   |
| 29.0/29.0                                  | FULL       | 48               | 9.8  | 50               | 79   | Exceptional conditions                  |
| 27.0/27.0                                  | FULL       | 50               | 9.9  | 42               | 78   | Exceptional/ Very Good                  |
| 24.6/24.6                                  | FULL       | 48               | 9.7  | 50               | 77.5 | Exceptional conditions                  |
| <i>2011 - Scioto River (WWH)</i>           |            |                  |      |                  |      |   |
| 29.2/29.6                                  | FULL       | 46               | 10.1 | 52               | 75.5 |   |
| 23.5/23.6                                  | FULL       | 43               | 9.7  | 46               | 82.8 |   |

\* = Significant departure from ecoregion biocriterion; poor and very poor results are underlined.

<sup>a</sup> = Narrative evaluation used in lieu of ICI (E=Exceptional; G=Good; MG=Marginally Good; F=Fair; P=Poor).

<sup>b</sup> = Use designation has been revised to Limited Resource Water since report was finalized.

IBI = Index of Biotic Integrity.

ICI = Invertebrate Community Index.

MIwb = Modified Index of Well-being.

NA = Not Applicable. The MIwb is not applicable at headwater sites.

<sup>ns</sup> = Nonsignificant departure from biocriterion (<4 IBI or ICI units; <0.5 MIwb units).

QHEI = Qualitative Habitat Evaluation Index.

WWH = warmwater habitat.

**Table 16. Water Quality Criteria for outfalls 001, 005, 009, 011, and 015 to Little Beaver Creek and an Unnamed Tributary to Little Beaver Creek.**

| Parameter                          | Units | Outside Mixing Zone Criteria |              |              |                      | Inside Mixing Zone Maximum |
|------------------------------------|-------|------------------------------|--------------|--------------|----------------------|----------------------------|
|                                    |       | Average                      |              |              | Maximum Aquatic Life |                            |
|                                    |       | Human Health                 | Agri-culture | Aquatic Life |                      |                            |
| Aluminum                           | µg/L  | --                           | --           | --           | --                   | --                         |
| Ammonia-S                          | mg/L  | --                           | --           | --           | 0.9                  | --                         |
| Ammonia-W                          | mg/L  | --                           | --           | --           | 3.5                  | --                         |
| Arsenic - TR                       | µg/L  | --                           | 100          | 150          | 340                  | 680                        |
| Barium                             | µg/L  | --                           | --           | 220          | 2000                 | 4000                       |
| Bis(2-ethylhexyl)phthalate         | µg/L  | 59c                          | --           | 8.4          | 1100                 | 2100                       |
| Boron                              | µg/L  | --                           | --           | 3900         | 33000                | 65000                      |
| Cadmium - TR                       | µg/L  | --                           | 50           | 3.1          | 6.3                  | 13                         |
| Chlorine (wwh,ewh, mwh,cwh) - TRes | mg/L  | --                           | --           | 0.011        | 0.019                | 0.038                      |
| Cobalt                             | µg/L  | --                           | --           | 24           | 220                  | 440                        |
| Copper - TR                        | µg/L  | 1300                         | 500          | 12           | 19                   | 37                         |
| Cyanide - free (wwh,ewh,mwh)       | mg/L  | 220                          | --           | 0.012        | 0.046                | 0.092                      |
| Fluoride                           | mg/L  | --                           | 2            | --           | --                   | --                         |
| Iron - TR                          | µg/L  | --                           | 5000         | --           | --                   | --                         |
| Lead - TR                          | µg/L  | --                           | 100          | 9.4          | 180                  | 360                        |
| Manganese - TR                     | µg/L  | --                           | --           | --           | --                   | --                         |
| Mercury - TR (BCC)                 | ng/L  | 12                           | 10000        | 910          | 1700                 | 3400                       |
| Molybdenum                         | µg/L  | --                           | --           | 20000        | 190000               | 370000                     |
| Nickel - TR                        | µg/L  | 4600                         | 200          | 67           | 600                  | 1200                       |
| Nitrate-N + Nitrite-N              | mg/L  | --                           | 100          | --           | --                   | --                         |
| Phenolics                          | µg/L  | --                           | --           | --           | --                   | --                         |
| Polychlorinated biphenyls (PCBs)   | µg/L  | 0.0017c                      | --           | --           | --                   | --                         |
| Selenium - TR                      | µg/L  | 11000                        | 50           | 5            | --                   | --                         |
| Silver (wwh,ewh,mwh)               | µg/L  | --                           | --           | 1.3          | 2.7                  | 5.4                        |
| Solids, Total Dissolved            | mg/L  | --                           | --           | 1500         | --                   | --                         |
| Sulfates                           | mg/L  | --                           | --           | --           | --                   | --                         |
| Thallium                           | µg/L  | --                           | --           | 17           | 79                   | 160                        |
| Titanium                           | µg/L  | --                           | --           | --           | --                   | --                         |
| Toluene                            | µg/L  | 200000                       | --           | 62           | 560                  | 1100                       |
| Trichloroethylene                  | µg/L  | 810c                         | --           | 220          | 2000                 | 4000                       |
| Zinc - TR                          | µg/L  | 69000                        | 25000        | 150          | 150                  | 310                        |

**Table 17. Water Quality Criteria for outfall 002 to Big Run and outfall 010 to West Ditch.**

| Parameter | Units | Outside Mixing Zone Criteria |              |              |                      | Inside Mixing Zone Maximum |
|-----------|-------|------------------------------|--------------|--------------|----------------------|----------------------------|
|           |       | Average                      |              |              | Maximum Aquatic Life |                            |
|           |       | Human Health                 | Agri-culture | Aquatic Life |                      |                            |
| Aluminum  | µg/L  | --                           | --           | --           | --                   | --                         |
| Ammonia-S | mg/L  | --                           | --           | --           | 0.9                  | --                         |

| Parameter                          | Units | Outside Mixing Zone Criteria |              |              |                      | Inside Mixing Zone Maximum |
|------------------------------------|-------|------------------------------|--------------|--------------|----------------------|----------------------------|
|                                    |       | Average                      |              |              | Maximum Aquatic Life |                            |
|                                    |       | Human Health                 | Agri-culture | Aquatic Life |                      |                            |
| Ammonia-W                          | mg/L  | --                           | --           | --           | 3.5                  | --                         |
| Barium                             | µg/L  | --                           | --           | --           | 220                  | 4000                       |
| Bis(2-ethylhexyl)phthalate         | µg/L  | --                           | 59           | --           | 8.4                  | 2100                       |
| Boron                              | µg/L  | --                           | --           | --           | 3900                 | 65000                      |
| Cadmium - TR                       | µg/L  | --                           | --           | 50           | 3.1                  | 13                         |
| Chlorine (wwh,ewh, mwh,cwh) - TRes | mg/L  | --                           | --           | --           | 0.011                | 0.038                      |
| Cobalt                             | µg/L  | --                           | --           | --           | 24                   | 440                        |
| Copper - TR                        | µg/L  | --                           | 1300         | 500          | 12                   | 37                         |
| Cyanide - free (wwh,ewh,mwh)       | mg/L  | --                           | 220          | --           | 0.012                | 0.092                      |
| Fluoride                           | mg/L  | --                           | --           | 2            | --                   | --                         |
| Iron - TR                          | µg/L  | --                           | --           | 5000         | --                   | --                         |
| Lead - TR                          | µg/L  | --                           | --           | 100          | 9.4                  | 360                        |
| Manganese - TR                     | µg/L  | --                           | --           | --           | --                   | --                         |
| Mercury - TR (BCC)                 | ng/L  | --                           | 12           | 10000        | 910                  | 3400                       |
| Molybdenum                         | µg/L  | --                           | --           | --           | 20000                | 370000                     |
| Nickel - TR                        | µg/L  | --                           | 4600         | 200          | 67                   | 1200                       |
| Nitrate-N + Nitrite-N              | mg/L  | --                           | --           | 100          | --                   | --                         |
| Phenolics                          | µg/L  | --                           | --           | --           | --                   | --                         |
| Selenium - TR                      | µg/L  | --                           | 11000        | 50           | 5                    | --                         |
| Silver (wwh,ewh,mwh)               | µg/L  | --                           | --           | --           | 1.3                  | 5.4                        |
| Sulfates                           | mg/L  | --                           | --           | --           | --                   | --                         |
| Thallium                           | µg/L  | --                           | --           | --           | 17                   | 160                        |
| Titanium                           | µg/L  | --                           | --           | --           | --                   | --                         |
| Zinc - TR                          | µg/L  | --                           | 69000        | 25000        | 150                  | 310                        |

**Table 18. Water Quality Criteria for outfalls 003 and 004 to the Scioto River.**

| Parameter                          | Units | Outside Mixing Zone Criteria |              |              |                      | Inside Mixing Zone Maximum |
|------------------------------------|-------|------------------------------|--------------|--------------|----------------------|----------------------------|
|                                    |       | Average                      |              |              | Maximum Aquatic Life |                            |
|                                    |       | Human Health                 | Agri-culture | Aquatic Life |                      |                            |
| Aluminum                           | µg/L  | --                           | --           | --           | --                   | --                         |
| Ammonia-S                          | mg/L  | --                           | --           | 0.3          | --                   | --                         |
| Ammonia-W                          | mg/L  | --                           | --           | 1.2          | --                   | --                         |
| Barium                             | µg/L  | --                           | --           | 220          | 2000                 | 4000                       |
| Beryllium                          | µg/L  | 280                          | 100          | 58           | 490                  | 980                        |
| Boron                              | µg/L  | --                           | --           | 3900         | 33000                | 65000                      |
| Cadmium - TR                       | µg/L  | --                           | 50           | 5.5          | 14                   | 29                         |
| Chlorine (wwh,ewh, mwh,cwh) - TRes | mg/L  | --                           | --           | 0.011        | 0.019                | 0.038                      |
| Chlorodibromomethane               | µg/L  | 340c                         | --           | --           | --                   | --                         |
| Chloroform (Trichloromethane)      | µg/L  | 4700c                        | --           | 140          | 1300                 | 2600                       |
| Cobalt                             | µg/L  | --                           | --           | 24           | 220                  | 440                        |
| Copper - TR                        | µg/L  | 1300                         | 500          | 23           | 37                   | 74                         |

| Parameter                            | Units | Outside Mixing Zone Criteria |              |              |                      | Inside Mixing Zone Maximum |
|--------------------------------------|-------|------------------------------|--------------|--------------|----------------------|----------------------------|
|                                      |       | Average                      |              |              | Maximum Aquatic Life |                            |
|                                      |       | Human Health                 | Agri-culture | Aquatic Life |                      |                            |
| trans-1,2-Dichloroethylene           | µg/L  | 140000                       | --           | --           | --                   | --                         |
| 1,4-Dioxane                          | mg/L  | 3.6c                         | --           | --           | --                   | --                         |
| Fluoride                             | mg/L  | --                           | 2            | --           | --                   | --                         |
| Iron - TR                            | µg/L  | --                           | 5000         | --           | --                   | --                         |
| Lead - TR                            | µg/L  | --                           | 100          | 24           | 460                  | 910                        |
| Manganese - TR                       | µg/L  | --                           | --           | --           | --                   | --                         |
| Mercury - TR (BCC)                   | ng/L  | 12                           | 10000        | 910          | 1700                 | 3400                       |
| Methylene chloride (Dichloromethane) | µg/L  | 16000c                       | --           | 1900         | 11000                | 22000                      |
| Molybdenum                           | µg/L  | --                           | --           | 20000        | 190000               | 370000                     |
| Nickel - TR                          | µg/L  | 4600                         | 200          | 130          | 1100                 | 2200                       |
| Nitrate-N + Nitrite-N                | mg/L  | --                           | 100          | --           | --                   | --                         |
| Polychlorinated biphenyls (PCBs)     | µg/L  | 0.0017                       | --           | --           | --                   | --                         |
| Phenolics                            | µg/L  | --                           | --           | --           | --                   | --                         |
| Silver (wwh,ewh,mwh)                 | µg/L  | --                           | --           | 1.3          | 9.4                  | 19                         |
| Sulfates                             | mg/L  | --                           | --           | --           | --                   | --                         |
| Thallium                             | µg/L  | --                           | --           | 17           | 79                   | 160                        |
| 1,1,1-Trichloroethane                | µg/L  | --                           | --           | 76           | 690                  | 1400                       |
| Trichloroethylene                    | µg/L  | 810c                         | --           | 220          | 2000                 | 4000                       |
| Vanadium                             | µg/L  | --                           | --           | 44           | 150                  | 300                        |
| Zinc - TR                            | µg/L  | 69000                        | 25000        | 290          | 290                  | 580                        |

**Table 19. Instream Conditions and Discharger Flow for outfalls 001, 005, 009, 011, and 015 discharging to Little Beaver Creek and an unnamed tributary to Little Beaver Creek.**

| Parameter   | Units | Season  | Value | Basis   |
|---|-------|---------|-------|---|
| <b><i>Stream Flows – Little Beaver Creek</i></b>                      |       |         |       |   |
| 1Q10  | cfs   | annual  | 0.005 | USGS StreamStats retrieved 10/15/2019   |
| 7Q10  | cfs   | annual  | 0.008 |   |
| 30Q10   | cfs   | summer  | 0     | Used 0 to conservatively evaluate reasonable for potential for ammonia                |
|   |       | winter  | 0     |   |
| Harmonic Mean   | cfs   | annual  | 0.18  | USGS StreamStats retrieved 10/15/2019   |
| Mixing Assumption   | %     | average | 100   |   |
|   |       | maximum | 100   |   |
| <b><i>Stream Flows – Unnamed Tributary to Little Beaver Creek</i></b> |       |         |       |   |
| 1Q10  | cfs   | annual  | 0     | Outfall 001 originates the unnamed tributary  |
| 7Q10  | cfs   | annual  | 0     |   |
| 30Q10   | cfs   | summer  | 0     |   |
|   |       | winter  | 0     |   |
| Harmonic Mean   | cfs   | annual  | 0     |   |
| Mixing Assumption   | %     | average | 100   |   |
|   |       | maximum | 100   |   |
| <b><i>Downstream Water Quality</i></b>                                |       |         |       |   |
| Hardness, OMZ   | mg/L  | annual  | 135   | Ohio EPA Station V15S05, n=5  |
| Hardness, IMZ   | mg/L  | annual  | 135   | Ohio EPA Station V15S05, n=5  |
| pH  | S.U.  | summer  | 7.97  | EA3 Station V15S05; n = 5   |
|   |       | winter  | 7.97  | No winter data; uses 75th percentile of all data                                      |
| Temperature   | °C    | summer  | 27    | Station 902 (L. Beaver Ck); n = 164   |
|   |       | winter  | 9.96  | Station 902 (L. Beaver Ck); n = 118   |
| <b><i>Discharger Flows</i></b>  |       |         |       |   |
| Fluor BWXT Outfall 001  | cfs   | annual  | 1.9   | 95 <sup>th</sup> Percentile of monthly average discharge September 2014 – August 2017 |
| Fluor BWXT Outfall 005  | cfs   | annual  | 4.94  |   |
| Fluor BWXT Outfall 009  | cfs   | annual  | 2.79  |   |
| Fluor BWXT Outfall 011  | cfs   | annual  | 0.15  |   |
| Fluor BWXT Outfall 015  | cfs   | annual  | 0.027 |   |
| <b><i>Background Water Quality</i></b>                                |       |         |       |   |
| Aluminum  | µg/L  |         | 0     | Ohio EPA Station 301548; 2011; n=5  |
| Ammonia   | mg/L  |         | 0     | Ohio EPA Station 301548; 2011; n=5  |
| Arsenic - TR  | µg/L  |         | 0     | Ohio EPA Station 301548; 2011; n=5  |
| Barium  | µg/L  |         | 45.8  | Ohio EPA Station 301548; 2011; n=5  |
| Bis(2-ethylhexyl)phthalate  | µg/L  |         | --    | No representative data for parameter  |
| Boron   | µg/L  |         | --    | No representative data for parameter  |
| Cadmium - TR  | µg/L  |         | 0     | Ohio EPA Station 301548; 2011; n=5  |
| Chlorine (wwh,ewh, mwh,cwh) - TRes                                    | mg/L  |         | --    | No representative data for parameter  |
| Cobalt  | µg/L  |         | --    | No representative data for parameter  |
| Copper - TR   | µg/L  |         | 0     | Ohio EPA Station 301548; 2011; n=5  |
| Cyanide - free (wwh,ewh,mwh)  | mg/L  |         | --    | No representative data for parameter  |
| Fluoride  | mg/L  |         | --    | No representative data for parameter  |

| Parameter                        | Units | Season | Value | Basis                                |
|----------------------------------|-------|--------|-------|--------------------------------------|
| Iron - TR                        | µg/L  |        | 232   | Ohio EPA Station 301548; 2011; n=5   |
| Lead - TR                        | µg/L  |        | 0     | Ohio EPA Station 301548; 2011; n=5   |
| Manganese - TR                   | µg/L  |        | 42    | Ohio EPA Station 301548; 2011; n=5   |
| Mercury - TR (BCC)               | ng/L  |        | --    | No representative data for parameter |
| Molybdenum                       | µg/L  |        | --    | No representative data for parameter |
| Nickel - TR                      | µg/L  |        | 0     | Ohio EPA Station 301548; 2011; n=5   |
| Nitrate-N + Nitrite-N            | mg/L  |        | 0.13  | Ohio EPA Station 301548; 2011; n=5   |
| Phenolics                        | µg/L  |        | --    | No representative data for parameter |
| Polychlorinated biphenyls (PCBs) | µg/L  |        | --    | No representative data for parameter |
| Selenium - TR                    | µg/L  |        | 0     | Ohio EPA Station 301548; 2011; n=5   |
| Silver (wwh,ewh,mwh)             | µg/L  |        | --    | No representative data for parameter |
| Solids, Total Dissolved          | mg/L  |        | 262   | Ohio EPA Station 301548; 2011; n=5   |
| Sulfates                         | mg/L  |        | 105   | Ohio EPA Station 301548; 2011; n=5   |
| Thallium                         | µg/L  |        | --    | No representative data for parameter |
| Titanium                         | µg/L  |        | --    | No representative data for parameter |
| Toluene                          | µg/L  |        | --    | No representative data for parameter |
| Trichloroethylene                | µg/L  |        | --    | No representative data for parameter |
| Zinc - TR                        | µg/L  |        | 0     | Ohio EPA Station 301548; 2011; n=5   |

**Table 20. Instream Conditions and Discharger Flow for outfall 002 discharging to Big Run and 010 discharging to West Ditch.**

| Parameter                        | Units | Season  | Value | Basis   |
|----------------------------------|-------|---------|-------|---|
| <b>Stream Flows – Big Run</b>    |       |         |       |   |
| 1Q10                             | cfs   | annual  | 0     | Big Run originates at outfall 002                                     |
| 7Q10                             | cfs   | annual  | 0     |   |
| 30Q10                            | cfs   | summer  | 0     |   |
|                                  |       | winter  | 0     |   |
| Harmonic Mean                    | cfs   | annual  | 0     |   |
| Mixing Assumption                | %     | average | 100   |   |
|                                  |       | maximum | 100   |   |
| <b>Stream Flows – West Ditch</b> |       |         |       |   |
| 1Q10                             | cfs   | annual  | 0     | West Ditch originates at Centrus (OIS00023); no other background flow |
| 7Q10                             | cfs   | annual  | 0     |   |
| 30Q10                            | cfs   | summer  | 0     |   |
|                                  |       | winter  | 0     |   |
| Harmonic Mean                    | cfs   | annual  | 0     |   |
| Mixing Assumption                | %     | average | 100   |   |
|                                  |       | maximum | 100   |   |
| <b>Downstream Water Quality</b>  |       |         |       |   |
| Hardness, OMZ                    | mg/L  | annual  | 135   | Ohio EPA Station V15S05, n=5  |
| Hardness, IMZ                    | mg/L  | annual  | 135   | Ohio EPA Station V15S05, n=5  |
| pH                               | S.U.  | summer  | 7.97  | EA3 Station V15S05; n = 5   |
|                                  |       | winter  | 7.97  | No winter data; uses 75th percentile of all data                      |
| Temperature                      | °C    | summer  | 26.2  | Station 903 (Big Run); n = 186  |
|                                  |       | winter  | 9.0   | Station 903 (Big Run); n = 118  |
| <b>Discharger Flows</b>          |       |         |       |   |
| Fluor BWXT Outfall 002           | cfs   | annual  | 1.64  |   |

| Parameter  | Units | Season | Value | Basis   |
|--|-------|--------|-------|---|
| Fluor BWXT Outfall 010   | cfs   | annual | 1.02  | 95 <sup>th</sup> Percentile of monthly average discharge September 2014 – August 2017 |
| <b>Background Water Quality</b>                                    |       |        |       |   |
| No background water quality was considered; zero low flow streams. |       |        |       |   |

**Table 21. Instream Conditions and Discharger Flow for outfalls 003 and 004 discharging to the Scioto River.**

| Parameter                          | Units | Season  | Value | Basis   |
|------------------------------------|-------|---------|-------|---|
| <b>Stream Flows</b>                |       |         |       |   |
| 1Q10                               | cfs   | annual  | 357   | DA Ratio of USGS 1997 Low Flow Statistics (Station #03234500)                         |
| 7Q10                               | cfs   | annual  | 374   |   |
| 30Q10                              | cfs   | summer  | 416   |   |
|                                    |       | winter  | 662   |   |
| Harmonic Mean                      | cfs   | annual  | 1564  |   |
| Mixing Assumption                  | %     | average | 75.28 |   |
|                                    |       | maximum | 75.28 |   |
| <b>Downstream Water Quality</b>    |       |         |       |   |
| Hardness, OMZ                      | mg/L  | annual  | 281   | Ohio EPA Station V15K02; n=10   |
| Hardness, IMZ                      | mg/L  | annual  | 281   | Ohio EPA Station V15K02; n=10   |
| pH                                 | S.U.  | summer  | 8.54  | Ohio EPA Station V15K02; n=5  |
|                                    |       | winter  | 8.50  | No winter data; median of all samples; Ohio EPA Station V15K02; n=6                   |
| Temperature                        | °C    | summer  | 26.5  | Ohio EPA Station V15K02; n=5  |
|                                    |       | winter  | 7.17  | Ohio EPA 2018 Background Water Quality Report   |
| <b>Discharger Flows</b>            |       |         |       |   |
| Fluor BWXT Outfall 003             | cfs   | annual  | 0.60  | 95 <sup>th</sup> Percentile of monthly average discharge September 2014 – August 2017 |
| Fluor BWXT Outfall 004             | cfs   | annual  | 3.56  |   |
| <b>Background Water Quality</b>    |       |         |       |   |
| Aluminum                           | µg/L  |         | 542   | Ohio EPA Station 601010; 2011-2012; n=12  |
| Ammonia                            | mg/L  |         | 0.025 | Ohio EPA Station 601010; 2011-2012; n=12  |
| Barium                             | µg/L  |         | 74.5  | Ohio EPA Station 601010; 2011-2012; n=12  |
| Beryllium                          | µg/L  |         | --    | No representative data for parameter  |
| Boron                              | µg/L  |         | --    | No representative data for parameter  |
| Cadmium - TR                       | µg/L  |         | 0     | Ohio EPA Station 601010; 2011-2012; n=12  |
| Chlorine (wwh,ewh, mwh,cwh) - TRes | mg/L  |         | --    | No representative data for parameter  |
| Chlorodibromomethane               | µg/L  |         | --    | No representative data for parameter  |
| Chloroform (Trichloromethane)      | µg/L  |         | --    | No representative data for parameter  |
| Cobalt                             | µg/L  |         | --    | No representative data for parameter  |
| Copper - TR                        | µg/L  |         | 3.4   | Ohio EPA Station 601010; 2011-2012; n=12  |
| trans-1,2-Dichloroethylene         | µg/L  |         | --    | No representative data for parameter  |
| 1,4-Dioxane                        | µg/L  |         | --    | No representative data for parameter  |
| Fluoride                           | mg/L  |         | --    | No representative data for parameter  |
| Iron - TR                          | µg/L  |         | 1050  | Ohio EPA Station 601010; 2011-2012; n=12  |
| Lead - TR                          | µg/L  |         | 1.0   | Ohio EPA Station 601010; 2011-2012; n=12  |
| Manganese - TR                     | µg/L  |         | 91    | Ohio EPA Station 601010; 2011-2012; n=12  |

| Parameter                            | Units | Season | Value | Basis                                    |
|--------------------------------------|-------|--------|-------|--|
| Mercury - TR (BCC)                   | ng/L  |        | --    | No representative data for parameter     |
| Methylene chloride (Dichloromethane) | µg/L  |        | --    | No representative data for parameter     |
| Molybdenum                           | µg/L  |        | --    | No representative data for parameter     |
| Nickel - TR                          | µg/L  |        | 4.75  | Ohio EPA Station 601010; 2011-2012; n=12 |
| Nitrate-N + Nitrite-N                | mg/L  |        | 1.6   | Ohio EPA Station 601010; 2011-2012; n=12 |
| Phenolics                            | µg/L  |        | --    | No representative data for parameter     |
| Silver (wwh,ewh,mwh)                 | µg/L  |        | --    | No representative data for parameter     |
| Sulfates                             | mg/L  |        | 77.7  | Ohio EPA Station 601010; 2011-2012; n=12 |
| Thallium                             | µg/L  |        | --    | No representative data for parameter     |
| 1,1,1-Trichloroethane                | µg/L  |        | --    | No representative data for parameter     |
| Trichloroethylene                    | µg/L  |        | --    | No representative data for parameter     |
| Vanadium                             | µg/L  |        | --    | No representative data for parameter     |
| Zinc - TR                            | µg/L  |        | 11.5  | Ohio EPA Station 601010; 2011-2012; n=12 |

**Table 22. Summary of Effluent Limits to Maintain Applicable Water Quality Criteria**

| Parameter                    | Units | Outside Mixing Zone Effluent Limits |              |              |                      | Inside Mixing Zone Maximum |
|------------------------------|-------|-------------------------------------|--------------|--------------|----------------------|----------------------------|
|                              |       | Average                             |              |              | Maximum Aquatic Life |                            |
|                              |       | Human Health                        | Agri-culture | Aquatic Life |                      |                            |
| <b>Outfall 001</b>           |       |                                     |              |              |                      |                            |
| Barium                       | µg/L  | --                                  | --           | 220          | 2000                 | 4000                       |
| Chlorine - Tres              | mg/L  | --                                  | --           | 0.011        | 0.019                | 0.038                      |
| Mercury - TR (BCC)           | ng/L  | 12                                  | 10000        | 910          | 1700                 | 3400                       |
| Zinc - TR                    | µg/L  | 69000                               | 25000        | 150          | 150                  | 310                        |
| <b>Outfall 002</b>           |       |                                     |              |              |                      |                            |
| Barium                       | µg/L  | --                                  | --           | 220          | 2000                 | 4000                       |
| Bis(2-ethylhexyl)phthalate   | µg/L  | 59                                  | --           | 8.4          | 1100                 | 2100                       |
| Chlorine - TRes              | mg/L  | --                                  | --           | 0.011        | 0.019                | 0.038                      |
| Copper - TR                  | µg/L  | 1300                                | 500          | 12           | 19                   | 37                         |
| Cyanide - free (wwh,ewh,mwh) | mg/L  | 220                                 | --           | 0.012        | 0.046                | 0.092                      |
| Iron - TR                    | µg/L  | --                                  | 5000         | --           | --                   | --                         |
| Lead - TR                    | µg/L  | --                                  | 100          | 9.4          | 180                  | 360                        |
| Mercury - TR (BCC)           | ng/L  | 12                                  | 10000        | 910          | 1700                 | 3400                       |
| Selenium - TR                | µg/L  | 11000                               | 50           | 5            | --                   | --                         |
| Zinc - TR                    | µg/L  | 69000                               | 25000        | 150          | 150                  | 310                        |
| <b>Outfall 003</b>           |       |                                     |              |              |                      |                            |
| Chlorine - TRes              | mg/L  | --                                  | --           | 0.75         | 1.2                  | 0.038                      |
| trans-1,2-Dichloroethylene   | µg/L  | 39700000                            | --           | --           | --                   | --                         |
| Fluoride                     | µg/L  | --                                  | 568          | --           | --                   | --                         |
| Mercury - TR (BCC)           | µg/L  | 12                                  | 10000        | 910          | 1700                 | 3400                       |
| Trichloroethylene            | µg/L  | 229922                              | --           | 15051        | 131072               | 4000                       |
| <b>Outfall 004</b>           |       |                                     |              |              |                      |                            |
| Cadmium - TR                 | µg/L  | --                                  | 16595        | 440          | 1073                 | 29                         |
| Chlorine - TRes              | mg/L  | --                                  | --           | 0.75         | 1.2                  | 0.038                      |
| Chromium - TR                | µg/L  | --                                  | 32860        | 15920        | 321768               | 8400                       |
| Cobalt                       | µg/L  | --                                  | --           | 1920         | 16858                | 440                        |

| Parameter              | Units | Outside Mixing Zone Effluent Limits |              |              |                      | Inside Mixing Zone Maximum |
|------------------------|-------|-------------------------------------|--------------|--------------|----------------------|----------------------------|
|                        |       | Average                             |              |              | Maximum Aquatic Life |                            |
|                        |       | Human Health                        | Agri-culture | Aquatic Life |                      |                            |
| Copper - TR            | µg/L  | 430349                              | 164827       | 1571         | 2578                 | 74                         |
| Dissolved solids (ave) | mg/L  | --                                  | --           | 76398        | --                   | --                         |
| Fluoride               | mg/L  | --                                  | 568          | --           | --                   | --                         |
| Mercury - TR (BCC)     | ng/L  | 12                                  | 10000        | 910          | 1700                 | 3400                       |
| Nickel - TR            | µg/L  | 1530000                             | 64808        | 10023        | 83932                | 2200                       |
| Selenium - TR          | µg/L  | 36500000                            | 16595        | 400          | --                   | --                         |
| Silver (wwh,ewh,mwh)   | µg/L  | --                                  | --           | 104          | 720                  | 19                         |
| 1,1,1-Trichloroethane  | µg/L  | --                                  | --           | 6080         | 52874                | 1400                       |
| Trichloroethylene      | µg/L  | 229922                              | --           | 15051        | 131072               | 4000                       |
| Vanadium               | µg/L  | --                                  | --           | 3520         | 11494                | 300                        |
| Zinc - TR              | µg/L  | 22900000                            | 8290000      | 22284        | 21347                | 580                        |
| <b>Outfall 005</b>     |       |                                     |              |              |                      |                            |
| Barium                 | µg/L  | --                                  | --           | 221          | 2008                 | 4000                       |
| Copper - TR            | µg/L  | 1679                                | 645          | 14           | 23                   | 37                         |
| Iron - TR              | µg/L  | --                                  | 6174         | --           | --                   | --                         |
| Mercury - TR (BCC)     | ng/L  | 12                                  | 10000        | 910          | 1700                 | 3400                       |
| Selenium - TR          | µg/L  | 15553                               | 71           | 6.9          | --                   | --                         |
| <b>Outfall 009</b>     |       |                                     |              |              |                      |                            |
| Barium                 | µg/L  | --                                  | --           | 221          | 2008                 | 4000                       |
| Chlorine - Tres        | mg/L  | --                                  | --           | 0.030        | 0.053                | 0.038                      |
| Copper - TR            | µg/L  | 1679                                | 645          | 14           | 23                   | 37                         |
| Iron - TR              | µg/L  | --                                  | 6174         | --           | --                   | --                         |
| Lead - TR              | µg/L  | --                                  | 337          | 29           | 597                  | 360                        |
| Zinc - TR              | µg/L  | 191129                              | 69222        | 373          | 357                  | 310                        |
| <b>Outfall 010</b>     |       |                                     |              |              |                      |                            |
| Barium                 | µg/L  | --                                  | --           | 220          | 2000                 | 4000                       |
| Copper - TR            | µg/L  | 1300                                | 500          | 12           | 19                   | 37                         |
| Iron - TR              | µg/L  | --                                  | 5000         | --           | --                   | --                         |
| Mercury - TR (BCC)     | ng/L  | 12                                  | 10000        | 910          | 1700                 | 3400                       |
| Selenium - TR          | µg/L  | 11000                               | 50           | 5            | --                   | --                         |
| Zinc - TR              | µg/L  | 69000                               | 25000        | 150          | 150                  | 310                        |
| <b>Outfall 011</b>     |       |                                     |              |              |                      |                            |
| Barium                 | µg/L  | --                                  | --           | 221          | 2008                 | 4000                       |
| Chlorine - Tres        | mg/L  | --                                  | --           | 0.014        | 0.023                | 0.038                      |
| Cyanide - Free         | mg/L  | 3310                                | --           | 0.17         | 0.64                 | 0.092                      |
| Lead - TR              | µg/L  | --                                  | 337          | 29           | 597                  | 360                        |
| Mercury - TR (BCC)     | ng/L  | 12                                  | 10000        | 910          | 1700                 | 3400                       |
| Selenium - TR          | µg/L  | 15553                               | 71           | 6.9          | --                   | --                         |
| Zinc - TR              | µg/L  | 164220                              | 59500        | 185          | 182                  | 310                        |
| <b>Outfall 015</b>     |       |                                     |              |              |                      |                            |
| Trichloroethylene      | µg/L  | 810                                 | --           | 220          | 2000                 | 4000                       |

**Table 23. Parameter Assessment for outfall 001**

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

Manganese - TR                      Sulfates                                      Titanium  
Aluminum

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

Copper - TR                              Lead - TR                                      Iron - TR  
Trichloroethylene                      Silver    Cadmium  
Boron    Cobalt    Molybdenum  
Nickle    Fluoride    Nitrate+Nitrite  
Total Dissolved Solids                      Ammonia (Winter)

Group 3: PEQmax < 50 percent of maximum PEL and PEQavg < 50 percent of average PEL.  
No limit recommended; monitoring optional.

Zinc - TR                                      Barium

Group 4: PEQmax >= 50 percent, but < 100 percent of the maximum PEL or  
PEQavg >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

No parameters meet these criteria

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

| <i>Parameter</i> | <i>Units</i> | <i>Recommended Effluent Limits</i> |                |
|------------------|--------------|------------------------------------|----------------|
|                  |              | <i>Average</i>                     | <i>Maximum</i> |
| Mercury          | ng/L         | 12                                 | 1700           |
| Chlorine - Tres  | mg/L         | 0.011                              | 0.019          |

PEL = preliminary effluent limit  
PEQ = projected effluent quality  
WLA = wasteload allocation  
WQS = water quality standard

**Table 24. Parameter Assessment for outfall 002**

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

|          |                |          |
|----------|----------------|----------|
| Aluminum | Manganese - TR | Sulfates |
| Titanium | Phenolics      |          |

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

|                  |                  |                       |
|------------------|------------------|-----------------------|
| Ammonia (Summer) | Ammonia (Winter) | Boron                 |
| Cadmium - TR     | Cobalt           | Fluoride              |
| Molybdenum       | Nickel - TR      | Nitrate-N + Nitrite-N |
| Silver           | Thallium         |                       |

Group 3: PEQmax < 50 percent of maximum PEL and PEQavg < 50 percent of average PEL. No limit recommended; monitoring optional.

|           |               |           |
|-----------|---------------|-----------|
| Barium    | Cyanide, Free | Iron - TR |
| Lead - TR | Selenium - TR | Zinc - TR |

Group 4: PEQmax >= 50 percent, but < 100 percent of the maximum PEL or PEQavg >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

|             |         |
|-------------|---------|
| Copper - TR | Mercury |
|-------------|---------|

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

| <i>Parameter</i>           | <i>Units</i> | <i>Recommended Effluent Limits</i> |                |
|----------------------------|--------------|------------------------------------|----------------|
|                            |              | <i>Average</i>                     | <i>Maximum</i> |
| Chlorine, Tres             | mg/L         | 0.011                              | 0.019          |
| Bis(2-ethylhexyl)phthalate | µg/L         | 8.4                                | 1100           |

PEL = preliminary effluent limit  
 PEQ = projected effluent quality  
 WLA = wasteload allocation  
 WQS = water quality standard

**Table 25. Parameter Assessment for outfall 003**

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

|           |                |          |
|-----------|----------------|----------|
| Aluminum  | Manganese - TR | Sulfates |
| Phenolics |                |          |

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

|                            |                      |                    |
|----------------------------|----------------------|--------------------|
| Boron                      | Cobalt               | Copper - TR        |
| Iron - TR                  | Molybdenum           | Nickel - TR        |
| Nitrate-N + Nitrite-N      | Silver               | Thallium           |
|                            |                      | Chloroform         |
| Zinc - TR                  | Chlorodibromomethane | (Trichloromethane) |
| trans-1,2-Dichloroethylene |                      |                    |

Group 3: PEQmax < 50 percent of maximum PEL and PEQavg < 50 percent of average PEL. No limit recommended; monitoring optional.

|                  |                  |        |
|------------------|------------------|--------|
| Ammonia (Summer) | Ammonia (Winter) | Barium |
| Fluoride         |                  |        |

Group 4: PEQmax >= 50 percent, but < 100 percent of the maximum PEL or PEQavg >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

No parameters meet these criteria

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

| <i>Parameter</i> | <i>Units</i> | <i>Recommended Effluent Limits</i> |                |
|------------------|--------------|------------------------------------|----------------|
|                  |              | <i>Average</i>                     | <i>Maximum</i> |
| Mercury          | ng/L         | 12                                 | 1700           |

PEL = preliminary effluent limit  
 PEQ = projected effluent quality  
 WLA = wasteload allocation  
 WQS = water quality standard

**Table 26. Parameter Assessment for outfall 004.**

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

Manganese - TR                      Sulfates

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

|   |                                     |                            |
|---|-------------------------------------|----------------------------|
| Ammonia (Winter)                        | Arsenic - TR                        | trans-1,2-Dichloroethylene |
| 1,4-Dioxane                             | Iron - TR                           | Lead - TR                  |
| Methylene chloride<br>(Dichloromethane) | Polychlorinated Biphenyls<br>(PCBs) | 1,1,1-Trichloroethane      |
| Trichloroethylene                       | Thallium                            |                            |

Group 3: PEQ<sub>max</sub> < 50 percent of maximum PEL and PEQ<sub>avg</sub> < 50 percent of average PEL.  
No limit recommended; monitoring optional.

|                  |             |                  |
|------------------|-------------|------------------|
| Ammonia (Summer) | Beryllium   | Cadmium - TR     |
| Chromium - TR    | Cobalt      | Dissolved Solids |
| Fluoride         | Nickel - TR | Selenium - TR    |
| Silver           | Vanadium    | Zinc - TR        |

Group 4: PEQ<sub>max</sub> ≥ 50 percent, but < 100 percent of the maximum PEL or  
PEQ<sub>avg</sub> ≥ 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

No parameters meet these criteria

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

| <i>Parameter</i> | <i>Units</i> | <i>Recommended Effluent Limits</i> |                |
|------------------|--------------|------------------------------------|----------------|
|                  |              | <i>Average</i>                     | <i>Maximum</i> |
| Chlorine, Tres   | mg/L         | --                                 | 0.038          |
| Copper - TR      | µg/L         | --                                 | 74             |
| Mercury          | ng/L         | 12                                 | 1700           |

PEL = preliminary effluent limit  
PEQ = projected effluent quality  
WLA = wasteload allocation  
WQS = water quality standard

**Table 27. Parameter Assessment for outfall 005.**

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

|                |          |          |
|----------------|----------|----------|
| Manganese - TR | Sulfates | Titanium |
| Aluminum       |          |          |

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

|           |                  |                 |
|-----------|------------------|-----------------|
| Zinc - TR | Lead - TR        | Molybdenum      |
| Boron     | Cobalt           | Nitrate+Nitrite |
| Nickel    | Fluoride         |                 |
| Toluene   | Ammonia (Winter) |                 |

Group 3: PEQmax < 50 percent of maximum PEL and PEQavg < 50 percent of average PEL.  
No limit recommended; monitoring optional.

|             |               |        |
|-------------|---------------|--------|
| Copper - TR | Selenium - TR | Barium |
| Iron - TR   | Mercury       |        |

Group 4: PEQmax >= 50 percent, but < 100 percent of the maximum PEL or  
PEQavg >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

No parameters meet these criteria

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

| <i>Parameter</i>                  | <i>Units</i> | <i>Recommended Effluent Limits</i> |                |
|-----------------------------------|--------------|------------------------------------|----------------|
|                                   |              | <i>Average</i>                     | <i>Maximum</i> |
| No parameters meet these criteria |              |                                    |                |

PEL = preliminary effluent limit  
PEQ = projected effluent quality  
WLA = wasteload allocation  
WQS = water quality standard

**Table 28. Parameter Assessment for outfall 009.**

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

Manganese - TR                      Sulfates                                      Titanium  
Aluminum

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

Silver                                      Cadmium                                      Boron  
Cobalt                                      Molybdenum                                      Nickel  
Fluoride                                      Nitrate+Nitrite                                      Bis(2-ethylhexyl)phthalate  
Toluene                                      Ammonia (Winter)

Group 3: PEQmax < 50 percent of maximum PEL and PEQavg < 50 percent of average PEL.  
No limit recommended; monitoring optional.

Zinc - TR                                      Copper - TR                                      Lead - TR  
Mercury

Group 4: PEQmax >= 50 percent, but < 100 percent of the maximum PEL or  
PEQavg >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

Barium                                      Iron - 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

| <i>Parameter</i> | <i>Units</i> | <i>Recommended Effluent Limits</i> |                |
|------------------|--------------|------------------------------------|----------------|
|                  |              | <i>Average</i>                     | <i>Maximum</i> |
| Chlorine - Tres  | mg/l         | 0.030                              | 0.038          |

PEL = preliminary effluent limit  
PEQ = projected effluent quality  
WLA = wasteload allocation  
WQS = water quality standard

**Table 29. Parameter Assessment for outfall 010.**

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

Manganese - TR                      Sulfates                                      Titanium  
Aluminum

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

Ammonia (Summer)                      Ammonia (Winter)                      Boron  
Cadmium - TR                              Cobalt                                      Fluoride  
Lead - TR                                      Molybdenum                              Nickel - TR  
Nitrate-N + Nitrite-N

Group 3: PEQmax < 50 percent of maximum PEL and PEQavg < 50 percent of average PEL.  
No limit recommended; monitoring optional.

Barium    Mercury    Selenium - TR  
Zinc - TR

Group 4: PEQmax >= 50 percent, but < 100 percent of the maximum PEL or  
PEQavg >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

Copper - TR                                      Iron - 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

| <i>Parameter</i>                  | <i>Units</i> | <i>Recommended Effluent Limits</i> |                |
|-----------------------------------|--------------|------------------------------------|----------------|
|                                   |              | <i>Average</i>                     | <i>Maximum</i> |
| No parameters meet these criteria |              |                                    |                |

PEL = preliminary effluent limit  
PEQ = projected effluent quality  
WLA = wasteload allocation  
WQS = water quality standard

**Table 30. Parameter Assessment for outfall 011.**

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

|                |          |          |
|----------------|----------|----------|
| Manganese - TR | Sulfates | Titanium |
| Aluminum       | Bromide  |          |

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

|                  |           |                 |
|------------------|-----------|-----------------|
| Copper - TR      | Iron - TR | Cadmium         |
| Thallium         | Boron     | Molybdenum      |
| Nickel           | Fluoride  | Nitrate+Nitrite |
| Ammonia (Winter) |           |                 |

Group 3: PEQmax < 50 percent of maximum PEL and PEQavg < 50 percent of average PEL. No limit recommended; monitoring optional.

|                |           |        |
|----------------|-----------|--------|
| Selenium       | Lead - TR | Barium |
| Cyanide (free) | Mercury   |        |

Group 4: PEQmax >= 50 percent, but < 100 percent of the maximum PEL or PEQavg >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

Zinc - 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

| <i>Parameter</i> | <i>Units</i> | <i>Recommended Effluent Limits</i> |                |
|------------------|--------------|------------------------------------|----------------|
|                  |              | <i>Average</i>                     | <i>Maximum</i> |
| Chlorine - Tres  | mg/l         | 0.014                              | 0.023          |

PEL = preliminary effluent limit  
 PEQ = projected effluent quality  
 WLA = wasteload allocation  
 WQS = water quality standard

**Table 31. Parameter Assessment for outfall 015.**

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

Manganese - TR                      Sulfates                                      Bromide

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

Copper – TR                              Barium                                      Trichloroethylene  
Silver                                      Arsenic                                      Boron  
Molybdenum                              Nickel - TR                                      Fluoride  
Mercury                                      Ammonia (Winter)

Group 3: PEQmax < 50 percent of maximum PEL and PEQavg < 50 percent of average PEL.  
No limit recommended; monitoring optional.

Group 4: PEQmax >= 50 percent, but < 100 percent of the maximum PEL or  
PEQavg >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

No parameters meet these criteria

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

| <i>Parameter</i>                  | <i>Units</i> | <i>Recommended Effluent Limits</i> |                |
|-----------------------------------|--------------|------------------------------------|----------------|
|                                   |              | <i>Average</i>                     | <i>Maximum</i> |
| No parameters meet these criteria |              |                                    |                |

PEL = preliminary effluent limit  
PEQ = projected effluent quality  
WLA = wasteload allocation  
WQS = water quality standard

**Table 32. Final Effluent Limits**

| Parameter                  | Units           | Concentration       |                  | Loading (kg/day) <sup>a</sup> |               | Basis <sup>b</sup> |
|----------------------------|-----------------|---------------------|------------------|-------------------------------|---------------|--------------------|
|                            |                 | 30 Day Average      | Daily Maximum    | 30 Day Average                | Daily Maximum |                    |
| <b>Outfall 001</b>         |                 |                     |                  |                               |               |                    |
| Total Precipitation        | Inches          | ----- Monitor ----- |                  |                               |               | M <sup>c</sup>     |
| pH                         | S.U.            | 6.5 - 9.0           |                  | --                            | --            | WQS                |
| Total Suspended Solids     | mg/L            | 20                  | 45               | --                            | --            | PD                 |
| Oil & Grease               | mg/L            | --                  | 10               | --                            | --            | WQS                |
| Fluoride                   | mg/L            | ----- Monitor ----- |                  |                               |               | M <sup>c</sup>     |
| Silver                     | µg/L            | ----- Monitor ----- |                  |                               |               | M <sup>c</sup>     |
| Zinc                       | µg/L            | ----- Monitor ----- |                  |                               |               | M <sup>c</sup>     |
| Copper                     | µg/L            | ----- Monitor ----- |                  |                               |               | M <sup>c</sup>     |
| Flow Rate                  | MGD             | ----- Monitor ----- |                  |                               |               | M <sup>c</sup>     |
| Chlorine, Total Residual   | mg/L            | 0.011               | 0.019            | --                            | --            | WLA                |
| Mercury                    | ng/L            | 12                  | 1700             | --                            | --            | WLA                |
| <b>Outfall 002</b>         |                 |                     |                  |                               |               |                    |
| pH                         | S.U.            | 6.5 - 9.0           |                  | --                            | --            | WQS                |
| Total Suspended Solids     | mg/L            | 20                  | 45               | --                            | --            | PD                 |
| Oil & Grease               | mg/L            | --                  | 10               | --                            | --            | WQS                |
| Fluoride                   | mg/L            | ----- Monitor ----- |                  |                               |               | M <sup>c</sup>     |
| Selenium                   | µg/L            | ----- Monitor ----- |                  |                               |               | M <sup>c</sup>     |
| Bis(2-ethylhexyl)phthalate | µg/l            | 8.4                 | 1100             | --                            | --            | WLA                |
| Flow Rate                  | MGD             | ----- Monitor ----- |                  |                               |               | M <sup>c</sup>     |
| Chlorine, Total Residual   | mg/L            | 0.011               | 0.019            | --                            | --            | WLA                |
| Mercury                    | ng/L            | ----- Monitor ----- |                  |                               |               | RP                 |
| <b>Outfall 003</b>         |                 |                     |                  |                               |               |                    |
| pH                         | S.U.            | 6.5 - 9.0           |                  | --                            | --            | WQS                |
| Total Suspended Solids     | mg/L            | 12                  | 18               | 17.8                          | 26.6          | PD                 |
| Oil & Grease               | mg/L            | ----- Monitor ----- |                  |                               |               | M <sup>c</sup>     |
| Ammonia                    | mg/L            | ----- Monitor ----- |                  |                               |               | M <sup>c</sup>     |
| Nitrite + Nitrate          | mg/L            | ----- Monitor ----- |                  |                               |               | M <sup>c</sup>     |
| <i>E. coli</i>             | #/100 mL        | 126                 | 284 <sup>d</sup> | --                            | --            | WQS                |
| Flow Rate                  | MGD             | ----- Monitor ----- |                  |                               |               | M <sup>c</sup>     |
| Mercury                    | ng/L            | 12                  | 1700             | --                            | --            | WLA                |
| Acute Toxicity             |                 |                     |                  |                               |               |                    |
| <i>Ceriodaphnia dubia</i>  | TU <sub>a</sub> | ----- Monitor ----- |                  |                               |               | WET                |
| <i>Pimephales promelas</i> | TU <sub>a</sub> | ----- Monitor ----- |                  |                               |               | WET                |

| Parameter                                      | Units           | Concentration       |               | Loading (kg/day) <sup>a</sup> |               | Basis <sup>b</sup> |
|--|-----------------|---------------------|---------------|-------------------------------|---------------|--------------------|
|  |                 | 30 Day Average      | Daily Maximum | 30 Day Average                | Daily Maximum |                    |
| Carbonaceous Biochemical Oxygen Demand (5 day) | mg/L            | 10                  | 15            | 15.1                          | 22.7          | PD                 |
| <b>Outfall 004</b>                             |                 |                     |               |                               |               |                    |
| pH   | S.U.            | 6.5 - 9.0           |               | --                            | --            | WQS                |
| Total Suspended Solids                         | mg/L            | 11.2                | 12.5          | 97.6                          | 109           | PD                 |
| Oil & Grease                                   | mg/L            | --                  | 10            | --                            | 87.1          | WQS                |
| Fluoride                                       | mg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Cobalt   | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Selenium                                       | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Beryllium                                      | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Nickel   | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Silver   | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Zinc   | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Cadmium  | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Chromium                                       | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Copper   | µg/L            | --                  | 66            | --                            | 0.575         | WLA/AD/ABS         |
| Vanadium                                       | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| PCBs   | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Flow Rate                                      | MGD             | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Chlorine, Total Residual                       | mg/L            | --                  | 0.038         | --                            | --            | WLA                |
| Mercury  | ng/L            | 12                  | 1700          | 0.0148                        | 0.000105      | WLA                |
| Acute Toxicity                                 |                 |                     |               |                               |               |                    |
| <i>Ceriodaphnia dubia</i>                      | TU <sub>a</sub> | ----- Monitor ----- |               |                               |               | WET                |
| <i>Pimephales promelas</i>                     | TU <sub>a</sub> | ----- Monitor ----- |               |                               |               | WET                |
| Dissolved Solids                               | mg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| <b>Outfall 005</b>                             |                 |                     |               |                               |               |                    |
| pH   | S.U.            | 6.5 - 9.0           |               | --                            | --            | WQS                |
| Total Suspended Solids                         | mg/L            | 10                  | 15            | --                            | --            | WQS                |
| Selenium                                       | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Flow Rate                                      | MGD             | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Mercury  | ng/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| <b>Outfall 009</b>                             |                 |                     |               |                               |               |                    |
| pH   | S.U.            | 6.5 - 9.0           |               | --                            | --            | WQS                |
| Total Suspended Solids                         | mg/L            | 30                  | 45            | --                            | --            | PD                 |
| Oil & Grease                                   | mg/L            | --                  | 10            | --                            | --            | WQS                |
| Zinc   | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |

| Parameter                | Units  | Concentration       |               | Loading (kg/day) <sup>a</sup> |               | Basis <sup>b</sup> |
|--------------------------|--------|---------------------|---------------|-------------------------------|---------------|--------------------|
|                          |        | 30 Day Average      | Daily Maximum | 30 Day Average                | Daily Maximum |                    |
| Iron                     | µg/L   | ----- Monitor ----- |               |                               |               | RP                 |
| Thallium                 | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Barium                   | µg/L   | ----- Monitor ----- |               |                               |               | RP                 |
| Zinc                     | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Chromium                 | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Copper                   | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Trichloroethylene        | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| PCBs                     | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Flow Rate                | MGD    | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Chlorine, Total Residual | mg/L   | 0.030               | 0.038         | --                            | --            | WLA                |
| Mercury                  | ng/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| <b>Outfall 010</b>       |        |                     |               |                               |               |                    |
| Total Precipitation      | Inches | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| pH                       | S.U.   | 6.5 - 9.0           |               | --                            | --            | WQS                |
| Total Suspended Solids   | mg/L   | 30                  | 45            | --                            | --            | PD                 |
| Oil & Grease             | mg/L   | --                  | 10            | --                            | --            | WQS                |
| Selenium                 | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Thallium                 | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Zinc                     | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Lead                     | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Chromium                 | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Copper                   | µg/L   | ----- Monitor ----- |               |                               |               | RP                 |
| Iron                     | µg/L   | ----- Monitor ----- |               |                               |               | RP                 |
| Trichloroethylene        | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| PCBs                     | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Flow Rate                | MGD    | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Mercury                  | ng/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| <b>Outfall 011</b>       |        |                     |               |                               |               |                    |
| Total Precipitation      | Inches | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| pH                       | S.U.   | 6.5 - 9.0           |               | --                            | --            | WQS                |
| Total Suspended Solids   | mg/L   | 30                  | 45            | --                            | --            | PD                 |
| Oil & Grease             | mg/L   | --                  | 10            | --                            | --            | WQS                |
| Fluoride                 | mg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Selenium                 | µg/L   | ----- Monitor ----- |               |                               |               | WLA                |
| Thallium                 | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Zinc                     | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Chromium                 | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |

| Parameter                              | Units  | Concentration       |               | Loading (kg/day) <sup>a</sup> |               | Basis <sup>b</sup> |
|--|--------|---------------------|---------------|-------------------------------|---------------|--------------------|
|  |        | 30 Day Average      | Daily Maximum | 30 Day Average                | Daily Maximum |                    |
| Copper                                 | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Trichloroethylene                      | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| PCBs                                   | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Flow Rate                              | MGD    | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Chlorine, Total Residual               | mg/L   | 0.011               | 0.019         | --                            | --            | AD/ABS             |
| <b>Outfall 015</b>                     |        |                     |               |                               |               |                    |
| pH                                     | S.U.   | 6.5 - 9.0           |               | --                            | --            | WQS                |
| Arsenic                                | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Barium                                 | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Trichloroethylene                      | µg/L   | 10                  | 10            | --                            | --            | PD                 |
| Polychlorinated Biphenyls              | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Flow Rate                              | MGD    | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| <b>Internal Monitoring Station 602</b> |        |                     |               |                               |               |                    |
| Total Precipitation                    | Inches | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| pH                                     | S.U.   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Total Suspended Solids                 | mg/L   | 35                  | 50            | --                            | --            | BPJ                |
| Settleable Solids                      | ml/L   | --                  | --            | --                            | --            | BPJ                |
| Iron, Total                            | µg/L   | 3500                | 7000          | --                            | --            | BPJ                |
| Manganese, Total                       | µg/L   | 2000                | 4000          | --                            | --            | BPJ                |
| Flow Rate                              | MGD    | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| <b>Internal Monitoring Station 604</b> |        |                     |               |                               |               |                    |
| pH                                     | S.U.   | 6.5 - 9.0           |               |                               |               | BPJ                |
| Nitrogen, Nitrate                      | mg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Copper, Total                          | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Iron, Total                            | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Nickel, Total                          | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Zinc, Total                            | µg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Flow Rate                              | MGD    | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| <b>Internal Monitoring Station 605</b> |        |                     |               |                               |               |                    |
| pH                                     | S.U.   | 6.5 - 10.0          |               | --                            | --            | BPJ                |
| Total Suspended Solids                 | mg/L   | 20                  | 30            | --                            | --            | BPJ                |
| Oil and Grease                         | mg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Nitrogen, Ammonia                      | mg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Nitrogen, Nitrite                      | mg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Nitrogen, Nitrate                      | mg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Nitrogen Kjeldahl, Total               | mg/L   | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |

| Parameter   | Units           | Concentration       |               | Loading (kg/day) <sup>a</sup> |               | Basis <sup>b</sup> |
|---|-----------------|---------------------|---------------|-------------------------------|---------------|--------------------|
|   |                 | 30 Day Average      | Daily Maximum | 30 Day Average                | Daily Maximum |                    |
| Sulfate   | mg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Chromium, Hexavalent                              | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Chromium, Total                                   | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Copper, Total                                     | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Nickel, Total                                     | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Zinc, Total                                       | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Trichloroethylene                                 | µg/L            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Flow Rate   | MGD             | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| <b>Internal Monitoring Station 608</b>            |                 |                     |               |                               |               |                    |
| pH  | S.U.            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| 1,2-trans-Dichloroethylene                        | µg/L            | 25                  | 66            | --                            | --            | BPJ/BAT            |
| Trichloroethylene                                 | µg/L            | 10                  | 10            | --                            | --            | BPJ/BAT            |
| Flow Rate   | MGD             | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| <b>Internal Monitoring Station 610</b>            |                 |                     |               |                               |               |                    |
| pH  | S.U.            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| 1,2-trans-Dichloroethylene                        | µg/L            | 25                  | 66            | --                            | --            | BPJ/BAT            |
| Trichloroethylene                                 | µg/L            | 10                  | 10            | --                            | --            | BPJ/BAT            |
| Flow Rate   | MGD             | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| <b>Internal Monitoring Station 611</b>            |                 |                     |               |                               |               |                    |
| pH  | S.U.            | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| Trichloroethylene                                 | µg/L            | 10                  | 10            | --                            | --            | BPJ/BAT            |
| Flow Rate   | MGD             | ----- Monitor ----- |               |                               |               | M <sup>c</sup>     |
| <b>Upstream Monitoring Station 801</b>            |                 |                     |               |                               |               |                    |
| Acute Toxicity                                    |                 |                     |               |                               |               |                    |
| <i>Ceriodaphnia dubia</i>                         | TU <sub>a</sub> | ----- Monitor ----- |               |                               |               | WET                |
| <i>Pimephales promelas</i>                        | TU <sub>a</sub> | ----- Monitor ----- |               |                               |               | WET                |
| <b>Downstream-Farfield Monitoring Station 902</b> |                 |                     |               |                               |               |                    |
| Water Temperature (Summer)                        | °C              | 27.8                | 29.4          | --                            | --            | WQS                |
| Water Temperature (Winter)                        | °C              | ----- Monitor ----- |               |                               |               | WQS                |
| <b>Downstream-Farfield Monitoring Station 902</b> |                 |                     |               |                               |               |                    |
| Water Temperature (Summer)                        | °C              | 27.8                | 29.4          | --                            | --            | WQS                |
| Water Temperature (Winter)                        | °C              | ----- Monitor ----- |               |                               |               | WQS                |

## Attachment 1. List of Approved Boiler/Cooling Water System Additives

| <u>Product:</u> | <u>Approved by:</u>                   | <u>Approval Date:</u> |
|-----------------|---------------------------------------|-----------------------|
| • AP24          | Removal Action Work Plan <sup>1</sup> | 2/19/2015             |
| • OS5900        | DFF&O                                 | 8/20/2012             |
| • NA702         | DFF&O                                 | 8/23/2012             |
| • FM1000        | DFF&O                                 | 8/20/2012             |
| • GN8203        | DFF&O                                 | 8/20/2012             |
| • MCA622        | DFF&O                                 | 11/4/2010             |
| • GN7004        | DFF&O                                 | 10/31/2012            |
| • DN2250        | DFF&O <sup>2</sup>                    | 10/3/1990             |
| • AZ8104        | DFF&O <sup>3</sup>                    | 10/3/1990             |
| • OX1202        | DFF&O                                 | 4/20/2004             |
| • MD4103        | DFF&O                                 | 1/7/2011              |
| • PDC9333       | Email <sup>4</sup>                    | 7/13/2005             |

### Footnotes:

<sup>1</sup> AP24 received Ohio EPA approval concurrence to use this additive via email (M. Galanti to K. Wiehle, 2/19/15) of a Field Change Notice (FCN) to *Work Plan for Construction of the X-690 Steam Plant Replacement Project in Support of the Decontamination and Decommissioning of the X-600 Complex and Other Facilities at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPOI03-0345&D3), which received Ohio EPA approval concurrence on September 10, 2012 that fulfills the requirements for a Removal Action Work Plan Addendum as referenced in Section X, Paragraph 33 of *The April 13, 2010 Director's Final Findings and Orders for Removal Action and Remedial Investigation and Feasibility Study and Remedial Design and Remedial Action, including the July 16, 2012 Modification thereto*.

<sup>2</sup> DN2250 was originally approved as 20189; product 20189 became DN2250 through subsequent product consolidation and name changes. 20189 contained the mild steel corrosion inhibition components found in DN2250. Target actives and controls remained the same.

<sup>3</sup> AZ8104 was originally approved as 20189; product 20189 became AZ8104 through subsequent product consolidation and name changes. 20189 contained an azole for the inhibition of copper corrosion that is found in AZ8104 through subsequent company and product name changes. Target actives and controls remained the same.

<sup>4</sup> PDC9333 received Ohio EPA approval for use via email (S. Wells to C. Guilliams, 7/13/2005).

## Addendum 1. Acronyms

|          |   |
|----------|---|
| ABS      | Anti-backsliding  |
| BAT      | Best Available Technology Economically Achievable       |
| BCT      | Best Conventional Pollutant Control Technology          |
| BPJ      | Best professional judgment                              |
| BPT      | Best Practicable Control Technology Currently Available |
| BTJ      | Best technical judgment                                 |
| CFR      | Code of Federal Regulations                             |
| CONSWLA  | Conservative substance wasteload allocation             |
| CWA      | Clean Water Act   |
| CWIS     | Cooling water intake structure                          |
| DMR      | Discharge Monitoring Report                             |
| DMT      | Dissolved metal translator                              |
| ELG      | Federal effluent limitation guideline                   |
| gpm      | Gallons per minute                                      |
| IMZM     | Inside mixing zone maximum                              |
| MDL      | Analytical method detection limit                       |
| MGD      | Million gallons per day                                 |
| NPDES    | National Pollutant Discharge Elimination System         |
| NSPS     | New source performance standards                        |
| OAC      | Ohio Administrative Code                                |
| Ohio EPA | Ohio Environmental Protection Agency                    |
| ORC      | Ohio Revised Code                                       |
| ORSANCO  | Ohio River Valley Water Sanitation Commission           |
| PEL      | Preliminary effluent limit                              |
| PEQ      | Projected effluent quality                              |
| PMP      | Pollution Minimization Program                          |
| PPE      | Plant performance evaluation                            |
| SIC      | Standard Industrial Classification                      |
| TBEL     | Technology-based effluent limit                         |
| TMDL     | Total Daily Maximum Load                                |
| TRE      | Toxicity reduction evaluation                           |
| TU       | Toxicity unit   |
| U.S. EPA | United States Environmental Protection Agency           |
| WET      | Whole effluent toxicity                                 |
| WLA      | Wasteload allocation                                    |
| WQBEL    | Water-quality-based effluent limit                      |
| WQS      | Water Quality Standards                                 |