STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

November 29, 2022

Mr. Jeffrey C. Weida
Location Manager
e-copy: jeffrey.weida@arconic.com
2300 North Wright Road
Alcoa, TN 37701

Subject: **Draft of NPDES Permit No. TN0065081**
Arconic US LLC
Alcoa, Blount County, Tennessee

Dear Mr. Weida:

Enclosed please find a draft copy of the NPDES Permit No. TN0065081, which the Division of Water Resources proposes to issue. This draft copy is furnished to you solely for your review of its provisions. No wastewater discharges are authorized by this draft permit. The issuance of this permit is contingent upon your meeting all of the requirements of the Tennessee Water Quality Control Act and the Rules and Regulations of the Tennessee Water Quality, Oil and Gas Board.

Also enclosed is a copy of the public notice that announces our intent to issue this permit. The notice affords the public an opportunity to review the draft permit and, if necessary, request a public hearing on this issuance process. If you disagree with the provisions and requirements contained in the draft permit, you have thirty (30) days from the date of this correspondence to notify the division of your objections. If your objections cannot be resolved, you may appeal this permit upon issuance. This appeal should be filed in accordance with Section 69-3-110 of the Tennessee Code Annotated.

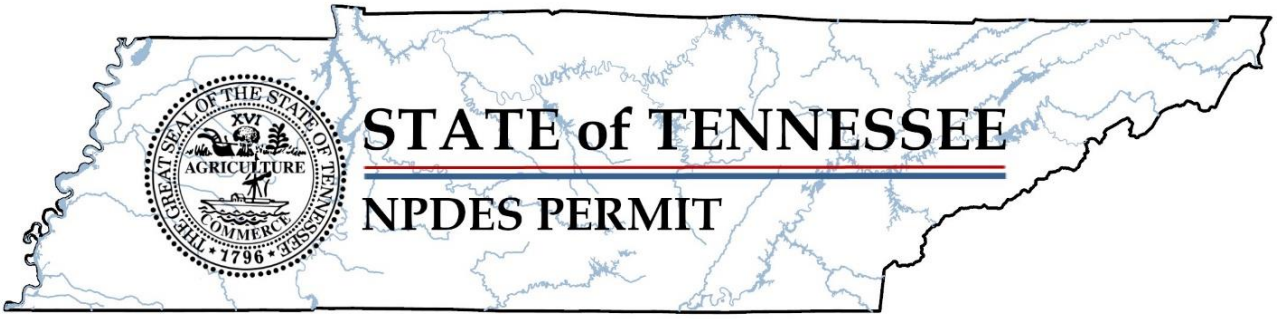
If you have questions, please contact the Knoxville Environmental Field Office at 1-888-891-TDEC; or, at this office, please contact Mr. Oscar Montenegro at (615) 532-0623 or by E-mail at *Oscar.Montenegro@tn.gov*.

Sincerely,

Vojin Janjić
Manager, Water-Based Systems

Enclosure

cc: Permit Section File & Knoxville Environmental Field Office
NPDES Permit Section, EPA Region IV, r4npdespermits@epa.gov
Mr. Shane C. Strickland, EHS Manager, shane.strickland@arconic.com



Authorization to Discharge Under the
National Pollutant Discharge Elimination System (NPDES)
Permit Number TN0065081

Issued by
Department of Environment and Conservation
Division of Water Resources
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.) and the delegation of authority from the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, et seq.)

Discharger:	**Arconic US LLC** **South Plant**
is authorized to discharge:	industrial wastewater from Outfall 006 and industrial storm water runoff from Outfalls SW4, SW6 and S03
from a facility located at:	300 North Hall Road, Alcoa, Blount County, Tennessee
to receiving waters named:	Pistol Creek at mile 4.7 (006 and SW6), Pistol Creek at mile 7.0 (SW4), an unnamed pond on Arconic property (S03)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on:

This permit shall expire on:

Issuance date:

DRAFT

for Jennifer Dodd
Director

Table of Contents

PART 1

1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1.1. NUMERIC AND NARRATIVE EFFLUENT LIMITATIONS

Arconic US LLC is authorized to discharge industrial wastewater from Outfall 006 and industrial storm water runoff from Outfalls SW4,SW6 and S03 to Pistol Creek at mile 4.7 (006 and SW6), Pistol Creek at mile 7.0 (SW4), an unnamed pond on Arconic property (S03).

1.1.1. Numeric Effluent Limitations

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

External Outfall 006, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	>=	6.0	SU	Grab	Weekly	Minimum
00400	pH	<=	9.0	SU	Grab	Weekly	Maximum
00530	Total Suspended Solids (TSS)	<=	40	mg/L	Composite	Once Every 2 Months	Daily Maximum
00552	Oil and grease	<=	10	mg/L	Grab	Once Every 2 Months	Monthly Average
00552	Oil and grease	<=	15	mg/L	Grab	Once Every 2 Months	Daily Maximum
00950	Fluoride, dissolved (as F)	Report	-	mg/L	Composite	Once Every 2 Months	Daily Maximum
01105	Aluminum, total (as Al)	<=	76.6	mg/L	Composite	Once Every 2 Months	Daily Maximum
50050	Flow	Report	-	MGD	Recorder	Continuous	Monthly Average
50050	Flow	Report	-	MGD	Recorder	Continuous	Daily Maximum
50060	Chlorine, total residual (TRC)	<=	0.19	mg/L	Grab	Weekly	Monthly Average
50060	Chlorine, total residual (TRC)	<=	0.33	mg/L	Grab	Weekly	Daily Maximum

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
TRP3B	IC25 Static Renewal 7 Day Chronic Ceriodaphnia	>	5.8	%	Composite	Quarterly	Minimum
TRP6C	IC25 Static Renewal 7 Day Chronic Pimephales promelas	>	5.8	%	Composite	Quarterly	Minimum

Internal Monitoring Point 06A, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	>=	6.0	SU	Grab	Weekly	Minimum
00400	pH	<=	9.0	SU	Grab	Weekly	Maximum
00530	Total Suspended Solids (TSS)	<=	4,125	lb/d	Grab	Once Every 2 Months	Monthly Average
00610	Nitrogen, Ammonia total (as N)	Report	27.5	lb/d	Grab	Once Every 2 Months	Monthly Average
00610	Nitrogen, Ammonia total (as N)	Report	487.3	lb/d	Grab	Once Every 2 Months	Daily Maximum
00951	Fluoride, total (as F)	<=	1,100	lb/d	Grab	Once Every 2 Months	Monthly Average
01042	Copper, total (as Cu)	<=	8.25	lb/d	Grab	Once Every 2 Months	Monthly Average
01051	Lead, total (as Pb)	<=	0.476	lb/d	Grab	Once Every 2 Months	Monthly Average
01051	Lead, total (as Pb)	<=	1.02	lb/d	Grab	Once Every 2 Months	Daily Maximum
01092	Zinc, total (as Zn)	Report	1.54	lb/d	Grab	Once Every 2 Months	Monthly Average
01092	Zinc, total (as Zn)	Report	3.73	lb/d	Grab	Once Every 2 Months	Daily Maximum
01105	Aluminum, total (as Al)	<=	9.91	lb/d	Grab	Twice Per Month	Monthly Average
01105	Aluminum, total (as Al)	<=	22.3	lb/d	Grab	Twice Per Month	Daily Maximum
50050	Flow	Report	-	MGD	Instantaneous	Weekly	Monthly Average
50050	Flow	Report	-	MGD	Instantaneous	Weekly	Daily Maximum

81017	Chemical Oxygen Demand (COD)	<=	2,750	lb/d	Grab	Once Every 2 Months	Monthly Average

Internal Monitoring Point 06A, Instream Monitoring, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
50050	Flow	Report	-	MGD	Totalizer	Continuous	Monthly Average
50050	Flow	Report	-	MGD	Totalizer	Continuous	Daily Maximum

Internal Monitoring Point 06E (Emergency Outfall), All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	>=	6.0	SU	Grab	Weekly	Minimum
00400	pH	<=	9.0	SU	Grab	Weekly	Maximum
00530	Total Suspended Solids (TSS)	<=	5,625	lb/d	Grab	Once Every 2 Months	Monthly Average
00610	Nitrogen, Ammonia total (as N)	Report	37.5	lb/d	Grab	Once Every 2 Months	Monthly Average
00610	Nitrogen, Ammonia total (as N)	Report	664.5	lb/d	Grab	Once Every 2 Months	Daily Maximum
00951	Fluoride, total (as F)	<=	1,500	lb/d	Grab	Once Every 2 Months	Monthly Average
01042	Copper, total (as Cu)	<=	11.25	lb/d	Grab	Once Every 2 Months	Monthly Average
01051	Lead, total (as Pb)	<=	0.649	lb/d	Grab	Once Every 2 Months	Monthly Average
01051	Lead, total (as Pb)	<=	1.395	lb/d	Grab	Once Every 2 Months	Daily Maximum
01092	Zinc, total (as Zn)	Report	2.09	lb/d	Grab	Once Every 2 Months	Monthly Average
01092	Zinc, total (as Zn)	Report	5.09	lb/d	Grab	Once Every 2 Months	Daily Maximum
01105	Aluminum, total (as Al)	<=	13.5	lb/d	Grab	Twice Per Month	Monthly Average
01105	Aluminum, total (as Al)	<=	30.5	lb/d	Grab	Twice Per Month	Daily Maximum
50050	Flow	Report	-	MGD	Instantaneous	Weekly	Monthly Average
50050	Flow	Report	-	MGD	Instantaneous	Weekly	Daily Maximum
81017	Chemical Oxygen Demand (COD)	<=	3,750	lb/d	Grab	Once Every 2 Months	Monthly Average

Internal Monitoring Point 06E (Emergency Outfall), Instream Monitoring, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
50050	Flow	Report	-	MGD	Totalizer	Continuous	Monthly Average
50050	Flow	Report	-	MGD	Totalizer	Continuous	Daily Maximum

Outfall S03, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	Report	-	SU	Grab	Semiannual	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00552	Oil and grease	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00720	Cyanide, total (as CN)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00927	Magnesium, total (as Mg)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00950	Fluoride, dissolved (as F)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01045	Iron, total (as Fe)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
50050	Flow	Report	-	MGD	Estimate	Semiannual	Daily Maximum
TAA3B	LC50 Static 48Hr Acute Ceriodaphnia	Report	-	%	Grab	Once Every Permit Cycle	Minimum
TAA6C	LC50 Static 48Hr Acute Pimephales promelas	Report	-	%	Grab	Once Every Permit Cycle	Minimum

Outfall SW4, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	Report	-	SU	Grab	Semiannual	Daily Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00552	Oil and grease	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00610	Nitrogen, Ammonia total (as N)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00720	Cyanide, total (as CN)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00927	Magnesium, total (as Mg)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00950	Fluoride, dissolved (as F)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01042	Copper, total (as Cu)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01092	Zinc, total (as Zn)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
50050	Flow	Report	-	MGD	Estimate	Semiannual	Daily Maximum
50060	Chlorine, total residual (TRC)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
80082	CBOD, 5-day, 20 C	Report	-	mg/L	Grab	Semiannual	Daily Maximum
TAA3B	LC50 Static 48Hr Acute Ceriodaphnia	Report	-	%	Grab	Once Every Permit Cycle	Minimum
TAA6C	LC50 Static 48Hr Acute Pimephales promelas	Report	-	%	Grab	Once Every Permit Cycle	Minimum

Outfall SW6, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	Report	-	SU	Grab	Semiannual	Daily Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00552	Oil and grease	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00610	Nitrogen, Ammonia total (as N)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00720	Cyanide, total (as CN)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00927	Magnesium, total (as Mg)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00950	Fluoride, dissolved (as F)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01042	Copper, total (as Cu)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01092	Zinc, total (as Zn)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
50050	Flow	Report	-	MGD	Estimate	Semiannual	Daily Maximum
50060	Chlorine, total residual (TRC)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
80082	CBOD, 5-day, 20 C	Report	-	mg/L	Grab	Semiannual	Daily Maximum
TAA3B	LC50 Static 48Hr Acute Ceriodaphnia	Report	-	%	Grab	Once Every Permit Cycle	Minimum
TAA6C	LC50 Static 48Hr Acute Pimephales promelas	Report	-	%	Grab	Once Every Permit Cycle	Minimum

Notes:

See **Part 1.2.3** for test procedures.

See **Part 3.3** for biomonitoring test and reporting requirements.

1.1.2. Narrative Conditions

All wastewater discharged shall be from secondary aluminum smelting operations.

This permit includes an emergency outfall (06E) in the event of production outages at the Arconic North Plant's ingot casting facility (TN0067199). These limits shall be applicable only when the North Plant is non-operational and production at the South Plant is increased to facilitate maintaining their production schedule. For all times that production at the South Plant is operating at normal capacity the DMR for Emergency Outfall 06E shall be reported as "no-discharge" for that months' reporting requirements.

The sampling for Outfall S06 in NPDES permit number TN0082007 shall occur at the same time as the sampling for Outfall SW6 under this permit.

Additional monitoring and reporting requirements and conditions include:
The authorized discharge(s) shall not:

- Result in distinctly visible solids, scum, foam, oily slick, or the formation of slimes, bottom deposits, or sludge banks of such size or character as may be detrimental to fish and aquatic life.
- Result in total suspended solids, turbidity, or color in such amounts or character that will result in any objectionable appearance to the water, considering the nature and location of the water.
- Contain pollutants in quantities that will be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.

Sludge, or any other material removed by any treatment works must be disposed of in a manner that prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, Tennessee Code Annotated (Tenn. Code Ann.) §68-31-101 et seq. and the Tennessee Hazardous Waste Management Act, Tenn. Code Ann. §68-46-101 et. seq.

1.2. MONITORING PROCEDURES

1.2.1. Representative Sampling

Samples and measurements taken in compliance with the monitoring requirements specified herein shall be representative of the volume and nature of the monitored discharge and shall be taken after treatment and prior to mixing

with uncontaminated stormwater runoff or the receiving stream. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed and calibrated by a qualified source at least once every 12 months[1], and maintained to ensure that the accuracy of the measurements is consistent with accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of plus or minus 10% from the true discharge rates throughout the range of expected discharge volumes.

Composite samples must be proportioned by flow at the time of sampling. Aliquots may be collected manually or automatically. The sample aliquots must be maintained at ≤ 6°C during the compositing period, or as otherwise specified in 40 CFR §136 or in the method.

Samples and measurements taken in compliance with the monitoring requirements specified above shall be representative of the volume and nature of the monitored discharge. Samples must be representative of the effluent being discharged and collected prior to mixing with any other discharge or the receiving stream. This can be at a different point for different parameters but must be after all treatment for that parameter or all expected changes. Biomonitoring tests, if required, must be conducted on final effluent.

1.2.2. Sampling Frequency

The permittee should report "No Discharge" on Discharge Monitoring Reports (DMRs) only if a permitted outfall does not discharge at any time during the monitoring period. If the outfall discharges effluent at any time during the monitoring period, the permittee must provide at least one sampling result from the effluent of that outfall.

If the required monitoring frequency is once per month or 1/month, the monitoring period is one month. If the discharge occurs during only one day in that period, the permittee must sample on that day and report the results of analyses accordingly.

[1] The Division expects for permittees to meet EPA's guidance on proper operation and maintenance of flow measurement devices, as stated in the NPDES Compliance Inspection Manual.

1.2.3. Test Procedures

a) Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304 (h) of the Clean Water Act (the "Act"), as amended, under which such procedures may be required.

b) Unless otherwise noted in the permit, all pollutant parameters shall be determined using sufficiently sensitive methods in Title 40 CFR § 136, as amended, and promulgated pursuant to Section 304 (h) of the Act. The chosen methods must be sufficiently sensitive as required in state rule 0400-40-03-.05(8).

c) If the ML for all methods available in accordance with 40 CFR § 136 are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest ML shall be used.

d) Where the analytical results are below the method detection limit (MDL), the permittee shall report the actual laboratory MDL and ML values. See **Section 1.3.4.** for instructions regarding reporting less than detection.

e) When there is no analytical method that has been approved under 40 CFR §136 or required under 40 CFR chapter I, subchapter N or O, and a specific method is not otherwise required by the Director, the permittee may use any suitable method but shall provide a description of the method. When selecting a suitable method, factors such as a method's precision, accuracy, or resolution must be considered when assessing the performance of the method.

1.2.4. Recording of Results

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

i. The date, exact place, and time of sampling or measurements;
ii. The individual(s) who performed the sampling or measurements;
iii. The date analyses were performed;
iv. The individual(s) who performed the analyses;
v. The laboratory where the analyses were performed;
vi. The analytical techniques or methods used; and
vii. The results of such analyses.

1.2.5. Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

1.3. REPORTING

1.3.1. Monitoring Results

Monitoring results shall be recorded monthly and submitted monthly on Discharge Monitoring Reports (DMRs) using EPA's NetDMR website. The first DMR is due on the 15th of the month following permit effectiveness. Subsequent DMRs shall be submitted through NetDMR no later than 15 days after the completion of the reporting period. In compliance with the Federal NPDES Electronic Reporting Rule, DMRs may not be submitted via email under any circumstances.

Discharge Monitoring Reports and any other information or report must be signed and certified by a responsible corporate officer as defined in Tennessee Rules, Chapter 0400-40-05-.07(2)(i), a general partner or proprietor, a principal municipal executive officer or ranking elected official, or his or her duly authorized representative. Such authorization must be submitted in writing and must explain the duties and responsibilities of the authorized representative.

In the event that electronic reporting is unavailable, the permittee shall comply with reporting conditions provided in **Section 1.7.**

1.3.2. Additional Monitoring by Permittee

If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR § 136, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or other reporting form specified by the Commissioner. Such increased frequency shall also be indicated.

1.3.3. Falsifying Results and/or Reports

Knowingly making any false statement on any report required by this permit or falsifying any result may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Water Pollution Control Act, as amended, and in § 69-3-115 of the Tennessee Water Quality Control Act.

1.3.4. Reporting Less Than Detection; Reporting Significant Figures

For the purpose of evaluating compliance with the permit limits established herein, where certain limits are below the minimum level (ML) of 40 CFR § 136 approved analytical methods, compliance will be demonstrated when a non-detect result is obtained using the most sensitive method available. The results of non-detect analyses, in this case, shall be reported as Below Detection Limit (BDL) or "NODI = B" in NetDMR. Reporting examples are provided below.

Reporting Example 1: If the permit limit is 0.02 mg/L with a method detection limit (MDL) of 0.05 mg/L and no detection is shown, the permittee must report "BDL" or "NODI = B" on DMRs in NetDMR. Whenever "BDL" or "NODI = B" is reported, the actual MDL must be reported in the DMR comments or in an attachment submitted in NetDMR.

Reporting Example 2: If the permit limit is 0.02 mg/L with an MDL of 0.05 mg/L and detection is shown, the actual detected value must be reported.

Reporting Example 3: If the permit limit is 0.02 mg/L with an MDL of 0.01 mg/L and no detection is shown, the permittee must report less than MDL (<0.01 mg/L in this case).

For purposes of calculating monthly averages, zero may be assigned for values less than the MDL, the numeric value of the MDL may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if the average value is less than the ML, the permittee must report "less than {numeric value of the ML}." If a value is equal to or greater than the ML, the permittee must report and use the actual value. The resulting average value must be compared to the compliance level, the ML, in assessing compliance.

Reported results are to correspond to the number of significant figures (decimal places) set forth in the permit conditions. The permittee shall round values, if allowed by the method of sample analysis, using a uniform rounding convention adopted by the permittee.

1.3.5. Outlier Data

Outlier data include analytical results that are probably false. The validity of results is based on operational knowledge and a properly implemented quality assurance program. False results may include laboratory artifacts, potential sample tampering, broken or suspect sample containers, sample contamination or similar demonstrated quality control flaw.

Outlier data are identified through a properly implemented quality assurance program, and according to ASTM standards (e.g. Grubbs Test, 'h' and 'k' statistics). Furthermore, outliers should be verified, corrected, or removed based on further inquiries into the matter. If an outlier was verified (through repeated testing and/or analysis), it should remain in the preliminary data set. If an outlier resulted from a transcription or similar clerical error, it should be corrected and subsequently reported.

Therefore, only if an outlier was associated with problems in the collection or analysis of the samples and as such does not conform with the Guidelines Establishing Test Procedures for the Analysis of Pollutants (40 CFR §136), can it be removed from the data set and not reported on DMRs. Otherwise, all results (including monitoring of pollutants more frequently than required at the location(s) designated, using approved analytical methods as specified in the permit) should be included in the calculation and reporting of the values required in the DMR form. The permittee should use the "comment" section in NetDMR to explain any potential outliers or dubious results.

1.4. COMPLIANCE WITH SECTION 208

The limits and conditions in this permit shall require compliance with an area-wide waste treatment plan (208 Water Quality Management Plan) where such approved plan is applicable.

1.5. REOPENER CLAUSE

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

a) Contains different conditions or is otherwise more stringent than any condition in the permit; or

b) Controls any pollutant or disposal method not addressed in the permit.

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

1.6. SCHEDULE OF COMPLIANCE

Full compliance and operational levels shall be attained from the effective date of this permit.

1.7. ELECTRONIC REPORTING

This permit requires the submission of forms developed by the Director in order for a person to comply with certain requirements, including, but not limited to, making reports, submitting monitoring results, and applying for permits. The Director may make these forms available electronically and, if submitted electronically, then that electronic submission shall comply with the requirements of Chapter 0400-01-40.

In the event of large-scale emergencies and/or prolonged electronic reporting system outages, an episodic electronic reporting waiver may be granted by the Commissioner in accordance with 40 CFR § 127.15. A request for a deadline extension or episodic electronic reporting waiver should be submitted to DWRWater.Compliance@tn.gov, in compliance with the Federal NPDES Electronic Reporting Rule.

If an episodic electronic reporting waiver is granted, reports with wet-ink original signatures shall be mailed to the following address:

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
COMPLIANCE & ENFORCEMENT UNIT
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

For purposes of determining compliance with this permit, data provided to the Division electronically is legally equivalent to data submitted on signed and certified forms. A copy must be retained for the permittee's files.

PART 2

2. GENERAL PERMIT REQUIREMENTS

2.1. GENERAL PROVISIONS

2.1.1. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Water Quality Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

2.1.2. Duty to Reapply

The permittee is not authorized to discharge after the expiration date of this permit. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information and forms as are required to the Division Director no later than 180 days prior to the expiration date. Such forms shall be properly signed and certified.

2.1.3. Proper Operation and Maintenance

a) The permittee shall at all times properly operate and maintain all facilities and systems (and related appurtenances) for collection and treatment which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory and process controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. Backup continuous pH and flow monitoring equipment are not required.

b) Dilution water shall not be added to comply with effluent requirements to achieve BCT, BPT, BAT, or other technology based effluent limitations such as those established in Tennessee Rule 0400-40-05-.09.

2.1.4. Duty to Provide Information

The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

2.1.5. Right of Entry

The permittee shall allow the Director, the Regional Administrator of the U.S. Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials, to:

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

b) Have access to and copy, at reasonable times, any records that shall be kept under the conditions of this permit;

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

d) Sample or monitor at reasonable times for the purposes of assuring permit compliance or as otherwise authorized by the Director.

2.1.6. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Water Pollution Control Act, as amended, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the Division's offices or via the Department's dataviewer webpage. As required by the Federal Act, effluent data shall not be considered confidential.

2.1.7. Treatment Facility Failure (Industrial Sources)

The permittee, in order to maintain compliance with this permit, shall control production, all discharges, or both, upon reduction, loss, or failure of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in such situations as the reduction, loss, or failure of the primary source of power.

2.1.8. 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.

2.1.9. Severability

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

2.1.10. Other Information

If the permittee becomes aware of failure to submit any relevant facts in a permit application, or of submission of incorrect information in a permit application or in any report to the Director, then the permittee shall promptly submit such facts or information.

2.2. CHANGES AFFECTING THE PERMIT

2.2.1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

a) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as defined in Rule 0400-40-05-.02;

b) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit nor to notification requirements under 40 CFR § 122.42(a)(1); or

c) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices.

2.2.2. Permit Modification, Revocation, or Termination

a) This permit may be modified, revoked and reissued, or terminated for cause as described in 40 CFR § 122.62 and § 122.64, Federal Register, Volume 49, No. 188 (Wednesday, September 26, 1984), as amended. Causes for such permit action include but are not limited to the following:

   i. Violation of any terms or conditions of the permit;
   ii. Obtaining a permit by misrepresentation or failure to disclose fully all relevant facts; and
   iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

b) 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 this permit, or to determine compliance with this permit.

c) If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established for any toxic pollutant under Section 307(a) of the Federal Water Pollution Control Act, as amended, the Director shall modify or revoke and reissue the permit to conform to the prohibition or to the effluent standard, providing that the effluent standard is more stringent than the limitation in the permit for the toxic pollutant. The permittee shall comply with these effluent standards or prohibitions within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified or revoked and reissued to incorporate the requirement.

d) The filing of a request by the permittee for a modification, revocation, reissuance, termination, or notification of planned changes or anticipated noncompliance does not halt any permit condition.

2.2.3. Change of Ownership

Except as provided in Tennessee Rule Chapter 0400-40-05-.06(5)(a) or (b), this permit may be transferred to another party (provided there are neither modifications to the facility or its operations, nor any other changes which might affect permit limits and conditions contained in the permit) by the permittee if:

a) The permittee notifies the Director of the proposed transfer at least 30 days in advance of the proposed transfer date;

b) The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage, and liability between them; and

c) The permittee shall provide the following information to the Director in their formal notice of intent to transfer ownership:

i. The permit number of the subject permit;
ii. The effective date of the proposed transfer;
iii. The name, address, and contact information of the transferor;
iv. The name, address, and contact information of the transferee;

v. The names of the responsible parties for both the transferor and transferee;
vi. A statement that the transferee assumes responsibility for the subject permit;
vii. A statement that the transferor relinquishes responsibility for the subject permit;
viii. The signatures of the responsible parties for both the transferor and transferee pursuant to the signatory requirements of subparagraph (i) of Rule 0400-40-05-.07(2); and
ix. A statement regarding any proposed modifications to the facility, its operations, or any other changes, which might affect the permit, limits and conditions contained in the permit.

2.2.4. Change of Mailing Address

The permittee shall promptly provide to the Director written notice of any change of mailing address. In the absence of such notice, the original address of the permittee will be assumed to be correct.

2.3. NONCOMPLIANCE

2.3.1. Reporting of Noncompliance

a) 24-hour Reporting:

In the case of any noncompliance, or any release (whether or not caused by improper operation and maintenance), which could cause a threat to human health or the environment, the permittee shall:

i. Report the noncompliance or release to the Commissioner within 24 hours from the time the permittee becomes aware of the circumstances. Such noncompliance or release includes, but is not limited to, any unanticipated bypass exceeding any effluent limitation, any upset exceeding any effluent limitation, and violations of any maximum daily effluent limitation identified in the permit as requiring 24-hour reporting. (The EFO should be contacted for names and phone numbers of the environmental response team.)

ii. Submit a written report within five days of the time the permittee becomes aware of the noncompliance. The permittee shall provide the following information:

1. A description of and the cause of the noncompliance or release;

2. The period of noncompliance or release, including start and end dates and times i.e. duration or, if not corrected, the anticipated time the noncompliance or release is expected to continue;

3. The steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance or release; and

4. For POTWs or domestic wastewater treatment plants, reporting any dry weather overflow, wet weather overflow, dry weather release, wet weather release, combined sewer overflow, or bypass, this written report must also include the following:

I. Type of event;
II. Type of sewer overflow, release, or bypass structure (e.g., manhole, combined sewer overflow outfall);
III. Estimated volume (gallons);
IV. Types of human health and environmental impacts;
V. Location (latitude and longitude);
VI. Estimated duration (hours);
VII. The next downstream pump station (for overflows and releases only); and
VIII. The name of receiving water (if applicable).

iii. Industrial dischargers that do not treat domestic waste shall comply with subpart a) ii. 4. of this subparagraph with respect to bypasses only.

iv. For overflows, releases, bypasses, upsets and washouts, the report required by a) ii. Shall be submitted electronically via MyTDEC Forms.

b) Other Noncompliance.

i. All permittees shall report each instance of noncompliance or any release (whether or not caused by improper operation and maintenance), not reported under sub-part a) at the time of submitting the next routine monitoring report, including all information required by sub-parts a) ii. 1-3.

ii. In addition to the information required by part i of this sub-part, POTWs and domestic wastewater treatment plants shall submit a written report containing the information required by sub-part a) i. 4. If these events are caused by an extreme weather event, the Commissioner may provide a written waiver of some or all of these reporting requirements.

iii. In addition to the information required by sub-part i, industrial dischargers shall submit a written report of bypasses containing the information required by sub-part a) i. 4. This part does not relieve industrial dischargers from any applicable reporting requirements of 40 C.F.R. Part 117 (2021) and 40 C.F.R. Part 302 (2021).

2.3.2. Upset

a) An upset shall constitute an affirmative defense to an action brought for noncompliance with technology-based permit effluent limitations if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

i. An upset occurred and that the permittee can identify the cause(s) of the upset;
ii. The permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;
iii. The permittee submitted information required under "Reporting of Noncompliance" within 24 hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days); and
iv. The permittee complied with any remedial measures required under "Adverse Impact".

b) In any enforcement proceeding, the permittee seeking to establish the affirmative defense of an upset has the burden of proof.

2.3.3. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2.3.4. Bypass

a) Bypasses (see subpart 4.1) are prohibited unless all the following conditions are met:

i. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;

ii. There are no feasible alternatives to 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 preventative maintenance; and

a. For anticipated bypass, the permittee submits prior notice, if possible at least ten days before the date of the bypass, or

b. For unanticipated bypass, the permittee submits notice of an unanticipated bypass within 24 hours from the time that the permittee becomes aware of the bypass.

b) Bypasses that do not cause effluent limitations to be exceeded may be allowed only if the bypass is necessary for essential maintenance to assure efficient operation. The permittee must sample and report the discharge during each bypass to demonstrate that the bypass does not cause effluent limitations to be exceeded.

2.3.5. Washout

a) For domestic wastewater plants only, a "*washout*" shall be defined as loss of Mixed Liquor Suspended Solids (MLSS) of 30.00% or more. This refers to the MLSS in the aeration basin(s) only. This does not include MLSS decreases due to solids wasting to the sludge disposal system. A washout can be caused by improper operation or from peak flows due to inflow and infiltration.

b) A washout is prohibited. If a washout occurs the permittee must report the incident to the Division in the appropriate EFO within 24 hours by telephone. A written submission must be provided within five days. The washout must be noted on that month's DMR. Each day of a washout is a separate violation.

2.4. LIABILITIES

2.4.1. Civil and Criminal Liability

Except as provided in permit conditions for "*Bypass*" (**Section 2.3.5**), "*Overflows and Releases*" (**Section 2.3.2**), and "*Upset*" (**Section 2.3.3**), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the State of Tennessee, including, but not limited to,

fish kills and losses of aquatic life and/or wildlife as a result of the discharge of wastewater to any surface or subsurface waters. Additionally, notwithstanding this permit, it shall be the responsibility of the permittee to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created.

2.4.2. Liability Under State Law

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 the Federal Water Pollution Control Act, as amended.

PART 3

3. PERMIT SPECIFIC REQUIREMENTS

3.1. TOXIC POLLUTANTS

The permittee shall notify the Division as soon as it knows or has reason to believe that:

a) Any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic substance(s) not limited in the permit (listed in 40 CFR 122, Appendix D, Table II and III), if that discharge will exceed the highest of the following "notification levels":

i. One hundred micrograms per liter (100 µg/L);
ii. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
iii. Five times the maximum concentration value reported for that pollutant(s) in the permit application in accordance with 40 CFR 122.21(g)(7); or
iv. The level established by the Director in accordance with 40 CFR 122.44(f).

b) 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 following "notification levels":

i. Five hundred micrograms per liter (500 µg/L);
ii. One milligram per liter (1 mg/L) for antimony;
iii. Ten times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
iv. The level established by the Director in accordance with 40 CFR 122.44(f).

3.2. BIOMONITORING REQUIREMENTS, CHRONIC

The permittee shall conduct a 3-Brood *Ceriodaphnia dubia* Survival and Reproduction Test and a 7-Day Fathead Minnow *(Pimephales promelas)* Larval Survival and Growth Test on samples of final effluent from Outfall 001.

The measured endpoint for toxicity will be the inhibition concentration causing 25% reduction in survival, reproduction and growth (IC_{25}) of the test organisms. The IC_{25} shall be determined based on a 25% reduction as compared to the controls, and as derived from linear interpolation. The average reproduction and growth responses will be determined based on the number of *Ceriodaphnia dubia* or *Pimephales promelas* larvae used to initiate the test.

Tests shall be conducted and results reported based on appropriate replicates of a total of five serial dilutions and a control, using the percent effluent dilutions as presented in the following table:

Serial Dilutions for Whole Effluent Toxicity (WET) Testing					
4 X PL	**2 X PL**	**Permit Limit (PL)**	**0.50 X PL**	**0.25 X PL**	**Control**
% effluent					
22	**11**	**5.5**	**2.8**	**1.38**	**0**

The dilution/control water used will be moderately hard water as described in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms*, EPA-821-R-02-013 (or the most current edition). A chronic standard reference toxicant quality assurance test shall be conducted with each species used in the toxicity tests and the results submitted with the discharge monitoring report. Additionally, the analysis of this multi-concentration test shall include review of the concentration-response relationship to ensure that calculated test results are interpreted appropriately.

Toxicity will be demonstrated if the IC_{25} is less than or equal to the permit limit indicated for each outfall in the above table(s).

All tests will be conducted using a minimum of three 24-hour, flow-proportionate composite samples of final effluent (*e.g.*, collected on days 1, 3, and 5). If, in any control more than 20% of the test organisms die in 7 days, the test (control and effluent) is considered invalid and the test shall be repeated within two (2) weeks. Furthermore, if the results do not meet the acceptability criteria in the above-referenced *Short-term Methods* document, or if the required concentration-response review fails to yield a valid relationship per guidance contained in

Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing, EPA-821-B-00-004 (or the most current edition), that test shall be repeated. Any test initiated but terminated before completion must also be reported along with a complete explanation for the termination.

The toxicity tests specified herein shall be conducted quarterly (1/Quarter) for Outfall 006 and begin no later than 90 days from the effective date of this permit.

In the event of a test failure, the permittee must start a follow-up test within 2 weeks and submit results from a follow-up test within 30 days from obtaining initial WET testing results. The follow-up test must be conducted using the same serial dilutions as presented in the corresponding table(s) above. The follow-up test will not negate an initial failed test. In addition, the failure of a follow-up test will constitute a separate permit violation.

In the event of 2 consecutive test failures or 3 test failures within a 12-month period for the same outfall, the permittee must initiate a Toxicity Identification Evaluation/Toxicity Reduction Evaluation (TIE/TRE) study within 30 days and so notify the Division by letter. This notification shall include a schedule of activities for the initial investigation of that outfall. During the term of the TIE/TRE study, the frequency of biomonitoring shall be once every three months. Additionally, the permittee shall submit progress reports once every three months throughout the term of the TIE/TRE study. The toxicity must be reduced to allowable limits for that outfall within 2 years of initiation of the TIE/TRE study. Subsequent to the results obtained from the TIE/TRE studies, the permittee may request an extension of the TIE/TRE study period if necessary, to conduct further analyses. The final determination of any extension period will be made at the discretion of the Division.

The TIE/TRE study may be terminated at any time upon the completion and submission of 2 consecutive tests (for the same outfall) demonstrating compliance. Following the completion of TIE/TRE study, the frequency of monitoring will return to a regular schedule, as defined previously in this section as well in Part I of the permit. During the course of the TIE/TRE study, the permittee will continue to conduct toxicity testing of the outfall being investigated at the frequency of once every three months but will not be required to perform follow-up tests for that outfall during the period of TIE/TRE study.

Test procedures, quality assurance practices, determinations of effluent survival/reproduction and survival/growth values, and report formats will be made in accordance with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms*, EPA-821-R-02-013, or the

most current edition. Results of tests, reference toxicant information, copies of raw data sheets, statistical analysis, and chemical analyses shall be compiled in a report also written in accordance with the *Short-term Methods* document above.

A copy of the biomonitoring report (including any follow-up reports) shall be submitted to the Division as an attachment to the monthly DMR in NetDMR.

3.3. BIOMONITORING REQUIREMENTS, ACUTE (STORMWATER)

The permittee shall conduct a 48-hour static acute, definitive, toxicity test on two test species on the same samples of final effluent from stormwater Outfalls SW4, SW6, and S03. The test species to be used are Water Fleas (*Ceriodaphnia dubia)* and Fathead Minnows *(Pimephales promelas*). Three (3) separate grab samples shall be taken at evenly spaced 6-hour intervals during the first 24-hours of a storm event, as practicable, then recombined and tested as a single composite sample. The first sample should be obtained within the first thirty (30) minutes of the initiation of flow, or as soon thereafter as practicable. Tests should be conducted using serial dilutions and a control**.** If in any control, more than 10% of the test organisms die in 48 hours, the test (control and effluent) is considered invalid and the test shall be repeated within 30 days of the date the initial test is invalidated, or as soon thereafter as practicable during a qualifying storm event. **The toxicity tests specified herein shall be conducted once during this permit cycle as soon as practicable during a qualifying storm event.**

Test procedures, quality assurance practices, and determination of effluent lethality values will be made in accordance with *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, EPA-821-R-02-012, or the most current edition. Results of all tests, reference toxicant information, copies of raw data sheets, statistical analysis and chemical analysis shall be compiled in a report also written in accordance with the *Methods for Measuring the Acute Toxicity* document above.

Two copies of biomonitoring reports (including follow-up reports) shall be submitted to the Division. One copy of the report shall be included as an attachment to the monthly DMR in NetDMR. The second copy shall be submitted to the local EFO.

The reasonable potential to cause toxicity in the receiving stream will be evaluated based on the results of the WET testing. At that time, should the results so dictate, the Division maintains the authority to institute specific numeric biomonitoring limitations.

3.4. PLACEMENT OF SIGNS

Within sixty (60) days of the effective date of this permit, the permittee shall place and maintain a sign at each outfall or the nearest publicly accessible location. The sign(s) should be clearly visible to the public from the bank and the receiving stream. The minimum sign size should be two feet by two feet (2' x 2') with one-inch (1") letters. The sign should be made of durable material and have a white background with black letters.

The sign(s) are to provide notice to the public as to the nature of the discharge and, in the case of the permitted outfalls, that the discharge is regulated by the Tennessee Department of Environment and Conservation, Division of Water Resources. The following are given as examples of the minimal amount of information that must be included on the signs:

Treated Industrial Wastewater:

TREATED INDUSTRIAL WASTEWATER
Arconic US LLC
South Plant
(865) 977-2502
NPDES Permit No. TN0065081
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - Knoxville

Industrial Stormwater Runoff:

INDUSTRIAL STORMWATER RUNOFF
Arconic US LLC
South Plant
(865) 977-2502
NPDES Permit No. TN0065081
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - Knoxville

PART 4

4. DEFINITIONS AND ACRONYMS

4.1. DEFINITIONS

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

A ***calendar day*** means the 24-hour period from midnight to midnight or any other 24-hour period that reasonably approximates the midnight to midnight time period.

A ***composite sample*** means a combination of not less than eight influent or effluent portions (aliquots), collected over a 24-hour period. Under certain circumstances a lesser time period may be allowed, but in no case less than eight hours. A sufficient volume of sample to perform all required analyses plus any additional amount for quality control must be obtained. For automatic samplers that use a peristaltic pump, a minimum 100 ml aliquot must be obtained.

Continuous monitoring, for the purposes of this permit, means the measurement of temperature or pH at a frequency that will accurately characterize the nature of discharges from the site and water in the receiving stream. Samples collected continuously shall be at a frequency of not less than once every 15 minutes for temperature.

Cooling water means water used for contact or non-contact cooling, including water used for equipment cooling, evaporative cooling tower makeup, and dilution of effluent heat content. The intended use of the cooling water is to absorb waste heat rejected from the process or processes used, or from auxiliary operations at the facility's premises.

The ***daily maximum amount*** means the total amount of any pollutant in the discharge by weight during any calendar day.

The ***daily maximum concentration*** is a limitation on the average concentration in units of mass per volume (*e.g.* milligrams per liter) of the discharge during any calendar day. When a proportional-to-flow composite sampling device is used, the daily maximum concentration is the concentration of that 24-hour composite; when other sampling means are used, the daily maximum concentration is the arithmetic mean of the concentrations of equal volume samples collected during any calendar day or sampling period.

Degradation means the alteration of the properties of waters by the addition of pollutants, withdrawal of water, or removal of habitat, except those alterations of a short duration.

De Minimis is degradation of a small magnitude, as provided in this paragraph:

(a) Discharges and withdrawals:
   1. Subject to the limitation in part 3 of this subparagraph, a single discharge other than those from new domestic wastewater sources will be considered de minimis if it uses less than five percent of the available assimilative capacity for the substance being discharged.
   2. Subject to the limitation in part 3 of this subparagraph, a single water withdrawal will be considered de minimis if it removes less than five percent of the 7Q10 flow of the stream.
   3. If more than one activity described in part 1 or 2 of this subparagraph has been authorized in a segment and the total of the authorized and proposed impacts uses no more than 10% of the assimilative capacity, or 7Q10 low flow, they are presumed to be de minimis. Where the total of the authorized and proposed impacts uses 10% of the assimilative capacity, or 7Q10 low flow, additional degradation may only be treated as de minimis if the Division finds on a scientific basis that the additional degradation has an insignificant effect on the resource.

(b) Habitat alterations authorized by an Aquatic Resource Alteration Permit (ARAP) are de minimis if the Division finds that the impacts, individually and cumulatively, are offset by impact minimization and/or in-system mitigation, provided however, in Outstanding National Resource Waters (ONRWs) the mitigation must occur within the ONRW.

Discharge or ***discharge of a pollutant*** refers to the addition of pollutants to waters from a source.

Entrainment means the incorporation of all life stages of fish and shellfish with intake water flow entering and passing through a cooling water intake structure and into a cooling water system.

The ***geometric mean*** of any set of values means the n^{th} root of the product of the individual values where n is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For the purposes of calculating the geometric mean, values of zero shall be considered to be one.

A ***grab sample*** means a single sample collected at a particular time.

IC_{25} means the inhibition concentration in which at least a 25% reduction in reproduction and/or growth in test organisms occurs.

Industrial discharger means those industries identified in the standard industrial classification manual, Bureau of the Budget, 1987, as amended and supplemented, under the category "Division D - Manufacturing" and such other classes of significant waste producers as the Board or Commissioner deems appropriate.

Industrial wastes means any liquid, solid, or gaseous substance, or combination thereof, or form of energy including heat, resulting from any process of industry, manufacture, trade, or business or from the development of any natural resource.

LC_{50} means the concentration that causes at least 50% lethality of the test organisms.

Major facility means a municipal or domestic wastewater treatment plant with a design capacity of one million gallons per day or greater; or any other facility or activity classified as such by the Commissioner.

Minor facility means any facility that is not a major facility.

The ***monthly average amount*** means the arithmetic mean of all the measured daily discharges by weight during the calendar month when the measurements were made.

The ***monthly average concentration***, means the arithmetic mean of all samples collected in a one calendar-month period, expressed in units of mass per volume of any pollutant other than bacteria.

National Pollutant Discharge Elimination System or ***NPDES*** means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the federal CWA. The term includes an "approved program."

New or increased discharge is a new discharge of pollutants to waters of the state or an increase in the authorized loading of a pollutant above either (1) numeric effluent limitations established in a National Pollutant Discharge Elimination System permit for that discharge, or (2) if no such limitations exist, the actual discharges of that pollutant.

New source means any building, structure, facility, area, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced after the publication of state or federal regulations prescribing a standard of performance.

Nitrate (as N) means nitrate reported as nitrogen.

A ***one-week period*** (or ***calendar-week***) means the period from Sunday through Saturday. For weekly average reporting purposes, a calendar week that contains a change of month shall be considered part of the latter month.

Owner or ***operator*** means any person who owns, leases, operates, controls, or supervises a source.

Person means an individual, association, partnership, corporation, municipality, state or federal agency, or an agent or employee thereof.

Point source means 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 stormwater runoff.

Pollutant means sewage, industrial wastes, or other wastes.

Pollution means such alteration of the physical, chemical, biological, bacteriological, or radiological properties of the waters of this state including, but not limited to, changes in temperature, taste, color, turbidity, or odor of the waters that will:

(a) Result or will likely result in harm, potential harm, or detriment to the public health, safety, or welfare;

(b) Result or will likely result in harm, potential harm, or detriment to the health of animals, birds, fish, or aquatic life;

(c) Render or will likely render the waters substantially less useful for domestic, municipal, industrial, agricultural, recreational, or other reasonable uses; or

(d) Leave or likely leave the waters in such condition as to violate any standards of water quality established by the Board.

A ***qualifying storm event*** is a storm event in which greater than 0.1 inches of rainfall occurs after a period of at least 72 hours following any previous storm event with rainfall of 0.1 inches or greater.

Quarter means any one of the following three-month periods: January 1 through March 31, April 1 through June 30, July 1 through September 30, and/or October 1 through December 31.

Rainfall event means any occurrence of rain, preceded by 10 hours without precipitation that results in an accumulation of 0.01 inches or more. Instances of rainfall occurring within 10 hours of each other will be considered a single rainfall event.

Rationale or ***fact sheet*** means a document that is prepared when drafting an NPDES permit or permit action. It provides the technical, regulatory and administrative basis for an agency's permit decision.

Schedule of compliance means a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, condition of a permit, other limitation, prohibition, standard, or regulation. This term includes, but is not limited to, schedules authorized by national effluent limitations guidelines or by Tennessee's water quality standards.

The term ***semi-annually***, for the purposes of this permit, means the same as once every 6 months. Measurements of the limited effluent parameters may be made any time during a 6 month period beginning from the effective date of this permit, so long as the second set of measurements for a given 12 month period are made approximately 6 months subsequent to that time, if feasible.

Severe property damage, when used to consider the allowance of a bypass, means substantial physical damage to property, damage to the treatment facilities which causes 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.

Source means any activity, operation, construction, building, structure, facility, or installation from which there is or may be the discharge of pollutants.

Standard of performance means a standard for the control of the discharge of pollutants that reflects the greatest degree of effluent reduction that the Commissioner determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

Stream means a surface water that is not a wet weather conveyance.

Total dissolved solids or ***TDS*** means nonfilterable residue.

Unpermitted discharge refers to the discharge of pollutants to waters not authorized by this permit.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based 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.

The term ***washout*** is applicable to domestic wastewater activated sludge plants and is defined as loss of mixed liquor suspended solids (MLSS) of 30.00% or more from the aeration basin(s).

Waters means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof, except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters.

Wet weather conveyance means, notwithstanding any other law or rule to the contrary, man-made or natural watercourses, including natural watercourses that have been modified by channelization:

(a) That flow only in direct response to precipitation runoff in their immediate locality;

(b) Whose channels are at all times above the groundwater table;

(c) That are not suitable for drinking water supplies; and

(d) In which hydrological and biological analyses indicate that, under normal weather conditions, due to naturally occurring ephemeral or low flow there is not sufficient water to support fish, or multiple populations of obligate lotic aquatic organisms whose life cycle includes an aquatic phase of at least two months.

Wet weather flow shall be construed to represent stormwater runoff which, in combination with all process and/or non-process wastewater discharges, as applicable, is discharged during a qualifying storm event.

4.2. ACRONYMS AND ABBREVIATIONS

1Q10 – 1-day minimum, 10-year recurrence interval
30Q5 – 30-day minimum, 5-year recurrence interval
7Q10 – 7-day minimum, 10-year recurrence interval
BAT – best available technology economically achievable
BCT – best conventional pollutant control technology
BDL – below detection limit
BOD_5 – five-day biochemical oxygen demand
BPT – best practicable control technology currently available
$CBOD_5$ – five-day carbonaceous biochemical oxygen demand
CEI – compliance evaluation inspection
CFR – code of federal regulations
CFS – cubic feet per second
CFU – colony forming units
CIU – categorical industrial user
CSO – combined sewer overflow
DMR – discharge monitoring report
D.O. – dissolved oxygen
E. coli – *Escherichia coli*
EPA – Environmental Protection Agency
EFO – environmental field office
GPM – gallons per minute
IC_{25} – inhibition concentration causing 25% reduction in survival, reproduction, and growth of the test organisms
IU – industrial user
IWS – industrial waste survey
LB (lb) – pound
LC_{50} – acute test causing 50% lethality
MDL – method detection limit
MGD – million gallons per day
mg/L – milligrams per liter
ML – minimum level of quantification
mL – milliliter
MLSS – mixed liquor suspended solids
MOR – monthly operating report
NODI – no discharge code in NetDMR
NPDES – national pollutant discharge elimination system
PL – permit limit
POTW – publicly owned treatment works
SAR – semi-annual report [pretreatment program]

SIU – significant industrial user
SSO – sanitary sewer overflow
STP – sewage treatment plant
TBEL – technology-based effluent limit
TCA – Tennessee code annotated
TDEC – Tennessee Department of Environment and Conservation
TIE/TRE – toxicity identification evaluation/toxicity reduction evaluation
TMDL – total maximum daily load
TRC – total residual chlorine
TSS – total suspended solids
WQBEL – water quality-based effluent limit

4.3. RESOURCES, HYPERLINKS, AND WEB PAGES

Clean Water Act NPDES Electronic Reporting (eReporting) Information
https://www.epa.gov/compliance/npdes-ereporting

Clean Water Act Section 316(b) Cooling Water Intake Existing Facility Final Rule
https://www.federalregister.gov/documents/2014/08/15/2014-12164/national-pollutant-discharge-elimination-system-final-regulations-to-establish-requirements-for

Electronic Code of Federal Regulations (eCFR), Title 40 (40 CFR § 1 through § 1099)
https://www.ecfr.gov/cgi-bin/text-idx?SID=75202eb5d09974cab585afeea981220b&mc=true&tpl=/ecfrbrowse/Title40/40chaptI.tpl

Electronic Reporting (NetDMR) Waiver Request
https://www.tn.gov/content/dam/tn/environment/water/documents/wr_ereporting_waiver.pdf

Low Flow Statistics Tools: A How-To Handbook for NPDES Permit Writers (EPA)
https://www.epa.gov/sites/production/files/2018-11/documents/low_flow_stats_tools_handbook.pdf

Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (EPA)
https://www.epa.gov/sites/production/files/2015-08/documents/acute-freshwater-and-marine-wet-manual_2002.pdf

NetDMR Login
https://cdxnodengn.epa.gov/net-netdmr/

NetDMR, MyTDEC Forms, & Electronic Reporting Information
https://www.tn.gov/environment/program-areas/wr-water-resources/netdmr-and-electronic-reporting.html

NPDES Compliance Inspection Manual (EPA)
https://www.epa.gov/sites/production/files/2017-01/documents/npdesinspect.pdf

NPDES Electronic Reporting Rule
https://www.federalregister.gov/documents/2015/10/22/2015-24954/national-pollutant-discharge-elimination-system-npdes-electronic-reporting-rule

Quality System Standard Operating Procedure for Macroinvertebrate Stream Surveys (QSSOP)
https://www.tn.gov/content/dam/tn/environment/water/documents/DWR-PAS-P-01-Quality_System_SOP_for_Macroinvertebrate_Stream_Surveys-081117.pdf

Rules of the TN Department of Environment and Conservation, Chapter 0400-40
https://publications.tnsosfiles.com/rules/0400/0400-40/0400-40.htm

Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA)
https://www.epa.gov/sites/production/files/2015-08/documents/short-term-chronic-freshwater-wet-manual_2002.pdf

TDEC Water Quality Rules, Reports, and Publications
https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/water-quality-reports---publications.html

Technical Support Document for Water Quality-based Toxics Control (EPA)
https://www3.epa.gov/npdes/pubs/owm0264.pdf

Tennessee Nutrient Reduction Framework
https://www.tn.gov/content/dam/tn/environment/water/tmdl-program/wr-ws_tennessee-draft-nutrient-reduction-framework_030315.pdf

Tennessee Plant Optimization Program (TNPOP)
https://www.tn.gov/environment/program-areas/wr-water-resources/tn-plant-optimization-programs/tnpop.html

Tennessee Water Resources Data and Map Viewers
https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/water-resources-data-map-viewers.html

USGS StreamStats
https://www.usgs.gov/mission-areas/water-resources/science/streamstats-streamflow-statistics-and-spatial-analysis-tools?qt-science_center_objects=0#qt-science_center_objects

USGS SWToolbox
https://www.usgs.gov/software/swtoolbox-software-information

PART 5

5. BEST MANAGEMENT PRACTICES

5.1. GENERAL CONDITIONS

For purposes of this part, the terms "pollutant" or "pollutants" refer to any substance listed as toxic under Section 307(a)(1) of the Clean Water Act (CWA), oil, as defined in Section 311(a)(1) of the CWA, and any substance listed as hazardous under Section 311 of the CWA. The permittee shall develop and implement a Best Management Practices (BMP) Plan which prevents or minimizes the potential for the release of pollutants (including oil and grease) from ancillary activities (including material storage areas, plant site runoff, in-plant transfers, process and material handling areas, loading and unloading operations, and sludge waste disposal areas) to the waters of the State of Tennessee through plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

5.2. GENERAL REQUIREMENTS

The BMP Program shall:

a) Be documented in narrative form, and shall include any necessary plot plans, drawings, or maps.

b) Establish specific objectives for the control of toxic and hazardous pollutants:

   i. Each facility component or system shall be examined for its potential for causing a release of significant amounts of toxic or hazardous pollutants to waters of the State of Tennessee due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.; and
   ii. Where experience indicates a reasonable potential for equipment failure (*e.g.,* a tank overflow or leakage), natural condition (*e.g.,* precipitation), or other circumstances to result in significant amounts of toxic or hazardous pollutants reaching surface waters, the Plan should include a prediction of the direction, rate of flow, and total quantity of toxic or hazardous pollutants which could be discharged from the facility as a result of each condition or circumstance.

c) Establish specific best management practices to meet the objectives identified under section b) above, addressing each component or system capable of

causing a release of significant amounts of toxic or hazardous pollutants to the waters of the State of Tennessee.

d) The BMP program:

i. May reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under section 311 of the Act and 40 CFR part 112, and may incorporate any part of such plans into the BMP program by reference;

ii. Shall ensure the proper management of solid and hazardous waste in accordance with regulations promulgated under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA) (40 U.S.C. §6901, et. seq.). Management practices required under RCRA regulations shall be expressly incorporated into the BMP program; and

iii. Shall address the following points for the ancillary activities listed in section 5.1 above:

1) *Statement of policy*;
2) *Spill Control Committee*: responsible for BMP program implementation and subsequent review and updating;
3) *Material inventory*: identification of all sources and quantities of toxic and hazardous substances handled or produced, including plant drawings and plot plans, materials flow diagrams, physical, chemical, toxicological, and health information on toxic and hazardous substances, and investigation and evaluation of new materials;
4) *Material compatibility*: evaluation of process changes or revisions for materials compatibility, review of properties of chemicals handled and materials of construction, evaluation of means of chemical disposal and incompatibility, cleansing of vessels and transfer lines, and use of proper coatings and cathodic protection on buried pipelines if required;
5) *Employee training*: meetings to be held at frequent intervals, spill drills, adequate job training, transmission of information on past spills and causes, informing employees of BMP program components, training in cleanup procedures, and review and interface with safety program;
6) *Reporting and notification procedures*: maintenance of records of spills through formal reports for internal review, notification as required by law to governmental and environmental agencies in the event of a spill, and procedures for notifying the appropriate plant personnel;

7) *Visual inspections*: routine inspections with visual observations of storage facilities, transfer pipelines, and loading and unloading areas, detailed inspections of pipes, pumps, valves, fittings, tank corrosion, tank support and foundation deterioration, etc.;
8) *Preventative maintenance*: identification of equipment and systems to which the preventive maintenance program should apply, periodic inspection and testing of such equipment and systems, appropriate adjustment, repair, or replacement of parts, and maintenance of preventive maintenance records;
9) *Good housekeeping*: neat and orderly storage of chemicals, prompt removal of small spillage, regular garbage pickup, maintenance of dry and clean floors, proper pathways and walkways, minimum accumulation of liquid and solid chemicals on the ground or floor in a building, and stimulation of employee interest in good housekeeping; and
10) *Security*: plant patrols, fencing, good lighting, traffic control, controlled access where appropriate, visitor passes, locked entrances, locks on drain valves and pumps for chemical storage tanks, and television monitoring.

Additional technical information on BMPs and the elements of a BMP program is contained in the following EPA publications: *Guidance Manual for Developing Best Management Practices (BMP)* (EPA 833-B-93-004) and *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006).

5.3. DOCUMENTATION

The permittee shall maintain the BMP plan at the facility and shall make the plan available to the permit issuing authority upon request.

5.4. BMP PLAN MODIFICATION

The permittee shall amend the BMP plan whenever there is a change in the facility or change in the operation of the facility, which materially increases the potential for the ancillary activities to result in a discharge of significant amounts of pollutants.

5.5. MODIFICATION FOR INEFFECTIVENESS

If the BMP plan proves to be ineffective in achieving the general objective of preventing the release of significant amounts of pollutants to surface waters and the specific objectives and requirements under section 5.2 above, the permit shall

be subject to modification pursuant to 40 CFR 122.62 or 122.63 to incorporate revised BMP requirements. Any such permit modification shall be subject to review in accordance with the procedures for permit appeals set forth in accordance with 69-3-110, Tennessee Code Annotated.

5.6. COMPLIANCE SCHEDULE

Unless the permittee is otherwise authorized by the Division in writing, the BMP plan shall be completed as follows:

a) The plan shall be developed and available for review within 45 days after the permit effective date.

b) The permittee shall begin implementation of the BMP plan as soon as possible, but not later than 90 days after the permit effective date. Where new construction is necessary to implement the management plan, a construction schedule shall be included. Construction shall be completed as soon as possible.

The permittee shall fully complete the approved BMP plan, including all necessary construction, and be in full compliance within the CWA within 6 months following initial implementation of the plan.

PART 6

6. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

The discharger will develop, document, and maintain a stormwater pollution prevention plan (SWPPP) pursuant to the requirements as set forth in the Tennessee Multi-Sector General Permit for Industrial Activities, Sector F, "Storm Water Discharges Associated With Industrial Activity From Primary Metals Facilities", Part 3, "Storm Water Pollution Prevention Plan Requirements", applicable to Primary and Secondary Metals Facilities. The plan shall be signed by either a principal executive officer of a corporation, the owner or proprietor of a sole proprietorship, or a partner or general partner of a partnership. The SWPPP developed and implemented shall contain, in addition to the requirements listed in the Tennessee Multi-Sector SWPPP guidelines for Secondary Metals Facilities, the following items:

6.1. PLAN IMPLEMENTATION

The plan should be developed and available for review within 30 days after permit coverage. Facilities should implement the management practices as soon as possible, but not later than one year after permit coverage. Where new construction is necessary to implement the management plan, a construction schedule should be included. Construction should be completed as soon as possible.

6.2. PLAN AVAILABILITY

The plan will be maintained by the discharger on the site or at a nearby office. Copies of the plan will be submitted to the Division within ten business days of any request.

6.3. PLAN MODIFICATION

The plan will be modified as required by the Division Director.

6.4. MONITORING PLAN

The stormwater discharges will be monitored as required in **Part 1.1.** of the permit, as applicable to stormwater outfalls. For each outfall monitored, the surface area and type of cover (*e.g.* roof, pavement, grassy areas, gravel) will be identified.

Sector F - SWPPP Requirements

3. Stormwater Pollution Prevention Plan Requirements

3.1 Deadlines for Plan Preparation and Compliance. There are no additional deadlines for plan preparation and compliance.

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

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

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

3.2.2.1 Drainage. A site map indicating an outline of the portions of the drainage area of each stormwater outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in stormwater runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under subsection 11.F.3.2.2.2 of this sector (Spills and Leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes such as spent solvents or baths, sand, slag or dross, liquid storage tanks or drums, processing areas including pollution control equipment such as baghouses, and storage areas of raw materials such as coal, coke, scrap, sand, fluxes, refractories, or metal in any form. The map shall also indicate areas of the facility where accumulation of significant amounts of particulate matter from operations such as furnace or oven emissions or losses from coal/coke handling operations, etc., is likely, and could result in a discharge of pollutants to waters of the state. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

For each area of the facility that generates stormwater discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, the plan should include a prediction of the direction of flow, and an identification of the types of pollutants that are likely to be present in stormwater discharges associated with industrial activity. Factors to consider include the toxicity of a chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with stormwater; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

3.2.2.2 Inventory of Exposed Materials - An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to stormwater between the time of 3 years prior to the date of the submission of an NOI to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with stormwater runoff between the time of 3 years prior to the date of the submission of an NOI to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in stormwater runoff; and a description of any treatment the stormwater receives. This description should also include areas with the potential for deposition of particulate matter from process air emissions or losses during material handling activities. The description shall be updated whenever there is a significant change in the type or quantity of exposed materials, or material management practices that may affect the exposure of materials to stormwater.

3.2.2.3 Spills and Leaks - A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a stormwater conveyance at the facility after the date of 3 years prior to the date of the submission of an NOI to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

3.2.2.4 Sampling Data - A summary of existing discharge sampling data describing pollutants in stormwater discharges from the facility, including a summary of sampling data collected during the term of this permit.

3.2.2.5 Risk Identification and Summary of Potential Pollutant Sources - A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes occurring indoors or out, with or without pollution control equipment in place to trap particulates; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter

(e.g., chemical oxygen demand, oil and grease, copper, lead, zinc, etc.) of concern, shall be identified.

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

3.2.3.1 Good Housekeeping - Good housekeeping requires the maintenance of areas that may contribute pollutants to stormwater discharges in a clean, orderly manner. The pollution prevention plan should consider implementation of the following measures, or equivalent measures, where applicable.

Establish a cleaning or maintenance program for all impervious areas of the facility where particulate matter, dust, or debris may accumulate, particularly areas of material loading/unloading, material storage and handling, and processing.

Pave areas of vehicle traffic or material storage where vegetative or other stabilization methods are not practical. Institute a sweeping program in these areas as well.

For unstabilized areas of the facility where sweeping is not practical, stormwater management devices such as sediment traps, vegetative buffer strips, filter fabric fence, sediment filtering boom, gravel outlet protection, or other equivalent measures, that effectively trap or remove sediment should be considered.

3.2.3.2 Source Controls - The permittee shall consider preventive measures to minimize the potential exposure of all significant materials (as described in paragraph 11.6.3.a. (3) of this section) to precipitation and stormwater runoff. The permittee should consider the implementation of the following measures, or equivalent measures, to reduce the exposure of all materials to stormwater:

Relocating all materials, including raw materials, intermediate products, material handling equipment, obsolete equipment, and wastes currently stored outside to inside locations.

Establishment of a schedule for removal of wastes and obsolete equipment to minimize the volume of these materials stored onsite that may be exposed to stormwater.

Initiate a program to substitute less hazardous materials, or materials less likely to contaminate stormwater, or substitution of recyclable materials for nonrecyclables wherever possible.

Constructing permanent or semipermanent covers or other similar forms of protection over stockpiled materials, material handling and processing equipment. Options include roofs, tarps, and covers. This may also include the use of containment bins or covered dumpsters for raw materials, waste materials and nonrecyclable waste materials.

Dikes, berms, curbs, trenches, or other equivalent measures to divert run-on from material storage, processing, or waste disposal areas.

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

A schedule for inspection and maintenance of all particulate emissions control equipment should be established to ensure proper operation. Inspections should be conducted as described in Section 11.F.3.2.3.6 below. Detection of any leaks or defects that could lead to excessive emissions shall be repaired as soon as practicable. Where significant settling or deposition from process emissions are observed during proper operation of existing equipment, the permittee shall consider ways to reduce these emissions including but not limited to: upgrading or replacing existing equipment; collecting runoff from areas of deposition for treatment or recycling; or changes in materials or processes to reduce the generation of particulate matter.

3.2.3.4 Structural Best Management Practices (BMPs) will be visually inspected for signs of washout, excessive sedimentation, deterioration, damage, or overflowing, and shall be repaired or maintained as soon as practicable.

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

3.2.3.6 Inspections - Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals, but no less frequently than once during each of the following periods: January through March; April through June; July through September; and October through December. A set of tracking or follow-up procedures shall

be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained. Inspections shall be conducted on a quarterly basis and address, at a minimum, the following areas where applicable:

Air pollution control equipment such as baghouses, electrostatic precipitators, scrubbers, and cyclones, should be inspected on a routine basis for any signs of disrepair such as leaks, corrosion, or improper operation that could limit their efficiency and lead to excessive emissions. The permittee should consider monitoring air flow at inlets and outlets, or equivalent measures, to check for leaks or blockage in ducts. Visual inspections shall be made for corrosion, leaks, or signs of particulate deposition or visible emissions that could indicate leaks. All process or m

All process or material handling equipment such as conveyors, cranes, and vehicles should be inspected for leaks, drips, etc. or for the potential loss of materials.

Material storage areas such as piles, bins or hoppers for storing coke, coal, scrap, or slag, as well as chemicals stored in tanks or drums, should be examined for signs of material losses due to wind or stormwater runoff.

Note that additional Stormwater Pollution Prevention Plan (SWPPP) requirements for discharges into waters with unavailable parameters or Exceptional Tennessee waters, as described in the subpart 4.6 of this permit may be applicable to your facility.

3.2.3.7 Employee Training - Employee training programs shall inform personnel responsible for implementing activities identified in the stormwater pollution prevention plan or otherwise responsible for stormwater management at all levels of responsibility of the components and goals of the stormwater pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify periodic dates for such training.

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

3.2.3.8 Non-stormwater Discharges

3.2.3.8.1 Certification. The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-stormwater discharges. The certification shall include the identification of potential significant sources of non-stormwater at the site, a description of the results of any test and/or evaluation for the presence of non-stormwater

discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with subpart 7.7 of this permit. Such certification may not be feasible if the facility operating the stormwater discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit that receives the discharge. In such cases, the source identification section of the stormwater pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-stormwater at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Division of Water Resources in accordance with paragraph "Failure to Certify" (below).

Sources of non-stormwater that are combined with stormwater discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Any non-stormwater discharges that are not authorized under this permit or another NPDES permit should be brought to the attention of the division's local Environmental Field Office (see list of EFOs on page 14).

3.2.3.8.2 Failure to Certify - Any facility that is unable to provide the certification required (testing for non-stormwater discharges), must notify the Division of Water Resources not later than 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-stormwater discharges; the results of such test or other relevant observations; potential sources of non-stormwater discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Nonstormwater discharges to waters of the state that are not authorized by an NPDES permit are unlawful, and must be terminated.

3.2.3.9 Sediment and Erosion Control - The plan shall identify areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion. The plan shall also contain a narrative consideration of the appropriateness of traditional stormwater management practices (practices other than those that control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage stormwater runoff in a manner that reduces pollutants in stormwater discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to stormwater discharges associated with industrial activity (see paragraph F.3.2.2.5 of this section (Description of Potential Pollutant Sources) shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected stormwater (such as for a process or as

an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices or other equivalent measures.

3.2.3.10 Management of Runoff - Facilities shall consider implementation of the following stormwater management practices or other equivalent measures to address pollutants of concern:

- Vegetative buffer strips, filter fabric fence, sediment filtering boom, or other equivalent measures, that effectively trap or remove sediment prior to discharge through an inlet or catch basin.
- Media filtration such as catch basin filters and sand filters.
- Oil/water separators or the equivalent.
- Structural BMPs such as settling basins, sediment traps, retention or detention ponds, recycling ponds or other equivalent measures.

3.2.4 Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the SWPPP but in no case less than once a year. Such evaluations shall provide:

3.2.4.1 Areas contributing to a stormwater discharge associated with industrial activity such as material storage and handling, loading and unloading, process activities, and plant yards shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system (and potentially waters of the state). Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural stormwater management measures, sediment and erosion control measures, other structural pollution prevention measures identified in the plan, as well as process related pollution control equipment shall be observed or tested to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

3.2.4.2 Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph F.3.2.2.5 of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph F.3.2.3 of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

3.2.4.3 A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the stormwater pollution prevention plan, and actions taken in accordance with paragraph

3.2.3.7 (above) of the permit shall be made and retained as part of the stormwater pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the stormwater pollution prevention plan and this permit. The report shall be signed in accordance with subpart 7.7 (Signatory Requirements) of this permit.

3.2.4.4 Where compliance evaluation schedules overlap with inspections required, the compliance evaluation may be conducted in place of one such inspection.

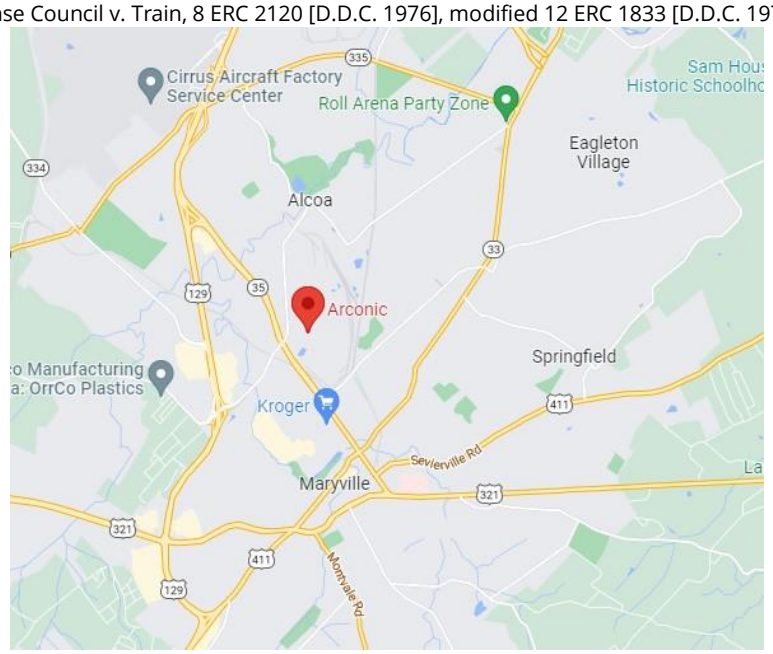
RATIONALE

Arconic US LLC
South Plant
NPDES Permit Number TN0065081
Date: 11/29/2022
Permit Writer: Oscar Montenegro

1. FACILITY INFORMATION

Permittee Name:	**Arconic US LLC**
Project Name:	**South Plant**
Location:	300 North Hall Road, Alcoa, Blount County, Tennessee
Contact:	Mr. Jeffrey Weida - Location Manager (865) 977-2502 jeffrey.weida@arconic.com
Design Flow Rate:	3.53 MGD
Nature of Business:	The South Plant is an aluminum secondary smelting and reclamation facility with related support facilities;
SIC Code(s):	3341
Industrial Classification:	Primary Facility *
Discharger Rating:	Major

* PRIMARY INDUSTRY CATEGORY means any industry category listed in the NRDC Settlement Agreement (Natural Resources Defense Council v. Train, 8 ERC 2120 [D.D.C. 1976], modified 12 ERC 1833 [D.D.C. 1979])



2. FACILITY DISCHARGES AND RECEIVING STREAM INFORMATION

Receiving Waterbody:	**Pistol Creek at mile 4.7 (006 and SW6), Pistol Creek at mile 7.0 (SW4), an unnamed pond on Arconic property (S03)**
Watershed Group:	Ft. Loudoun/Little River
Hydrocode:	6010201
Primary Outfall Latitude:	35.791667
Primary Outfall Longitude:	-83.97777
Low Flow:	7Q10 = 3.33 MGD (5.15 CFS)
Low Flow Reference:	USGS StreamStats

Stream Designated Uses:

Domestic Water Supply	*Industrial*	*Fish & Aquatic Life*	*Recreation*
		X	**X**
Livestock & Wildlife	*Irrigation*	*Navigation*	*Trout*
X	**X**		

Arconic US LLC discharges industrial wastewater from Outfall 006 and industrial storm water runoff from Outfalls SW4,SW6 and S03 to Pistol Creek at mile 4.7 (006 and SW6), Pistol Creek at mile 7.0 (SW4), and an unnamed pond on Arconic property (S03).

Low flows on unregulated streams are estimated using guidance from the EPA document *Low Flow Statistics Tools: A How-To Handbook for NPDES Permit Writers*. In this permit, no sufficient gage data is available to characterize the receiving stream. Thus, USGS Streamstats was used to delineate the critical low flow at the point of discharge. Appendix 5 shows the Streamstats output used for this estimation.

3. CURRENT PERMIT STATUS

Issuance Date:	October 1, 2018
Expiration Date:	December 31, 2022
Effective Date:	November 1, 2018

3.1. INTERNAL MONITORING POINTS 06A AND 06E

IMP 06A's final discharge point is through Outfall 006 and includes discharge from South Ingot cooling tower blow down and filter backwash water. Process wastewater discharged through Internal Monitoring Point (IMP) 06A is regulated by 40 CFR Part 421.32 and 421.23 (q) Direct Chill Casting Contact Cooling.

Appendix 4 lists the applicable best available technology (BAT) and best practicable technology (BPT) currently available. This permit no longer uses tiered limits based on rate of production and instead is based on the long-term average production rate reported in the application (2.75 million lb/day).

This permit includes IMP 06E as an emergency outfall in the event of production outages at the Arconic North Plant's ingot casting facility (TN0067199). These limits shall be applicable only when the North Plant is non-operational and production at the South Plant is increased to facilitate maintaining their production schedule. Based on the rates of production reported by the permittee for both plants, limits were calculated for 06E based on a rate of production of 3.75 million lb/day. All aluminum manufactured under emergency conditions must still come from secondary sources.

For all times that production at the South Plant is operating at normal capacity the DMR for Emergency Outfall 06E shall be reported as “no-discharge” for the months’ reporting requirements No discharge was reported through 06E during the previous permit cycle.

3.2. OUTFALL SW6

In order to adequately characterize dry weather and wet weather discharges, two sets of effluent limitations will be retained in the new permit. Effluent limitations for the outfall designated as SW6 will represent wet weather discharges from the facility. It should be noted that Outfalls 006 and SW6 represent the same physical location.

Certain “cut-off concentrations” have been established for monitored stormwater parameters (See chart in Section 6.10 below). These benchmark values were developed by the EPA and the State of Tennessee and are based on data submitted by similar industries. It should be noted that since the storm water samples are not collected at low flow and are intermittent discharges, an exceedance of the cut-off concentration does not necessarily verify the existence of a water quality issue. Additionally, the site specific instream aluminum criterion at the South Plant is 3.69 mg/L.

4. APPLICABLE EFFLUENT LIMITATIONS GUIDELINES

The Standard Industrial Classification (SIC) code for Arconic US LLC is 3341 (Secondary Smelting and Refining of Nonferrous Metals). Process wastewater discharged through Internal Monitoring Point 06A (via Outfall 006), is regulated by

40 CFR Part 421. Appendix 4 lists the applicable effluent limitations guidelines from Subpart C - Secondary Aluminum Smelting Subcategory.

5. PREVIOUS PERMIT TERM REVIEW

A review of the permittee's Discharge Monitoring Reports (DMRs) from October 2018 to September 2022 revealed that the permittee reported no numeric violations of any permit limits. However, there was one violation during the previous permit cycle due to a sampling error at the South Plant. Entries marked BDL had values below the detection limit, while those labeled ND mean that there was no discharge during that reporting period.

No discharge was reported from Emergency Outfall 06E during the previous permit cycle. A summary of DMR data is located in Appendix 2.

During the previous permit term, Division personnel from the Knoxville Environmental Field Office performed a Compliance Evaluation Inspection (CEI) of the permittee's facility. The CEI was performed by Steve Brooks on August 6th 2021 and the permittee was found to be in compliance. The inspection report described properly ran operations and had no further recommendations.

6. NEW PERMIT LIMITATIONS AND MONITORING REQUIREMENTS

The proposed new permit limits have been selected by determining a technology-based limit and evaluating if that limit protects the water quality of the receiving stream. If the technology-based limit would cause violations of water quality, the water quality-based limit is chosen. The technology-based limit is determined from EPA effluent limitations guidelines if applicable (see Part 4 above) or from State of Tennessee maximum effluent limits for effluent limited segments per Rule 0400-40-05-.08. Note that in general, the term "anti-backsliding" refers to a statutory provision that prohibits the renewal, reissuance, or modification of an existing NPDES permit that contains effluents limits, permit conditions, or standards that are less stringent than those established in the previous permit.

a) This permit reissuance reassesses limits for the South Plant using only Secondary Smelting effluent limitations, since primary smelting is no longer performed at the site. This resulted in a change in limits for Outfalls 006, 06A, and 06E.
b) Language throughout the permit has been updated to reflect the eReporting Phase 2 requirements in 40 CFR § 127.

c) For comparison, this rationale contains the previous permit limits and effluent monitoring requirements in Appendix 1.

6.1. FLOW

Monitoring of flow quantifies the load of pollutants to the stream. Flow shall be reported in million gallons per day (MGD) and monitored at the time of sample collection.

Instream monitoring requirements are maintained for this permit reissuance.

6.2. METALS AND TOXICS

Effluent permit limits for metals and toxics were calculated as shown in Appendix 3.

6.2.1. Aluminum, Copper, Lead, and Zinc

Aluminum, Copper, Lead, and zinc are parameters that are limited in both the federal effluent guidelines and the state's water quality criteria. The limits are based on the values calculated in Appendix 4, compliance with ELG requirement will be met at IMP 06A.

Arconic, Inc. has two aluminum manufacturing facilities (TN0065081 – South Plant, TN0067199 – North Plant) that have outfalls that discharge in dry weather to Pistol Creek. Aluminum has been limited based on a site specific study which determined that an acute dissolved water quality criteria of 0.922 mg/L would be protective of the stream's designated uses. The study was titled "One Time Assessment of Benthic Macroinvertebrate and Fish Populations in Six Sites on Pistol Creek" by Eric L. Morgan dated August 1985.

The conversion to total aluminum is calculated using a dissolved effluent fraction of 0.25. The resulting total aluminum water quality criterion is 3.69 mg/L. The limits were determined by analyzing the cumulative effect from all Arconic dry weather outfalls. The two facilities' current total loading accounts for 72% of the stream assimilative capacity. An allocation of 129 lb/day was given for Outfall 006. Calculations for the current and proposed permit limits are provided below with a proposed daily maximum limit of **76.6 mg/L** for Outfall 006.

$$0.202 \text{ MGD} * 8.34 \text{ (L lb)/(mg MGD day)} * X = 129 \text{ lb/day}$$
$$X = 76.6 \text{ mg/L}$$

6.2.2. Magnesium and Chromium

Magnesium and Chromium have been historically monitored in stormwater discharge. Report Only limits are maintained this permit cycle since stormwater still has reasonable potential to contain elevated levels of these metals.

6.2.3. Benzo(a)pyrene)

Benzo(a)pyrene was monitored in this permit based on primary metal processing. This requirement has been removed this permit cycle because the primary activity has been updated to one without guidelines for it and this site has consistently reported benzo(a)pyrene levels below detection limit.

6.3. OIL AND GREASE

The Division has determined that an oil and grease limitation is needed for this facility because of the potential of contamination from spills, leaks, and other industrial activities present at the site. The technology-based limit for oil and grease is 15 mg/L as a daily maximum concentration. This level can be accomplished where oil/water separators are maintained, kept clean and are not overloaded. There should be less reliance upon the oil/water separator as a solution and a greater reliance upon good management, operation, and housekeeping practices to restrict pollution.

According to the State of Tennessee Water Quality Standards for the protection of Fish & Aquatic Life [Chapter 0400-40-03-.03(3)(c)], there shall be no distinctly visible solids, scum, foam, oily slick, or the formation of slimes, bottom deposits or sludge banks of such size or character that may be detrimental to fish and aquatic life in the receiving stream.

The permit writer is selecting technology-based limits for oil and grease of 15 mg/L as a daily maximum concentration and 10 mg/L as a monthly average concentration. In addition, the permit contains language prohibiting visible floating scum, oil, or other matter in the wastewater discharge. Sample type will be grab.

6.4. TOTAL SUSPENDED SOLIDS (TSS)

The State of Tennessee Water Quality Standards for the protection of Fish & Aquatic Life [Chapter 0400-40-03-.03(3)(c)] state there shall be no distinctly visible solids, scum, foam, oily slick, or the formation of slimes, bottom deposits or sludge banks of such size or character that may be detrimental to fish and aquatic life in the receiving stream.

This site historically has had a 40 mg/L technology-based limit that has been achievable with the existing treatment. The permit writer believes the limit of 40 mg/L daily maximum concentration will provide protection of water quality in the receiving stream.

6.5. PH

According to the State of Tennessee Water Quality Standards [Chapter 0400-40-03-.03(3) (b)], the pH for the protection of Fish and Aquatic Life shall not fluctuate more than 1.0 unit over a period of 24 hours and shall not be outside the following ranges: 6.0 – 9.0 standard units (SU) in wadeable streams and 6.5 – 9.0 SU in larger rivers, lakes, reservoirs, and wetlands. Considering that the receiving stream will provide some buffering capacity, effluent limitation for pH will be retained in a range 6.0 to 9.0. The sample type will be grab.

6.6. AMMONIA (NH_3-N)

To assess ammonia toxicity impacts, the state utilizes Tennessee Rules, Chapter 0400-40-03-.03-3(3)(j), dated September 11, 2019, to derive allowable instream protection values protective of chronic and acute exposures to a continuous discharge. A mass balance equation with the treatment facility, stream flows, and these allowable values determines the monthly average and daily maximum permit limits.

The temperature used in calculations is determined based on measured ambient instream temperature or is estimated according to Tennessee's Three Grand Divisions as follows: East (winter 15°C, summer 25°C), Middle (winter 17°C, summer 27°C), and West (winter 20°C, summer 30°C).

A flow of 2.4 MGD including stormwater flow was included to obtain more conservative limits and considering stormwater can be a source of ammonia. Using temperature and pH values, the criterion continuous concentration (CCC) and criterion maximum concentration (CMC) values are calculated using the following equations:

$$CCC = 0.8876 * \left(\frac{0.0278}{1 + 10^{7.688-pH}} + \frac{1.1994}{1 + 10^{pH-7.688}}\right) * (2.126 * 10^{0.028*(20-MAX(T,7))})$$

and

$$CMC = MIN\left\{\begin{array}{c}\left(\frac{0.275}{1+10^{7.204-pH}}+\frac{39.0}{1+10^{pH-7.204}}\right), \\ \left(0.7249*\left(\frac{0.0114}{1+10^{7.204-pH}}+\frac{1.6181}{1+10^{pH-7.204}}\right)*\left(23.12*10^{0.036*(20-T)}\right)\right)\end{array}\right\}$$

The determined CCC and CMC values are then used in the mass balance equation as follows:

$$CCC = \frac{Q_S C_S + Q_{STP} C_{STP}}{Q_S + Q_{STP}} \quad \text{or} \quad C_{STP} = \frac{CCC(Q_S + Q_{STP}) - (Q_S C_S)}{Q_{STP}}$$

where:

CCC	=	Criteria continuous concentration (mg/L)
Q_S	=	7Q10 flow of receiving stream (MGD)
Q_{STP}	=	Design flow of STP (MGD)
C_S	=	Assumed/Measured instream NH_3 (mg/L)
C_{STP}	=	Allowable STP discharge of NH_3 (mg/L)

See below for calculations for the chronic case:

CCC Calculation: Chronic Limits

Winter		Summer	
Temp (°C)=	15	Temp (°C)=	25
pH=	7.5	pH=	7.5
MAX Expression	15.0000	MAX Expression	25.0000
Winter CCC=	**1.92**	Summer CCC=	**1.01**

CCC - Continuous Chronic Criterion Allowable instream NH3 concentration [mg/l]

$$CCC = \frac{\text{(Critical Low Flow [MGD] * Background Ammonia [mg/L]) + (Design Flow [MGD] * } \textbf{Effluent Concentration} \text{ [mg/L])}}{\text{(Critical Low Flow [MGD] + (Design Flow [MGD])}}$$

where:	3.33	Critical Low Flow [MGD] (7Q10 value)
	0.05	Background Ammonia Concentration [mg/L] *
	2.4	WWTP Design Flow or long-term average flow [MGD]

Therefore, the Allowable **Effluent Concentrations** and corresponding **Amounts** in winter and summer are:

Winter		Summer	
4.52	Concentration [mg/L]	**2.341**	Concentration [mg/L]
90.5	Amount [lb/day]	**46.9**	Amount [lb/day]

* In the absence of measured data, an assumed background concentration of 0.1 mg/L is used based on an Agreed Wasteload Allocation Modeling Methodology between the EPA and State of TN

Based on the flow provided by the receiving steam and the ammonia concentrations from the permit application (< 1 mg/L), this facility still does not have reasonable potential to exceed the 2019 ammonia criteria and no new ammonia limits apply to this permit.

6.7. CHLORINATION

The total residual chlorine (TRC) limit is derived using the mass balance formula and the EPA acute instream protection value of 0.019 mg/L for fish and aquatic life. Applying this formula yields the following calculation for the TRC daily maximum limit:

$$\frac{0.019\ (Qd + Qs)}{Qd} = Limit\ (mg/L) = \frac{0.019(0.202 + 3.33)}{0.202} = 0.33\ mg/L$$

Where:

0.019 mg/L	=	acute instream protection value
3.33	=	Qs – 7Q10 flow of receiving stream (MGD)
0.202	=	Qd – flow of discharge (MGD)

Similarly, the chronic instream protection value of 0.011 mg/L for fish and aquatic life is applied to the mass balance formula to determine the monthly average limit for TRC. Previous permits do not contain rationale for omitting this limit and may have utilized the belief that chlorine's reactivity with other compounds will ensure it does not remain in solution long enough to result in chronic exposure to fish and aquatic life. The best way to reflect that chronic exposure to harmful levels of chlorine is not occurring is reporting successful operation of the de-chlorination technology in compliance with the monthly average limit. This added limit does not entail additional sampling but rather calculation of a monthly average value based on the sampling results in consideration of the method detection level of the test method.

$$\frac{0.011\ (Qd + Qs)}{Qd} = Limit\ (mg/L) = \frac{0.011(0.202 + 3.33)}{0.202} = 0.19\ mg/L$$

Considering the reported TRC will be that of the effluent, an exceedance of the above-mentioned monthly average of 0.177 mg/L water quality criteria is not necessarily a permit violation. The 0.177 mg/L value applies to the receiving stream, not the effluent. Therefore, if the TRC monthly average of the effluent exceeds 0.177 mg/L, the permittee should note in the comments section of NetDMR that this is the TRC of the effluent and not of the receiving stream. A TRC check in the receiving stream below the discharge point may be performed in order to prove a facility's compliance with the Tennessee Water Quality Standards and should also be noted in the comments section of NetDMR.

6.8. FLUORIDE

Although Pistol Creek is not designated as a domestic water supply, Pistol Creek flows into the Little River which is designated as a domestic water supply. The previous permit limits were based on the state effluent guideline for fluoride of 20 mg/L. A review of fluoride concentrations for Outfall 006 indicate an average of 1.7 mg/L which is below the domestic water supply standard of 4.0 mg/L. Considering the size of the Little River, there is no reasonable potential to exceed the domestic water supply standard. Fluoride will remain in the new permit as report only.

6.9. BIOMONITORING

The discharge of industrial wastewater from Outfall 006/SW6 may contain several different pollutants, the combined effect of which has a reasonable potential to be detrimental to fish and aquatic life. The Division evaluates all discharges for reasonable potential to exceed the narrative water quality criterion "no toxics in toxic amounts".

Chronic biomonitoring (IC_{25}) will continue to apply to Outfall 006 based on the following calculations:

$$Dilution\ Factor = \frac{Stream\ Low\ Flow + Average\ Flow}{Average\ Flow} = \frac{3.33 + 0.202}{0.202} = 17.4$$

$$IC_{25}\ \% > \frac{100\%}{Dilution\ Factor} > \frac{100\%}{17.4} > 5.8\ \%$$

Where:

3.33	=	7Q10 Low Flow (MGD)
0.202	=	Long Term Average Flow (MGD)
IC_{25}	=	Concentration causing 25% reduction in survival, growth, and reproduction of test organisms

Acute biomonitoring testing (LC_{50}) applies to stormwater outfalls as they release in batches at higher flow rates that may carry additional pollutants.

6.10. OUTFALLS SW4 & S03

Stormwater runoff parameters to be monitored and reported were determined by comparing effluent limitations and monitoring requirements from the previous permit, the requirements from the Tennessee Storm Water Multi-Sector General Permit for Industrial Activities (TMSP), the data submitted on Discharge

Monitoring Report (DMR) forms, and the data contained in the application 2F submitted by the permittee.

Effluent limitations for outfalls designated as SW6 will represent wet weather discharges from the facility. The definition of wet weather flow can be found in Part 4 of this permit.

There are no effluent guidelines for stormwater discharges from the permittee's facility. The previous permit did not have effluent limitations for the facility's stormwater runoff. All parameters were monitored on a "Report" only basis. Similarly, the new permit will not establish effluent limitations but will require reporting of effluent characteristics at Outfalls SW4 & S03. Nevertheless, a certain "cut-off concentrations" will be established for each of the monitored parameters. Additionally, the site specific instream aluminum criterion is 3.69 mg/L.

The Division is not assigning limits for these parameters at this time since it is the intent of the Division that the permittee institutes a Storm Water Pollution Prevention Plan (SWPPP) in order to minimize the discharge of these pollutants from storm water outfalls. It is the opinion of the Division that the best method for dealing with potential pollution associated with storm water discharges from the permittee's facility is through implementation of an aggressive SWPPP, coupled with discharge monitoring to verify SWPPP effectiveness. Monitoring of stormwater runoff from Outfalls SW4 and S03 will be required for Flow, Total Suspended Solids (TSS), Oil & Grease, Ammonia as Nitrogen, Nitrite plus Nitrate and pH on a semiannual basis.

Parameters of Concern	Cut-off concentration (mg/L)
BOD (5-day)	30
Total Suspended Solids (TSS)	150
Oil & Grease	15
Aluminum, total (pH = 6.5-9.0)	0.75
Magnesium, total	0.064
pH (range)	6.0 - 9.0
Zinc, total recoverable	0.395

Note: Cut-off concentrations are from the Tennessee Stormwater Multi-Sector General Permit for Industrial Activities (TMSP)

Another provision incorporated in the previous permit was a "composite" sample type required for analysis of BOD-5 day, TSS, Ammonia as Nitrogen, and Total Recoverable Zinc. According to the U.S. EPA *NPDES Permit Writer's Manual* (Office of Water, EPA-883-B-96-003, December 1996, Page 123), "grab" samples should be

used when the quality and flow of the waste stream being sampled is not likely to change over time. Generally, for stormwater runoff samples, a grab sample is considered adequate for effluents from holding ponds or other impoundments with a retention period of greater than 24-hours (Instructions - EPA Form 3510-2F: Application for Permit to Discharge Storm Water Associated with Industrial Activity, General Instructions, p. 6 – 8).

Nevertheless, the Division recognizes that a "first flush" sample would be the most accurate representation of the maximum daily value for various pollutants in the stormwater runoff. Furthermore, stormwater sampling requirements included in the TMSP require analysis of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. Therefore, the sample type for all stormwater runoff parameters in the new permit will be changed from "composite" to "grab." Every effort should be made to collect a "first flush" sample representative of the daily maximum values for sampled parameters.

The new permit will contain a Storm Water Pollution Prevention Plan (SWPPP) developed to regulate stormwater runoff. This SWPPP is meant to ensure that runoff from the facility site is not a significant source of pollution to the receiving stream. The discharger will develop, document and maintain the SWPPP pursuant to the requirements as set forth in the Tennessee's Storm Water Multi-Sector General Permit for Industrial Activities, Sector F, "Storm Water Discharges Associated with Industrial Activity from Primary Metals Facilities", Part 3, "Storm Water Pollution Prevention Plan Requirements". The SWPPP may still be used in tandem with the SWPPP developed for the North Plant. The effectiveness of this SWPPP will be investigated after the results of the stormwater runoff monitoring have been submitted. At that time, should the results so dictate, the Division maintains the authority to institute specific numeric limitations for the monitored parameters.

7. OTHER PERMIT REQUIREMENTS AND CONDITIONS

7.1. PERMIT TERM

In order to meet the target reissuance date for the Ft. Loudoun/Little River watershed and following the directives for the Watershed Management Program initiated in January 1996, the permit will be issued to expire in 2027.

7.2. ELECTRONIC REPORTING

The NPDES Electronic Reporting Rule (eRule), which became effective on December 21, 2016, replaces most paper-based reporting requirements with

electronic reporting requirements. NetDMR allows NPDES permittees to submit DMRs electronically to EPA through a secure internet application and has been approved by Tennessee as the official electronic reporting tool for DMRs. The permittee has been reporting electronically via NetDMR since August 2015.

Monitoring results shall be recorded monthly and submitted monthly using Discharge Monitoring Reports (DMRs) based on the effluent limits in **section 1.1** of the permit. DMRs and DMR attachments, including laboratory data and overflow reports, shall be submitted electronically in NetDMR or other electronic reporting tool approved by the State, no later than the 15th of the month following the end of the monitoring period. All NPDES program reports must be signed and certified by a responsible official or a duly authorized representative, as defined in 40 CFR § 122.22.

According to 40 CFR § 127.15, states have the flexibility to grant temporary or episodic waivers from electronic reporting to NPDES permittees who are unable to meet the electronic reporting requirements. To obtain an electronic reporting waiver, an electronic reporting waiver request must be submitted by email to DWRwater.compliance@tn.gov or by mail to the following address:

Division of Water Resources
Compliance and Enforcement Unit – NetDMR Waivers
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, TN 37243-1102

For contact and training information about NetDMR electronic reporting, visit the Division's website here.

The permit language has been modified to accommodate the implementation of the MyTDEC Forms electronic reporting tool. For more information, visit EPA's website on eReporting requirements.

7.3. ANTIDEGRADATION STATEMENT / WATER QUALITY STATUS

Tennessee's Antidegradation Statement is found in the Rules of the Tennessee Department of Environment and Conservation, Chapter 0400-40-03-.06. It is the purpose of Tennessee's standards to fully protect existing uses of all surface waters as established under the Act.

Stream determinations for this permit action are associated with the waterbody segment identified by the Division as segment ID# TN06010201026_0400.

The Division has made a water quality assessment of the receiving waters associated with the subject discharge and has found the receiving stream to be neither an exceptional nor outstanding national resource water. Additionally, this water partially supports designated uses due to sedimentation and E.coli from municipal sources. This facility is not expected to further contribute to this impact based on the nature of the process and DMR data.

Total Maximum Daily Loads (TMDLs) have been developed and approved for this waterbody segment on the following parameters and dates:

Parameter:	TMDL Approval Date:
Siltation	2006

The proposed terms and conditions of this permit comply with the wasteload allocations of these TMDLs.

APPENDIX 1 –
PREVIOUS PERMIT LIMITS

External Outfall 006, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	>=	6.0	SU	Grab	Weekly	Minimum
00400	pH	<=	9.0	SU	Grab	Weekly	Maximum
00530	Total Suspended Solids (TSS)	<=	40	mg/L	Composite	Once Every 2 Months	Daily Maximum
00552	Oil and grease	<=	10	mg/L	Grab	Once Every 2 Months	Monthly Average
00552	Oil and grease	<=	15	mg/L	Grab	Once Every 2 Months	Daily Maximum
00950	Fluoride, dissolved (as F)	Report	-	mg/L	Composite	Once Every 2 Months	Daily Maximum
01105	Aluminum, total (as Al)	<=	33.8	mg/L	Composite	Once Every 2 Months	Daily Maximum
34247	Benzo(a)pyrene	<=	0.0021	mg/L	Grab	Once Every 2 Months	Monthly Average
34247	Benzo(a)pyrene	<=	0.0042	mg/L	Grab	Once Every 2 Months	Daily Maximum
50050	Flow	Report	-	MGD	Recorder	Continuous	Monthly Average
50050	Flow	Report	-	MGD	Recorder	Continuous	Daily Maximum
50060	Chlorine, total residual (TRC)	<=	0.11	mg/L	Grab	Weekly	Monthly Average
50060	Chlorine, total residual (TRC)	<=	0.19	mg/L	Grab	Weekly	Daily Maximum

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
TRP3B	IC25 Static Renewal 7 Day Chronic Ceriodaphnia	>	10.3	%	Composite	Quarterly	Minimum
TRP6C	IC25 Static Renewal 7 Day Chronic Pimephales promelas	>	10.3	%	Composite	Quarterly	Minimum

Outfall 06A, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	>=	6.0	SU	Grab	Weekly	Minimum
00400	pH	<=	9.0	SU	Grab	Weekly	Maximum
00530	Total Suspended Solids (TSS)	<=	5184	lb/d	Grab	Once Every 2 Months	Monthly Average
00530	Total Suspended Solids (TSS)	<=	10368	lb/d	Grab	Once Every 2 Months	Daily Maximum
00951	Fluoride, total (as F)	<=	121	lb/d	Grab	Once Every 2 Months	Monthly Average
00951	Fluoride, total (as F)	<=	273	lb/d	Grab	Once Every 2 Months	Daily Maximum
01067	Nickel, total (as Ni)	<=	1.71	lb/d	Grab	Once Every 2 Months	Monthly Average
01067	Nickel, total (as Ni)	<=	2.53	lb/d	Grab	Once Every 2 Months	Daily Maximum
01097	Antimony, total (as Sb)	<=	3.95	lb/d	Grab	Once Every 2 Months	Monthly Average
01097	Antimony, total (as Sb)	<=	8.86	lb/d	Grab	Once Every 2 Months	Daily Maximum
01105	Aluminum, total (as Al)	<=	12.45	lb/d	Grab	Twice Per Month	Monthly Average
01105	Aluminum, total (as Al)	<=	28.06	lb/d	Grab	Twice Per Month	Daily Maximum
50050	Flow	Report	-	MGD	Instantaneous	Weekly	Monthly Average
50050	Flow	Report	-	MGD	Instantaneous	Weekly	Daily Maximum

Outfall 06A, Instream Monitoring, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
50050	Flow	Report	-	MGD	Totalizer	Continuous	Monthly Average
50050	Flow	Report	-	MGD	Totalizer	Continuous	Daily Maximum

Outfall 06E, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	>=	6.0	SU	Grab	Weekly	Minimum
00400	pH	<=	9.0	SU	Grab	Weekly	Maximum
00530	Total Suspended Solids (TSS)	<=	6210	lb/d	Grab	Once Every 2 Months	Monthly Average
00530	Total Suspended Solids (TSS)	<=	12420	lb/d	Grab	Once Every 2 Months	Daily Maximum
00951	Fluoride, total (as F)	<=	145	lb/d	Grab	Once Every 2 Months	Monthly Average
00951	Fluoride, total (as F)	<=	327	lb/d	Grab	Once Every 2 Months	Daily Maximum
01067	Nickel, total (as Ni)	<=	2.05	lb/d	Grab	Once Every 2 Months	Monthly Average
01067	Nickel, total (as Ni)	<=	3.03	lb/d	Grab	Once Every 2 Months	Daily Maximum
01097	Antimony, total (as Sb)	<=	4.73	lb/d	Grab	Once Every 2 Months	Monthly Average
01097	Antimony, total (as Sb)	<=	10.62	lb/d	Grab	Once Every 2 Months	Daily Maximum
01105	Aluminum, total (as Al)	<=	14.91	lb/d	Grab	Twice Per Month	Monthly Average
01105	Aluminum, total (as Al)	<=	33.62	lb/d	Grab	Twice Per Month	Daily Maximum
50050	Flow	Report	-	MGD	Totalizer	Continuous	Monthly Average
50050	Flow	Report	-	MGD	Totalizer	Continuous	Daily Maximum

Outfall 06E, Instream Monitoring, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
50050	Flow	Report	-	MGD	Instantaneous	Weekly	Monthly Average
50050	Flow	Report	-	MGD	Instantaneous	Weekly	Daily Maximum

Outfall S03, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	Report	-	SU	Grab	Semiannual	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00552	Oil and grease	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00720	Cyanide, total (as CN)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00927	Magnesium, total (as Mg)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00950	Fluoride, dissolved (as F)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01045	Iron, total (as Fe)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
50050	Flow	Report	-	MGD	Estimate	Semiannual	Daily Maximum
TAA3B	LC50 Static 48Hr Acute Ceriodaphnia	Report	-	%	Grab	Once Every Permit Cycle	Minimum
TAA6C	LC50 Static 48Hr Acute Pimephales promelas	Report	-	%	Grab	Once Every Permit Cycle	Minimum

Outfall SW4, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	Report	-	SU	Grab	Semiannual	Daily Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00552	Oil and grease	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00610	Nitrogen, Ammonia total (as N)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00720	Cyanide, total (as CN)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00927	Magnesium, total (as Mg)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00950	Fluoride, dissolved (as F)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01092	Zinc, total (as Zn)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
50050	Flow	Report	-	MGD	Estimate	Semiannual	Daily Maximum
50060	Chlorine, total residual (TRC)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
80082	CBOD, 5-day, 20 C	Report	-	mg/L	Grab	Semiannual	Daily Maximum
TAA3B	LC50 Static 48Hr Acute Ceriodaphnia	Report	-	%	Grab	Once Every Permit Cycle	Minimum
TAA6C	LC50 Static 48Hr Acute Pimephales promelas	Report	-	%	Grab	Once Every Permit Cycle	Minimum

Outfall SW6, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	Report	-	SU	Grab	Semiannual	Daily Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00552	Oil and grease	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00610	Nitrogen, Ammonia total (as N)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00720	Cyanide, total (as CN)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00927	Magnesium, total (as Mg)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00950	Fluoride, dissolved (as F)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01042	Copper, total (as Cu)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01092	Zinc, total (as Zn)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
50050	Flow	Report	-	MGD	Estimate	Semiannual	Daily Maximum
50060	Chlorine, total residual (TRC)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
80082	CBOD, 5-day, 20 C	Report	-	mg/L	Grab	Semiannual	Daily Maximum
TAA3B	LC50 Static 48Hr Acute Ceriodaphnia	Report	-	%	Grab	Once Every Permit Cycle	Minimum
TAA6C	LC50 Static 48Hr Acute Pimephales promelas	Report	-	%	Grab	Once Every Permit Cycle	Minimum

APPENDIX 2 – DMR SUMMARY

Outfall 006

Monitoring Period End Date	pH		TSS	Oil & Grease		Aluminum, Total	Fluoride, Dissolved
	Max (SU)	Min (SU)	Daily Max (mg/L)	Monthly Average (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)
10/31/2018	7.7	7	-	-	-	-	-
11/30/2018	7.5	6.7	12.3	BDL	BDL	1.8	4.7
12/31/2018	8.8	6.8	-	-	-	-	-
01/31/2019	7.8	7.2	2.4	BDL	BDL	1.5	2.8
02/28/2019	7.7	7.1	-	-	-	-	-
03/31/2019	7.7	7.1	7.9	BDL	BDL	2	1.8
04/30/2019	7.7	7.4	-	-	-	-	-
05/31/2019	7.8	7.5	3.02	BDL	BDL	1.2	1.3
06/30/2019	7.7	7.4	-	-	-	-	-
07/31/2019	7.7	6.5	2.6	BDL	BDL	1.5	1.4
08/31/2019	7.7	7.3	-	-	-	-	-
09/30/2019	7.8	7.3	BDL	BDL	BDL	1.6	1.3
10/31/2019	7.9	7.3	-	-	-	-	-
11/30/2019	7.8	7.3	BDL	BDL	BDL	1.18	1.51
12/31/2019	7.7	7.3	-	-	-	-	-
01/31/2020	7.7	7.3	3.4	BDL	BDL	2.4	2.3
02/29/2020	7.9	7.5	-	-	-	-	-
03/31/2020	7.8	7.4	BDL	BDL	BDL	1.6	0.99
04/30/2020	7.7	7.3	-	-	-	-	-
05/31/2020	7.7	7.1	BDL	BDL	BDL	0.52	1.12
06/30/2020	7.7	7.4	-	-	-	-	-
07/31/2020	7.7	7.3	2.6	BDL	BDL	1.53	3.75
08/31/2020	7.8	7.2	-	-	-	-	-
09/30/2020	7.7	7.4	BDL	BDL	BDL	1.78	2.46
10/31/2020	7.7	7.4	-	-	-	-	-
11/30/2020	7.7	7.2	BDL	BDL	BDL	1.74	1.23
12/31/2020	7.9	7.4	-	-	-	-	-
01/31/2021	7.8	7.4	1.3	BDL	BDL	1.81	1.93
02/28/2021	7.7	7.3	-	-	-	-	-
03/31/2021	7.9	7.4	1.7	BDL	BDL	2.07	2.13
04/30/2021	7.8	7.3	-	-	-	-	-

05/31/2021	7.9	7.2	0.6	BDL	BDL	1.56	0.33
06/30/2021	7.9	7.4	-	-	-	-	-
07/31/2021	7.7	6.9	7.5	BDL	BDL	1.56	0.278
08/31/2021	8	7.4	-	-	-	-	-
09/30/2021	8	7.4	1.9	BDL	BDL	1.08	1.73
10/31/2021	7.9	7.4	-	-	-	-	-
11/30/2021	7.9	7.3	0.8	BDL	BDL	0.74	0.35
12/31/2021	7.7	7	-	-	-	-	-
01/31/2022	7.7	7.4	13.8	BDL	BDL	1.48	2.2
02/28/2022	7.8	7	-	-	-	-	-
03/31/2022	7.7	7.2	1.9	BDL	BDL	1.14	1.48
04/30/2022	7.8	7.3	-	-	-	-	-
05/31/2022	7.8	7.5	0.9	BDL	BDL	1.55	0.43
06/30/2022	7.7	7.2	-	-	-	-	-
07/31/2022	7.7	7.4	No Sample	No Sample	No Sample	No Sample	No Sample
08/31/2022	7.7	7.4	-	-	-	-	-
09/30/2022	7.8	7.5	1	BDL	BDL	0.98	0.79

Monitoring Period End Date	Benzo[a]pyrene		Flow		Chlorine, total residual		IC25 Static Renewal 7 Day Chronic	
	Monthly Average (mg/L)	Daily Max (mg/L)	Monthly Average (MGD)	Daily Max (MGD)	Monthly Average (mg/L)	Daily Max (mg/L)	Chrceriodaphnia (%)	Chrpimephales (%)
10/31/2018	-	-	0.164	0.688	BDL	BDL	-	-
11/30/2018	BDL	BDL	0.315	2.779	BDL	BDL	-	-
12/31/2018	-	-	0.812	8.534	BDL	BDL	Not Obtainable	Not Obtainable
01/31/2019	BDL	BDL	0.556	5.643	BDL	BDL	-	-
02/28/2019	-	-	1.734	8.892	BDL	BDL	-	-
03/31/2019	BDL	BDL	0.505	4.352	BDL	BDL	34.3	> 41.2
04/30/2019	-	-	0.421	3.268	BDL	BDL	-	-
05/31/2019	BDL	BDL	0.333	1.985	BDL	BDL	-	-
06/30/2019	-	-	0.141	0.661	BDL	BDL	> 41.2	Not Obtainable
07/31/2019	BDL	BDL	0.534	6.095	BDL	BDL	-	-
08/31/2019	-	-	0.188	0.682	BDL	BDL	-	-
09/30/2019	BDL	BDL	0.147	0.237	BDL	BDL	> 41.2	> 41.2
10/31/2019	-	-	0.129	0.619	BDL	BDL	-	-
11/30/2019	BDL	BDL	0.378	3.938	BDL	BDL	-	-
12/31/2019	-	-	0.574	5.829	BDL	BDL	17	> 41.2
01/31/2020	BDL	BDL	0.572	5.245	BDL	BDL	-	-
02/29/2020	-	-	0.969	6.017	BDL	BDL	-	-
03/31/2020	BDL	BDL	0.767	4.13	BDL	BDL	14.7	40.6
04/30/2020	-	-	0.812	13.58	BDL	BDL	-	-
05/31/2020	BDL	BDL	0.141	0.553	BDL	BDL	-	-
06/30/2020	-	-	0.332	4.09	BDL	BDL	> 41.2	40.3
07/31/2020	BDL	BDL	0.222	0.706	BDL	BDL	-	-
08/31/2020	-	-	0.21	0.51	BDL	BDL	-	-
09/30/2020	BDL	BDL	0.238	3.072	BDL	BDL	> 41.2	> 41.2
10/31/2020	-	-	0.241	3.716	BDL	BDL	-	-
11/30/2020	BDL	BDL	0.097	1.004	BDL	BDL	-	-
12/31/2020	-	-	0.186	1.245	BDL	BDL	27.1	> 41.2
01/31/2021	BDL	BDL	0.111	0.257	BDL	BDL	-	-
02/28/2021	-	-	0.223	1.751	BDL	BDL	-	-
03/31/2021	BDL	BDL	0.818	4.901	BDL	BDL	> 41.2	> 41.2
04/30/2021	-	-	0.153	0.388	BDL	BDL	-	-
05/31/2021	BDL	BDL	0.265	1.246	BDL	BDL	-	-
06/30/2021	-	-	0.192	0.582	BDL	BDL	> 41.2	> 41.2
07/31/2021	BDL	BDL	0.183	0.544	BDL	BDL	-	-
08/31/2021	-	-	0.369	2.519	BDL	BDL	-	-

09/30/2021	BDL	BDL	0.293	3.948	BDL	BDL	> 41.2	> 41.2
10/31/2021	-	-	0.276	2.905	BDL	BDL	-	-
11/30/2021	BDL	BDL	0.113	0.215	BDL	BDL	-	-
12/31/2021	-	-	0.214	0.936	BDL	BDL	> 41.2	> 41.2
01/31/2022	BDL	BDL	0.438	3.612	BDL	BDL	-	-
02/28/2022	-	-	0.818	4.019	BDL	BDL	-	-
03/31/2022	BDL	BDL	0.181	0.366	BDL	BDL	> 41.2	> 41.2
04/30/2022	-	-	0.177	0.577	BDL	BDL	-	-
05/31/2022	BDL	BDL	0.229	0.689	BDL	BDL	-	-
06/30/2022	-	-	0.159	0.362	BDL	BDL	> 41.2	> 41.2
07/31/2022	No Sample	No Sample	0.277	1.446	BDL	BDL	-	-
08/31/2022	-	-	0.21	0.631	BDL	BDL	-	-
09/30/2022	BDL	BDL	0.187	0.298	BDL	BDL	> 41.2	> 41.2

Internal Monitoring Point 06A

Monitoring Period End Date	pH		Aluminum, Total		TSS		Nickel, Total	
	Max (SU)	Min (SU)	Monthly Average (lb/day)	Daily Max (lb/day)	Monthly Average (lb/day)	Daily Max (lb/day)	Monthly Average (lb/day)	Daily Max (lb/day)
10/31/2018	8	7.6	1.58	2.65	-	-	-	-
11/30/2018	8	7	0.1	0.16	0.15	0.15	BDL	BDL
12/31/2018	7.8	6.7	0.02	0.02	-	-	-	-
01/31/2019	7.9	7.6	1.03	1.68	3.28	3.28	BDL	BDL
02/28/2019	7.8	6.9	0.2	0.36	-	-	-	-
03/31/2019	7.8	7.1	0.32	0.61	0.74	0.74	BDL	BDL
04/30/2019	8.4	7.6	2.01	2.08	-	-	-	-
05/31/2019	8	7.6	2.33	2.53	6.82	6.82	BDL	BDL
06/30/2019	8	7.7	1.87	2.01	-	-	-	-
07/31/2019	8	7.7	1.7	1.93	7.55	7.55	BDL	BDL
08/31/2019	8.2	7.6	1.76	2.01	-	-	-	-
09/30/2019	8.5	7.9	1.74	1.74	6.84	6.84	BDL	BDL
10/31/2019	8.2	7.8	2.2	2.98	-	-	-	-
11/30/2019	8.1	7.7	2.02	2.54	3.25	3.25	BDL	BDL
12/31/2019	8.2	7.9	1.46	2.19	-	-	-	-
01/31/2020	8.2	8	2.69	2.98	8.36	8.36	BDL	BDL
02/29/2020	8.1	7.9	1.75	2.92	-	-	-	-
03/31/2020	8.2	8	0.45	0.47	1.92	1.92	BDL	BDL
04/30/2020	8	7.7	1.57	2.42	-	-	-	-
05/31/2020	8.1	7.7	1.39	2.64	1.43	1.43	BDL	BDL
06/30/2020	8.1	7.9	2.76	3.05	-	-	-	-
07/31/2020	8.1	7.8	2.69	2.76	12.68	12.68	BDL	BDL
08/31/2020	8.2	8	1.73	2	-	-	-	-
09/30/2020	8.4	7.8	2.3	2.38	4.98	4.98	BDL	BDL
10/31/2020	8.2	7.9	2.3	2.57	-	-	-	-
11/30/2020	8.1	7.8	2.46	2.67	8.36	8.36	BDL	BDL
12/31/2020	8.1	7.4	0.37	0.38	-	-	-	-
01/31/2021	8.1	7.9	0.61	0.61	1.69	1.69	BDL	BDL
02/28/2021	8.2	8	1.28	1.99	-	-	-	-
03/31/2021	8.2	8	3.21	3.25	8.35	8.35	BDL	BDL
04/30/2021	8.2	7.9	3.15	3.64	-	-	-	-

05/31/2021	8.2	7.9	2.11	2.64	7.77	7.77	BDL	BDL
06/30/2021	8.1	7.5	0.39	0.71	-	-	-	-
07/31/2021	8.1	7.3	3.93	5.8	16.74	16.74	BDL	BDL
08/31/2021	8	7.7	1.35	1.36	-	-	-	-
09/30/2021	8	7.6	0.66	0.99	0.62	0.62	BDL	BDL
10/31/2021	8.1	7.8	4.75	6.73	-	-	-	-
11/30/2021	8.1	7.5	1.8	3.01	0.89	0.89	BDL	BDL
12/31/2021	8	7.5	0.93	1.21	-	-	-	-
01/31/2022	7.8	7.3	0.98	1.04	0.94	0.94	BDL	BDL
02/28/2022	8.2	7.7	3.32	5.66	-	-	-	-
03/31/2022	7.9	7.6	3.29	3.8	9.86	9.86	BDL	BDL
04/30/2022	7.9	7.6	1.39	1.7	-	-	-	-
05/31/2022	8.1	7.2	1.65	2.73	10.76	10.76	BDL	BDL
06/30/2022	8.1	7.6	0.29	0.3	-	-	-	-
07/31/2022	8	7.8	1.8	2.94	3.46	3.46	BDL	BDL
08/31/2022	8.1	8	0.9	1.05	-	-	-	-
09/30/2022	8.1	7.8	3.28	5.07	27.68	27.68	BDL	BDL

Monitoring Period End Date	Fluoride, Total		Antimony		Flow		Flow, Instream Monitoring	
	Monthly Average (lb/day)	Daily Max (lb/day)	Monthly Average (lb/day)	Daily Max (lb/day)	Monthly Average (MGD)	Daily Max (MGD)	Monthly Average (MGD)	Daily Max (MGD)
10/31/2018	-	-	-	-	0.164	0.255	0.067	0.128
11/30/2018	0.08	0.08	BDL	BDL	0.315	0.088	0.028	0.087
12/31/2018	-	-	-	-	0.812	0.088	0.026	0.087
01/31/2019	0.78	0.78	BDL	BDL	0.556	0.088	0.061	0.114
02/28/2019	-	-	-	-	1.734	0.238	0.059	0.126
03/31/2019	0.34	0.34	0.012	0.012	0.505	0.105	0.072	0.129
04/30/2019	-	-	-	-	0.421	0.108	0.088	0.106
05/31/2019	0.92	0.92	0.023	0.023	0.333	0.105	0.071	0.104
06/30/2019	-	-	-	-	0.141	0.161	0.095	0.116
07/31/2019	1.13	1.13	BDL	BDL	0.534	0.102	0.081	0.118
08/31/2019	-	-	-	-	0.188	0.261	0.09	0.141
09/30/2019	1.01	1.01	BDL	BDL	0.147	0.089	0.094	0.133
10/31/2019	-	-	-	-	0.129	0.14	0.105	0.21
11/30/2019	0.82	0.82	BDL	BDL	0.378	0.102	0.057	0.0996
12/31/2019	-	-	-	-	0.574	0.088	0.068	0.136
01/31/2020	0.94	0.94	BDL	BDL	0.572	0.088	0.051	0.0806
02/29/2020	-	-	-	-	0.969	0.086	0.044	0.073
03/31/2020	0.09	0.09	BDL	BDL	0.767	0.086	0.071	0.086
04/30/2020	-	-	-	-	0.812	0.259	0.087	0.125
05/31/2020	BDL	BDL	BDL	BDL	0.141	0.088	0.056	0.093
06/30/2020	-	-	-	-	0.332	0.086	0.061	0.107
07/31/2020	2.61	2.61	BDL	BDL	0.222	0.088	0.072	0.1031
08/31/2020	-	-	-	-	0.21	0.088	0.08	0.101
09/30/2020	1.78	1.78	BDL	BDL	0.238	0.138	0.084	0.291
10/31/2020	-	-	-	-	0.241	0.086	0.066	0.106
11/30/2020	0.8	0.8	BDL	BDL	0.097	0.088	0.051	0.0703
12/31/2020	-	-	-	-	0.186	0.04	0.04	0.089
01/31/2021	0.22	0.22	BDL	BDL	0.111	0.073	0.043	0.1396
02/28/2021	-	-	-	-	0.223	0.084	0.045	0.089
03/31/2021	0.96	0.96	BDL	BDL	0.818	0.089	0.054	0.084
04/30/2021	-	-	-	-	0.153	0.16	0.07	0.094
05/31/2021	0.19	0.19	BDL	BDL	0.265	0.174	0.04	0.092
06/30/2021	-	-	-	-	0.192	0.16	0.088	0.168

07/31/2021	0.36	0.36	BDL	BDL	0.183	0.23	0.0809	0.109
08/31/2021	-	-	-	-	0.369	0.096	0.081	0.711
09/30/2021	0.07	0.07	BDL	BDL	0.293	0.15	0.057	0.099
10/31/2021	-	-	-	-	0.276	0.173	0.072	0.089
11/30/2021	0.05	0.05	BDL	BDL	0.113	0.161	0.048	0.08
12/31/2021	-	-	-	-	0.214	0.104	0.061	0.086
01/31/2022	0.04	0.04	BDL	BDL	0.438	0.035	0.05	0.095
02/28/2022	-	-	-	-	0.818	0.167	0.056	0.104
03/31/2022	0.1	0.1	BDL	BDL	0.181	0.168	0.072	0.173
04/30/2022	-	-	-	-	0.177	0.066	0.054	0.101
05/31/2022	BDL	BDL	BDL	BDL	0.229	0.101	0.031	0.049
06/30/2022	-	-	-	-	0.159	0.258	0.041	0.105
07/31/2022	0.77	0.77	BDL	BDL	0.277	0.207	0.084	0.112
08/31/2022	-	-	-	-	0.21	0.124	0.078	0.13
09/30/2022	0.75	0.75	BDL	BDL	0.187	0.124	0.092	0.126

Internal Monitoring Point 06E

Monitoring Period End Date	pH		Aluminum, Total		TSS		Nickel, Total	
	Max (SU)	Min (SU)	Monthly Average (lb/day)	Daily Max (lb/day)	Monthly Average (lb/day)	Daily Max (lb/day)	Monthly Average (lb/day)	Daily Max (lb/day)
10/31/2018	8	7.6	ND	ND	-	-	-	-
11/30/2018	8	7	ND	ND	ND	ND	ND	ND
12/31/2018	7.8	6.7	ND	ND	-	-	-	-
01/31/2019	7.9	7.6	ND	ND	ND	ND	ND	ND
02/28/2019	7.8	6.9	ND	ND	-	-	-	-
03/31/2019	7.8	7.1	ND	ND	ND	ND	ND	ND
04/30/2019	8.4	7.6	ND	ND	-	-	-	-
05/31/2019	8	7.6	ND	ND	ND	ND	ND	ND
06/30/2019	8	7.7	ND	ND	-	-	-	-
07/31/2019	8	7.7	ND	ND	ND	ND	ND	ND
08/31/2019	8.2	7.6	ND	ND	-	-	-	-
09/30/2019	8.5	7.9	ND	ND	ND	ND	ND	ND
10/31/2019	8.2	7.8	ND	ND	-	-	-	-
11/30/2019	8.1	7.7	ND	ND	ND	ND	ND	ND
12/31/2019	8.2	7.9	ND	ND	-	-	-	-
01/31/2020	8.2	8	ND	ND	ND	ND	ND	ND
02/29/2020	8.1	7.9	ND	ND	-	-	-	-
03/31/2020	8.2	8	ND	ND	ND	ND	ND	ND
04/30/2020	8	7.7	ND	ND	-	-	-	-
05/31/2020	8.1	7.7	ND	ND	ND	ND	ND	ND
06/30/2020	8.1	7.9	ND	ND	-	-	-	-
07/31/2020	8.1	7.8	ND	ND	ND	ND	ND	ND
08/31/2020	8.2	8	ND	ND	-	-	-	-
09/30/2020	8.4	7.8	ND	ND	ND	ND	ND	ND
10/31/2020	8.2	7.9	ND	ND	-	-	-	-
11/30/2020	8.1	7.8	ND	ND	ND	ND	ND	ND
12/31/2020	8.1	7.4	ND	ND	-	-	-	-
01/31/2021	8.1	7.9	ND	ND	ND	ND	ND	ND
02/28/2021	8.2	8	ND	ND	-	-	-	-
03/31/2021	8.2	8	ND	ND	ND	ND	ND	ND
04/30/2021	8.2	7.9	ND	ND	-	-	-	-

05/31/2021	8.2	7.9	ND	ND	ND	ND	ND	ND
06/30/2021	8.1	7.5	ND	ND	-	-	-	-
07/31/2021	8.1	7.3	ND	ND	ND	ND	ND	ND
08/31/2021	8	7.7	ND	ND	-	-	-	-
09/30/2021	8	7.6	ND	ND	ND	ND	ND	ND
10/31/2021	8.1	7.8	ND	ND	-	-	-	-
11/30/2021	8.1	7.5	ND	ND	ND	ND	ND	ND
12/31/2021	8	7.5	ND	ND	-	-	-	-
01/31/2022	7.8	7.3	ND	ND	ND	ND	ND	ND
02/28/2022	8.2	7.7	ND	ND	-	-	-	-
03/31/2022	7.9	7.6	ND	ND	ND	ND	ND	ND
04/30/2022	7.9	7.6	ND	ND	-	-	-	-
05/31/2022	8.1	7.2	ND	ND	ND	ND	ND	ND
06/30/2022	8.1	7.6	ND	ND	-	-	-	-
07/31/2022	8	7.8	ND	ND	ND	ND	ND	ND
08/31/2022	8.1	8	ND	ND	-	-	-	-
09/30/2022	8.1	7.8	ND	ND	ND	ND	ND	ND

Monitoring Period End Date	Fluoride, Total		Antimony		Flow		Flow, Instream Monitoring	
	Monthly Average (lb/day)	Daily Max (lb/day)	Monthly Average (lb/day)	Daily Max (lb/day)	Monthly Average (MGD)	Daily Max (MGD)	Monthly Average (MGD)	Daily Max (MGD)
10/31/2018	-	-	-	-	ND	ND	ND	ND
11/30/2018	ND	ND	ND	ND	ND	ND	ND	ND
12/31/2018	-	-	-	-	ND	ND	ND	ND
01/31/2019	ND	ND	ND	ND	ND	ND	ND	ND
02/28/2019	-	-	-	-	ND	ND	ND	ND
03/31/2019	ND	ND	ND	ND	ND	ND	ND	ND
04/30/2019	-	-	-	-	ND	ND	ND	ND
05/31/2019	ND	ND	ND	ND	ND	ND	ND	ND
06/30/2019	-	-	-	-	ND	ND	ND	ND
07/31/2019	ND	ND	ND	ND	ND	ND	ND	ND
08/31/2019	-	-	-	-	ND	ND	ND	ND
09/30/2019	ND	ND	ND	ND	ND	ND	ND	ND
10/31/2019	-	-	-	-	ND	ND	ND	ND
11/30/2019	ND	ND	ND	ND	ND	ND	ND	ND
12/31/2019	-	-	-	-	ND	ND	ND	ND
01/31/2020	ND	ND	ND	ND	ND	ND	ND	ND
02/29/2020	-	-	-	-	ND	ND	ND	ND
03/31/2020	ND	ND	ND	ND	ND	ND	ND	ND
04/30/2020	-	-	-	-	ND	ND	ND	ND
05/31/2020	ND	ND	ND	ND	ND	ND	ND	ND
06/30/2020	-	-	-	-	ND	ND	ND	ND
07/31/2020	ND	ND	ND	ND	ND	ND	ND	ND
08/31/2020	-	-	-	-	ND	ND	ND	ND
09/30/2020	ND	ND	ND	ND	ND	ND	ND	ND
10/31/2020	-	-	-	-	ND	ND	ND	ND
11/30/2020	ND	ND	ND	ND	ND	ND	ND	ND
12/31/2020	-	-	-	-	ND	ND	ND	ND
01/31/2021	ND	ND	ND	ND	ND	ND	ND	ND
02/28/2021	-	-	-	-	ND	ND	ND	ND
03/31/2021	ND	ND	ND	ND	ND	ND	ND	ND
04/30/2021	-	-	-	-	ND	ND	ND	ND
05/31/2021	ND	ND	ND	ND	ND	ND	ND	ND
06/30/2021	-	-	-	-	ND	ND	ND	ND

07/31/2021	ND	ND	ND	ND	ND	ND	ND	ND
08/31/2021	-	-	-	-	ND	ND	ND	ND
09/30/2021	ND	ND	ND	ND	ND	ND	ND	ND
10/31/2021	-	-	-	-	ND	ND	ND	ND
11/30/2021	ND	ND	ND	ND	ND	ND	ND	ND
12/31/2021	-	-	-	-	ND	ND	ND	ND
01/31/2022	ND	ND	ND	ND	ND	ND	ND	ND
02/28/2022	-	-	-	-	ND	ND	ND	ND
03/31/2022	ND	ND	ND	ND	ND	ND	ND	ND
04/30/2022	-	-	-	-	ND	ND	ND	ND
05/31/2022	ND	ND	ND	ND	ND	ND	ND	ND
06/30/2022	-	-	-	-	ND	ND	ND	ND
07/31/2022	ND	ND	ND	ND	ND	ND	ND	ND
08/31/2022	-	-	-	-	ND	ND	ND	ND
09/30/2022	ND	ND	ND	ND	ND	ND	ND	ND

Outfall S03

Monitoring Period End Date	pH	TSS	Oil & Grease	Aluminum, Total	Fluoride, Dissolved	Iron, Total	Magnesium, Total	Nitrite + Nitrate, total (as N)	Cyanide, Total	Flow	LC50 Static 48H Acute	
	Max (SU)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (MGD)	Chrceriodaphnia (%)	Chrpimephales (%)
12/31/2018	8.13	18.1	BDL	0.96	3.97	0.61	3.52	0.743	BDL	0.081	Not Req.	Not Req.
06/30/2019	8	6	BDL	0.378	1.39	0.351	3.37	0.162	BDL	0.107	Not Req.	Not Req.
12/31/2019	7.9	27	BDL	0.94	2.3	0.636	5.23	0.835	BDL	0.007	Not Req.	Not Req.
06/30/2020	8.5	63.1	BDL	2.26	0.52	1.77	4.44	0.208	BDL	0.323	Not Req.	Not Req.
12/31/2020	7.6	6.8	BDL	BDL	1.46	BDL	4.06	0.464	BDL	0.054	Not Req.	Not Req.
06/30/2021	7.9	21.2	BDL	0.837	1.07	0.552	BDL	1.03	BDL	0.107	Not Req.	Not Req.
12/31/2021	8	12.4	BDL	0.39	1.99	0.274	BDL	1.22	BDL	0.004	Not Req.	Not Req.
06/30/2022	7.2	16.8	BDL	2.7	1.44	1.6	BDL	0.39	BDL	0.069	> 100	> 100

Outfall SW4

Monitoring Period End Date	CBOD (5 day, 20 C)	pH	TSS	Oil & Grease	Aluminum, Total	Fluoride, Dissolved	Zinc, Total	Chromium, Total
	Daily Max (mg/L)	Max (SU)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)
12/31/2018	BDL	7.95	14.2	BDL	1.51	2.28	BDL	BDL
06/30/2019	2.35	7.7	14.5	BDL	0.652	1.27	BDL	BDL
12/31/2019	7.88	8.1	84.3	BDL	5.85	1.24	0.125	0.032
06/30/2020	BDL	8.2	174	BDL	10.8	BDL	0.048	0.12
12/31/2020	5.77	7.87	34.8	BDL	2.75	4.99	0.078	BDL
06/30/2021	10.9	8.1	27.8	BDL	1.66	BDL	0.044	0.01
12/31/2021	3.78	7.8	61.4	BDL	1.46	0.337	0.099	BDL
06/30/2022	BDL	7.2	1.8	BDL	1.86	2.11	0.0322	BDL

Monitoring Period End Date	Magnesium, Total	Cyanide, Total	Nitrite + Nitrate, total (as N)	Ammonia, total (as N)	Chlorine, Total Residual	Flow	LC50 Static 48H Acute	
	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (MGD)	Chrceriodaphnia (%)	Chrpimephales (%)
12/31/2018	2.1	BDL	0.314	0.423	BDL	3.878	Not Req.	Not Req.
06/30/2019	3.86	0.004	0.339	0.193	BDL	0.485	Not Req.	Not Req.
12/31/2019	6.09	BDL	0.542	0.242	BDL	0.645	Not Req.	Not Req.
06/30/2020	4.14	BDL	0.152	BDL	BDL	0.242	Not Req.	Not Req.
12/31/2020	5.26	BDL	0.574	BDL	BDL	0.485	Not Req.	Not Req.
06/30/2021	BDL	0.009	0.298	0.167	BDL	0.426	Not Req.	Not Req.
12/31/2021	5.36	0.0135	0.249	0.119	BDL	0.647	Not Req.	Not Req.
06/30/2022	BDL	BDL	0.319	BDL	BDL	0.864	100	37.9

Outfall SW6

Monitoring Period End Date	CBOD (5 day, 20 C)	pH	TSS	Oil & Grease	Aluminum, Total	Fluoride, Dissolved	Zinc, Total	Copper, Total
	Daily Max (mg/L)	Max (SU)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)
12/31/2018	11.7	7.68	32.8	BDL	3.55	1.11	0.063	0.016
06/30/2019	6.41	7.5	24.8	BDL	1.59	0.551	BDL	BDL
12/31/2019	4.4	8.01	26.8	BDL	3	0.957	BDL	0.014
06/30/2020	6.97	7.75	36.2	BDL	4.05	0.521	0.123	0.023
12/31/2020	BDL	7.4	42.4	BDL	3.86	0.644	0.069	0.018
06/30/2021	3.1	7.7	7.1	BDL	2.21	1.06	BDL	BDL
12/31/2021	25.9	7.8	1.3	BDL	1.51	0.21	BDL	BDL
06/30/2022	9.86	7.7	7.6	BDL	2.02	BDL	0.042	BDL

Monitoring Period End Date	Chromium, Total	Magnesium, Total	Cyanide, Total	Ammonia, total (as N)	Chlorine, Total Residual	Flow	LC50 Static 48H Acute	
	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (mg/L)	Daily Max (MGD)	Chrceriodaphnia (%)	Chrpimephales (%)
12/31/2018	BDL	3.28	0.004	BDL	BDL	1.634	Not Req.	Not Req.
06/30/2019	BDL	2.86	BDL	0.458	BDL	1.017	Not Req.	Not Req.
12/31/2019	BDL	2.63	BDL	0.397	BDL	0.426	Not Req.	Not Req.
06/30/2020	BDL	5.07	BDL	BDL	BDL	0.513	Not Req.	Not Req.
12/31/2020	0.01	3.19	BDL	0.221	BDL	2.197	Not Req.	Not Req.
06/30/2021	0.0148	BDL	0.0376	0.177	BDL	0.168	Not Req.	Not Req.
12/31/2021	BDL	BDL	BDL	BDL	BDL	0.426	Not Req.	Not Req.
06/30/2022	BDL	BDL	BDL	0.438	BDL	0.361	79	> 100

APPENDIX 3 –
METALS & TOXICS CALCULATIONS

The following procedure is used to calculate the allowable instream concentrations for pass-through guidelines and permit limitations:

a) The most recent background conditions of the receiving stream segment are compiled. This information includes:

- 7Q10 of receiving stream (3.3 MGD, USGS)
- Calcium hardness (195 mg/L, instream measurement)
- Total suspended solids (15 mg/L, instream measurement)
- Background metals concentrations (½ water quality criteria)
- Other dischargers impacting this segment (none)
- Downstream water supplies, if applicable

b) The chronic water quality criteria are converted from total recoverable metal at lab conditions to dissolved lab conditions for the following metals: cadmium, copper, trivalent chromium, lead, nickel, and zinc. Then translators are used to convert the dissolved lab conditions to total recoverable metal at ambient conditions.

c) The acute water quality criteria are converted from total recoverable metal at lab conditions to dissolved lab conditions for the following metals: cadmium, copper, trivalent chromium, lead, nickel, zinc, and silver. Then translators are used to convert the dissolved lab conditions to total recoverable metal at ambient conditions for the following metals: cadmium, copper, lead, nickel, and silver.

d) The resulting allowable trivalent and hexavalent chromium concentrations are compared with the effluent values characterized as total chromium on permit applications. If reported total chromium exceeds an allowable trivalent or hexavalent chromium value, then the calculated value will be applied in the permit for that form of chromium unless additional effluent characterization is received to demonstrate reasonable potential does not exist to violate the applicable state water quality criteria for chromium.

e) A standard mass balance equation determines the total allowable concentration (permit limit) for each pollutant. This equation also includes a percent stream allocation of no more than 90%.

The following formulas are used to evaluate water quality protection:

$$Cm = \frac{QsCs + QwCw}{Qs + Qw}$$

Where:

Cm = resulting instream concentration after mixing
Cw = concentration of pollutant in wastewater
Cs = stream background concentration
Qw = wastewater flow (STP Design flow)
Qs = stream low flow

To protect water quality:

$$Cw \leq \frac{(S_A)[Cm(Qs + Qw) - QsCs]}{Qw}$$

Where: S_A = the percent "Stream Allocation"

Calculations for this permit have been done using a standardized spreadsheet, titled "Water Quality Based Effluent Calculations". Division policy dictates the following procedures in establishing these permit limits:

1) The critical low flow values are determined using USGS data:

   Fish and Aquatic Life protection:
   7Q10 – Low flow under natural conditions
   1Q10 – Regulated low flow conditions

   Other than Fish and Aquatic Life protection:
   30Q5 – Low flow under natural conditions

2) Fish and Aquatic Life water quality criteria for certain metals are developed through application of hardness dependent equations. These criteria are combined with dissolved fraction methodologies in order to formulate the final effluent concentrations.

3) For criteria that are hardness dependent, chronic and acute concentrations are based on a hardness of 25 mg/L and Total Suspended Solids (TSS) of 10 mg/L unless available ambient monitoring information substantiates a different value. Minimum and maximum limits on the hardness value used for water quality calculations are 25

mg/L and 400 mg/L respectively. The minimum limit on the TSS value used for water quality calculations is 10 mg/L.

4) Background concentrations are determined from the Division database, results of sampling obtained from the permittee, and/or obtained from nearby stream sampling data. If this background data is not sufficient, one-half of the chronic "In-stream Allowable" water quality criteria for fish and aquatic life is used. If the measured background concentration is greater than the chronic "In-stream Allowable" water quality criteria, then the measured background concentration is used in lieu of the chronic "In-stream Allowable" water quality criteria for the purpose of calculating the appropriate effluent limitation (Cw). Under these circumstances, and in the event the "stream allocation" is less than 100%, the calculated chronic effluent limitation for fish and aquatic life should be equal to the chronic "In-stream Allowable" water quality criteria. These guidelines should be strictly followed where the industrial source water is not the receiving stream. Where the industrial source water is the receiving stream, and the measured background concentration is greater than the chronic "In-stream Allowable" water quality criteria, consideration may be given as to the degree to which the permittee should be required to meet the requirements of the water quality criteria in view of the nature and characteristics of the receiving stream.

The spreadsheet has 15 data columns, all of which may not be applicable to any particular characteristic constituent of the discharge. A description of each column is as follows:

Column 1: The "stream background" concentrations of the effluent characteristics.

Column 2: The "chronic" Fish and Aquatic Life water quality criteria. For cadmium, copper, trivalent chromium, lead, nickel, and zinc, this value represents the criteria for the dissolved form at laboratory conditions. The Criteria Continuous Concentration (CCC) is calculated using the equation:

$$CCC = (\exp\{m_C[\ln(stream\ hardness)] + b_C\}) * (CCF)$$

CCF = Chronic Conversion Factor

This equation and the appropriate coefficients for each metal are from Tennessee Rule 0400-40-03-.03 and the EPA guidance contained *in The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From a Dissolved Criterion* (EPA 823-B-96-007, June 1996). Values for other metals are in the total form and are not hardness dependent; no chronic criterion exists for silver. Published criteria are used for non-metal parameters.

Column 3: The "Acute" Fish and Aquatic Life water quality criteria. For cadmium, copper, trivalent chromium, lead, nickel, silver, and zinc, this value represents the criteria for the dissolved form at laboratory conditions. The Criteria Maximum Concentration (CMC) is calculated using the equation:

$$CMC = (\exp\{m_A[\ln(stream\ hardness)] + b_A\}) * (ACF)$$

ACF = Acute Conversion Factor

This equation and the appropriate coefficients for each metal are from Tennessee Rule 0400-40-03-.03 and the EPA guidance contained in *The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From a Dissolved Criterion* (EPA 823-B-96-007, June 1996). Values for other metals are in the total form and are not hardness dependent. Published criteria are used for non-metal parameters.

Column 4: The "Fraction Dissolved" converts the value for dissolved metal at laboratory conditions (columns 2 & 3) to total recoverable metal at in-stream ambient conditions (columns 5 & 6). This factor is calculated using the linear partition coefficients found in *The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From a Dissolved Criterion* (EPA 823-B-96-007, June 1996) and the equation:

$$\frac{C_{\text{diss}}}{C_{\text{total}}} = \frac{1}{1 + \{[K_{\text{po}}][ss^{(1+a)}][10^{-6}]\}}$$

ss = in-stream suspended solids concentration (mg/L)

Linear partition coefficients for streams are used for unregulated (7Q10) receiving waters, and linear partition coefficients for lakes are used for regulated (1Q10) receiving waters. For those parameters not in the dissolved form in columns 2 & 3 (and all non-metal parameters), a Translator of 1 is used.

Column 5: The "Chronic" Fish and Aquatic Life water quality criteria at in-stream ambient conditions. This criteria is calculated by dividing the value in column 2 by the value in column 4.

Column 6: The "Acute" Fish and Aquatic Life water quality criteria at in-stream ambient conditions. This criteria is calculated by dividing the value in column 3 by the value in column 4.

Column 7: The "Chronic" Calculated Effluent Concentration for the protection of fish and aquatic life. *This is the chronic limit.*

Column 8: The "Acute" Calculated Effluent Concentration for the protection of fish and aquatic life. *This is the acute limit.*

Column 9: The In-Stream Water Quality criteria for the protection of Human Health associated with the stream use classification of Organism Consumption (Recreation).

Column 10: The In-Stream Water Quality criteria for the protection of Human Health associated with the stream use classification of Water and Organism Consumption. These criteria are only to be applied when the stream use classification for the receiving stream includes both “Recreation” and “Domestic Water Supply”.

Column 11: The In-Stream Water Quality criteria for the protection of Human Health associated with the stream use classification of Domestic Water Supply.

Column 12: The Calculated Effluent Concentration associated with Organism Consumption.

Column 13: The Calculated Effluent Concentration associated with Water and Organism Consumption.

Column 14: The Calculated Effluent Concentration associated with Domestic Water Supply.

Column 15: The Effluent Limited criteria. This upper level of allowable pollutant loading is established if (a) the calculated water quality value is greater than accepted removal efficiency values, (b) the treatment facility is properly operated, *and* (c) full compliance with the pretreatment program is demonstrated. This upper level limit is based upon EPA's 40 POTW Survey on levels of metals that should be discharged from a POTW with a properly enforced pretreatment program and considering normal coincidental removals.

The most stringent water quality effluent concentration from Columns 7, 8, 12, 13, 14, and 15 is applied if the receiving stream is designated for domestic water supply. Otherwise, the most stringent effluent concentration is chosen from columns 7, 8, 12, and 15 only.

Water Quality Based Effluent Calculations:

2019 WQC

WATER QUALITY CALCULATIONS FOR METALS AND OTHER TOXIC SUBSTANCES
WATER QUALITY BASED EFFLUENT CALCULATIONS
OUTFALL 006

Stream (7Q10) [MGD]	Stream (30Q5) [MGD]	Waste Flow [MGD]	Ttl. Susp. Solids [mg/l]	Hardness (as CaCO3) [mg/l]	Margin of Safety [%]
3.33	**4.26**	**0.202**	**15**	**195**	**90**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Stream	Fish/Aqua. Life (F & AL) WQC			F & AL- instream allowable		Calc. Effluent Concentration		Human Health Water Quality Criteria *						effluent
	Bckgrnd.	lab conditions		Fraction	ambient conditions (Tot)		based on F & AL		In-Stream Criteria			Calc. Effluent Concentration **			limited
	Conc.	Chronic	Acute	Dissolved	Chronic	Acute	Chronic	Acute	Organisms	Water/Organisms	DWS	Organisms	Water/Organisms	DWS	case
PARAMETER	[ug/l]	[ug/l]	[ug/l]	[Fraction]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	ug/l
Copper (a,b)	24.424	15.847	25.214	0.324	48.847	77.722	**406.33**	**860.72**	N/A	N/A	N/A	**N/A**	N/A	N/A	**80.0**
Chromium III	323.815	128.068	984.539	0.198	647.630	4978.724	**5387.19**	**73544.03**	N/A	N/A	N/A	**N/A**	N/A	N/A	
Chromium VI	5.500	11.000	16.000	1.000	11.000	16.000	**91.50**	**170.18**	N/A	N/A	N/A	**N/A**	N/A	N/A	
Chromium, Total		N/A	N/A	N/A	N/A	N/A	**N/A**	**N/A**	N/A	N/A	100.0	**N/A**	N/A	1988.02	**60.0**
Nickel (a,b)	117.213	91.501	823.823	0.390	234.426	2110.634	**1950.03**	**31475.22**	4600.0	610.0	100.0	**89224.18**	9902.19	236.71	**180.0**
Cadmium (a,b)	2.258	1.186	3.363	0.263	4.516	12.805	**37.57**	**168.00**	N/A	N/A	5.0	**N/A**	N/A	56.54	**5.0**
Lead (a,b)	15.009	5.164	132.529	0.172	30.019	770.331	**249.71**	**11899.73**	N/A	N/A	5.0	**N/A**	N/A	185.48	**45.0**
Mercury (T) (c)	0.025	0.770	1.400	1.000	0.770	1.400	**11.75**	**21.66**	0.051	0.05	2.0	**0.54**	0.52	39.29	**0.4**
Silver (a,b,e)	5.073	N/A	10.146	1.000	N/A	10.146	**N/A**	**84.39**	N/A	N/A	N/A	**N/A**	N/A	N/A	**5.0**
Zinc (a,b)	394.005	208.037	206.349	0.264	788.010	781.616	**6554.91**	**6454.30**	26000.0	7400.0	N/A	**509406.86**	139635.18	N/A	**200.0**
Cyanide (d)	2.600	5.200	22.000	1.000	5.200	22.000	**43.26**	**307.63**	140.0	140.0	200.0	**2733.88**	2733.88	3926.69	**230.0**
Toluene	0.000								15000.0	1300.0	1000.0	**298202.97**	25844.26	19880.20	**15.0**
Benzene	0.000								510.0	22.0	5.0	**10138.90**	437.36	99.40	**3.0**
1,1,1 Trichloroethane	0.000								N/A	N/A	200.0	**N/A**	N/A	3976.04	**30.0**
Ethylbenzene	0.000								2100.0	530.0	700.0	**41748.42**	10536.50	13916.14	**4.0**
Carbon Tetrachloride	0.000								16.0	2.3	5.0	**318.08**	45.72	99.40	**15.0**
Chloroform	0.000								4700.0	57.0	N/A	**93436.93**	1133.17	N/A	**85.0**
Tetrachloroethylene	0.000								33.0	6.9	5.0	**656.05**	137.17	99.40	**25.0**
Trichloroethylene	0.000								300.0	25.0	5.0	**5964.06**	497.00	99.40	**10.0**
1,2 trans Dichloroethylene	0.000								10000.0	140.0	100.0	**N/A**	2783.23	1988.02	**1.5**
Methylene Chloride	0.000								5900.0	46.0	5.0	**117293.17**	914.49	N/A	**50.0**
Total Phenols	0.000								860000.0	10000.0	N/A	**17096970.30**	198801.98	N/A	**50.0**
Naphthalene	0.000								N/A	N/A	N/A	**N/A**	N/A	N/A	**1.0**
Total Phthalates	0.000								N/A	N/A	N/A	**N/A**	N/A	N/A	**64.5**
Chlorine (T. Res.)	0.000	11.000	19.000	1.000	11.000	19.000	**192.34**	**332.22**	N/A	N/A	N/A	**N/A**	N/A	N/A	**N/A**

a Denotes metals for which Fish & Aquatic Life Criteria are expressed as a function of total hardness.
b The criteria for this metal is in the dissolved form at lab conditions. The calculated effluent concentration is in the total recoverable form.
c The chronic criteria for mercury is not converted to dissolved, since it is based on fish tissue data rather than toxicity.
d The criteria for this parameter is in the total form.
e Silver limit is daily max if column 8 is most stringent.
f When columns 7 or 8 result in a negative number, use results from columns 5 or 6, respectively.
g When columns 12, 13 or 14 result in a negative number, use results from columns 9, 10 or 11, respectively, as applicable.

* Domestic supply included in river use so pick from columns 7,8,12,13,14,15 or Domestic supply not included in river use so pick from columns 7, 8, 12 or 15.
** Water Quality criteria for stream use classifications other than Fish & Aquatic Life are based on the 30Q5 flow.

2019 WQC

WATER QUALITY BASED EFFLUENT CALCULATIONS
OUTFALL 006

Stream (7Q10) [MGD]	Stream (30Q5) [MGD]	Waste Flow [MGD]	Ttl. Susp. Solids [mg/l]	Hardness (as CaCO3) [mg/l]	Margin of Safety [%]
3.33	4.26	0.202	15	195	90

	1	2	3	5		6	7		8	9	10	11	12	13	14	15
	Stream Bckgrnd. Conc.	Dectection Levels Scan MDL	Dectection Levels WQC RDL *EPA MDL	Fish/Aqua. Life Water Quality Criteria Chronic		Fish/Aqua. Life Water Quality Criteria Acute	Calculated Effluent Concentration Chronic		Calculated Effluent Concentration Acute	Human Health Water Quality Criteria (30Q5) In-Stream Criteria Organisms	In-Stream Criteria Water/Org	In-Stream Criteria DWS	Calculated Effluent Concentration Organisms	Calculated Effluent Concentration Water/Org	Calculated Effluent Concentration DWS	Avg. daily effluent
PARAMETER	[µg/l]	[µg/l]	[µg/l]	[µg/l]		[µg/l]	[µg/l]		[µg/l]	[µg/l]	[µg/l]	[µg/l]	[µg/l]	[µg/l]	[µg/l]	ug/l
ANTIMONY	0	3.8	3.0							640.0	5.6	6.0	12723.3	111.3	119.3	1.6
ARSENIC	0	1.0	1.0	150.0		340.0	2360.5		5350.5	10.0	10.0	10.0	198.8	198.8	198.8	0.5
BERYLLIUM	0	2.0	1.0									4.0			79.5	1.0
SELENIUM (f)	0	5.0	2.0	1.5	3.1	20.0	23.6	48.8	314.7	4200.0	170.0	50.0	83496.8	3379.6	994.0	2.5
THALLIUM	0	5.0	*							0.47	0.24	2.0	9.3	4.8	39.8	2.5
ACROLEIN	0.0	50.0	1.0	3.000		3.000	47.2		47.2	9.0	6.0		178.9	119.3		25.0
ACRYLONITRILE	0.0	50.0	1.0							2.5	0.51		49.7	10.1		25.0
BENZENE	0.0	1.0	1.0							510.0	22.0	5.0	10138.9	437.4	99.4	0.5
BROMOFORM	0.0	1.0	1.0							1400.0	43.0		27832.3	854.8		0.5
CARBON TETRACHLORIDE	0.0	1.0	1.0							16.0	2.3	5.0	318.1	45.7	99.4	0.5
CHLOROBENZENE	0.0	1.0	*							1600.0	130.0	100.0	31808.3	2584.4	1988.0	0.5
CHLORODIBROMO-METHANE	0.0	1.0	*							130.0	4.0		2584.4	79.5		0.5
CHLOROETHANE	0.0	1.0	*													0.5
2-CHLORO-ETHYLVINYL ETHER	0.0	1.0	*													2.5
CHLOROFORM	0.0	5.0	0.5							4700.0	57.0		93436.9	1133.2		1.8
DICHLOROBROMO-METHANE	0.0	1.0	1.0							170.0	5.5		3379.6	109.3		0.5
1,1-DICHLOROETHANE	0.0	1.0	1.0							NA	NA	NA	NA	NA	NA	0.5
1,2-DICHLOROETHANE	0.0	1.0	1.0							370.0	3.8	5.0	7355.7	75.5	99.4	0.5
TRANS 1,2-DICHLORO-ETHYLENE	0.0	1.0	*							10000	140.0	100.0	198802.0	2783.2	1988.0	0.5
1,1-DICHLOROETHYLENE	0.0	1.0	1.0							7100.0	300.0	7.0	141149.4	5964.1	139.2	0.5
1,2-DICHLOROPROPANE	0.0	1.0	*							150.0	5.0	5.0	2982.0	99.4	99.4	0.5
1,3-DICHLORO-PROPYLENE	0.0	1.0	1.0							210.0	3.4		4174.8	67.6		0.5
ETHYLBENZENE	0.0	1.0	1.0							2100	530.0	700.0	41748.4	10536.5	13916.1	0.5
METHYL BROMIDE	0.0	1.0	*							1500.0	47.0		29820.3	934.4		0.5
METHYL CHLORIDE	0.0	1.0	1.0													2.5
METHYLENE CHLORIDE	0.0	5.0	1.0							5900.0	46.0	5.0	117293.2	914.5	99.4	0.5
1,1,2,2-TETRACHLORO-ETHANE	0.0	1.0	0.5							40.0	1.7		795.2	33.8		0.5
TETRACHLORO-ETHYLENE	0.0	1.0	0.5							33.0	6.9	5.0	656.0	137.2	99.4	0.5
TOLUENE	0.0	1.0	1.0							15000	1300.0	1000.0	298203.0	25844.3	19880.2	0.5
1,1,1-TRICHLOROETHANE	0.0	1.0	1.0									200.0			3976.0	0.5
1,1,2-TRICHLOROETHANE	0.0	1.0	0.2							160.0	5.9	5.0	3180.8	117.3	99.4	0.5
TRICHLORETHYLENE	0.0	1.0	1.0							300.0	25.0	5.0	5964.1	497.0	99.4	0.5
VINYL CHLORIDE	0.0	1.0	2.0							24.0	0.25	2.0	477.1	5.0	39.8	5.0
P-CHLORO-M-CRESOL	0.0	10.0	*													5.0
2-CHLOROPHENOL	0.0	10.0	*							150.0	81.0		2982.0	1610.3		5.0
2,4-DICHLOROPHENOL	0.0	10.0	*							290.0	77.0		5765.3	1530.8		5.0
2,4-DIMETHYLPHENOL	0.0	10.0	*							850.0	380.0		16898.2	7554.5		5.0
4,6-DINITRO-O-CRESOL	0.0	10.0	24.0							280.0	13.0		5566.5	258.4		5.0
2,4-DINITROPHENOL	0.0	10.0	42.0							5300.0	69.0		105365.0	1371.7		5.0
2-NITROPHENOL	0.0	10.0	*													5.0
4-NITROPHENOL	0.0	10.0	*													5.0
PENTACHLOROPHENOL	0.0	10.0	5.0	15		19	236.0		299.0	30.0	2.7	1.0	596.4	53.7	19.9	5.0
PHENOL	0.0	10.0	*							860000	10000.0		17096970.3	198802.0		5.0

2,4,6-TRICHLOROPHENOL	0.0	10.0	2.7					24.0	14.0		477.1	278.3		5.0
ACENAPHTHENE	0.0	10.0	*					990.0	670.0		19681.4	13319.7		5.0
ACENAPHTHYLENE	0.0	10.0	2.3											5.0
ANTHRACENE	0.0	10.0	0.7					40000	8300.0		795207.9	165005.6		25.0
BENZIDINE	0.0	50.0	*					0.0020	0.0009		0.040	0.0		5.0
BENZO(A)ANTHRACENE	0.0	10.0	0.3					0.18	0.038		3.6	0.8		5.0
BENZO(A)PYRENE	0.0	10.0	0.3					0.18	0.038	0.2	3.6	0.8	4.0	5.0
3,4 BENZO-FLUORANTHENE	0.0	10.0	0.3					0.18	0.038		3.6	0.8		5.0
BENZO(GHI)PERYLENE	0.0	10.0	*											5.0
BENZO(K)FLUORANTHENE	0.0	10.0	0.3					0.18	0.038		3.6	0.8		5.0
BIS (2-CHLOROETHOXY) METHANE	0.0	10.0	*											5.0
BIS (2-CHLOROETHYL)-ETHER	0.0	10.0	1.0					5.3	0.30		105.4	6.0		5.0
BIS (2-CHLOROISO-PROPYL) ETHER	0.0	10.0	*					65000	1400.0		1292212.9	27832.3		5.0
BIS (2-ETHYLHEXYL) PHTHALATE	0.0	10.0	2.5					22.0	12.0	6.0	437.4	238.6	119.3	5.0
4-BROMOPHENYL PHENYL ETHER	0.0	10.0	*											5.0
BUTYL BENZYL PHTHALATE	0.0	10.0	*					1900.0	1500.0		37772.4	29820.3		5.0
2-CHLORONAPHTHALENE	0.0	10.0	*					1600.0	1000.0		31808.3	19880.2		5.0
4-CHLORPHENYL PHENYL ETHER	0.0	10.0	*											5.0
CHRYSENE	0.0	10.0	2.5					0.18	0.038		3.6	0.8		5.0
DI-N-BUTYL PHTHALATE	0.0	10.0	2.5					4500.0	2000.0		89460.9	39760.4		5.0
DI-N-OCTYL PHTHALATE	0.0	10.0	*											5.0
DIBENZO(A,H) ANTHRACENE	0.0	10.0	*					0.18	0.038		3.6	0.8		0.5
1,2-DICHLOROBENZENE	0.0	1.0	2.0					1300.0	420.0		25844.3	8349.7		2.5
1,3-DICHLOROBENZENE	0.0	5.0	2.0					960.0	320.0		19085.0	6361.7		2.5
1,4-DICHLOROBENZENE	0.0	5.0	2.0					190.0	63.0		3777.2	1252.5		5.0
3,3-DICHLOROBENZIDINE	0.0	10.0	*					0.28	0.2		5.6	4.2		5.0
DIETHYL PHTHALATE	0.0	10.0	1.9					44000	17000.0		874728.7	337963.4		5.0
DIMETHYL PHTHALATE	0.0	10.0	1.6					1100000	270000.0		21868217.8	5367653.5		5.0
Di-n-butyl phthalate (84-74-2) (g)	0.0	10.0						4500	2000.0		89460.9	39760.4		5.0
2,4-DINITROTOLUENE	0.0	10.0	1.0					34.0	1.1		675.9	21.9		5.0
2,6-DINITROTOLUENE	0.0	10.0	*											5.0
Di-n-octyl phthalate (117-84-0) (g)	0.0	10.0												5.0
1,2 DIPHENYLHYDRAZINE	0.0	10.0	*					2.0	0.4		39.8	7.2		5.0
FLUORANTHENE	0.0	10.0	2.2					140.0	130.0		2783.2	2584.4		5.0
FLUORENE	0.0	10.0	0.3					5300.0	1100.0		105365.0	21868.2		5.0
HEXACHLOROBENZENE	0.0	10.0	1.9					0.0029	0.0028	1.0	0.058	0.1	19.9	5.0
HEXACHLOROBUTADIENE	0.0	10.0	5.0					180.0	4.4		3578.4	87.5		5.0
HEXACHLOROCYCLO-PENTADIENE	0.0	10.0	*					1100.0	40.0	50.0	21868.2	795.2	994.0	5.0
HEXACHLOROETHANE	0.0	10.0	0.5					33.0	14.0		656.0	278.3		5.0
INDENO(1,2,3-CD)PYRENE	0.0	10.0	*					0.18	0.038		3.6	0.8		5.0
ISOPHORONE	0.0	10.0	*					9600	350.0		190849.9	6958.1		5.0
NAPHTHALENE	0.0	10.0	*											5.0
NITROBENZENE	0.0	10.0	10.0					690.0	17.0		13717.3	338.0		5.0
N-NITROSODI-N-PROPYLAMINE	0.0	10.0	*					5.1	0.050		101.4	1.0		5.0
N-NITROSODI- METHYLAMINE	0.0	10.0	*					30.0	0.0069		596.4	0.1		5.0
N-NITROSODI-PHENYLAMINE	0.0	10.0	*					60.0	33.0		1192.8	656.0		5.0
PHENANTHRENE	0.0	10.0	0.7											5.0
PYRENE	0.0	10.0	0.3					4000.0	830.0		79520.8	16500.6		0.0
1,2,4-TRICHLOROBENZENE	0.0		*					70.0	35.0	70.0	1391.6	695.8	1391.6	

a. Columns 7-8, and 12-14 are the effluent concentrations allowable to prevent exceedence of water quality criteria.
b. Potential to exceed criteria exists if the measured quantity in column 15 exceeds, or could exceed, the calculated allowable concentrations in columns 7-8, and 12-14.
c. Additional testing is required if the detection level used in the scan is higher than the state RDL and/or the MDL of the approved EPA scan method and industry is known to have that pollutant.
d. All background concentrations for these volatile organic, acid-extractable, and base-neutral compounds are assumed zero in the absence of supporting monitoring data.
e. Other metals for which data were provided on the application are evaluated on the Metals & Toxics spreadsheet.
f. The Water Quality Criteria CCC Value for Selenium is 1.5 µg/l (lentic - Still water aquatic ecosystems such as ponds, lakes, or reservoirs **) and 3.1 µg/l (lotic -** Flowing water aquatic ecosystems such as streams and rivers **).**
g. Form 2C only

APPENDIX 4 –
APPLICABLE EFFLUENT LIMITATIONS GUIDELINES

§ 421.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable technology currently available:

(d) The following limitations establish the quantity or quality of pollutants or pollutant properties which may be discharged by a point source subject to the provisions of this subpart and which processes residues by wet methods, after application of the best practical control technology currently available:

Pollutant or pollutant property	**BPT effluent limitations**
	Maximum for monthly average (lbs/thousand lbs of product
TSS	1.5
Fluoride	0.4
Ammonia (as N)	0.01
Aluminum	1.0
Copper	0.003
COD	1.0
pH	7.5 – 9.0

§ 421.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(f) Subpart C - Direct Chill Casting Contact Cooling

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	lb/million of-lbs of direct chill casting	
Lead	0.372	0.173
Zinc	1.356	0.558
Aluminum	8.120	3.602
Ammonia (as N)	177.200	77.880

Applicable Limits

Parameter	BPT/BAT limit	
	Maximum for any 1 day	Maximum for monthly average
	lb/day	
TSS	-	4125
Fluoride	-	1100
Ammonia (as N)	487.3	27.5
Aluminum	22.33	9.91
Copper	-	8.25
COD	-	2750
Lead	1.023	0.476
Zinc	3.729	1.535
pH	-	6.0 – 9.0

Example Calculations

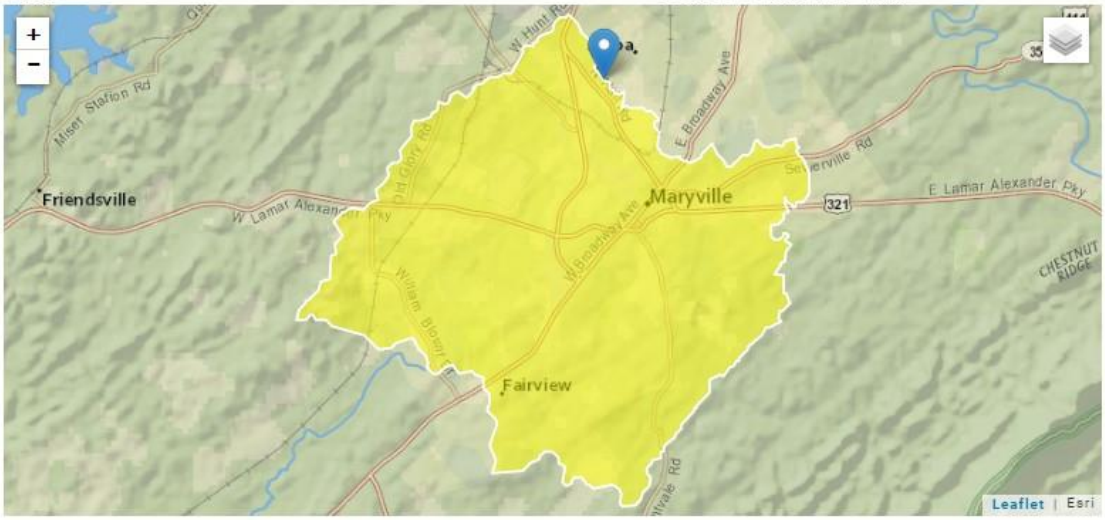
Parameter	Production Rate (lb/day)	Production Rate (thousand off-lbs of aluminum/day)	BPT effluent limitations	BAT effluent limitations		BPT limit	BAT limit	
			Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average
			lb/thousand off-lbs of aluminum	lb/million off-lbs of aluminum		lb/day	lb/day	
TSS	2,750,000	2750	1.5	-	-	1.5 * 2750 = 4125	-	-
Fluoride	2,750,000	2750	0.4	-	-	0.4 * 2750 = 1100	-	-
Ammonia (as N)	2,750,000	2750	0.01	177.200	77.880	0.01 * 2750 = 27.5	117.2 * 2.75 = 487.3	77.88 * 2.75 = 214.1
Aluminum	2,750,000	2750	1.0	8.120	3.602	1.0 * 2750 = 2750	8.120 * 2.75 = 22.3	3.602 * 2.75 = 9.91
Copper	2,750,000	2750	0.003	-	-	0.003 * 2750 = 8.25	-	-
COD	2,750,000	2750	1.0	-	-	1.0 * 2750 = 2750	-	-
Lead	2,750,000	2750	-	0.372	0.173	-	0.372 * 2.75 = 1.02	0.173 * 2.75 = 0.47
Zinc	2,750,000	2750	-	1.356	0.558	-	1.356 * 2.75 = 3.73	0.558 * 2.75 = 1.53
pH	2,750,000	2750	6.0 – 9.0	-	-	6.0 – 9.0	-	-

Parameter	Production Rate (lb/day)	Production Rate (thousand off-lbs of aluminum/day)	BPT effluent limitations	BAT effluent limitations		BPT limit	BAT limit	
			Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average	Maximum for monthly average	Maximum for any 1 day	Maximum for monthly average
			lb/thousand off-lbs of aluminum	lb/million off-lbs of aluminum		lb/day	lb/day	
TSS	3,750,000	2750	1.5	-	-	1.5 * 3750 = 5625	-	-
Fluoride	2,750,000	2750	0.4	-	-	0.4 * 3750 = 1500	-	-
Ammonia (as N)	2,750,000	2750	0.01	177.200	77.880	0.01 * 3750 = 37.5	117.2 * 3.75 = 664.5	77.88 * 3.75 = 214.1
Aluminum	2,750,000	2750	1.0	8.120	3.602	1.0 * 3750 = 3750	8.120 * 3.75 = 30.45	3.602 * 3.75 = 9.91
Copper	2,750,000	2750	0.003	-	-	0.003 * 3750 = 11.25	-	-
COD	2,750,000	2750	1.0	-	-	1.0 * 3750 = 3750	-	-
Lead	2,750,000	2750	-	0.372	0.173	-	0.372 * 3.75 = 1.395	0.173 * 3.75 = 0.649
Zinc	2,750,000	2750	-	1.356	0.558	-	1.356 * 3.75 = 5.085	0.558 * 3.75 = 2.09
pH	2,750,000	2750	6.0 – 9.0	-	-	6.0 – 9.0	-	-

APPENDIX 5 –
FACILITY DISCHARGES AND LOW FLOW DETERMINATION

StreamStats Report

Region ID:	TN
Workspace ID:	TN20221121130955384000
Clicked Point (Latitude, Longitude):	35.78349, -83.98209
Time:	2022-11-21 08:10:17 -0500



Low-Flow Statistics Parameters [Low Flow Central and East Regions 2009 5159]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	30.1	square miles	1.3	14441
RECESS	Recession Index	122	days per log cycle	32	175
CLIMFAC2YR	Tennessee Climate Factor 2 Year	2.247	dimensionless	2.056	2.46
SOILPERM	Average Soil Permeability	1.124	inches per hour	0.45	9.72
PERMGTE2IN	Percent permeability gte 2 in per hr	72.159	percent	2	100

Low-Flow Statistics Flow Report [Low Flow Central and East Regions 2009 5159]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	ASEp
7 Day 10 Year Low Flow	5.15	ft^3/s	89
30 Day 5 Year Low Flow	6.59	ft^3/s	70.2

Low-Flow Statistics Citations

Law, G.S., Tasker, G.D., and Ladd, D.E.,2009, Streamflow-characteristic estimation methods for unregulated streams of Tennessee: U.S. Geological Survey Scientific Investigations Report 2009–5159, 212 p., 1 pl.

APPENDIX 6 –
NEW PERMIT LIMITS

External Outfall 006, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	>=	6.0	SU	Grab	Weekly	Minimum
00400	pH	<=	9.0	SU	Grab	Weekly	Maximum
00530	Total Suspended Solids (TSS)	<=	40	mg/L	Composite	Once Every 2 Months	Daily Maximum
00552	Oil and grease	<=	10	mg/L	Grab	Once Every 2 Months	Monthly Average
00552	Oil and grease	<=	15	mg/L	Grab	Once Every 2 Months	Daily Maximum
00950	Fluoride, dissolved (as F)	Report	-	mg/L	Composite	Once Every 2 Months	Daily Maximum
01105	Aluminum, total (as Al)	<=	76.6	mg/L	Composite	Once Every 2 Months	Daily Maximum
50050	Flow	Report	-	MGD	Recorder	Continuous	Monthly Average
50050	Flow	Report	-	MGD	Recorder	Continuous	Daily Maximum
50060	Chlorine, total residual (TRC)	<=	0.19	mg/L	Grab	Weekly	Monthly Average
50060	Chlorine, total residual (TRC)	<=	0.33	mg/L	Grab	Weekly	Daily Maximum

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
TRP3B	IC25 Static Renewal 7 Day Chronic Ceriodaphnia	>	5.8	%	Composite	Quarterly	Minimum
TRP6C	IC25 Static Renewal 7 Day Chronic Pimephales promelas	>	5.8	%	Composite	Quarterly	Minimum

Outfall 06A, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	>=	6.0	SU	Grab	Weekly	Minimum
00400	pH	<=	9.0	SU	Grab	Weekly	Maximum
00530	Total Suspended Solids (TSS)	<=	4,125	lb/d	Grab	Once Every 2 Months	Monthly Average
00610	Nitrogen, Ammonia total (as N)	Report	27.5	lb/d	Grab	Once Every 2 Months	Monthly Average
00610	Nitrogen, Ammonia total (as N)	Report	487.3	lb/d	Grab	Once Every 2 Months	Daily Maximum
00951	Fluoride, total (as F)	<=	1,100	lb/d	Grab	Once Every 2 Months	Monthly Average
01042	Copper, total (as Cu)	<=	8.25	lb/d	Grab	Once Every 2 Months	Monthly Average
01051	Lead, total (as Pb)	<=	0.476	lb/d	Grab	Once Every 2 Months	Monthly Average
01051	Lead, total (as Pb)	<=	1.02	lb/d	Grab	Once Every 2 Months	Daily Maximum
01092	Zinc, total (as Zn)	Report	1.54	lb/d	Grab	Once Every 2 Months	Monthly Average
01092	Zinc, total (as Zn)	Report	3.73	lb/d	Grab	Once Every 2 Months	Daily Maximum
01105	Aluminum, total (as Al)	<=	9.91	lb/d	Grab	Twice Per Month	Monthly Average
01105	Aluminum, total (as Al)	<=	22.3	lb/d	Grab	Twice Per Month	Daily Maximum
50050	Flow	Report	-	MGD	Instantaneous	Weekly	Monthly Average
50050	Flow	Report	-	MGD	Instantaneous	Weekly	Daily Maximum
81017	Chemical Oxygen Demand (COD)	<=	2,750	lb/d	Grab	Once Every 2 Months	Monthly Average

Outfall 06A, Instream Monitoring, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
50050	Flow	Report	-	MGD	Totalizer	Continuous	Monthly Average
50050	Flow	Report	-	MGD	Totalizer	Continuous	Daily Maximum

Emergency Outfall 06E, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	>=	6.0	SU	Grab	Weekly	Minimum
00400	pH	<=	9.0	SU	Grab	Weekly	Maximum
00530	Total Suspended Solids (TSS)	<=	5,625	lb/d	Grab	Once Every 2 Months	Monthly Average
00610	Nitrogen, Ammonia total (as N)	Report	37.5	lb/d	Grab	Once Every 2 Months	Monthly Average
00610	Nitrogen, Ammonia total (as N)	Report	664.5	lb/d	Grab	Once Every 2 Months	Daily Maximum
00951	Fluoride, total (as F)	<=	1,500	lb/d	Grab	Once Every 2 Months	Monthly Average
01042	Copper, total (as Cu)	<=	11.25	lb/d	Grab	Once Every 2 Months	Monthly Average
01051	Lead, total (as Pb)	<=	0.649	lb/d	Grab	Once Every 2 Months	Monthly Average
01051	Lead, total (as Pb)	<=	1.395	lb/d	Grab	Once Every 2 Months	Daily Maximum
01092	Zinc, total (as Zn)	Report	2.09	lb/d	Grab	Once Every 2 Months	Monthly Average
01092	Zinc, total (as Zn)	Report	5.09	lb/d	Grab	Once Every 2 Months	Daily Maximum
01105	Aluminum, total (as Al)	<=	13.5	lb/d	Grab	Twice Per Month	Monthly Average
01105	Aluminum, total (as Al)	<=	30.5	lb/d	Grab	Twice Per Month	Daily Maximum
50050	Flow	Report	-	MGD	Instantaneous	Weekly	Monthly Average
50050	Flow	Report	-	MGD	Instantaneous	Weekly	Daily Maximum
81017	Chemical Oxygen Demand (COD)	<=	3,750	lb/d	Grab	Once Every 2 Months	Monthly Average

Outfall 06E, Instream Monitoring, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
50050	Flow	Report	-	MGD	Totalizer	Continuous	Monthly Average
50050	Flow	Report	-	MGD	Totalizer	Continuous	Daily Maximum

Outfall S03, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	Report	-	SU	Grab	Semiannual	Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00552	Oil and grease	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00720	Cyanide, total (as CN)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00927	Magnesium, total (as Mg)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00950	Fluoride, dissolved (as F)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01045	Iron, total (as Fe)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
50050	Flow	Report	-	MGD	Estimate	Semiannual	Daily Maximum
TAA3B	LC50 Static 48Hr Acute Ceriodaphnia	Report	-	%	Grab	Once Every Permit Cycle	Minimum
TAA6C	LC50 Static 48Hr Acute Pimephales promelas	Report	-	%	Grab	Once Every Permit Cycle	Minimum

Outfall SW4, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	Report	-	SU	Grab	Semiannual	Daily Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00552	Oil and grease	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00610	Nitrogen, Ammonia total (as N)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00630	Nitrite plus Nitrate (as N)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00720	Cyanide, total (as CN)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00927	Magnesium, total (as Mg)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00950	Fluoride, dissolved (as F)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01092	Zinc, total (as Zn)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
50050	Flow	Report	-	MGD	Estimate	Semiannual	Daily Maximum
50060	Chlorine, total residual (TRC)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
80082	CBOD, 5-day, 20 C	Report	-	mg/L	Grab	Semiannual	Daily Maximum
TAA3B	LC50 Static 48Hr Acute Ceriodaphnia	Report	-	%	Grab	Once Every Permit Cycle	Minimum
TAA6C	LC50 Static 48Hr Acute Pimephales promelas	Report	-	%	Grab	Once Every Permit Cycle	Minimum

Outfall SW6, All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00400	pH	Report	-	SU	Grab	Semiannual	Daily Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00552	Oil and grease	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00610	Nitrogen, Ammonia total (as N)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00720	Cyanide, total (as CN)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00927	Magnesium, total (as Mg)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
00950	Fluoride, dissolved (as F)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01034	Chromium, total (as Cr)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01042	Copper, total (as Cu)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01092	Zinc, total (as Zn)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
01105	Aluminum, total (as Al)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
50050	Flow	Report	-	MGD	Estimate	Semiannual	Daily Maximum
50060	Chlorine, total residual (TRC)	Report	-	mg/L	Grab	Semiannual	Daily Maximum
80082	CBOD, 5-day, 20 C	Report	-	mg/L	Grab	Semiannual	Daily Maximum
TAA3B	LC50 Static 48Hr Acute Ceriodaphnia	Report	-	%	Grab	Once Every Permit Cycle	Minimum
TAA6C	LC50 Static 48Hr Acute Pimephales promelas	Report	-	%	Grab	Once Every Permit Cycle	Minimum