Permit Number: AR0034550
AFIN: 34-00033

AUTHORIZATION TO DISCHARGE WASTEWATER UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. § 1251 et seq.),

Arkansas Steel Associates, LLC

is authorized to discharge industrial and treated domestic wastewater from a facility located as follows: 2803 Van Dyke Road, Newport, AR 72112, in Jackson County.

Facility Coordinates: Latitude: 35° 38’ 46.03” N; Longitude: 91° 14’ 40.20” W

Discharge is to receiving waters named:

unnamed tributary of Village Creek, thence to Village Creek, thence to the White River in Segment 4C of the White River Basin.

The outfall is located at the following coordinates:

Outfall 001: Latitude: 35° 38’ 46.3” N; Longitude: 91° 14’ 37.8” W

Discharge shall be in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit. Per Part III.D.10, the permittee must re-apply 180 days prior to the expiration date below for permit coverage to continue beyond the expiration date.

Effective Date: June 1, 2021
Expiration Date: May 31, 2026

Digitally signed by Alan J. York
DN: cn=Alan J. York, o, ou, email=alan.york@adeq.state.ar.us, c=US
Date: 2021.05.04 12:49:07 -05'00'

Alan J. York
Associate Director, Office of Water Quality
Division of Environmental Quality
Arkansas Department of Energy and Environment

05/04/2021
Issue Date

PART I
PERMIT REQUIREMENTS

SECTION A1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 (Dry Weather)[1] – stormwater[2] which is not covered under the Industrial General Permit (IGP) with tracking number ARR00B774, treated domestic wastewater, and industrial wastewater consisting of quench water from rolling mill inspection department, backwash water from mold water iron treatment and softening units, blowdown from mold water cooling tower, backwash water from two spray water sand filters, backwash water and strainer discharge from three electric arc furnace iron treatment units, backwash water from direct contact water sand filter, and discharge of bearing and pass water from breakdown mill and 18-inch mill.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001 (Dry Weather)[1]. Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.		
Flow	N/A	N/A	Report, MGD	Report, MGD	continuous	totalizing meter
Total Suspended Solids (TSS)	310.2	845.7	145	395	once/6 months	grab
Temperature	N/A	N/A	89.6 ºF (Inst. Max.)		once/month	grab
Oil and Grease (O&G)	21.4	32.2	10	15	once/quarter	grab
Lead, Total Recoverable[3]	0.03	0.05	11.7 µg/l	23.5 µg/l	once/6 months	composite
Zinc, Total Recoverable[3]	0.22	0.65	102.6 µg/l	303.3 µg/l	once/6 months	composite
Copper, Total Recoverable [3]	0.06	0.13	29.5 µg/l	59.1 µg/l	once/month	composite
Arsenic, Total Recoverable [3,4]	Report	Report	Report	Report	once/quarter	composite
Iron, Total Recoverable [3,4]	Report	Report	Report	Report	once/quarter	composite
Manganese, Total Recoverable [3,4]	Report	Report	Report	Report	once/quarter	composite
Dissolved Oxygen (DO)						
(May – October)	N/A	N/A	2.0 (Inst. Min.)		once/month	grab
(November – April)	N/A	N/A	5.0 (Inst. Min.)		once/month	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/month	grab

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.		
Chronic WET Testing[5]			VALUE			
***Pimephales promelas* (Chronic)[5]**			7-Day Minimum			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/quarter	composite
Pass/Fail Growth (7-day NOEC) TGP6C			Report (Pass=0/Fail=1)		once/quarter	composite
Survival (7-day NOEC) TOP6C			Report %		once/quarter	composite
Coefficient of Variation (Growth) TQP6C			Report %		once/quarter	composite
Growth (7-day NOEC) TPP6C			Report %		once/quarter	composite
Pass/Fail Retest 1 (7-day NOEC) 22418			Report (Pass=0/Fail=1)		once/month[6]	composite
Pass/Fail Retest 2 (7-day NOEC) 22419			Report (Pass=0/Fail=1)		once/month[6]	composite
Pass/Fail Retest 3 (7-day NOEC) 51444			Report (Pass=0/Fail=1)		once/month[6]	composite
***Ceriodaphnia dubia* (Chronic)[5]**	N/A		7-Day Minimum			
Pass/Fail Lethality (7-day NOEC) TLP3B			Report (Pass=0/Fail=1)		once/quarter	composite
Pass/Fail Reproduction (7-day NOEC) TGP3B			Report (Pass=0/Fail=1)		once/quarter	composite
Survival (7-day NOEC) TOP3B			Report %		once/quarter	composite
Coefficient of Variation (Reproduction) TQP3B			Report %		once/quarter	composite
Reproduction (7-day NOEC) TPP3B			Report %		once/quarter	composite
Pass/Fail Retest 1 (7-day NOEC) 22415			Report (Pass=0/Fail=1)		once/month[6]	composite
Pass/Fail Retest 2 (7-day NOEC) 22416			Report (Pass=0/Fail=1)		once/month[6]	composite
Pass/Fail Retest 3 (7-day NOEC) 51443			Report (Pass=0/Fail=1)		once/month[6]	composite

1. Dry weather conditions apply when daily rainfall is less than 0.6 inches accumulation.
2. See Part II.4 (Best Management Practices Requirements).
3. See Part II.5 (MQL Requirements).
4. Monitoring and reporting for Arsenic, Iron, and Manganese is required for first 12 months of the permit. See Part II.6.
5. See Part II.7 (WET Testing Requirements).
6. CONDITIONAL REPORTING: Use only if conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution). If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one routine toxicity test. If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under retest parameters (reported on a quarterly DMR). This condition applies to *P. promelas* and *C. dubia*.

Oil, grease, or petrochemical substances shall not be present in receiving waters to the extent that they produce globules or other residue or any visible, colored film on the surface or coat the banks and/or bottoms of the waterbody or adversely affect any of the associated biota. There shall be no visible sheen as defined in Part IV of this permit.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken at the v-notch weirs at Outfall 001.

SECTION A2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 (Wet Weather)[1] – stormwater[2] which is not covered under the Industrial General Permit (IGP) with tracking number ARR00B774, treated domestic wastewater, and industrial wastewater consisting of quench water from rolling mill inspection department, backwash water from mold water iron treatment and softening units, blowdown from mold water cooling tower, backwash water from two spray water sand filters, backwash water and strainer discharge from three electric arc furnace iron treatment units, backwash water from direct contact water sand filter, and discharge of bearing and pass water from breakdown mill and 18-inch mill.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001 (Wet Weather)[1]. Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.		
Flow	N/A	N/A	Report, MGD	Report, MGD	continuous	totalizing meter
Total Suspended Solids (TSS)	310.2	845.7	87.5	239	once/6 months	grab
Temperature	N/A	N/A	89.6 ºF (Inst. Max.)		once/month	grab
Oil and Grease (O&G)	35.4	53.2	10	15	once/quarter	grab
Lead, Total Recoverable[3]	0.04	0.08	11.7 µg/l	23.5 µg/l	once/6 months	composite
Zinc, Total Recoverable[3]	0.22	0.65	62.1 µg/l	183.4 µg/l	once/6 months	composite
Copper, Total Recoverable [3]	0.10	0.21	29.5 µg/l	59.1 µg/l	once/month	composite
Arsenic, Total Recoverable [3,4]	Report	Report	Report	Report	once/quarter	composite
Iron, Total Recoverable [3,4]	Report	Report	Report	Report	once/quarter	composite
Manganese, Total Recoverable [3,4]	Report	Report	Report	Report	once/quarter	composite
Dissolved Oxygen (DO)						
(May – October)	N/A	N/A	2.0 (Inst. Min.)		once/month	grab
(November – April)	N/A	N/A	5.0 (Inst. Min.)		once/month	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/month	grab
Chronic WET Testing[5]			VALUE			
***Pimephales promelas* (Chronic)[5]**			7-Day Minimum			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/quarter	composite
Pass/Fail Growth (7-day NOEC) TGP6C			Report (Pass=0/Fail=1)		once/quarter	composite
Survival (7-day NOEC) TOP6C			Report %		once/quarter	composite
Coefficient of Variation (Growth) TQP6C			Report %		once/quarter	composite
Growth (7-day NOEC) TPP6C			Report %		once/quarter	composite
Pass/Fail Retest 1 (7-day NOEC) 22418			Report (Pass=0/Fail=1)		once/month[6]	composite
Pass/Fail Retest 2 (7-day NOEC) 22419			Report (Pass=0/Fail=1)		once/month[6]	composite
Pass/Fail Retest 3 (7-day NOEC) 51444			Report (Pass=0/Fail=1)		once/month[6]	composite
***Ceriodaphnia dubia* (Chronic)[5]**	N/A		7-Day Minimum			
Pass/Fail Lethality (7-day NOEC) TLP3B			Report (Pass=0/Fail=1)		once/quarter	composite
Pass/Fail Reproduction (7-day NOEC) TGP3B			Report (Pass=0/Fail=1)		once/quarter	composite
Survival (7-day NOEC) TOP3B			Report %		once/quarter	composite
Coefficient of Variation (Reproduction) TQP3B			Report %		once/quarter	composite
Reproduction (7-day NOEC) TPP3B			Report %		once/quarter	composite
Pass/Fail Retest 1 (7-day NOEC) 22415			Report (Pass=0/Fail=1)		once/month[6]	composite
Pass/Fail Retest 2 (7-day NOEC) 22416			Report (Pass=0/Fail=1)		once/month[6]	composite
Pass/Fail Retest 3 (7-day NOEC) 51443			Report (Pass=0/Fail=1)		once/month[6]	composite

1. Wet weather conditions apply when a major rainfall event takes place. A daily rainfall value of 0.6 inches or greater accumulation can be considered as a major rainfall event for the area in which Arkansas Steel is located.
2. See Part II.4 (Best Management Practices Requirements).
3. See Part II.5 (MQL Requirements).
4. Monitoring and reporting for Arsenic, Iron, and Manganese is required for first 12 months of the permit. See Part II.6.
5. See Part II.7 (WET Testing Requirements).
6. CONDITIONAL REPORTING: Use only if conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution). If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one routine toxicity test. If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under retest parameters (reported on a quarterly DMR). This condition applies to *P. promelas* and *C. dubia*.

Oil, grease, or petrochemical substances shall not be present in receiving waters to the extent that they produce globules or other residue or any visible, colored film on the surface or coat the banks and/or bottoms of the waterbody or adversely affect any of the associated biota. There shall be no visible sheen as defined in Part IV of this permit.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken at the v-notch weirs at Outfall 001.

SECTION A3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 (Internal) – treated domestic wastewater.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001(Internal). Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.		
Flow[1]	N/A	N/A	Report, MGD	Report, MGD	once/week	totalizing meter
Biochemical Oxygen Demand (BOD_5)	1.5	2.3	30	45	once/quarter	grab
Total Suspended Solids (TSS)	1.5	2.3	30.0	45.0	once/quarter	grab
Fecal Coliform Bacteria (FCB)			(colonies/100ml)			
	N/A	N/A	1000	2000	once/quarter	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/month	grab

1. The facility is allowed to use the influent totalizing meter for the flow measurement.

Oil, grease, or petrochemical substances shall not be present in receiving waters to the extent that they produce globules or other residue or any visible, colored film on the surface or coat the banks and/or bottoms of the waterbody or adversely affect any of the associated biota. There shall be no visible sheen as defined in Part IV of this permit.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after the final treatment unit, prior to commingling with the industrial waste stream.

SECTION B. PERMIT COMPLIANCE SCHEDULE

None

PART II
OTHER CONDITIONS

1. The operator of this wastewater treatment facility shall hold at least a Basic Industrial license from the State of Arkansas in accordance with APC&EC Rule No. 3.

2. In accordance with 40 CFR Parts 122.62(a)(2) and 124.5, this permit may be reopened for modification or revocation and/or reissuance to require additional monitoring and/or effluent limitations when new information is received that actual or potential exceedance of State water quality criteria and/or narrative criteria are determined to be the result of the permittee's discharge(s) to a relevant water body or a Total Maximum Daily Load (TMDL) is established or revised for the water body that was not available at the time of the permit issuance that would have justified the application of different permit conditions at the time of permit issuance.

3. Other Specified Monitoring Requirements

   The permittee may use alternative appropriate monitoring methods and analytical instruments other than as specified in Part I Section A of the permit without a major permit modification under the following conditions:

   - The monitoring and analytical instruments are consistent with accepted scientific practices.
   - The requests shall be submitted in writing to the Permits Branch of the Office of Water Quality of the DEQ for use of the alternate method or instrument.
   - The method and/or instrument is in compliance with 40 CFR Part 136 or approved in accordance with 40 CFR Part 136.5.
   - All associated devices are installed, calibrated, and maintained to ensure the accuracy of the measurements and are consistent with the accepted capability of that type of device. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Assurance/Quality Control (QA/QC) program.

   Upon written approval of the alternative monitoring method and/or analytical instruments, these methods or instruments must be consistently utilized throughout the monitoring period. DEQ must be notified in writing and the permittee must receive written approval from DEQ if the permittee decides to return to the original permit monitoring requirements.

4. Best Management Practices (BMPs), as defined in Part IV.7, must be implemented for the facility to prevent or reduce the pollution of waters of the State from stormwater runoff, spills or leaks, and/or waste disposal. The permittee must amend the BMPs whenever there is a change in the facility or a change in the operation of the facility.

5. The permittee may use any EPA approved method based on 40 CFR Part 136 provided the minimum quantification level (MQL) for the chosen method is equal to or less than what has been specified in chart below:

Pollutant	MQL (µg/l)
Arsenic, Total Recoverable	0.5
Copper, Total Recoverable	0.5
Iron, Total Recoverable	100*
Lead, Total Recoverable	0.5
Manganese, Total Recoverable	3.3*
Zinc, Total Recoverable	20

*MQLs for Iron and Manganese were derived from EPA Region 6 guidance dated April 10, 2006: MQL = 3.3 × MDL, where the MDLs for Iron and Manganese for the MQL calculation were determined using Table 4 of EPA Method 200.7 published in May 18, 2012 Federal Register Vol. 77, No. 97 on page 29826. MQLs for all other pollutants in the table above are from DEQ Application Form PPS.

The permittee may develop a matrix specific method detection limit (MDL) in accordance with Appendix B of 40 CFR Part 136. For any pollutant for which the permittee determines a site specific MDL, the permittee shall send to DEQ, NPDES Permits Branch, a report containing QA/QC documentation, analytical results, and calculations necessary to demonstrate that a site specific MDL was correctly calculated. A site specific MQL shall be determined in accordance with the following calculation:

$$MQL = 3.3 \times MDL$$

Upon written approval by Permits Branch, the site specific MQL may be utilized by the permittee for all future Discharge Monitoring Report (DMR) calculations and reporting requirements.

6. The requirement to sample, analyze, and report the Monthly Average and Daily Maximum values of concentration and mass of Total Recoverable Arsenic, Total Recoverable Iron, and Total Recoverable Manganese in the effluent in accordance with the requirements in Part IA Section A of the permit is applicable for one year from the effective date of the permit. After the results of four (4) samples have been reported in accordance with the above requirements, the permittee may cease the monitoring and reporting of Arsenic, Iron, and Manganese.

7. WHOLE EFFLUENT TOXICITY TESTING (7-DAY CHRONIC NOEC FRESHWATER)

A. SCOPE AND METHODOLOGY

i. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

APPLICABLE TO FINAL OUTFALL(S): 001 (Dry or Wet Weather)

REPORTED ON DMR AS FINAL OUTFALL:	001
CRITICAL DILUTION (%):	100
EFFLUENT DILUTION SERIES (%):	32, 42, 56, 75, 100
TESTING FREQUENCY:	once/quarter
COMPOSITE SAMPLE TYPE:	Defined in Paragraph C.iv.a
TEST SPECIES/METHODS:	40 CFR Part 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA-821-R-02-013, or the most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

ii. The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.

iii. This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

B. PERSISTENT LETHAL and/or SUB-LETHAL EFFECTS

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal and/or sub-lethal effects at or below the critical dilution. The purpose of retests is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result.

If a frequency reduction, as specified in Item F, has been granted and any valid test demonstrates significant lethal or sub-lethal effects to a test species at or below the

critical dilution, the frequency of testing for that species is automatically increased to once per quarter for the life of the permit. In addition:

i. Part I Testing Frequency Other Than Monthly

a. The permittee shall conduct a total of three (3) retests for any species that demonstrates significant toxic effects at or below the critical dilution. The retests shall be conducted monthly during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one scheduled toxicity test. A full report shall be prepared for each test required by this section in accordance with procedures outlined in Item D of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.

b. IF LETHAL EFFECTS HAVE BEEN DEMONSTRATED If any of the retests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item E of this section. The permittee shall notify DEQ in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests. A TRE required based on lethal effects should consider any sub-lethal effects as well.

c. IF SUB-LETHAL EFFECTS ONLY HAVE BEEN DEMONSTRATED If any two of the three retests demonstrates significant sub-lethal effects at or below the critical dilution, the permittee shall initiate the Sub-Lethal Toxicity Reduction Evaluation (TRE_{SL}) requirements as specified in Item E of this section. The permittee shall notify DEQ in writing within 5 days of the failure of any retest, and the Sub-Lethal Effects TRE initiation date will be the test completion date of the first failed retest. A TRE may also be required for failure to perform the required retests.

d. The provisions of Item B.i.a are suspended upon submittal of the TRE Action Plan.

C. REQUIRED TOXICITY TESTING CONDITIONS

i. Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

a. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.

b. The mean number of *Ceriodaphnia dubia* neonates produced per surviving female in the control (0% effluent) must be 15 or more.

c. 60% of the surviving control females must produce three broods.

d. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.

e. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the *Ceriodaphnia dubia* reproduction test; the growth and survival endpoints of the Fathead minnow test.

f. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or sub-lethal effects are exhibited for: the young of surviving females in the *Ceriodaphnia dubia* reproduction test; the growth and survival endpoints of the Fathead minnow test.

g. If a test passes, yet the percent coefficient of variation between replicates is greater than 40% in the control (0% effluent) and/or in the critical dilution for: the young of surviving females in the *Ceriodaphnia dubia* reproduction test; the growth and survival endpoints of the Fathead minnow test, the test is determined to be invalid. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

h. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.

i. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for *Ceriodaphnia dubia* reproduction;

j. A PMSD range of 12 - 30 for Fathead minnow growth.

ii. Statistical Interpretation

a. For the *Ceriodaphnia dubia* survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA/821/R-02-013 or the most recent update thereof.

b. For the *Ceriodaphnia dubia* reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect

Concentration (NOEC) as described in EPA/821/R-02-013 or the most recent update thereof.

c. If the conditions of Test Acceptability are met in Item C.i above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item D below.

iii. Dilution Water

a. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water for;

(1) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and

(2) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.

b. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item C.i), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

(1) a synthetic dilution water control which fulfills the test acceptance requirements of Item C.i was run concurrently with the receiving water control;

(2) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);

(3) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item D below; and

(4) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

iv. Samples and Composites

a. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item A.i above. Unless otherwise stated in this section,

a composite sample for WET shall consist of a minimum of 12 subsamples gathered at equal time intervals during a 24-hour period.

b. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples, on use, are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis.

c. The permittee must collect all three flow-weighted composite samples within the monitoring period. Second and/or third composite samples shall not be collected into the next monitoring period; such tests will be determined to not meet either reporting period requirements. Monitoring period definitions are listed in Part IV.

d. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to between 0 and 6 degrees Centigrade during collection, shipping, and/or storage.

e. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item D of this section.

f. <u>MULTIPLE OUTFALLS:</u> If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in Item A.i. above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.

g. If chlorination is part of the treatment process, the permittee shall not allow the sample to be dechlorinated at the laboratory. At the time of sample collection the permittee shall measure the TRC of the effluent. The measured concentration of TRC for each sample shall be included in the lab report submitted by the permittee.

D. REPORTING

i. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA/821/R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.7 of this permit. The permittee shall submit full reports. For any test or retest which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

ii. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit. The full reports for all valid tests, invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for Agency review.

iii. The permittee shall submit the results of each valid toxicity test and retest on the subsequent DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. Only results of valid tests are to be reported on the DMR.

a. *Pimephales promelas* (Fathead minnow)

(1) If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP6C

(2) Report the NOEC value for survival, Parameter No. TOP6C

(3) Report the NOEC value for growth, Parameter No. TPP6C

(4) If the NOEC for growth is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP6C

(5) Report the highest (critical dilution or control) Coefficient of Variation for growth, Parameter No. TQP6C

(6) If conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution):

(A) Consecutive Monthly Retest 1: If the NOEC (lowest lethal or sub-lethal) for *P. promelas* is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 22418 (reported on quarterly DMR);

(B) Consecutive Monthly Retest 2: If the NOEC (lowest lethal or sub-lethal) for *P. promelas* is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 22419 (reported on quarterly DMR);

(C) Consecutive Monthly Retest 3: If the NOEC (lowest lethal or sub-lethal)

for *P. promelas* is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 51444 (reported on quarterly DMR);

(D) If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one scheduled toxicity test;

(E) If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under Parameter Nos. 22418, 22419, 51444 (reported on quarterly DMR)

b. *Ceriodaphnia dubia*

(1) If the NOEC for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP3B

(2) Report the NOEC value for survival, Parameter No. TOP3B

(3) Report the NOEC value for reproduction, Parameter No. TPP3B

(4) If the NOEC for reproduction is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP3B

(5) Report the higher (critical dilution or control) Coefficient of Variation for reproduction, Parameter No. TQP3B

(6) If conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution):

(A) Consecutive Monthly Retest 1: If the NOEC (lowest lethal or sub-lethal) for *C. dubia* is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 22415 (reported on quarterly DMR);

(B) Consecutive Monthly Retest 2: If the NOEC (lowest lethal or sub-lethal) for *C. dubia* is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 22416 (reported on quarterly DMR);

(C) Consecutive Monthly Retest 3: If the NOEC (lowest lethal or sub-lethal) for *C. dubia* is less than the critical dilution, enter a '1'; otherwise, enter a '0' under Parameter No. 51443 (reported on quarterly DMR);

(D) If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one scheduled toxicity test;

(E) If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under Parameter Nos. 22415, 22416, and 51443 (reported on quarterly DMR)

E. TOXICITY REDUCTION EVALUATIONS (TREs)

TREs for lethal and sub-lethal effects are performed in a very similar manner. EPA Region 6 is currently addressing TREs as follows: a sub-lethal TRE (TRE_{SL}) is triggered based on three sub-lethal test failures while a lethal effects TRE (TRE_L) is triggered based on only two test failures for lethality. In addition, EPA Region 6 will consider the magnitude of toxicity and use flexibility when considering a TRE_{SL} where there are no effects at effluent dilutions of 75% or lower.

i. Within ninety (90) days of confirming toxicity, as outlined above, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The goal of the TRE is to maximally reduce the toxic effects of effluent at the critical dilution and includes the following:

a. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents ‘Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures’ (EPA-600/6-91/003) and ‘Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I’ (EPA-600/6-91/005F), or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents ‘Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity’ (EPA/600/R-92/080) and ‘Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity’ (EPA/600/R-92/081), as appropriate.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (703) 487-4650, or by writing:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

b. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified;

c. Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where lethality was demonstrated within 48 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;

d. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and

e. Project Organization (e.g., project staff, project manager, consulting services, etc.).

ii. The permittee shall initiate the TRE Action Plan within thirty (30) days of plan and schedule submittal. The permittee shall assume all risks for failure to achieve the required toxicity reduction.

iii. The permittee shall submit a quarterly TRE Activities Report, with the Discharge Monitoring Report in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:

a. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

b. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and

c. any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant toxicity at the critical dilution.

iv. The permittee shall submit a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months from confirming toxicity in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in reduction of effluent toxicity to no significant toxicity at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism.

v. Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to capture toxic samples for identification of toxicants. Failure to identify the specific chemical compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 CFR 122.44(d)(1)(v).

F. MONITORING FREQUENCY REDUCTION

i. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters or first twelve consecutive months (in accordance with Item A.i.) of the current permit term of testing for one or both test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the Fathead minnow) and not less than twice per year for the more sensitive test species (usually the *Ceriodaphnia dubia*).

ii. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in Item C.i. above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal and sub-lethal effects and the maximum coefficient of variation for the controls. Upon review and acceptance of this information, the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's Permit Compliance System section to update the permit reporting requirements.

iii. SUB-LETHAL OR SURVIVAL FAILURES - If any test fails the lethal or sub-lethal endpoint at any time during the life of this permit, three consecutive monthly retests are required and the monitoring frequency for the affected test species may be increased to once per quarter until the permit is re-issued. Monthly retesting is not required if the permittee is performing a TRE.

iv. Any monitoring frequency reduction granted applies only until the expiration date of this permit, at which time the monitoring frequency for both test species reverts to once per quarter until the permit is re-issued.

PART III
STANDARD CONDITIONS

SECTION A – GENERAL CONDITIONS

1. **Duty to Comply**

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Water Act and the Arkansas Water and Air Pollution Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; and/or for denial of a permit renewal application. **Any values reported in the required Discharge Monitoring Report (DMR) which are in excess of an effluent limitation specified in Part I shall constitute evidence of violation of such effluent limitation and of this permit.**

2. **Penalties for Violations of Permit Conditions**

The Arkansas Water and Air Pollution Control Act provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a fine of not more than twenty-five thousand dollars ($25,000) or by both such fine and imprisonment for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to civil penalty in such amount as the court shall find appropriate, not to exceed ten thousand dollars ($10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action.

3. **Permit Actions**

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to the following:

A. Violation of any terms or conditions of this permit.
B. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.
C. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge.
D. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.
E. Failure of the permittee to comply with the provisions of APC&EC Rule No. 9 (Permit fees) as required by Part III.A.11 herein.

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

4. **Toxic Pollutants**

Notwithstanding Part III.A.3, if any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under APC&EC Rule No. 2, as amended, or Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitations on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standards or prohibition and the permittee so notified.

The permittee shall comply with effluent standards, narrative criteria, or prohibitions established under APC&EC Rule No. 2, as amended, or Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. **Civil and Criminal Liability**

Except as provided in permit conditions for "Bypass of Treatment Facilities" (Part III.B.4), and "Upset" (Part III.B.5), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state and federal statues or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

6. **Oil and Hazardous Substance Liability**

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

7. **State Laws**

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

8. **Property Rights**

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize 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.

9. **Severability**

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

10. **Applicable Federal, State or Local Requirements**

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal requirements such as endangered species, state or local statute, ordinance or regulation.

11. **Permit Fees**

The permittee shall comply with all applicable permit fee requirements (i.e., including annual permit fees following the initial permit fee that will be invoiced every year the permit is active) for wastewater discharge permits as described in APC&EC Rule No. 9 (Rule for the Fee System for Environmental Permits). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to terminate this permit under the provisions of 40 CFR Parts 122.64 and 124.5(d), as adopted in APC&EC Rule No. 6 and the provisions of APC&EC Rule No. 8.

SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. **Proper Operation and Maintenance**

A. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory 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.

B. The permittee shall provide an adequate operating staff which is duly qualified to carryout operation, maintenance, and testing functions required to ensure compliance with the conditions of this permit.

2. **Need to Halt or Reduce not a Defense**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control

production or discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power for the treatment facility is reduced, is lost, or alternate power supply fails.

3. **Duty to Mitigate**

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

4. **Bypass of Treatment Facilities**

"Bypass" means the intentional diversion of waste streams from any portion of a treatment facility, as defined at 40 CFR 122.41(m)(1)(i).

A. Bypass not exceeding limitation

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts III.B.4.B and 4.C.

B. Notice

1. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
2. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part III.D.6 (24-hour notice).

C. Prohibition of bypass

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

(a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
(c) The permittee submitted notices as required by Part III.B.4.B.

2. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in Part III.B.4.C(1).

5. **Upset Conditions**

A. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Part III.B.5.B of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

B. Conditions necessary for demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that the permittee can identify the specific cause(s) of the upset.
2. The permitted facility was at the time being properly operated.
3. The permittee submitted notice of the upset as required by Part III.D.6.
4. The permittee complied with any remedial measures required by Part III.B.3.

C. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

6. **Removed Substances**

A. Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State. The Permittee must comply with all applicable state and Federal regulations governing the disposal of sludge, including but not limited to 40 CFR Part 503, 40 CFR Part 257, and 40 CFR Part 258.

B. Any changes to the permittee's disposal practices described in the Statement of Basis, as derived from the permit application, will require at least 180 days prior notice to the Director to allow time for additional permitting. Please note that the 180 day notification requirement may be waived if additional permitting is not required for the change.

7. **Power Failure**

The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failure either by means of alternate power sources, standby generators, or retention of inadequately treated effluent.

SECTION C – MONITORING AND RECORDS

1. **Representative Sampling**

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified,

before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director. Intermittent discharge shall be monitored.

2. **Flow Measurement**

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, calibrated, and maintained to ensure the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than +/- 10% from true discharge rates throughout the range of expected discharge volumes and shall be installed at the monitoring point of the discharge.

Calculated Flow Measurement

For calculated flow measurements that are performed in accordance with either the permit requirements or a Division approved method (i.e., as allowed in the *Other Specified Monitoring Requirements* condition under Part II), the +/- 10% accuracy requirement described above is waived. This waiver is only applicable when the method used for calculation of the flow has been reviewed and approved by the Division.

3. **Monitoring Procedures**

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals frequent enough to ensure accuracy of measurements and shall ensure that both calibration and maintenance activities will be conducted. An adequate analytical quality control program, including the analysis of sufficient standards, spikes, and duplicate samples to ensure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory. At a minimum, spikes and duplicate samples are to be analyzed on 10% of the samples.

4. **Penalties for Tampering**

The Arkansas Water and Air Pollution Control Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than ten thousand dollars ($10,000) or by both such fine and imprisonment.

5. **Reporting of Monitoring Results**

40 CFR 127.11(a)(1) and 40 CFR 127.16(a) require that monitoring reports must be reported on a Discharge Monitoring Reports (DMR) and filed electronically. Signatory Authorities

must initially request access for a NetDMR account. Once a NetDMR account is established, access to electronic filing should use the following link https://cdx.epa.gov. Permittees who are unable to file electronically may request a waiver from the Director in accordance with 40 CFR 127.15. Monitoring results obtained during the previous monitoring period shall be summarized and reported on a DMR dated and submitted no later than the 25th day of the month, following the completed reporting period beginning on the effective date of the permit.

6. **Additional Monitoring by the Permittee**

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

7. **Retention of Records**

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.

8. **Record Contents**

Records and monitoring information shall include:

A. The date, exact place, time and methods of sampling or measurements, and preservatives used, if any.
B. The individual(s) who performed the sampling or measurements.
C. The date(s) and time analyses were performed.
D. The individual(s) who performed the analyses.
E. The analytical techniques or methods used.
F. The measurements and results of such analyses.

9. **Inspection and Entry**

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

A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit.
B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit.

C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit.
D. Sample, inspect, or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION D – REPORTING REQUIREMENTS

1. **Planned Changes**

The Permittee shall give notice to the Director as soon as possible but no later than 180 days prior to any planned physical alterations or additions to the permitted facility [40 CFR 122.41(l)]. Notice is required only when:

A. The alteration or addition to a permitted facility may meet one of the criteria for new sources at 40 CFR 122.29(b).
B. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants subject to effluent limitations in the permit, or to the notification requirements under 40 CFR 122.42(b).

2. **Anticipated Noncompliance**

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. **Transfers**

The permit is nontransferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

4. **Monitoring Reports**

Monitoring results shall be reported at the intervals and in the form specified in Part III.C.5. **Discharge Monitoring Reports must be submitted even when no discharge occurs during the reporting period.**

5. **Compliance Schedule**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

6. **Twenty-four Hour Report**

Please be aware that the notifications can be sent by email to water-enforcement-report@adeq.state.ar.us or at 501-682-0624 for immediate reporting:

A. The permittee shall report any noncompliance which may endanger health or the environment within 24 hours from the time the permittee becomes aware of the circumstances to the Enforcement Branch of the Office of Water Quality of DEQ. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the following information:

1. A description of the noncompliance and its cause.
2. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue.
3. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

B. The following must be reported within 24 hours:

1. Any unanticipated bypass which exceeds any effluent limitation in the permit.
2. Any upset which exceeds any effluent limitation in the permit.
3. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part I of the permit.

C. The Director may waive the written report on a case-by-case basis if the notification has been received within 24 hours to the Enforcement Branch of the Office of Water Quality of the DEQ.

7. **Other Noncompliance**

The permittee shall report all instances of noncompliance not reported under Parts III.D.4, 5, and 6, at the time monitoring reports are submitted. The reports shall contain the information listed at Part III.D.6.

8. **Changes in Discharge of Toxic Substances for Industrial Dischargers including Existing Manufacturing, Commercial, Mining, and Silvicultural Dischargers**

The Director shall be notified as soon as the permittee knows or has reason to believe:

A. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant including those listed in 40 CFR 401.15 which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 CFR Part 122.42(a)(1).

B. That any activity has occurred or will occur which would result in any discharge on a non-routine or infrequent basis of a toxic pollutant including those listed in 40 CFR 401.15 which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 CFR Part 122.42(a)(2).

9. **Duty to Provide Information**

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

10. **Duty to Reapply**

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The complete application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be implemented through procedures outlined by APC&EC Rule No. 6.

11. **Signatory Requirements**

All applications, reports, or information submitted to the Director shall be signed and certified as follows:

A. All **permit applications** shall be signed as follows:

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

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

2. For a partnership or sole proprietorship: by a general partner or proprietor, respectively.

3. For a municipality, State, Federal, or other public agency, by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

   (a) The chief executive officer of the agency.
   (b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

B. All **reports** required by the permit and **other information** requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above.
2. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).
3. The written authorization is submitted to the Director.

C. Certification. Any person signing a document under this section shall make the following certification:

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

12. **Availability of Reports**

Except for data determined to be confidential under 40 CFR Part 2 and APC&EC Rule No. 6, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division of Environmental Quality. As required by the Rules, the name and address of any permit applicant or permittee, permit applications, permits, and effluent data shall not be considered confidential.

13. **Penalties for Falsification of Reports**

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to civil penalties specified in Part III.A.2 and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

14. **Other Information**

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

PART IV
DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act and 40 CFR 122.2 shall apply to this permit and are incorporated herein by reference. Additional definitions of words or phrases used in this permit are as follows:

1. **"7-Day Average"** also known as "average weekly," means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week. The 7-Day Average for Fecal Coliform Bacteria (FCB) or *E. coli* is the geometric mean of the "daily discharges" of all effluent samples collected during a calendar week in colonies per 100 ml.
2. **"Act"** means the Clean Water Act, Public Law 95-217 (33.U.S.C. 1251 et seq.) as amended.
3. **"Administrator"** means the Administrator of the U.S. Environmental Protection Agency.
4. **"APC&EC"** means the Arkansas Pollution Control and Ecology Commission.
5. **"Applicable effluent standards and limitations"** means all State and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards of performance, toxic effluent standards and prohibitions, and pretreatment standards.
6. **"Applicable water quality standards"** means all water quality standards to which a discharge is subject under the federal Clean Water Act and which has been (a) approved or permitted to remain in effect by the Administrator following submission to the Administrator pursuant to Section 303(a) of the Act, or (b) promulgated by the Director pursuant to Section 303(b) or 303(c) of the Act, and standards promulgated under (APC&EC) Rule No. 2, as amended.
7. **"Best Management Practices (BMPs)"** are activities, practices, maintenance procedures, and other management practices designed to prevent or reduce the pollution of waters of the State. BMPs also include treatment technologies, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw sewage. BMPs may include structural devices or nonstructural practices.
8. **"Bypass"** means the intentional diversion of waste streams from any portion of a treatment facility, as defined at 40 CFR 122.41(m)(1)(i).
9. **"Composite sample"** is a mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing a minimum of 4 effluent portions collected at equal time intervals (but not closer than one hour apart) during operational hours, within the 24-hour period, and combined proportional to flow or a sample collected at more frequent intervals proportional to flow over the 24-hour period.
10. **"CV"** means coefficient of variation.
11. **"Daily Discharge"** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.
    A. **Mass Calculations:** For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of pollutant discharged over the sampling day.
    B. **Concentration Calculations:** For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

12. **"Daily Maximum"** discharge limitation means the highest allowable "daily discharge" during the calendar month.
13. **"Director"** means the Director of the Division of Environmental Quality.
14. **"Dissolved oxygen limit"** shall be defined as follows:
    A. When limited in the permit as a minimum monthly average, shall mean the lowest acceptable monthly average value, determined by averaging all samples taken during the calendar month.
    B. When limited in the permit as an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
15. **"*E. coli*"** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For *E. coli*, report the Daily Maximum as the highest "daily discharge" during the calendar month and the Monthly Average as the geometric mean of all "daily discharges" within a calendar month, in colonies per 100 ml.
16. **"Division"** means the Division of Environmental Quality (**DEQ**).
17. **"Fecal Coliform Bacteria (FCB)"** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For FCB, report the Daily Maximum as the highest "daily discharge" during the calendar month and the Monthly Average as the geometric mean of all "daily discharges" within a calendar month, in colonies per 100 ml.
18. **"Grab sample"** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
19. **"Industrial User"** means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a publicly owned treatment works (POTW).
20. **"Instantaneous flow measurement"** means the flow measured during the minimum time required for the flow-measuring device or method to produce a result in that instance. To the extent practical, instantaneous flow measurements coincide with the collection of any grab samples required for the same sampling period so that together the samples and flow are representative of the discharge during that sampling period.
21. **"Instantaneous Maximum"** when limited in the permit as an instantaneous maximum value, shall mean that no value measured during the reporting period may fall above the stated value.
22. **"Instantaneous Minimum"** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
23. **"Monitoring and Reporting"**
    When a permit becomes effective, monitoring requirements are of the immediate period of the permit effective date. Where the monitoring requirement for an effluent characteristic is monthly or more frequently, the Discharge Monitoring Report (DMR) shall be submitted by the 25th of the month following the sampling. Where the monitoring requirement for an effluent characteristic is Quarterly, Semi-Annual, Annual, or Yearly, the DMR shall be submitted by the 25th of the month following the monitoring period end date.
    A. **MONTHLY:**
       is defined as a calendar month or any portion of a calendar month for monitoring requirement frequency of once/month or more frequently.
    B. **BI-MONTHLY:**
       is defined as two (2) calendar months or any portion of 2 calendar months for monitoring requirement frequency of once/2 months or more frequently.

C. **QUARTERLY:**
   1. is defined as a **fixed calendar quarter** or any part of the fixed calendar quarter for a non-seasonal effluent characteristic with a measurement frequency of once/quarter. Fixed calendar quarters are: January through March, April through June, July through September, and October through December.
   2. is defined as a **fixed three month period** (or any part of the fixed three month period) of or dependent upon the seasons specified in the permit for a seasonal effluent characteristic with a monitoring requirement frequency of once/quarter that does not coincide with the fixed calendar quarter. Seasonal calendar quarters are: May through July, August through October, November through January, and February through April.

D. **SEMI-ANNUAL:**
   is defined as the fixed time periods January through June, and July through December (or any portion thereof) for an effluent characteristic with a measurement frequency of once/6 months or twice/year.

E. **ANNUAL or YEARLY:**
   is defined as a fixed calendar year or any portion of the fixed calendar year for an effluent characteristic or parameter with a measurement frequency of once/year. A calendar year is January through December, or any portion thereof.

24. **"Monthly Average"** means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. For Fecal Coliform Bacteria (FCB) or *E. coli*, report the Monthly Average as the geometric mean of all "daily discharges" within a calendar month.
25. **"National Pollutant Discharge Elimination System"** 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 Clean Water Act.
26. "**NOEC**" means No Observed Effect Concentration.
27. **"PMSD"** means Percent Minimum Significant Difference.
28. **"POTW"** means Publicly Owned Treatment Works;
29. **"Reduction of $CBOD_5$/BOD_5 and TSS in mg/l Formula"**
    [(Influent – Effluent) / Influent] × 100
30. **"Severe property damage"** 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 products.
31. **"Sewage sludge"** means the solids, residues, and precipitate separated from or created in sewage by the unit processes at a POTW. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and stormwater runoff that are discharged to or otherwise enter a POTW.
32. **"Treatment works"** means any devices and systems used in storage, treatment, recycling, and reclamation of municipal sewage and industrial wastes, of a liquid nature to implement section 201 of the Act, or necessary to recycle reuse water at the most economic cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and alterations thereof; elements essential to provide a

reliable recycled supply such as standby treatment units and clear well facilities, and any works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment.

33. **Units of Measure:**
    "MGD" shall mean million gallons per day.
    "mg/l" shall mean milligrams per liter or parts per million (ppm).
    "µg/l" shall mean micrograms per liter or parts per billion (ppb).
    "cfs" shall mean cubic feet per second.
    "ppm" shall mean parts per million.
    "s.u." shall mean standard units.
34. **"Upset"** means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. Any upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventive maintenance, or careless or improper operations.
35. **"Visible sheen"** means the presence of a film or sheen upon or a discoloration of the surface of the discharge. A sheen can also be from a thin glistening layer of oil on the surface of the discharge.
36. **"Weekday"** means Monday – Friday.

Final Statement of Basis

This Statement of Basis is for information and justification of the permit requirements only. Please note that it is not enforceable. This permitting decision is for the renewal of discharge Permit Number AR0034550 with Arkansas Department of Energy and Environment – Division of Environmental Quality (DEQ) Arkansas Facility Identification Number (AFIN) 34-00033 to discharge to Waters of the State.

1. PERMITTING AUTHORITY

The issuing office is:

Division of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT

The applicant's mailing address and facility address is:

Arkansas Steel Associates, LLC
2803 Van Dyke Road
Newport, AR 72112

3. PREPARED BY

The permit was prepared by:

Terry Liu, P.E.
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4. PERMIT ACTIVITY

Previous Permit Effective Date:	November 1, 2015
Previous Permit Expiration Date:	October 31, 2020

The permittee submitted a permit renewal application on March 11, 2020, with all additional information received by October 9, 2020. The current discharge permit is being reissued for a 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

APC&EC - Arkansas Pollution Control and Ecology Commission
BAT - best available technology economically achievable
BCT - best conventional pollutant control technology
BMP - best management practice
BOD_5 - five-day biochemical oxygen demand
BPJ - best professional judgment
BPT - best practicable control technology currently available
$CBOD_5$ - carbonaceous biochemical oxygen demand
CD - critical dilution
CFR - Code of Federal Regulations
cfs - cubic feet per second
COD - chemical oxygen demand
COE - United States Corp of Engineers
CPP - continuing planning process
CWA - Clean Water Act
DMR - discharge monitoring report
DO - dissolved oxygen
ELG - effluent limitation guidelines
EPA - United States Environmental Protection Agency
ESA - Endangered Species Act
FCB - fecal coliform bacteria
gpm - gallons per minute
MGD - million gallons per day
MQL - minimum quantification level
NAICS - North American Industry Classification System
NH_3-N - ammonia nitrogen
$NO_3 + NO_2$-N - nitrate + nitrite nitrogen
NPDES - National Pollutant Discharge Elimination System
O&G - oil and grease
Rule 2 - APC&EC Rule No. 2
Rule 6 - APC&EC Rule No. 6
Rule 8 - APC&EC Rule No. 8
Rule 9 - APC&EC Rule No. 9
RP - reasonable potential
SIC - standard industrial classification
TDS - total dissolved solids
TMDL - total maximum daily load
TP - total phosphorus
TRC - total residual chlorine
TSS - total suspended solids
UAA - use attainability analysis
USF&WS - United States Fish and Wildlife Service

USGS - United States Geological Survey
WET - whole effluent toxicity
WQMP - water quality management plan
WQS - Water Quality standards
WWTP - wastewater treatment plant

Compliance and Enforcement History:

The compliance and enforcement history for this facility can be reviewed by using the following web link:

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0034550_Ark%20Steel%20Assoc%20Renewal_20200417.pdf

5. SIGNIFICANT CHANGES FROM THE PREVIOUSLY ISSUED PERMIT

The permittee is responsible for carefully reading the permit in detail and becoming familiar with all of the changes therein:

1. The mailing address was removed from the cover page.
2. Mass and concentration limits for TSS and Zinc at Outfall 001 were revised based on updated flows and production rates. See section 11.E of this Statement of Basis for the calculations.
3. Copper, Lead, and O&G mass limits at Outfall 001 were revised based on updated flow rates. See section 11.E of this Statement of Basis for the calculations.
4. The BOD_5 and O&G concentration limits are updated due to a change in rounding procedures.
5. The flow monitoring requirements for internal Outfall 001 have been updated based on the provided information.
6. Part II.7 of the previous permit, the sludge disposal condition, was removed. Sludge disposal is addressed in Part III.B.6 of the permit.
7. Part III.C.5 of the permit now requires that DMRs be submitted electronically via NetDMR.
8. The Twenty-four Hour Report requirements are revised in Part III.D.6.

6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION

The outfall is located at the following coordinates based on the renewal application and verified with Google Earth using WGS84:

Latitude: 35° 38’ 46.3” N; Longitude: 91° 14’ 37.8” W

The receiving waters named:

unnamed tributary of Village Creek, thence to Village Creek, thence to the White River in Segment 4C of the White River Basin. The receiving stream with USGS Hydrologic Unit

Code (H.U.C.) of 11010013 and reach #006 is a Water of the State classified for secondary contact recreation, raw water source for domestic (public and private), industrial, and agricultural water supplies; propagation of desirable species of fish and other aquatic life; and other compatible uses.

7. 303(d) LIST, TOTAL MAXIMUM DAILY LOADS, ENDANGERED SPECIES, AND ANTI-DEGRADATION CONSIDERATIONS

A. 303(d) List

Village Creek is listed on the 2018 303(d) list in category 5 as impaired due to low dissolved oxygen values and the source of the impairment is unknown. The discharge from this facility is into an unnamed tributary of Village Creek thence approximately ¼ mile to confluence with Village Creek. In accordance with the requirements of 40 CFR Part 122.4(i) (prohibitions on issuance of a discharge permit for a discharge to impaired waters), the permit continues the end-of-pipe (point-of-discharge) limits for dissolved oxygen, based on the applicable dissolved oxygen water quality criteria established for the receiving water, to ensure that the discharge will not cause or contribute low dissolved oxygen values to the receiving water at levels which may exacerbate the impairment of the receiving water's designated uses.

B. Applicable Total Maximum Daily Load (TMDL) Reports

A TMDL report entitled "TMDLs for Turbidity for Village Creek, AR" was completed by FTN Associates, Ltd. on January 6, 2006. The report states that "the wasteload allocation (WLA) for the point sources was set to zero because the surrogate being used for turbidity (TSS) is considered to represent inorganic suspended solids (i.e., soil and sediment particles from erosion or sediment resuspension). The suspended solids discharged by point sources in the study area are assumed to consist primarily of organic solids rather than inorganic solids. Discharges of organic suspended solids from point sources are already addressed by DEQ through their permitting of point sources to maintain water quality standards for dissolved oxygen." Since the facility currently has effluent limits for TSS, no further permitting action is required at this time.

C. Endangered Species

No comments on the application were received from the USF&WS. The draft permit and Statement of Basis were sent to the USF&WS for their review.

D. Anti-Degradation

The limitations and requirements set forth in this permit for discharge into waters of the State are consistent with the Anti-degradation Policy and all other applicable water quality standards found in APC&EC Rule No. 2.

8. OUTFALL, TREATMENT PROCESS DESCRIPTION, AND FACILITY CONSTRUCTION

The following is a description of the facility described in the application:

A. Average Flow:

Outfall 001 (Dry Weather): 0.257 MGD, based on the arithmetic mean of 24 monthly averages of dry weather daily flows over the period of record March 2018 to February 2020. Since stormwater flows are commingled with industrial flows at Outfall 001, the daily flows reported during days that were impacted by rain events greater than 0.6 in/day were excluded from the calculation of the average dry weather flow. Daily precipitation data was obtained for Newport, Arkansas from the National Oceanic and Atmospheric Administration (NOAA) website.

Outfall 001 (Wet Weather): 0.425 MGD, based on the average storm magnitude of 0.6 inches for the climatological region with which the facility was situated. Next, an average normalized Direct Runoff (DRO) was determined to be 280,000 gallons per inch for this facility using previous facility flow data and storm events. Such a storm event multiplied by the average normalized DRO of 280,000 gallons per inch lead to the average storm water flow of 168,000 gallons per day.

Outfall 001 (Internal): 0.006 MGD, based on the design flow of the package treatment unit.

B. Type of Treatment:

Outfall 001: Oil skimmers

Outfall 001 (Internal): extended aeration activated sludge followed by clarification, fabric filtration, and chlorine disinfection.

C. Discharge Description:

Outfall 001: stormwater which is not covered under the Industrial General Permit (IGP) with tracking number ARR00B774, treated domestic wastewater, and industrial wastewater consisting of quench water from the rolling mill inspection department, backwash water from the mold water iron treatment and softening units, blowdown from the mold water cooling tower, backwash water from two spray water sand filters, backwash water and strainer discharge from three electric arc furnace iron treatment units, backwash water from direct contact water sand filter, and discharge of bearing and pass water from breakdown mill and 18-inch mill.

Outfall 001 (Internal): treated domestic wastewater

D. Facility Status: This facility was evaluated using the NPDES Permit Rating Worksheet (MRAT) to determine the correct permitting status. Since the facility's MRAT score of 60 is less than 80, this facility is classified as a minor industrial.

E. Facility Construction: This permit does not authorize or approve the construction or modification of any part of the treatment system or facilities. Approval for such construction must be by permit issued under Rule 6.202.

9. ACTIVITY

Under the Standard Industrial Classification (SIC) code of 3312 or North American Industry Classification System (NAICS) code of 331221, the applicant's activities are the operation of a Continuous Casting and Hot Forming Steel Products facility.

10. SEWAGE SLUDGE /SOLIDS PRACTICES

Sewage sludge generated by the activated sludge treatment is disposed of as needed at the Newport Wastewater Treatment Plant by a licensed septic tank hauler.

Sludge from the spray water sand filters is mixed with the slag generated from steelmaking activities. The slag is then sorted by size onsite and sold as a product to outside customers.

Sludge from settling within the recirculating cooling water loops is cleaned out during the annual facility shutdown, and is shipped to the Rolling Meadows Landfill under the DEQ solid waste permit 0253-S1-R6.

11. DEVELOPMENT AND BASIS FOR PERMIT CONDITIONS

The Division of Environmental Quality has determined to issue a permit for the discharge described in the application. Permit requirements are based on federal regulations (40 CFR Parts 122, 124, and Subchapter N), and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.). All of the information contained in the application, including all of the submitted effluent testing data, was reviewed to determine the need for effluent limits and other permit requirements.

The following is an explanation of the derivation of the conditions of the permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons suggesting the decisions as required under 40 CFR Part 124.7.

Technology-Based Versus Water Quality-Based Effluent Limitations and Conditions

Following regulations promulgated at 40 CFR Part 122.44, the permit limits are based on either technology-based effluent limits pursuant to 40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to 40 CFR Part 122.44(d), whichever are more stringent as follows:

Parameter	Water Quality-Based		Technology-Based		Previous Permit		Final Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
Outfall 001 (Dry Weather)[1]								
TSS	N/A	N/A	145	395	129.7	354.8	145	395
Temperature (°F)	89.6 (Inst. Max.)		N/A		89.6 (Inst. Max.)		89.6 (Inst. Max.)	
O&G	10	15	38	103	10.0	15.0	10	15
Lead, Total Rec.	11.7 µg/l	23.5 µg/l	65.3 µg/L	200.6 µg/L	11.7 µg/l	23.5 µg/l	11.7 µg/l	23.5 µg/l
Zinc, Total Rec.	281.9 µg/l	565.6 µg/l	102.6 µg/L	303.3 µg/L	98.1 µg/l	290.4 µg/l	102.6 µg/L	303.3 µg/L
Copper, Total Rec.	29.5 µg/l	59.1 µg/l	N/A	N/A	29.5 µg/l	59.1 µg/l	29.5 µg/l	59.1 µg/l
Arsenic, Total Rec.	N/A	N/A	Report	Report	Report	Report	Report	Report
Iron, Total Rec.	N/A	N/A	Report	Report	Report	Report	Report	Report
Manganese, Total Rec.	N/A	N/A	Report	Report	Report	Report	Report	Report
DO								
(May – October)	2.0 (Inst. Min.)		N/A		2.0 (Inst. Min.)		2.0 (Inst. Min.)	
(November – April)	5.0 (Inst. Min.)		N/A		5.0 (Inst. Min.)		5.0 (Inst. Min.)	
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	
Outfall 001 (Wet Weather)[2]								
TSS	N/A	N/A	87.5	239	79.9	218.7	87.5	239
Temperature (°F)	89.6 (Inst. Max.)		N/A		89.6 (Inst. Max.)		89.6 (Inst. Max.)	
O&G	10	15	23	62	10.0	15.0	10	15
Lead, Total Rec.	11.7 µg/l	23.5 µg/l	39.5 µg/L	121.3 µg/L	11.7 µg/l	23.5 µg/l	11.7 µg/l	23.5 µg/l
Zinc, Total Rec.	281.9 µg/l	565.6 µg/l	62.1 µg/L	183.4 µg/L	60.5 µg/l	179.0 µg/l	62.1 µg/L	183.4 µg/L
Copper, Total Rec.	29.5 µg/l	59.1 µg/l	N/A	N/A	29.5 µg/l	59.1 µg/l	29.5 µg/l	59.1 µg/l
Arsenic, Total Rec.	N/A	N/A	Report	Report	Report	Report	Report	Report
Iron, Total Rec.	N/A	N/A	Report	Report	Report	Report	Report	Report
Manganese, Total Rec.	N/A	N/A	Report	Report	Report	Report	Report	Report
DO								
(May – October)	2.0 (Inst. Min.)		N/A		2.0 (Inst. Min.)		2.0 (Inst. Min.)	
(November – April)	5.0 (Inst. Min.)		N/A		5.0 (Inst. Min.)		5.0 (Inst. Min.)	

[1] Dry weather conditions apply when daily rainfall is less than 0.6 inches.
[2] Wet weather conditions apply when daily rainfall is 0.6 inches or greater.

pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	
Outfall 001 (Internal)								
BOD_5	N/A	N/A	30	45	30.0	45.0	30	45
TSS	N/A	N/A	30.0	45.0	30.0	45.0	30.0	45.0
FCB (col/100ml)	N/A	N/A	1000	2000	1000	2000	1000	2000
pH	N/A		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	

A. **Justification for Limitations and Conditions of the Final Permit**

Parameter	Water Quality or Technology	Justification
Outfall 001 (Wet and Dry Weather)		
TSS	Technology	40 CFR 420 Subparts F and G, 40 CFR 122.44(l), and previous permit
Temperature	Water Quality	Rule 2.502, CWA § 402(o), and previous permit
O&G	Water Quality	Rule 2.510, CWA § 402(o), and previous permit
Lead, Total Rec.	Water Quality	Rule 2.508, CWA § 402(o), and previous permit
Zinc, Total Rec.	Technology	40 CFR 420 Subpart F and May 1982 Development Document (Rolling Mill)*, 40 CFR 122.44(l), and previous permit
Copper, Total Rec.	Water Quality	Rule 2.508, CWA § 402(o), and previous permit
Arsenic, Total Rec.	Technology	CPP, 40 CFR 122.44(l), and previous permit
Iron, Total Rec.	Technology	CPP, 40 CFR 122.44(l), and previous permit
Manganese, Total Rec.	Technology	CPP, 40 CFR 122.44(l), and previous permit
DO	Water Quality	Rule 2.505, CWA § 402(o), and previous permit
pH	Technology	40 CFR 420 Subparts F and G, 40 CFR 122.44(l), and previous permit
Outfall 001 (Internal)		
BOD_5	Technology	40 CFR 122.44(l) and previous permit
TSS	Technology	40 CFR 122.44(l) and previous permit
FCB	Technology	40 CFR 122.44(l) and previous permit
pH	Technology	40 CFR 122.44(l) and previous permit

* May 1982 Development Document for Effluent Limitations Guidelines for Iron and Steel Industry was used to derive the technology-based mass limits for hot forming operations. These derived mass values were added to the 40 CFR Part 420 Subpart F TBELs for mass using building block approach. See section 11.E of this Statement of Basis for details.

Flow Measurement at Outfall 001 (Internal)

The permittee has submitted a request dated October 9, 2020 to measure the flow at internal Outfall 001 by using the totalizing flow meter at the influent to the package

treatment unit. As stated in the request, the facility is planning to replace the existing sewage treatment plant with a new system, including a V-notch weir to measure the discharge flow after the final treatment unit, prior to commingling with the industrial waste stream. The Division determined that for the purposes of flow it will be functionally equivalent and accurate to utilize the influent totalizing meter to measure and report the flow for internal Outfall 001 instead of instantaneous measurement at the effluent until the construction is done. This alternative method to demonstrate compliance may be continued until the permit is renewed or modified to incorporate or acknowledge facility updates related to the modified treatment system.

B. Anti-backsliding

The permit is consistent with the requirements to meet Anti-backsliding provisions of the Clean Water Act (CWA), Section 402(o) [40 CFR 122.44(l)]. The final effluent limitations for reissuance permits must be as stringent as those in the previous permit, unless the less stringent limitations can be justified using exceptions listed in CWA 402(o)(2), CWA 303(d)(4), or 40 CFR 122.44(l)(2)(i).

The permit maintains the requirements of the previous permit, with the exception of revised mass and concentration limitations identified for TSS and Zinc. The relaxation of these limits is justified under 40 CFR 122.44(l)(2)(i)(B)(1), based on new information available which was not available at time of previous permit issuance. The technology limits were based on the Federal effluent limitations guidelines promulgated under 40 CFR Part 420 due to updated production rates and decreased average flow.

C. Limits Calculations

1. Mass Limits:

   In accordance with 40 CFR 122.45(f)(1), all pollutants limited in permits shall have limitations expressed in terms of mass if feasible. 40 CFR 122.45(f)(2) allows for pollutants which are limited in terms of mass to also be limited in terms of other units of measurement.

   Mass limits for TSS and Zinc are technology-based and are based on a reasonable measure of actual production in conjunction with 40 CFR 420, Subparts F and G. The calculation of these technology-based limits is shown in Section E of this Statement of Basis.

   Mass limits for O&G, Lead, and Copper, are water quality based and are derived from the concentration limits in conjunction with the long term average flow rate reported for period of record (March 2018 – February 2020) for both dry weather periods and wet weather periods. See Section 11.E of this Statement of Basis for more detailed discussion of the flow determinations.

2. Daily Maximum Limits:

   The daily maximum limits for Lead and Copper are based on Section 5.4.2 of the Technical Support Document for Water Quality-based Toxics Control:

   daily maximum limits = monthly average limits × 2

   The daily maximum limits for TSS and Zinc are technology-based and are derived from the production normalized effluent limitations in 40 CFR 420, Subparts F and G.

   The daily maximum limits for FCB and O&G are based on Rules 2.507 and 2.510, respectively.

D. **208 Plan (Water Quality Management Plan)**

The 208 Plan, developed by the DEQ under provisions of Section 208 of the federal Clean Water Act, is a comprehensive program to work toward achieving federal water goals in Arkansas. The initial 208 Plan, adopted in 1979, provides for annual updates, but can be revised more often if necessary. The 208 Plan has been revised to update the facility flow from 0.270 MGD to 0.257 MGD based on updated facility flow data.

E. **Applicable Effluent Limitations Guidelines**

Discharges from facilities of this type are covered by Federal effluent limitations guidelines promulgated under 40 CFR Part 420, Iron and Steel Manufacturing Point Source Category, Subpart F (Continuous Casting Subcategory), and Subpart G (Hot Forming Subcategory).

Concentration limits have been developed under the authority of 40 CFR Part 122.45 (f)(2) to supplement the mass loading limits in order to encourage and ensure proper operation of the treatment system at all times. Technology-based concentration limits have been calculated based on the present technology-based mass loading limits and the long-term average flow, in accordance with procedures detailed in EPA's Training Manual for NPDES Permit Writers, which states that “the long-term average flow is used to calculate both monthly average and daily maximum concentrations. The use of the long-term average flow is appropriate for the calculation of a daily maximum because it will reflect the range of concentrations that could be expected in a well operated plant. The use of the maximum daily flow is not appropriate to determine the daily maximum concentration from the daily maximum mass limitation because it will reduce the daily maximum concentration below the value which could be expected in a well operated plant. The maximum concentration calculated using the maximum daily flow could be less than the monthly average concentration.

The operations consuming water and generating wastewater at this facility consists of Steelmaking Subcategory (Subpart D), the Melt Shop (Subpart F), and Rolling Mill

operation (Subpart G). All production lines generate wastewater that must meet technology-based effluent limitations. The technology-based limitations are derived from the applicable standards specified in 40 CFR Part 420, Subparts F and G, and are continued from the previous permit. The federal effluent limitations are based on the amount of production from a particular process (see the following tables below). The technology based limitations applicable to this facility are calculated by multiplying the federal limitation by the applicable rate (See equation below). The following tables and calculations present the applicable federal effluent limitations and the resultant production-based effluent limitations for each of the production lines.

40 CFR Part 420.43(a), Subpart D, Electric Arc Furnace Steelmaking – Semi Wet (Best Available Technology Economically Achievable (BAT)

In accordance with 40 CFR 420.43(a), no discharge of process wastewater pollutants resulting from the steelmaking process in the electric arc furnace (EAF) to Waters of the State is allowed. The term "electric arc furnace steelmaking" means the production of steel principally from steel scrap and fluxes in refractory lined furnaces by passing an electric current through the scrap or steel bath.

40 CFR Part 420.64, Subpart F (Continuous Casting Subcategory) and 40 CFR 420.74, Subpart G (Hot Forming Subcategory)

Production Based Effluent Limit Factors From 40 CFR Part 420, Subparts F and G				
Parameter	40 CFR 420.62 & 420.63 Subpart F (melt shop)		40 CFR 420.73 Subpart G (rolling mill)	
	AML[1], lbs/1000 lb of product	DML[2], lbs/1000 lb of product	AML[1], lbs/1000 lb of product	DML[2], lbs/1000 lb of product
TSS	0.0260	0.0780	0.134	0.357
O&G	0.0078	0.0234	0.0336[3]	0.0894
Lead	0.0000313	0.0000939	0.10 mg/L[4]	0.30 mg/L[4]
Zinc	0.0000469	0.000141	0.15 mg/L[4]	0.45 mg/L[4]
pH	Minimum 6.0 s.u.	Maximum 9.0 s.u.	Minimum 6.0 s.u.	Maximum 9.0 s.u.

1 AML = Average Monthly Limit.
2 DML = Daily Maximum Limit.
3 Since no limit is specified in the ELG for the monthly average Oil and Grease, the ratio between monthly average and daily maximum TSS was used in order to obtain monthly average Oil and Grease. This rationale is consistent with logic used in developing monthly averages expressed in the Development Document for Effluent Limitations Guidelines and Standards for the Iron and Steel Manufacturing Point Source Category (EPA 440/1-75/048).
4 These concentrations are based on BPJ using values obtained on page 345 of the Development Document for Effluent Limitations Guidelines and Standards for the Iron and Steel Manufacturing Point Source Category, Volume IV, Hot Forming Subcategory (EPA 440/1-82/024).

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Production and Flow Data

The past 5 years of production data and number of operating days were reviewed for calendar years 2015 to 2019. Based on analysis of this data, the highest average daily production occurred in 2017 in the Melt Shop (40 CFR Part 420, Subpart F) and the highest average daily production occurred in 2017 in the Rolling Mill (40 CFR Part 420, Subpart G). Accordingly, the production rates in those high production years were used as the reasonable measure of actual production figures to be used with mass limitations set forth in 40 CFR 420, Subparts F and G. The evaluation of past 5 years of production rates is shown in the following tables. The total production rate from both the melt shop and rolling mill combined is approximately 5% higher than values used in the previous permit:

Melt Shop Production (Subpart F)					
Past 5 Years					Previous Permit
Year	Production (tons)	Operating Days	Avg Production (tons/day)	Avg Production (K lbs/day)	Avg Production (K lbs/day)
2015	345,803	342	1,011	2,022	2,242
2016	318,394	308	1,034	2,067	
2017	286,340	258	1,110	**2,220 (used)**	
2018	296,431	268	1,106	2,212	
2019	296,956	283	1,049	2,099	

Rolling Mill Production (Subpart G)					
Past 5 Years					Previous Permit
Year	Production (tons)	Operating Days	Avg Production (tons/day)	Avg Production (K lbs/day)	Avg Production (K lbs/day)
2015	262,659	344	764	1,527	1,747
2016	251,214	312	805	1,601	
2017	234,611	249	942	**1,884 (used)**	
2018	245,962	281	875	1,751	
2019	234,881	280	839	1,678	

Calculation of the equivalent concentration limits from the mass limits set forth in 40 CFR 420 were determined for both average dry weather flow rates and average wet weather flow rates. Distinguishing between average dry-weather flow and average wet-weather flow was necessary because the wastewater generated by the facility is commingled with storm water runoff.

The average dry-weather flow rate was determined by calculating the long term average of 24 individual monthly average dry-weather flows at Outfall 001 during the period of record (March 2018 – February 2020). Days when precipitation was received at the facility were excluded from calculation of average dry weather flow rate. The highest monthly average dry-weather flow rate was determined to be 257,000 gallons per day. This flow rate was then used to calculate equivalent dry weather concentration limits

from the ELG mass limits set forth in 40 CFR 420, Subparts F and G. The determination of the average dry weather flow can be reviewed at following weblink:

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0034550_Dry%20weather%20flow%20data%20March%202018%20to%20February%202020_20200516.pdf

The average wet-weather flow was determined as follows. Utilizing data in a reference entitled "NPDES Stormwater Sampling Guidance Document" (EPA 833-B-92-001 July 1992), the average storm water flow was determined using the average storm magnitude of 0.6 inches for the region that the facility is located in. Next, the average normalized Direct Runoff (DRO) was determined to be 280,000 gallons per inch of rainfall for this facility using previous facility flow data and the average storm event for this location of 0.6 inches/day. The average storm event of 0.6 inches/day multiplied by the average normalized DRO of 280,000 gallons per inch yields an average storm water flow of 168,000 gallons per day for this facility. This figure was then added to the average dry-weather flow rate of 257,000 gallons per day to yield the average wet-weather flow rate of 425,000 gallons per day. This wet weather flow rate was then used to calculate equivalent wet weather concentration limits from the ELG mass limits set forth in 40 CFR 420, Subparts F and G.

Calculation of Technology Limits

The equation below is used to calculate the technology-based mass limits for TSS and Oil & Grease for Subparts F and G, and also for Zinc and Lead for Subpart F.

lbs/day allowed in effluent = production × effluent limitation guideline

The calculation of the loadings (lbs per day) for Zinc and Lead for Subpart G uses the average flow and the following equation:

Mass (lbs/day) = Concentration (mg/l) × Flow (MGD) × 8.34

The following calculations show how the technology-based TSS and O&G limits were calculated. The building block approach was used in accordance with the permit writer's manual since this facility is subject to both Subparts F and G of 40 CFR 420.

Calculation of TSS Technology-Based Limits

Average Monthly Limit

(2,220,000 lbs/day product × 0.0260 lbs/1000 lb product) + (1,884,000 lbs/day product × 0.134 lbs/1000 lb product) = 310.2 lbs/day

Daily Maximum Limit

(2,220,000 lbs/day product × 0.0780 lbs/1000 lb product) + (1,884,000 lbs/day product × 0.357 lbs/1000 lb product) = 845.7 lbs/day

Calculation of Oil & Grease Technology-Based Limits

Average Monthly Limit

(2,220,000 lbs/day product × 0.0078 lbs/1000 lb product) + (1,884,000 lbs/day product × 0.0336 lbs/1000 lb product) = 80.6 lbs/day

Daily Maximum Limit

(2,220,000 lbs/day product × 0.0234 lbs/1000 lb product) + (1,884,000 lbs/day product × 0.0894 lbs/1000 lb product) = 220.4 lbs/day

Calculation of Lead Technology-Based Limits

Average Monthly Limit

(2,220,000 lbs/day product × 0.0000313 lbs/1000 lb product) + (0.1 mg/L × 8.34 × 0.089 mgd*) = 0.14 lbs/day

Daily Maximum Limit

(2,220,000 lbs/day product × 0.0000939 lbs/1000 lb product) + (0.3 mg/L × 8.34 × 0.089 mgd*) = 0.43 lbs/day

Calculation of Zinc Technology-Based Limits

Average Monthly Limit

(2,220,000 lbs/day product × 0.0000469 lbs/1000 lb product) + (0.15 mg/L × 8.34 × 0.089 mgd*) = 0.22 lbs/day

Daily Maximum Limit

(2,220,000 lbs/day product × 0.000141 lbs/1000 lb product) + (0.45 mg/L × 8.34 × 0.089 mgd*) = 0.65 lbs/day

*Based on the line drawing submitted with the application, the flow from the rolling mill during dry weather is approximately 33% of total flow from the rolling mill and melt shop combined. Therefore, 33% of the average dry weather flow of 0.270 MGD established in this permit equals 0.089 MGD. This flow was used to derive the BPT mass limit for Zinc and Lead for the Rolling Mill. Dry weather flow was used in this

calculation of Zinc and Lead BPT mass limits since stormwater is not regulated under this effluent limitation guideline. The calculation of the production-based effluent limits can be reviewed at following weblink:

http://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0034550_ELG%20Production-based%20Limits_20200521.pdf

Technology-Based Limits

The sum of the technology limits obtained for Continuous Casting (Melt Shop, Subpart F) and Hot Forming (Rolling Mill, Subpart G) will yield the total technology-based effluent limitations as shown below:

Technology-Based Mass Limits (Sum of Subparts F and G)		
Parameter	Monthly Average (lb/day)	Daily Maximum (lb/day)
TSS	310.2	845.7
O&G	80.6	220.4
Lead	0.14	0.43
Zinc	0.22	0.65

Equivalent Technology-Based Concentrations

The equivalent technology based concentration levels are calculated as follows for the purpose of comparing technology-based limits with water-quality based limits:

C_e = Mass (lbs/day) / (8.34 × Q_e)

Where:

C_e = Concentration in effluent in mg/L
Q_e = Average Flow in MGD

Equivalent Technology-Based Concentration Limits				
Parameter	Wet Weather[1]		Dry Weather[2]	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
TSS	87.5 mg/L	239 mg/L	145 mg/L	395 mg/L
O&G	23 mg/L	62 mg/L	38 mg/L	103 mg/L
Lead	39.5 µg/L	121.3 µg/L	65.3 µg/L	200.6 µg/L
Zinc	62.1 µg/L	183.4 µg/L	102.6 µg/L	303.3 µg/L

1. Wet weather concentrations were based on a flow rate of 0.425 MGD.
2. Dry weather concentrations were based on a flow rate of 0.257 MGD.

These equivalent technology-based concentration effluent limits were compared with the water quality-based concentration effluent limits for O&G, Zinc, and Lead, and the more

stringent limits were included in the permit. The water quality based concentration limits for Copper, Lead, and Zinc were calculated in a manner consistent with the Technical Support Document (TSD) for Water Quality-based Toxics Control (EPA, March 1991), the CPP, and 40 CFR Part 122.45(c). A summary of this comparison for each parameter is presented in Section 11 of this statement of basis. The calculations of the water quality-based concentrations for Copper, Lead, and Zinc can be seen at the following weblink:

http://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0034550_Lead%20Zinc%20and%20Copper%20WQBEL_20200616.pdf

The water quality based limits for O&G and Lead are more stringent than the technology based limits, therefore water quality based limits for O&G, Copper, and Lead are included in the permit. The technology based limits for Zinc are more stringent than water quality based limits, therefore the technology based limits for Zinc are included in the permit.

F. **Priority Pollutant Scan (PPS)**

DEQ has reviewed and evaluated the effluent in accordance with the potential toxicity of each analyzed pollutant using the procedures outlined in the Continuing Planning Process (CPP).

The concentration of each pollutant after mixing with the receiving stream was compared to the applicable water quality standards as established in the Arkansas Water Quality Standards (AWQS), Rule No. 2 (Rule 2.508) and criteria obtained from the "Quality Criteria for Water, 1986 (Gold Book)."

Under Federal Regulation 40 CFR Part 122.44(d), as adopted by Rule No. 6, if a discharge poses the reasonable potential to cause or contribute to an exceedance above a water quality standard, the permit must contain an effluent limitation for that pollutant. Effluent limitations for the toxicants listed below have been derived in a manner consistent with the Technical Support Document (TSD) for Water Quality-based Toxics Control (EPA, March 1991), the CPP, and 40 CFR Part 122.45(c).

The following items were used in calculations:

Parameter	Value	Source
Discharge Flow = Q	0.257 MGD = 0.402 cfs	Application
7Q10 Background Flow	0.0 cfs	U.S.G.S.
LTA Background Flow	0.0 cfs	Calculated
TSS	8.0 mg/l	CPP
Hardness as $CaCO_3$	81 mg/l	CPP
pH	7.2 s.u.	Reported Data

The following pollutants were reported above detection levels:

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Arsenic, Total[1]	1.16	0.5
Chromium (Tri), Total[2]	10.6	10
Copper, Total	10.7[3]	0.5
Lead, Total	3.42[3]	0.5
Nickel, Total[2]	4.26	0.5
Zinc, Total	22.9[3]	20
Iron, Total[1]	1161	100[4]
Manganese, Total[1]	519	3.3[4]

1. Six samples reported during the previous permit term and submitted application
2. Three samples reported in the submitted application
3. Copper, Lead, and Zinc were detected but were not evaluated since the permit already contains effluent limits for these pollutants.
4. MQLs for Iron and Manganese were derived from EPA Region 6 guidance dated April 10, 2006: MQL = 3.3 × MDL, where the MDLs for Iron and Manganese for the MQL calculation were determined using Table 4 of EPA Method 200.7 published in May 18, 2012 Federal Register Vol. 77, No. 97 on page 29826.

Instream Waste Concentrations (IWCs) were calculated in the manner described in Appendix D of the CPP and compared to the applicable Criteria. The following tables summarize the results of the analysis. The complete evaluation can be viewed on the Division's website at the following address:

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0034550_PPS%20evaluation_20200520.pdf

1. **Aquatic Toxicity Evaluation**

a. Acute Criteria Evaluation

Pollutant	Concentration Reported (C_e) µg/l	$C_e \times 2.13$[1]	Instream Waste Concentration (IWC)	Criteria[2]	Reasonable Potential (Yes/No)
			Acute, µg/l	Acute, µg/l	
Arsenic, Total	1.16	2.46	2.46	340[3]	No
Chromium (Tri), Total	10.6	22.7	22.7	2256.37	No
Nickel, Total	4.26	9.08	9.08	2603.30	No
Iron, Total	1161	2472.02	2472.02	1000[3]	Yes

[1] Statistical ratio used to estimate the 95th percentile using a single effluent concentration or the geometric mean of a dataset.
[2] Criteria are from Rule 2.508 unless otherwise specified.
[3] 2009 EPA National Recommended Water Quality Criteria.

b. Chronic Criteria Evaluation

Pollutant	Concentration Reported (C_e) µg/l	$C_e \times 2.13$[1]	Instream Waste Concentration (IWC)	Criteria[2]	Reasonable Potential (Yes/No)
			Chronic, µg/l	Chronic, µg/l	
Arsenic, Total	1.16	2.46	2.46	150[3]	No
Chromium (Tri), Total	10.6	22.7	22.7	731.94	No
Nickel, Total	4.26	9.08	9.08	289.12	No

[1] Statistical ratio used to estimate the 95th percentile using a single effluent concentration or the geometric mean of a dataset.
[2] Criteria are from Rule 2.508 unless otherwise specified.
[3] 2009 EPA National Recommended Water Quality Criteria.

2. **Human Health (Bioaccumulation) Evaluation**

Pollutant	Concentration Reported (C_e) µg/l	$C_e \times 2.13$[1]	Instream Waste Concentration (IWC)	Criteria	Reasonable Potential (Yes/No)
Arsenic, Total	1.16	2.46	2.46	1.4[2]	Yes
Chromium (Tri), Total	10.6	22.7	22.7	3433[3]	No
Nickel, Total	4.26	9.08	9.08	4770[3]	No
Iron, Total	1161	2472.02	2472.02	300 [3]	Yes
Manganese, Total	519	1106.33	1106.33	100 [3]	Yes

[1] Statistical ratio used to estimate the 95th percentile using a single effluent concentration or the geometric mean of a dataset.
[2] Criteria based on carcinogenicity from 2009 EPA National Recommended Water Quality Criteria. The respective criteria are Consumption of Organism Only value representing a human health criteria lifetime risk factor of 10^{-5} as stated in Rule 2.508.
[3] Criteria based on 1986 EPA Gold Book for consumption of organism only.

As can be seen in the tables above, the calculated IWCs for Arsenic, Iron, and Manganese are higher than the EPA Water Quality Criterion. A.C.A. § 8-4-216 authorizes the Division to require the submission of any information relevant to meeting the requirements of the Arkansas Water and Air Pollution Control Act. A requirement to monitor and report Arsenic, Iron, and Manganese once per quarter for one year has been included in the permit so that, in the event that WQS for Arsenic, Iron, or Manganese is added to Rule 2.508, data will be available to perform a reasonable potential analysis. This is in accordance with the procedure in Appendix D of the CPP (Appendix D, Part IV – Chemical Specific Standards and Criteria, Section E – Protection of Human Health Criteria of the Discharge Permit, Toxic Control Implementation Procedure).

The CPP requires that for all pollutants for which there are no applicable state water standards, IWCs are to be compared with the EPA Human Health Criteria (fish consumption only). If dilution calculations show that the in-stream concentration exceeds these criteria, the permit will require the permittee to monitor and report for the pollutant of concern once per quarter for one year only. A reopener clause has been included in the permit (see Part II.2) to provide permit limits if state water quality standards are developed for the applicable pollutants, and the data shows that there is a reasonable potential for the discharge to violate those water quality standards.

12. **WHOLE EFFLUENT TOXICITY**

Section 101(a)(3) of the Clean Water Act states that "…it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited." In addition, DEQ is required under 40 CFR Part 122.44(d)(1), adopted by reference in Rule 6, to include conditions as necessary to achieve water quality standards as established under Section 303 of the Clean Water Act. Arkansas has established a narrative criteria which states "toxic materials shall not be present in receiving waters in such quantities as to be toxic to human, animal, plant or aquatic life or to interfere with the normal propagation, growth and survival of aquatic biota."

Whole effluent toxicity (WET) testing is the most direct measure of potential toxicity which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. It is the national policy of EPA to use bioassays as a measure of toxicity to allow evaluation of the effects of a discharge upon a receiving water (49 Federal Register 9016-9019, March 9, 1984). EPA Region 6 and the State of Arkansas are now implementing the Post Third Round Policy and Strategy established on September 9, 1992, and EPA Region 6 Post-Third Round Whole Effluent Toxicity Testing Frequencies, revised March 13, 2000. Whole effluent toxicity testing of the effluent is thereby required as a condition of this permit to assess potential toxicity. The whole effluent toxicity testing procedures stipulated as a condition of this permit are as follows:

TOXICITY TESTS	**FREQUENCY**
Chronic WET	once/quarter

Requirements for measurement frequency are based on the CPP.

Since the 7Q10 is less than 100 cfs (ft^3/sec), chronic WET testing requirements will be included in the permit.

The calculations for dilution used for chronic WET testing are as follows:

Critical dilution (CD) = (Qd/(Qd + Qb)) × 100

Qd = Average flow= 0.257 MGD = 0.402 cfs
7Q10 = 0 Cfs
Qb = Background flow = 0.67 × 7Q10 = 0 cfs
CD = (0.402) / (0.402 + 0) × 100 = 100%

Toxicity tests shall be performed in accordance with protocols described in "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", EPA/600/4-91/002, July 1994. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are **32%, 42%, 56%, 75%, and 100%** (See the CPP). The low-flow effluent concentration (critical dilution) is defined as **100**% effluent. The requirement for chronic WET tests is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species, *Ceriodaphnia dubia* and the Fathead minnow (*Pimephales promelas*) are representative of organisms indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The WET testing frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen conductivity, and alkalinity shall be reported according to EPA-821-R-02-013, October 2002 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

This permit may be reopened to require further WET testing studies, Toxicity Reduction Evaluation (TRE) and/or effluent limits if WET testing data submitted to the Division shows toxicity in the permittee's discharge. Modification or revocation of this permit is subject to the provisions of 40 CFR 122.62, as adopted by reference in APC&EC Rule No. 6. Increased or intensified toxicity testing may also be required in accordance with Section 308 of the Clean Water Act and Section 8-4-201 of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

Administrative Records

The following information summarizes toxicity tests submitted by the permittee during the term of the current permit at outfall **001**

Permit Number:	AR0034550	AFIN:	34-00033	Outfall Number:	001
Date of Review:	4/172020	Reviewer:	M. Barnett		
Facility Name:	Arkansas Steel Associates, LLC				
Previous Dilution series:	32, 42, 56, 75, 100	Proposed Dilution Series:	32, 42, 56, 75, 100		
Previous Critical Dilution:	100	Proposed Critical Dilution:	100		
Previous TRE activities:	none				
Frequency recommendation by species					
Pimephales promelas (Fathead minnow):		once per quarter			
Ceriodaphnia dubia (water flea):		once per quarter			

TEST DATA SUMMARY

	Vertebrate (*Pimephales promelas*)		Invertebrate (*Ceriodaphnia dubia*)	
TEST DATE	Lethal	Sub-Lethal	Lethal	Sub-Lethal
	NOEC	NOEC	NOEC	NOEC
6/30/2015	100	100	100	100
9/30/2015	100	100	100	100
12/31/2015	100	100	100	100
3/31/2016	100	100	100	100
6/30/2016	100	100	100	100
12/31/2016	100	100	100	100
6/30/2017	100	100	100	100
12/31/2017	100	100	100	100
6/30/2018	100	100	100	100
12/31/2018	100	100	100	100
6/30/2019	100	100	100	100
12/31/2019	100	100	100	100

REASONABLE POTENTIAL CALCULATIONS

	Vertebrate Lethal	**Vertebrate Sub-lethal**	**Invertebrate Lethal**	**Invertebrate Sub-Lethal**
Min NOEC Observed	100	100	100	100
TU at Min Observed	1.00	1.00	1.00	1.00
Count	12	12	12	12
Failure Count	0	0	0	0
Mean	1.000	1.000	1.000	1.000
Std. Dev.	0.000	0.000	0.000	0.000
CV	0	0	0	0
RPMF	0	0	0	0
Reasonable Potential	0.000	0.000	0.000	0.000
100/Critical dilution	1.000	1.000	1.000	1.000
Does Reasonable Potential Exist	No	No	No	No

PERMIT ACTION

P. promelas Chronic - monitoring
C. dubia Chronic - monitoring

13. STORMWATER REQUIREMENTS

The federal regulations at 40 CFR 122.26(b)(14) require certain industrial sectors to have NPDES permit coverage for stormwater discharges from the facility. These requirements include the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) to control the quality of stormwater discharges from the facility. This facility was issued stormwater permit coverage under NPDES Tracking number ARR00B774.

14. SAMPLE TYPE AND FREQUENCY

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [40 CFR Part 122.48(b)] and to ensure compliance with permit limitations [40 CFR Part 122.44(i)(l)].

Requirements for sample type and sampling frequency have been based on the current discharge permit, except for the flow at internal Outfall 001. The flow measurement at internal Outfall 001 has been changed from instantaneous to totalizing meter.

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Outfall 001				
Flow	continuous	totalizing meter	continuous	totalizing meter
TSS	once/6 months	grab	once/6 months	grab
Temperature	once/month	grab	once/month	grab
O&G	once/quarter	grab	once/quarter	grab
Lead	once/6 months	composite	once/6 months	composite
Zinc	once/6 months	composite	once/6 months	composite
Copper	once/month	composite	once/month	composite
Arsenic[1]	once/quarter	composite	once/quarter	composite
Iron[1]	once/quarter	composite	once/quarter	composite
Manganese[1]	once/quarter	composite	once/quarter	composite
DO	once/month	grab	once/month	grab
pH	once/month	grab	once/month	grab
Outfall 001 (Internal)				
Flow	once/week	instantaneous	once/week	totalizing meter
BOD_5	once/quarter	grab	once/quarter	grab
TSS	once/quarter	grab	once/quarter	grab
FCB	once/quarter	grab	once/quarter	grab
pH	once/month	grab	once/month	grab

[1] Monitoring and reporting for Arsenic, Iron, and Manganese is required for first 12 months of the permit

15. PERMIT COMPLIANCE SCHEDULE

A Schedule of Compliance has not been included in this permit.

16. MONITORING AND REPORTING

The applicant is at all times required to monitor the discharge on a regular basis and report the results monthly. The monitoring results will be available to the public.

17. SOURCES

The following sources were used to draft the permit:

A. Application No. AR0034550 received March 11, 2020, with all additional information received by October 9, 2020.
B. APC&EC Rule No. 2 and 3.
C. APC&EC Rule No. 3.
D. APC&EC Rule No. 6, which incorporates by reference certain federal regulations included in Title 40 of the Code of Federal Regulations at Rule 6.104.
E. 40 CFR Parts 122, 125, and 420.
F. Discharge permit file AR0034550.
G. Discharge Monitoring Reports (DMRs).
H. "2018 Integrated Water Quality Monitoring and Assessment Report," DEQ.
I. "2018 List of Impaired Waterbodies (303(d) List)," DEQ, May 2020.
J. "TMDLs for Turbidity for Village Creek, AR", FTN Associates, Ltd., January 6, 2006.
K. USGS StreamStats Web-based Program.
L. Continuing Planning Process (CPP).
M. Technical Support Document for Water Quality-based Toxic Control.
N. 1986 EPA Gold Book.
O. Federal Register published May 18, 2002, Vol. 77, No. 97, page 29826 containing minimum detection levels for Iron and Manganese.
P. 2009 EPA National Recommended Water Quality Criteria.
Q. Inspection Report dated July 23, 2020.
R. Compliance Review Memo from Myrl Lawrence to Terry Liu dated April 17, 2020.
S. Additional Information for the renewal application received by May 5, 2020.
T. Facility information of site map, stream path, Status on Arkansas Secretary of State, and wastewater operator license.
U. Facility production data from 2015 to 2019.
V. Evaluation of facility dry weather flow data from March 2018 to February 2020.
W. Priority Pollutant Scan evaluation dated May 20, 2020.
X. National Oceanic & Atmospheric Administration (NOAA) Data on Newport, AR from March 1, 2018 to February 29, 2020.
Y. Permit Rating Worksheet dated May 21, 2020.
Z. Calculation of Production-based Effluent Limits with Effluent Limitations Guidelines (ELGs) dated May 21, 2020.
AA. Water quality based calculations for Lead, Zinc, and Copper.
BB. EPA Comment to Preliminary Draft Permit Letter, dated February 18, 2021, from Maria L. Martinez of EPA to Bryan Leamons of DEQ.
CC. ADH No Comment to Preliminary Draft Permit Letter, dated March 24, 2021, from Teresa Lee of ADH to Bryan Leamons of DEQ.

18. PUBLIC NOTICE

The public notice of the draft permit was published for public comment on March 18, 2021. The last day of the comment period was April 19, 2021. No public comments were received on the draft permit.

A copy of the permit and public notice were sent via email to the Corps of Engineers, the Regional Director of the U.S. Fish and Wildlife Service, the Department of Parks, Heritage, and Tourism, the EPA, and the Arkansas Department of Health.

19. PERMIT FEE

In accordance with Rule No. 9.403(D), the annual fee for the permit is calculated from the Average Flow (Q, in MGD) as follows:

Fee = \$200 + (5,600 × Q) = \$200 + (5,600 × 0.257) = \$1,639

20. POINT OF CONTACT

For additional information, contact:

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