Permit Number: AR0036552
AFIN: 17-00043

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.),

Bekaert Corporation

is authorized to discharge treated process wastewater associated with rod pickling, hot dip galvanizing, and zinc phosphate coating, stormwater, and non-process wastewater associated with AC cooling tower bleed-off, AC pump seal flush, and air compressor non-contact cooling water from a facility located as follows: 1881 Bekaert Drive, Van Buren, AR 72956, in Crawford County. The facility is located south of the intersection of I-40 and Lee Creek Drive. The WWTP is located at the south central portion of the facility, just north of the railroad tracks.

Facility Coordinates: Latitude: 35° 27’ 24.52” N; Longitude: 94° 23’ 34.94” W

Discharge is to receiving waters named:

the Arkansas River in Segment 3H of the Arkansas River Basin.

The outfalls are located at the following coordinates:

Outfall 001:	Latitude: 35° 27’ 05.89” N;	Longitude: 94° 23’ 38.85” W
Outfall 002:	Latitude: 35° 27’ 05.87” N;	Longitude: 94° 23’ 38.85” 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

05/04/2021

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

Issue Date

PART I
PERMIT REQUIREMENTS

SECTION A.1 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - treated process wastewater associated with rod pickling, hot dip galvanizing, and zinc phosphate coating.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001. 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)	416.5	972.5	30.0	45.0	once/quarter	grab
Oil and Grease (O&G)	121.3	362.2	10	15	once/quarter	grab
Cadmium, Total Recoverable (Cd)[1]	0.004	0.0055	0.009	0.014	once/quarter	grab
Chromium, Total Recoverable (Cr)[1]	0.0856	0.139	0.219	0.355	once/quarter	grab
Copper, Total Recoverable (Cu)[1]	0.106	0.171	0.271	0.439	once/quarter	grab
Lead, Total Recoverable (Pb)[1]	1.64	4.89	4.20	12.5	once/quarter	grab
Nickel, Total Recoverable (Ni)[1]	0.138	0.218	0.354	0.559	once/quarter	grab
Silver, Total Recoverable (Ag)[1]	0.012	0.022	0.031	0.055	once/quarter	grab
Zinc, Total Recoverable (Zn)[1]	2.23	6.61	5.71	16.9	once/quarter	grab
Cyanide, Total Recoverable (CN)[1]	0.033	0.0600	0.083	0.154	once/quarter	grab
pH[2]	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	record
Acute WET Testing[3]			VALUE			
***Pimephales promelas* (Acute)[3]**	N/A					
Pass/Fail Lethality (48-Hr NOEC) TEM6C			Report (Pass=0/Fail=1)		twice/year	composite
Survival (48-Hr NOEC) TOM6C			Report %		twice/year	composite
Coefficient of Variation (48-Hr NOEC) TQM6C			Report %		twice/year	composite
Pass/Fail Retest 1 (48-Hr NOEC) 22418			Report (Pass=0/Fail=1)		once/month[4]	composite
Pass/Fail Retest 2 (48-Hr NOEC) 22419			Report (Pass=0/Fail=1)		once/month[4]	composite
Pass/Fail Retest 3 (48-Hr NOEC) 51444			Report (Pass=0/Fail=1)		once/month[4]	composite
***Daphnia pulex* (Acute)[3]**						
Pass/Fail Lethality (48-Hr NOEC) TEM3D			Report (Pass=0/Fail=1)		twice/year	composite
Survival (48-Hr NOEC) TOM3D			Report %		twice/year	composite
Coefficient of Variation (48-Hr NOEC) TQM3D			Report %		twice/year	composite
Pass/Fail Retest 1 (48-Hr NOEC) 22415			Report (Pass=0/Fail=1)		once/month[4]	composite
Pass/Fail Retest 2 (48-Hr NOEC) 22416			Report (Pass=0/Fail=1)		once/month[4]	composite
Pass/Fail Retest 3 (48-Hr NOEC) 51443			Report (Pass=0/Fail=1)		once/month[4]	composite

1. See Condition No. 5 of Part II (Metals and Cyanide MQL Requirements)
2. See Condition No. 6 of Part II (pH Requirements)
3. See Part II.8 (WET Testing Requirements).
4. CONDITIONAL REPORTING: Use only if conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution). If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under retest parameters (reported on a semi-annual DMR). This condition applies to *P. promelas* and *D. pulex*.

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 the receiving stream.

PART I
PERMIT REQUIREMENTS

SECTION A.2 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 002 – stormwater, AC cooling tower bleed-off, AC pump seal flush, and air compressor non-contact cooling water.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 002. 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	instantaneous	twice/week
Chemical Oxygen Demand (COD)	N/A	N/A	Report	100	once/quarter	grab
Oil and Grease (O&G)	N/A	N/A	10	15	once/quarter	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/month	grab

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 all effluent streams have commingled and prior to the receiving stream.

SECTION B. PERMIT COMPLIANCE SCHEDULE

None

PART II
OTHER CONDITIONS

1. The operator of this wastewater treatment facility shall hold an Advanced Industrial license from the State of Arkansas in accordance with APC&EC Rule 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 which may affect the quality of discharges from the facility.

   Stormwater runoff commingling with AC cooling tower bleed-off, AC pump seal flush, and air compressor non-contact cooling water discharged from Outfall 002 shall be managed in accordance with Best Management Practices (BMPs) to control the quality of stormwater

discharges associated with industrial activity that are authorized by this permit. Use of BMPs in lieu of numeric effluent limitations in NPDES permits is authorized under 40 CFR 122.44(k) when the Permitting Authority finds numeric effluent limitations to be infeasible to carry out the purposes of the Clean Water Act.

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)
Cadmium, Total Recoverable (Cd)	0.5
Chromium, Total Recoverable (Cr)	10
Copper, Total Recoverable (Cu)	0.5
Lead, Total Recoverable (Pb)	0.5
Nickel, Total Recoverable (Ni)	0.5
Silver, Total Recoverable (Ag)	0.5
Zinc, Total Recoverable (Zn)	20
Cyanide, Total Recoverable (CN)	10

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 permittee shall record daily pH values at Outfall 001 using the continuous pH monitoring system between 10:55 and 11:05 AM. If the continuous pH monitoring system is not operational, a grab sample shall be collected between 10 AM and 12 PM.

7. Total Toxic Organics (TTO)

   A. Toxic Organic Management Plan (Solvent Management Plan)

None of the toxic organics listed in 40 CFR § 433.11(e) are used in the zinc phosphate coating process.

B. Certification

The following certification shall be included as a "comment" on the Discharge Monitoring Reports submitted for this permit:

"Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the toxic organic management plan submitted to the permitting authority."

8. WHOLE EFFLUENT TOXICITY TESTING (48-HOUR ACUTE 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
REPORTED ON DMR AS FINAL OUTFALL:	001
CRITICAL DILUTION (%):	0.34
EFFLUENT DILUTION SERIES (%):	0.14, 0.19, 0.26, 0.34, 0.45
TESTING FREQUENCY:	twice per year
COMPOSITE SAMPLE TYPE:	Defined in paragraph C.iv.a
TEST SPECIES/METHODS:	40 C.F.R. § 136

Daphnia pulex acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest 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.

Pimephales promelas (Fathead minnow) acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest 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 defined as the greatest effluent dilution at and below which toxicity that is statistically different from the control (0%

effluent) at the 95% confidence level does not occur. Acute 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.

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 LETHALITY

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal effects at or below the critical dilution. Significant lethal effects are herein defined as a statistically significant difference at the 95% confidence level between the survival of the appropriate test organism in a specified effluent dilution and the control (0% effluent). 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.

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 lethal 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 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 be 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.

c. The provisions of Item B.i 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. Each toxicity test control (0% effluent) must have a survival equal to or greater than 90%.

b. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: *Daphnia pulex* survival test; and Fathead minnow survival test.

c. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal effects are exhibited for*: Daphnia pulex* survival test; and Fathead minnow survival test.

d. 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 survival in the Daphnia pulex survival test or the survival endpoint 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.

e. 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%.

ii. Statistical Interpretation

For the *Daphnia pulex* survival test and the Fathead minnow survival test, the statistical analyses used to determine if there is a statistically 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-02-012 or the most recent update thereof.

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 90% 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 an 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., 48 hours);

(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 two 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 a second composite sample for use during the 24-hour renewal of each dilution concentration for both tests. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 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.

c. The permittee must collect both flow-weighted composite samples within the monitoring period. The second composite sample shall not be collected into the next monitoring period; such tests will be determined to be invalid. Monitoring period definitions are listed in Part IV.

d. The permittee must collect the composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis.

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. 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.

D. REPORTING

i. The permittee shall prepare a full report of the results of all tests conducted pursuant to this Part in accordance with the Report Preparation Section of EPA-821-R-02-012, 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 report 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 report the following 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. 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. TEM6C.

(2) Report the NOEC value for survival, Parameter No. TOM6C.

(3) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM6C.

(4) 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 for *P. promelas* is less than the critical dilution, enter a “1”; otherwise, enter a “0” under Parameter No. 22418 (reported on semi-annual DMR);

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

(C) Consecutive Monthly Retest 3: If the NOEC for *P. promelas* is less than the critical dilution, enter a "1"; otherwise, enter a "0" under Parameter No. 51444 (reported on semi-annual DMR);

(D) If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one routine 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 semi-annual DMR)

b. Daphnia pulex

(1) If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D

(2) Report the NOEC value for survival, Parameter No. TOM3D.

(3) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM3D.

(4) 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 for *D. pulex* is less than the critical dilution, enter a "1"; otherwise, enter a "0" under Parameter No. 22415 (reported on semi-annual DMR);

(B) Consecutive Monthly Retest 2: If the NOEC for *D. pulex* is less than the critical dilution, enter a "1"; otherwise, enter a "0" under Parameter No. 22416 (reported on semi-annual DMR);

(C) Consecutive Monthly Retest 3: If the NOEC for *D. pulex* is less than the critical dilution, enter a "1"; otherwise, enter a "0" under Parameter No. 51443 (reported on semi-annual DMR);

(D) If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one routine 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 semi-annual DMR)

E. TOXICITY REDUCTION EVALUATION (TRE)

i. Within ninety (90) days of confirming lethality in the retests, 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 TRE Action Plan shall lead to the successful elimination of effluent toxicity at the critical dilution and include 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) 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 24 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 lethality 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 lethality 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 lethality 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 C.F.R. §122.44(d)(1)(v).

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 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 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 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 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 6 and the provisions of APC&EC Rule 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 or preventive maintenance.
(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**

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 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 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 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 of 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 AR0036552 with Arkansas Department of Energy and Environment – Division of Environmental Quality (DEQ) Arkansas Facility Identification Number (AFIN) 17-00043 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:

Bekaert Corporation
1881 Bekaert Drive
Van Buren, AR 72956

3. PREPARED BY

The permit was prepared by:

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4. PERMIT ACTIVITY

Previous Permit Effective Date:	October 1, 2015
Previous Permit Expiration Date:	September 30, 2020

The permittee submitted a permit renewal application on April 2, 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 2
Rule 6 - APC&EC Rule 6
Rule 8 - APC&EC Rule 8
Rule 9 - APC&EC Rule 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:

http://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0036552_Compliance%20Review_20200616.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. Mass limitations for TSS and O&G have changed. Calculated mass limitations for TSS and O&G were updated using the production and flow data provided in the renewal application. See Section 11.D of this Statement of Basis for additional information.
2. Mass and concentration limitations for Total Recoverable Cd, Cr, Cu, Pb, Ni, Ag, Zn, and CN have changed. Calculated limitations for these metals were updated using the production and flow data from the renewal application. The number of significant digits in these limits was revised to be consistent with the applicable effluent limitation guidelines. See Section 11.D of this Statement of Basis for additional information.
3. The Acute WET testing frequency was reduced to twice/year. The critical dilution and dilution series for Acute WET testing were updated. See Part II.9 of the permit and Section 12 of this Statement of Basis for additional information.
4. The pH monitoring condition in Part II.6 was updated to clarify that it only applies to Outfall 001.
5. A new condition regarding Total Toxic Organics (TTO) was added as Part II.7 of the permit. See Section 11.D.iii of this Statement of Basis for additional information.
6. Part III.B.6 of the permit was updated to reference the solids disposal method in Section 10 of the Statement of Basis.
7. Part III.C.5 of the permit now requires that DMRs be submitted electronically via NetDMR.
8. An email address and phone number for 24-hour reporting was added to Part III.D.6 of the permit.
9. A new section regarding other information was added as Part III.D.14 of the permit.
10. The general BMP condition for all stormwater and BMP condition for stormwater commingled with AC cooling tower bleed-off, AC pump seal flush, and air compressor non-contact cooling water discharged from Outfall 002 were consolidated into a single condition as Part II.4 of the permit.

6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION

The outfalls are located at the following coordinates based on the previous permit and confirmed on Google Earth using WGS84:

Outfall 001: Latitude: 35° 27’ 05.89” N; Longitude: 94° 23’ 38.85” W
Outfall 002: Latitude: 35° 27’ 05.87” N; Longitude: 94° 23’ 38.85” W

The receiving waters named:

the Arkansas River in Segment 3H of the Arkansas River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C.) of 11110104 and reach # 013 is a Water of the State classified for primary and 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

The receiving stream is not listed on Arkansas' 2018 List of Impaired Waterbodies (303(d) List).

B. Applicable Total Maximum Daily Load (TMDL) Reports

There are no TMDL reports applicable to this facility.

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 2.

8. OUTFALL, TREATMENT PROCESS DESCRIPTION, AND FACILITY CONSTRUCTION

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

A. Average Flow:
   i. Outfall 001: 0.0468 MGD (highest monthly average flow of the past two years)
   ii. Outfall 002: variable

B. Type of Treatment:
   i. Outfall 001: mixing, pre-aeration, neutralization, aeration, flocculation, clarification, and polishing
   ii. Outfall 002: none

C. Discharge Description:
   i. Outfall 001: treated process wastewater associated with rod pickling, hot dip galvanizing, and zinc phosphate coating
   ii. Outfall 002: stormwater, AC cooling tower bleed-off, AC pump seal flush, and air compressor non-contact cooling water

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 70 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 3499 or North American Industry Classification System (NAICS) code of 331222, the applicant's activities are the operation of manufacturing of galvanized steel wire and related products for the agricultural, appliance, construction, and communications industries; such as: barbed wire, field fence, bright wire, and strand.

10. SOLIDS PRACTICES

Dewatered solids will be transported by truck to the Sallisaw Landfill in Oklahoma, permitted under ODEQ Solid Waste Permit No. 3568008.

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:

Concentration Limits								
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								
TSS	N/A	N/A	1,070	2,490	30	45	30.0	45.0
O&G	10	15	310.7	928	10	15	10	15
Cd, Total Recoverable	24	12	0.009	0.014	0.007	0.01	0.009	0.014
Cr, Total Recoverable	2,100	4,300	0.219	0.355	0.17	0.26	0.219	0.355
Cu, Total Recoverable	40	79	0.271	0.439	0.19	0.32	0.271	0.439
Pb, Total Recoverable	59	120	4.20	12.5	3.32	9.91	4.20	12.5
Ni, Total Recoverable	1,600	3,100	0.354	0.559	0.28	0.42	0.354	0.559
Ag, Total Recoverable	10	21	0.031	0.055	0.02	0.04	0.031	0.055
Zn, Total Recoverable	320	650	5.71	16.9	4.50	13.37	5.71	16.9
CN, Total Recoverable	14	29	0.083	0.154	0.06	0.11	0.083	0.154
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.	
Acute WET Testing	VALUE		N/A		Report %		VALUE	
OUTFALL 002								
COD	N/A	N/A	Report	100	Report	100	Report	100
O&G	10	15	N/A	N/A	10	15	10	15
pH	6.0-9.0 s.u.		N/A		6.0-9.0 s.u.		6.0-9.0 s.u.	

There are no applicable water quality-based mass limits for the above listed parameters. Additionally, there are no mass limits applicable to Outfall 002. Therefore, the mass limits in this permit are applicable only to Outfall 001 and are all technology-based:

Mass Limits (Outfall 001 Only)						
Parameter	Technology-based		Previous Permit		Final Permit	
	Monthly Avg. lb/d	Daily Max. lb/d	Monthly Avg. lb/d	Daily Max. lb/d	Monthly Avg. lb/d	Daily Max. lb/d
TSS	416.5	972.5	448.38	1046.33	416.5	972.5
O&G	121.3	362.2	125.6	374.6	121.3	362.2
Cd, Total Recoverable	0.004	0.0055	0.004	0.006	0.004	0.0055
Cr, Total Recoverable	0.0856	0.139	0.09	0.14	0.0856	0.139
Cu, Total Recoverable	0.106	0.171	0.10	0.17	0.106	0.171
Pb, Total Recoverable	1.64	4.89	1.80	5.37	1.64	4.89
Ni, Total Recoverable	0.138	0.218	0.15	0.23	0.138	0.218
Ag, Total Recoverable	0.012	0.022	0.01	0.02	0.012	0.022
Zn, Total Recoverable	2.23	6.61	2.24	7.25	2.23	6.61
CN, Total Recoverable	0.033	0.0600	0.03	0.06	0.033	0.0600

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

Parameter	Water Quality or Technology	Justification
OUTFALL 001		
TSS (concentration)	Technology	Best professional judgment, 40 CFR 122.44(l), and previous permit
TSS (mass)	Technology	40 CFR 420.97(b)(1) and (4), 40 CFR 420.127(b)(1) and (c), 40 CFR 433.16, 40 CFR 122.44(l), and previous permit
O&G (concentration)	Water Quality	Rule 2.510, CWA § 402(o), and previous permit
O&G (mass)	Technology	40 CFR 420.97(b)(1) and (4), 40 CFR 420.127(b)(1) and (c), 40 CFR 433.16, 40 CFR 122.44(l), and previous permit
Cd, Total Recoverable	Technology	40 CFR 433.16, 40 CFR 122.44(l), and previous permit
Cr, Total Recoverable	Technology	40 CFR 433.16, 40 CFR 122.44(l), and previous permit
Cu, Total Recoverable	Technology	40 CFR 433.16, 40 CFR 122.44(l), and previous permit
Pb, Total Recoverable	Technology	40 CFR 420.97(b)(1) and (4), 40 CFR 420.127(b)(1) and (c), 40 CFR 433.16, 40 CFR 122.44(l), and previous permit

Parameter	Water Quality or Technology	Justification
Ni, Total Recoverable	Technology	40 CFR 433.16, 40 CFR 122.44(l), and previous permit
Ag, Total Recoverable	Technology	40 CFR 433.16, 40 CFR 122.44(l), and previous permit
Zn, Total Recoverable	Technology	40 CFR 420.97(b)(1) and (4), 40 CFR 420.127(b)(1) and (c), 40 CFR 433.16, 40 CFR 122.44(l), and previous permit
CN, Total Recoverable	Technology	40 CFR 433.16, 40 CFR 122.44(l), and previous permit
pH	Water Quality	Rule 2.504, CWA § 402(o), and previous permit
Acute WET Testing	Water Quality	Rule 2.409, CPP Appendix D, CPP Attachment X, CWA § 402(o), and previous permit
OUTFALL 002		
COD	Technology	Best professional judgment, 40 CFR 122.44(l), and previous permit
O&G	Water Quality	Rule 2.510, CWA § 402(o), and previous permit
pH	Water Quality	Rule 2.504, CWA § 402(o), and previous permit

TSS Concentration Limits (Outfall 001)
Concentration limits for TSS were established to encourage proper operation of the wastewater treatment facilities, and are continued from the previous permit. The decision to continue these limits is based on the best professional judgment of the permit writer.

Mass Limits (Outfall 001)
Mass limits at Outfall 001 are based on the applicable effluent limitation guidelines. See Section 11.D of this Statement of Basis for detailed information regarding the calculation of mass limits.

COD Limits (Outfall 002)
Concentration limits for COD are continued from the previous permit. The decision to continue these limits is based on the best professional judgment of the permit writer.

Temperature
Rule 2.502 requires that discharges may not cause the temperature of the receiving stream to exceed the ecoregion standard or raise the temperature of the receiving stream by more than 2.8°C.

Temperature Standard

$T_d = \{[(T_b + 0.1°C) \times (Q_d + Q_b)] - (T_b \times Q_b)\}/Q_d$ where
T_d = Effluent temperature required to raise receiving stream temperature by 0.1°C
T_b = Upstream temperature = 31.0°C (highest recorded temperature from upstream monitoring station ARK0154, measured on July 26, 2011)

Q_d = Effluent flow (average flow) = 0.072 cfs
Q_b = Upstream critical low flow (7Q10) = 878 cfs

T_d = {[(31.0°C + 0.1°C) × (0.072 cfs + 878 cfs)] – (31.0 × 878)}/0.072 cfs
T_d = 1250°C, which is much greater than the boiling point of water at atmospheric pressure

Temperature Differential

As seen in the above calculation, the temperature of the effluent cannot reach a point at which it would raise the receiving stream temperature by 0.1°C.

The effluent temperatures needed to exceed water quality standards in Rule 2.502 cannot be achieved by water at atmospheric pressure. Therefore, there is no reasonable potential for exceedances of the water quality standards. Temperature limits or monitoring and reporting requirements are not necessary.

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 following exceptions:

Concentration limits for Cd, Cr, Cu, Pb, Ni, Ag, Zn, and CN were revised based on updated production and flow data – a lower flow was reported for the processes without regulated limits for these pollutants, resulting in a higher concentration limit for the same mass limit in the commingled stream. This revision is allowed in accordance with CWA 402(o)(2)(B)(i).

The revision of the monthly average mass limitation for Cu is a correction of a rounding error in the previous calculations. This change is allowed in accordance with CWA 402(o)(2)(B)(ii).

Revised mass limitations for Cu (daily maximum only), Ag (both monthly average and daily maximum), and CN (monthly average only) are not considered backsliding because they are only a change in the number of significant digits reported. There was no change in the method of calculation for these parameters.

C. **Limits Calculations**

i. 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.

a. **Outfall 001**
The mass limits for Outfall 001 are based on the requirements of 40 CFR Part 420, Subparts I and L, as well as 40 CFR Part 433. See Section 11.D of this Statement of Basis for additional information.

b. **Outfall 002**
Mass limits are not feasible for Outfall 002 due to the variable flow from stormwater.

ii. Daily Maximum Limits:

The daily maximum mass limits are based on the requirements of 40 CFR Part 420, Subparts I and L, as well as 40 CFR Part 433. See Section 11.D of this Statement of Basis for additional information.

With the exception of TSS and O&G, the daily maximum equivalent concentration limits at Outfall 001 (in mg/l) are calculated by dividing the ELG mass limits by the average flow in MGD and a conversion factor of 8.34, as shown in the following formula:

Concentration Limit = (ELG Mass Limit)÷(0.0468×8.34)

The daily maximum concentration limit for TSS at Outfall 001 is based on Section 5.4.2 of the Technical Support Document for Water Quality-based Toxics Control:

daily maximum limit = monthly average limit × 1.5

The daily maximum concentration limits for O&G at Outfalls 001 and 002 are based on Rule 2.510.

The daily maximum concentration limit for COD at Outfall 002 is continued from the previous permit. The permittee is only required to monitor and report the monthly average COD concentration because the discharges are mainly composed of stormwater runoff.

D. **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 I – Acid Pickling Subcategory and Subpart L – Hot Coating Subcategory. The facility is also subject to the provisions of 40 CFR 433 (Metal Finishing Point Source Category), Subpart A – Metal Finishing Subcategory

Production Data
The highest monthly production of the past 12 months reported on the permit renewal application was 11,083 metric tons (Mg) of pickled rods and 10,661 metric tons (Mg) of galvanized wire in the month of January of 2020. Rod pickling was done for 30 days of the month, and galvanized wire production for 28 days. The average daily production rates for this month were calculated as follows:

11,083 Mg/month × 2204.62 lb/Mg ÷ 30 days/month = 814,460 lb/d
10,661 Mg/month × 2204.62 lb/Mg ÷ 28 days/month = 839,410 lb/d

Therefore, 814,460 lb/d of pickled rods and 839,410 lb/d of galvanized wire were used for calculation of production-based limits.

i. Acid Pickling Subcategory (40 CFR Part 420, Subpart I)

Best Available Technology Economically Achievable (BAT) guidelines (40 CFR 420.93) and Best Conventional Technology (BCT) guidelines (40 CFR 420.97) are used in calculating production-based limits for Subpart I.

a. BAT limitations for Lead and Zinc

BAT limitations in 40 CFR 420.93(b)(1) are applicable to spent acid solutions and rinse waters from hydrochloric acid pickling of rods. Limit calculations for lead and zinc in the below table are based on 814,460 lb/d of product:

BAT Limits – 40 CFR 420.93(b)(1)				
Pollutant	ELG ($lb/10^3$ lb product)		Limit (lb/d)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Pb	0.000307	0.000920	0.250	0.749
Zn	0.000409	0.00123	0.333	1.00

BAT limitations in 40 CFR 420.93(b)(4) are applicable to wastewater from the one fume scrubber associated with hydrochloric acid pickling operations. These limits are summarized in the below table:

BAT Limits – 40 CFR 420.93(b)(4)				
Pollutant	ELG (kg/d per scrubber)		Limit (lb/d)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Pb	0.0123	0.0368	0.0271	0.0811
Zn	0.0164	0.0491	0.0362	0.108

Total BAT limitations for lead and zinc are calculated by adding the limits from 40 CFR 420.93(b)(1) and 40 CFR 420.93(b)(4) together. The total BAT limits are shown in the following table:

Total BAT Limits (Subpart I)		
Pollutant	Limit (lb/d)	
	Monthly Avg.	Daily Max.
Pb	0.277	0.830
Zn	0.369	1.11

b. BCT Limitations for TSS and pH

BCT limitations in 40 CFR 420.97(b)(1) are applicable to spent acid solutions and rinse waters from hydrochloric acid pickling of rods. The O&G limits from 40 CFR 420.97(b)(1) are not applicable to this facility because the acid pickling wastewaters are not treated with cold rolling wastewaters. The pH shall be within the range of 6.0 to 9.0 standard units. The limit calculations for TSS in the below table are based on 814,460 lb/d of product:

BCT Limits – 40 CFR 420.97(b)(1)				
Pollutant	ELG ($lb/10^3$ lb product)		Limit (lb/d)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
TSS	0.0613	0.143	49.9	116
pH	6.0-9.0 s.u.		6.0-9.0 s.u.	

BCT limitations in 40 CFR 420.97(b)(4) are applicable to wastewater from the one fume scrubber associated with hydrochloric acid pickling operations. The O&G limits from 40 CFR 420.97(b)(1) are not applicable to this facility because the acid pickling wastewaters are not treated with cold rolling wastewaters. The pH shall be within the range of 6.0 to 9.0 standard units. The TSS and pH limits are summarized in the below table:

BCT Limits – 40 CFR 420.97(b)(4)				
Pollutant	ELG (kg/d per scrubber)		Limit (lb/d)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
TSS	2.45	5.72	5.40	12.6
pH	6.0-9.0 s.u.		6.0-9.0 s.u.	

Total BCT limitations for TSS are calculated by adding the limits from 40 CFR 420.97(b)(1) and 40 CFR 420.97(b)(4) together. The pH limit is the same in both parts; therefore, this pH limit is used for the total BCT limit. The total BCT limits are shown in the following table:

Total BCT Limits (Subpart I)		
Pollutant	Limit (lb/d)	
	Monthly Avg.	Daily Max.
TSS	55.3	129
pH	6.0-9.0 s.u.	

c. Total Subpart I Limits

A summary of the BAT and BCT limitations required by Subpart I is listed in the following table:

Summary of Subpart I Limitations		
Pollutant	Limit (lb/d)	
	Monthly Avg.	Daily Max.
Pb	0.277	0.830
Zn	0.369	1.11
TSS	55.3	129
pH	6.0-9.0 s.u.	

ii. Hot Coating Subcategory (40 CFR 420, Subpart L)

BAT guidelines (40 CFR 420.123) and BCT guidelines (40 CFR 420.127) are used in calculating production-based limits for Subpart L. No chromate rinse step is used during the production; therefore, hexavalent chromium limits are not applicable for this facility.

a. BAT Limitations for Lead and Zinc

BAT limitations in 40 CFR 420.123(b)(1) are applicable to wastewater from galvanization of wire products. Limit calculations for lead and zinc in the below table are based on 839,410 lb/d of product:

BAT Limits – 40 CFR 420.123(b)(1)				
Pollutant	ELG (lb/10^3 lb product)		Limit (lb/d)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Pb	0.00150	0.00451	1.26	3.79
Zn	0.00200	0.00601	1.68	5.04

BAT limitations in 40 CFR 420.123(c) are applicable to wastewater from the fume scrubbers associated with galvanizing operations. There are three scrubbers associated with the galvanizing operations, which is used to calculate the limits in the below table:

BAT Limits – 40 CFR 420.123(c)				
Pollutant	ELG (kg/d per scrubber)		Limit (lb/d)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Pb	0.0123	0.0368	0.0814	0.243
Zn	0.0164	0.0491	0.108	0.325

Total BAT limitations for lead and zinc are calculated by adding the limits from 40 CFR 420.123(b)(1) and 40 CFR 420.123(c) together. The total BAT limits are shown in the following table:

Total BAT Limits (Subpart L)		
Pollutant	Limit (lb/d)	
	Monthly Avg.	Daily Max.
Pb	1.34	4.03
Zn	1.79	5.37

b. BCT Limitations for TSS, O&G, and pH

BCT limitations in 40 CFR 420.127(b)(1) are applicable to wastewater from galvanization of wire products. The pH shall be within the range of 6.0 to 9.0 standard units. The limit calculations for TSS and O&G in the below table are based on 839,410 lb/d of product:

BCT Limits – 40 CFR 420.127(b)(1)				
Pollutant	ELG ($lb/10^3$ lb product)		Limit (lb/d)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
TSS	0.300	0.701	252	588
O&G	0.100	0.300	83.9	252
pH	6.0-9.0 s.u.		6.0-9.0 s.u.	

BCT limitations in 40 CFR 420.127(c) are applicable to wastewater from the fume scrubbers associated with galvanization of wire products. The pH shall be within the range of 6.0 to 9.0 standard units. There are three scrubbers associated with the galvanizing operations, which is used to calculate the limits in the below table:

BCT Limits – 40 CFR 420.127(c)				
Pollutant	ELG (kg/d per scrubber)		Limit (lb/d)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
TSS	16.3	38.1	108	252
O&G	5.45	16.3	36.0	108
pH	6.0-9.0 s.u.		6.0-9.0 s.u.	

Total BCT limitations for TSS and O&G are calculated by adding the limits from 40 CFR 420.127(b)(1) and 40 CFR 420.127(c) together. The pH limit is the same in both parts; therefore, this pH limit is used for the total BCT limit. The total BCT limits are shown in the following table:

Total BCT Limits (Subpart L)		
Pollutant	Limit (lb/d)	
	Monthly Avg.	Daily Max.
TSS	360	840
O&G	120.0	360
pH	6.0-9.0 s.u.	

c. Total Subpart L Limitations

A summary of the BAT and BCT limitations required by Subpart L is listed in the following table:

Summary of Subpart L Limitations		
Pollutant	Limit (lb/d)	
	Monthly Avg.	Daily Max.
Pb	1.34	4.03
Zn	1.79	5.37
TSS	360	840
O&G	120.0	360
pH	6.0-9.0 s.u.	

iii. Metal Finishing Point Source Category (40 CFR 433)

The zinc phosphate coating process was added in 2008. In accordance with the Memorandum regarding New Source Dates for Direct and Indirect Discharges from the US EPA dated September 28, 2006, New Source Performance Standards (NSPS) for the Metal Finishing Point Source Category are applicable to direct dischargers that commenced construction after July 15, 1983. Therefore, the NSPS (40 CFR 433.16) are used in calculating limits for Part 433.

NSPS Limitations

NSPS concentration limits are specified in 40 CFR 433.16. Mass limits were calculated from these concentration limits using a flow of 0.006 MGD (based on the estimated batch discharge volume from the zinc phosphate coating process listed on the renewal application) and a conversion factor of 8.34, as shown in the following table:

NSPS Limitations – 40 CFR 433.16				
Pollutant	ELG (mg/l)		Limit (lb/d)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Cd	0.07	0.11	0.004	0.0055
Cr	1.71	2.77	0.0856	0.139
Cu	2.07	3.38	0.104	0.169
Pb	0.43	0.69	0.022	0.035
Ni	2.38	3.98	0.119	0.199
Ag	0.24	0.43	0.012	0.022
Zn	1.48	2.61	0.0741	0.13
CN	0.65	1.20	0.033	0.0600
TTO	N/A	2.13	certification*	
TSS	31	60	1.6	3.0

NSPS Limitations – 40 CFR 433.16				
Pollutant	ELG (mg/l)		Limit (lb/d)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
O&G	26	52	1.3	2.6
pH	6.0-9.0 s.u.		6.0-9.0 s.u.	

*As detailed in 40 CFR 433.12, the permitting authority may allow dischargers to make a certification statement on DMRs in lieu of requiring monitoring for TTO. 40 CFR 433.12 uses the terms "solvent management plan" and "toxic organic management plan" interchangeably; for the purposes of this permit, these terms are considered equivalent. 40 CFR 433.12(b) requires submission of a toxic organic management plan, and that this plan be incorporated as a provision of the permit. A toxic organic management plan would typically include a list of the toxic organic compounds used and the methods of disposal. However, no toxic organics are used as part of this process. Thus, the toxic organic management plan for this facility is to not use any of the toxic organics listed in 40 CFR 433.11(e) in the zinc phosphate coating process.

One of the toxic organics listed in 40 CFR 433.11(e) was detected in the priority pollutant scan – bis(2-ethylhexyl) phthalate, also known as DEHP. This compound was detected at 0.046 mg/l. According to EPA's Integrated Risk Information System and the Agency for Toxic Substances and Disease Registry ToxFAQs, DEHP is used in the production of polyvinyl chloride, and may leach from a variety of plastics. The solubility increases if oil is present. There is no evidence that the source of DEHP is from use in the zinc phosphate coating process rather than incidental leaching from plastic piping, containers, etc.

Therefore, in lieu of a monitoring requirement for TTO, Part II.7 of the permit incorporates this facility's toxic organic management plan and requires a certification statement to be submitted on each DMR. This requirement appears to not have been explicitly included in previous permits, but it is necessary to meet the ELG requirements specified in 40 CFR 433.12 and 433.16.

iv. Calculation of the Technology-based Effluent Limitations

Because the process waste streams are combined prior to being treated in the common wastewater treatment facility, ensuring compliance with each of the above categorical standards cannot be achieved by establishing internal outfalls.

a. Pollutants Under Multiple Regulations (Pb, Zn, TSS, O&G, and pH)

In order to ensure that all waste streams achieve compliance with the appropriate categorical standards, the following simplified combined waste stream formula was used:

Mass limitations = $M_1+M_2+M_3$

where

M_1 = Mass limitations from 40 CFR 420 Subpart I
M_2 = Mass limitations from 40 CFR 420 Subpart L
M_3 = Mass limitations from 40 CFR 433

The pH limit of 6.0-9.0 s.u. is the same in all of these regulations, so this was used for the total technology-based limit.

Concentration limits were calculated using the total average flow of 0.0468 MGD, in accordance with the formula in Section 11.C.ii of this Statement of Basis. The total technology-based limits and calculated concentration limits are shown in the table below:

Total Technology-based Limitations				
Pollutant	Mass Limit (lb/d)		Concentration Limit (mg/l)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Pb	1.64	4.89	4.20	12.5
Zn	2.23	6.61	5.71	16.9
TSS	417	972	1,070	2,490
O&G	121.3	362	310.7	928
pH	6.0-9.0 s.u.			

b. Pollutants Only Regulated Under 40 CFR 433 (Cd, Cr, Cu, Ni, Ag, and CN)

Cu and Ni – Copper and Nickel were previously shown to be present in the treated waste stream covered under 40 CFR 420, before the zinc phosphate coating process was added at this facility. The concentrations of these pollutants were estimated based on the PPS submitted with the modification application in 2007. These concentrations will be used to represent the unregulated flow contributions for Cu and Ni, prior to treatment. Because only one sample was reported, it was assumed that this concentration could represent up to the 95th percentile of the population geometric mean. Therefore, a conservative estimate of the population geometric mean was calculated by dividing the reported concentration by a factor of 2.13, in accordance with the procedures detailed in Attachment IV of the 2000 CPP. The concentrations used to calculate the mass loadings for the rod pickling and wire galvanizing operations are as follows:

Copper – 14÷2.13 = 6.6 µg/l
Nickel – 120÷2.13 = 56.3 µg/l

Therefore, the waste stream from the rod pickling and wire galvanizing operations was considered to be an unregulated stream in the calculations of technology-based limits for Copper and Nickel.

To ensure that the zinc phosphate coating waste stream achieves compliance with the 40 CFR 433 regulations, the total technology-based limitations for Copper and Nickel were calculated as the sum of the mass loadings from the regulated and unregulated streams. A flow of 0.006 MGD was used for the regulated stream, and a flow of 0.0408 MGD (difference of total average flow and regulated stream flow) was used for the unregulated stream to calculate the mass loadings for each stream in accordance with the formula in Section 11.C.ii of this Statement of Basis. The mass loading for each stream and total mass limits are shown in the table below:

Total Technology-based Limitations						
Pollutant	40 CFR 433 (lb/d)		Unregulated Stream (lb/d)		Total (lb/d)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Cu	0.104	0.169	0.0022	0.0022	0.106	0.171
Ni	0.119	0.199	0.0192	0.0192	0.138	0.218

Concentration limits were calculated using the total mass loading and average flow of 0.0468 MGD in accordance with the formula in Section 11.C.ii of this Statement of Basis. The total technology-based limits and calculated concentration limits are shown in the table below:

Total Technology-based Limitations				
Pollutant	Mass Limit (lb/d)		Concentration Limit (mg/l)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Cu	0.106	0.171	0.271	0.439
Ni	0.138	0.218	0.354	0.559

Cd, Cr, Ag, and CN – Cadmium, Chromium, Silver, and Cyanide were previously shown to be absent in the waste stream covered under 40 CFR 420. This waste stream was considered to be a dilution stream in the calculations of technology-based limits for these pollutants.

Therefore, the total mass limits are equal to the mass limits derived from 40 CFR 433. Total concentration limits were calculated using the average flow of 0.0468 in accordance with the formula in Section 11.C.ii of this Statement of Basis. The

total technology-based limits and calculated concentration limits are shown in the table below:

Total Technology-based Limitations				
Pollutant	Mass Limit (lb/d)		Concentration Limit (mg/l)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Cd	0.004	0.0055	0.009	0.014
Cr	0.0856	0.139	0.219	0.355
Ag	0.012	0.022	0.031	0.055
CN	0.033	0.0600	0.083	0.154

v. Summary of Technology-based Limitations

The total technology-based limitations are summarized in the below table:

Total Technology-based Limitations				
Pollutant	Mass Limit (lb/d)		Concentration Limit (mg/l)	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Cadmium (Cd)[1]	0.004	0.0055	0.009	0.014
Chromium (Cr)[1]	0.0856	0.139	0.219	0.355
Copper (Cu)[1]	0.106	0.171	0.271	0.439
Lead (Pb)[1]	1.64	4.89	4.20	12.5
Nickel (Ni)[1]	0.138	0.218	0.354	0.559
Silver (Ag)[1]	0.012	0.022	0.031	0.055
Zinc (Zn)[1]	2.23	6.61	5.71	16.9
Cyanide (CN)[1]	0.033	0.0600	0.083	0.154
TSS	417	972	1,070	2,490
O&G	121.3	362	310.7	928
pH	6.0-9.0 s.u.			

[1]Total recoverable

The permittee must submit the certification in Part II.7.B of the permit on DMRs in lieu of monitoring requirements for TTO.

These technology-based effluent limitations are compared with water quality-based effluent limitations in Section 11.A of this Statement of Basis.

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.

vi. Discharges from Outfall 002

There are no effluent limitation guidelines applicable to the stormwater, AC cooling tower bleed-off, AC pump seal flush, and air compressor non-contact cooling water discharged from Outfall 002. Stormwater runoff commingling with other wastewater discharged from Outfall 002 must be managed in accordance with Best Management Practices (BMPs) to control the quality of stormwater discharges associated with industrial activity that are authorized by the permit.

E. **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 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 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	0.0468 MGD = 0.0724 cfs	DMR data
7Q10 Background Flow	878 cfs	USGS Station 07250550[1]
LTA Background Flow (Harmonic Mean)	6900 cfs	USGS Station 07250550[2]
TSS	12 mg/l	CPP
Hardness as $CaCO_3$	125 mg/l	CPP
pH	7.67 s.u.	ARK0154[3]
Background, Antimony[4]	5 µg/l	ARK0154[3]
Background, Arsenic	1.4 µg/l	ARK0154[3]
Background, Bis(2-ethylhexyl) phthalate[5]	0	ARK0154[3]
Background, Cadmium[4]	0.15 µg/l	ARK0154[3]
Background, Chromium	0.62 µg/l	ARK0154[3]
Background, Copper	1.2 µg/l	ARK0154[3]
Background, Lead	0.64 µg/l	ARK0154[3]
Background, Nickel	1.4 µg/l	ARK0154[3]
Background, Selenium[4]	1 µg/l	ARK0154[3]
Background, Silver[4]	0.15 µg/l	ARK0154[3]
Background, Thallium[4]	0.25 µg/l	ARK0154[3]
Background, Zinc	2.4 µg/l	ARK0154[3]
Background, Cyanide[5]	0	ARK0154[3]

[1] Low-Flow Characteristics and Regionalization of Low-Flow Characteristics for Selected Streams in Arkansas," U.S. Dept. of the Interior, U.S. Geological Survey, Scientific Investigations Report 2008-5065.

[2] Online "StreamStats Data-Collection Station Report".

[3] DEQ monitoring station at Hwy. 64 Bridge/Garrison Avenue in Fort Smith, AR.

[4] Parameter was not detected. Half of the most sensitive detection limit was used as the background concentration.

[5] Bis(2-ethylhexyl) phthalate and cyanide have not been tested at this monitoring station. Bis(2-ethylhexyl) phthalate is not a naturally occurring compound, therefore the background concentration was assumed to be zero. Cyanide is typically not persistent in the environment, therefore the background concentration was assumed to be zero.

The following pollutants were reported above detection levels:

Pollutant	Concentration Reported, µg/l	Number of Samples	Actual MQL, µg/l	Required MQL, µg/l
Antimony[1]	300	1	300	60
Arsenic[1]	45	1	5	0.5
Bis(2-ethylhexyl) phthalate	46	1	10	10
Cadmium[2]	2.8	20	1	1
Chromium (total)[2]	53	20	10	10
Copper[2]	9.1	20	0.5	0.5
Lead[2]	5.2	20	0.5	0.5
Nickel[2]	123	20	0.5	0.5
Selenium[3]	50	1	50	5
Silver[2]	2.1	20	0.5	0.5
Thallium[3]	3	1	3	0.5
Zinc[2]	115	20	20	20
Cyanide[2]	4.4	20	10	10

[1] Sample method did not meet the required MQL, but a concentration above the actual MQL was reported.
[2] Parameter is also reported on the permittee's monthly DMRs. The highest reported value from the most recent 20 samples is shown in the above table. This includes quarterly DMRs from September of 2015 through March of 2020 and the PPS sample. The DMR samples were assumed to meet the required MQLs.
[3] Parameter was not detected, but the method used did not meet the required MQL. Therefore, the actual MQL is used as the result.

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. Only Antimony, Arsenic, Selenium, and Thallium are included in the reasonable potential analysis below because the permittee already has limits for the other parameters. The complete evaluation can be viewed on the Division's website at the following address:

http://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0036552_PPS_20200512.pdf

i. 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	
Selenium	50	110	1.1	20	No

[1] Statistical ratio used to estimate the 95th percentile using a single effluent concentration.
[2] Criteria are from Rule 2.508.

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	
Selenium	50	110	1.0	5	No

[1] Statistical ratio used to estimate the 95th percentile using a single effluent concentration.
[2] Criteria are from Rule 2.508.

ii. Human Health (Bioaccumulation) Evaluation

Pollutant	Concentration Reported (C_e) µg/l	$C_e \times 2.13$[1]	Instream Waste Concentration (IWC), µg/l	Criteria[2] µg/l	Reasonable Potential (Yes/No)
Antimony	300	640	5.0	6400	No
Arsenic	45	96	1.4	1.4	No
Bis(2-ethylhexyl) phthalate	46	98	0.0010	3.7	No
Thallium	3	6.4	0.25	4.7	No

[1] Statistical ratio used to estimate the 95th percentile using a single effluent concentration.
[2] Adapted from "National Recommended Water Quality Criteria: 2002 – Human Health Criteria Calculation Matrix", EPA. The respective WQC from the noted reference are Consumption of Organism Only values. The values from the reference are for a lifetime risk factor of 10^{-6}. These values have been multiplied by 10 to correspond to human health criteria lifetime risk factor of 10^{-5} as stated in Rule 2.508.

iii. Summary

DEQ has determined from the submitted information that the discharge does not pose the reasonable potential to cause or contribute to an exceedance above a listed Criteria.

Water quality-based limits for Cadmium, Chromium, Copper, Lead, Nickel, Silver, Zinc, and Cyanide were calculated for comparison with technology-based concentration limits. For all pollutants, the technology-based concentration limits were more stringent than the water quality-based concentration limits. The water quality-based limits for those

pollutants were calculated in the manner described in Appendix D of the CPP and are as follows:

Calculated Water Quality-based Limits		
Substance	Daily Maximum mg/l	Monthly Average mg/l
Cadmium[1]	24	12
Chromium[1]	4,300	2,100
Copper[1]	79	40
Lead[1]	120	59
Nickel[1]	3,100	1,600
Silver[1]	21	10
Zinc[1]	650	320
Cyanide[1]	29	14

[1]Total recoverable

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 C.F.R. § 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.

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**
48 hour Acute WET	twice/year

Requirements for measurement frequency are based on the CPP.

Since 7Q10 is greater than 100 cfs (ft^3/sec) and dilution ratio is greater than 100:1, acute WET testing requirements will be included in the permit.

The calculations for dilution used for the acute WET testing are as follows:

Critical Dilution (CD) = $(Q_d / (Q_d + Q_b)) \times 100$

Q_d = Average Flow = 0.0468 MGD = 0.0724 cfs
7Q10 = 878 cfs
Q_b = Background flow= $0.1 \times 0.25 \times 7Q10$ = 22.0 cfs
CD = $((0.0724) / (0.0724 + 22.0)) \times 100 = 0.34\%$

Toxicity tests shall be performed in accordance with protocols described in "Methods for Measuring the Acute Toxicity of Effluent to Freshwater and Marine Organisms", EPA/600/4-90/027. 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 0.14%, 0.19%, 0.26%, 0.34%, and 0.45% (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 0.34% effluent. The requirement for acute WET tests is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species *Daphnia pulex* 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 C.F.R. § 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-02-012, 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 C.F.R. § 122.62, as adopted by reference in APC&EC Rule 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:	AR0036552	AFIN:	17-00043	Outfall Number:	001
Date of Review:	5/11/2020	Reviewer:	M. Barnett		
Facility Name:	Bekaert Corporation				
Previous Dilution series:	0.4, 0.6, 0.8, 1, 1.3	Proposed Dilution Series:	0.14, 0.19, 0.26, 0.34, 0.45		
Previous Critical Dilution:	1	Proposed Critical Dilution:	0.34		
Previous TRE activities:		None			

Frequency recommendation by species

Pimephales promelas (Fathead minnow):	twice per year
Daphnia pulex (water flea):	twice per year

TEST DATA SUMMARY

	Vertebrate (*Pimephales promelas*)		Invertebrate (*Daphnia pulex*)	
TEST DATE	Lethal NOEC		Lethal NOEC	
6/30/2015	1.3		1.3	
9/30/2015	1.3		1.3	
12/31/2015	1.3		1.3	
3/31/2016	1.3		1.3	
6/30/2016	1.3		1.3	
9/30/2016	1.3		1.3	
12/31/2016	1.3		1.3	
3/31/2017	1.3		1.3	
6/30/2017	1.3		1.3	
9/30/2017	1.3		1.3	
12/31/2017	1.3		1.3	
12/31/2017	1.3		1.3	
3/31/2018	1.3		1.3	
6/30/2018	1.3		1.3	
9/30/2018	1.3		1.3	
12/31/2018	1.3		1.3	
3/31/2019	1.3		1.3	
6/30/2019	1.3		1.3	
9/30/2019	1.3		1.3	
12/31/2019	1.3		1.3	

REASONABLE POTENTIAL CALCULATIONS

	Vertebrate Lethal		**Invertebrate Lethal**	
Min NOEC Observed	1.3		1.3	
TU at Min Observed	76.92		76.92	
Count	20		20	
Failure Count	0		0	
Mean	76.923		76.923	
Std. Dev.	0.000		0.000	
CV	0		0	
RPMF	0		0	
Reasonable Potential	0.000		0.000	
100/Critical dilution	294.118		294.118	
Does Reasonable Potential Exist	No		No	

PERMIT ACTION

P. promelas acute - monitoring
D. pulex acute - monitoring

According to the CPP, Appendix D, III. E "Minors Toxicity testing requirements and the frequency of toxicity testing will be determined on a case- by-case basis. Emphasis will be given to minors with known or potential toxicity." The facility's highest monthly average from the past two years is less than 1 mgd (0.0468 MGD). For at least the past ten years the facility has reported no failures for either species. A WET testing frequency of twice per year is sufficient. No further WET testing frequency reduction will be considered this permit cycle.

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 ARR00A496.

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, with the exception of acute WET testing. The acute WET testing frequency was reduced from once/quarter to twice/year based on the facility's average flow and compliance history. See Section 12 of this Statement of Basis for additional information regarding WET sampling frequency. The acute WET testing sample type is now written as "composite" rather than "24-hr composite", but a 24-hour composite sample is still required, as specified in Part II.9.C.iv.a of the permit.

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/quarter	grab	once/quarter	grab
O&G	once/quarter	grab	once/quarter	grab
Cd, Total Recoverable	once/quarter	grab	once/quarter	grab
Cr, Total Recoverable	once/quarter	grab	once/quarter	grab
Cu, Total Recoverable	once/quarter	grab	once/quarter	grab
Pb, Total Recoverable	once/quarter	grab	once/quarter	grab
Ni, Total Recoverable	once/quarter	grab	once/quarter	grab

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Ag, Total Recoverable	once/quarter	grab	once/quarter	grab
Zn, Total Recoverable	once/quarter	grab	once/quarter	grab
CN, Total Recoverable	once/quarter	grab	once/quarter	grab
pH	once/day	record	once/day	record
Acute WET Testing	once/quarter	24-hr composite	twice/year	composite
OUTFALL 002				
Flow	twice/week	instantaneous	twice/week	instantaneous
COD	once/quarter	grab	once/quarter	grab
O&G	once/quarter	grab	once/quarter	grab
pH	once/month	grab	once/month	grab

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. AR0036552 received April 2, 2020.
B. APC&EC Rule 2.
C. APC&EC Rule 3.
D. APC&EC Rule 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 and 125.
F. 40 CFR Parts 420 and 433
G. Discharge permit file AR0036552.
H. Discharge Monitoring Reports (DMRs).
I. "2018 Integrated Water Quality Monitoring and Assessment Report," DEQ.
J. "2018 List of Impaired Waterbodies (303(d) List)," DEQ, May 2020.
K. "Low-Flow Characteristics and Regionalization of Low-Flow Characteristics for Selected Streams in Arkansas," U.S. Dept. of the Interior, U.S. Geological Survey, Scientific Investigations Report 2008-5065.
L. Continuing Planning Process (CPP).

M. Technical Support Document for Water Quality-based Toxic Control.
N. Memorandum regarding New Source Dates for Direct and Indirect Discharges from the US EPA dated September 28, 2006.
O. Email regarding technical clarifications dated May 22, 2020.
P. Inspection Report dated April 5, 2019.
Q. Planning Review Memo dated March 11, 2020.
R. NPDES Permit Rating Spreadsheet (MRAT) dated April 20, 2020.
S. Compliance Review Memo dated June 16, 2020.
T. EPA Comment Letter received February 1, 2020.
U. No comment letter from the Arkansas Department of Health received March 25, 2021.
V. Comment letter from Jonathan Brown received April 2, 2021.

18. PUBLIC NOTICE

The public notice of the draft permit was published for public comment on March 3, 2021. The last day of the comment period was thirty (30) days after the publication date.

A summary of the comments received by the DEQ during the public comment period and response to the comments are included with this permit decision. The response to comments also includes a discussion of any substantial changes from the draft permit.

Copies of the draft 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 Arkansas Department of Parks, Heritage, and Tourism, the EPA, and the Arkansas Department of Health.

19. PERMIT FEE

In accordance with Rule 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 × 0.0468) = \$462

This facility had previously been billed using the formula in Rule 9.403(C)(2)(a). Because this is not a domestic facility, the permit fee has been recalculated using the above formula from Rule 9.403(D).

20. **POINT OF CONTACT**

For additional information, contact:

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RESPONSE TO COMMENTS
FINAL PERMITTING DECISION

Permit No.: AR0036552

Applicant: Bekaert Corportation - Van Buren

Prepared by: Zachary Carroll, PhD

The following are responses to comments received by the Division of Environmental Quality (DEQ) regarding the draft permit number referenced above and are developed in accordance with regulations promulgated at 40 C.F.R. §124.17, Arkansas Pollution Control & Ecology Commission (APC&EC) Rule 8 (Administrative Procedures), and Arkansas Code Annotated (A.C.A.) §8-4-203(e)(2).

Introduction

The above permit was submitted for public comment on March 3, 2021. The public comment period ended on April 2, 2021.

This document contains a summary of the comments that the DEQ received during the public comment period. A summary of the changes to the NPDES Permit can be found on the last page of this document.

The following person sent comments to the DEQ during the public notice:

	Commenter	Number of Comments Raised
1.	Jonathan Brown, GBMc & Associates	5

Comment 1 **Part 1A, Section A.1**

Footnote 3 of the Table of Monitoring Requirements references the WET Testing Requirements which are found in Part II.8, not Part II.9.

Response: The Division agrees. Footnote 3 has been corrected to reference Part II.8.

Comment 2 **Part 1A, Section A.2**

The monitoring requirements for Flow are listed as "continuous" for Frequency and "totalizing meter" for Sample Type. This is inconsistent with the Statement of Basis. A totalizing meter is not available at Outfall 002. We request the monitoring frequency be changed to 2/week and instantaneous reading.

Response: The Division agrees. The sample type for Outfall 002 has been corrected to "instantaneous" and the sample frequency for Outfall 002 has been corrected to "twice/week".

Comment 3 **Part 1A, Section A.2**

An error is found in the second paragraph of this section referencing Outfall 001 rather than Outfall 002.

Response: The Division agrees. The reference in the second paragraph has been corrected to Outfall 002.

Comment 4 **Part II, No. 4**

Condition No. 4 of Part II discusses the requirement to use Best Management Practices (BMP's) for controlling potential pollutants in storm water runoff. As allowed in 40CFR 122.44, DEQ may utilize BMP requirements in lieu of numerical limits in association with storm water discharges. However, Outfall 002 has numerical requirements to monitor the quality of the discharge. If Bekaert is meeting permit limits, appropriate management practices are being implemented which therefore removes the necessity to include BMP requirements in the NPDES Permit. Bekaert requests that this condition be removed from the final permit. Additionally, Condition No. 4 requires that BMPs be amended "whenever there is a change in the facility or a change in the operation of the facility". If the BMP language is not removed, we request this condition to be altered to specify any change in the facility or operations "which may affect the quality of discharges from the facility".

Response: The Division acknowledges this comment. Although certain parameters are limited in Outfall 002, these limits are not intended to address all potential sources of pollution such as spills, materials storage, etc. that may be picked up by stormwater. The facility must maintain BMPs to prevent or reduce discharges of other potential pollutants that are not limited at Outfall 002.

Condition No. 4 has been updated as requested to only require that the BMPs be amended "whenever there is a change in the facility or a change in the operation of the facility which may affect the quality of discharges from the facility".

Comment 5 **Part II, No. 8**

The condition allowing for Monitoring Frequency Reduction for WET Testing has been removed from the permit (Part II, Condition 6 of Existing Permit). While monitoring frequency in the new permit has been changed to 2/year, we request an allowance to reduce to once/year be added to the permit upon successful completion of a given number of WET tests with no lethality exhibited at or below the critical dilution.

Response: The Division acknowledges this comment. The monitoring frequency for WET testing has been reduced from quarterly to twice/year based on the facility's average flow and compliance history. The condition allowing for monitoring frequency reduction for WET testing was removed because no further WET testing frequency reduction will be considered during this permit cycle, as stated in the last paragraph of Section 12 of the Statement of Basis.

Summary of Changes to the Permit			
Part	**Draft Permit**	**Final Permit**	**Comment #**
IA.1	See Part II.9 (WET Testing Requirements).	See Part II.8 (WET Testing Requirements).	1
IA.2	"totalizing meter" (flow sample type)	"instantaneous"	2
IA.2	"continuous" (flow sample frequency)	"twice/week"	2
IA.2	"…authorized to discharge from Outfall 001"	"…authorized to discharge from Outfall 002"	3
II.4	"The permittee must amend the BMPs whenever there is a change in the facility or a change in the operation of the facility."	"The permittee must amend the BMPs whenever there is a change in the facility or a change in the operation of the facility which may affect the quality of discharges from the facility."	4