ADEQ

A R K A N S A S
Department of Environmental Quality

MAY 5 2015

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (91 7199 9991 7030 4937 5473)

Leon Topalian, GM/VP Nucor Corp.
Nucor-Yamato Steel Company
5929 East State Highway 18
Blytheville, AR 72316

RE: Discharge Permit Number AR0043117 – AFIN 47-00202

Dear Mr. Topalian:

Enclosed are the public notice, a copy of the draft modified permit, and Statement of Basis which the Arkansas Department of Environmental Quality (ADEQ) has prepared and mailed to you on the above date under the authority of the National Pollutant Discharge Elimination System (NPDES) and the Arkansas Water and Air Pollution Control Act. A copy of the final permit will be mailed to you when the Department has made a final permitting decision.

In accordance with Reg. 8.207, the enclosed public notice will be or has been published by ADEQ in a newspaper of general circulation of your facility for one (1) day only. An invoice for the cost of publishing the public notice and proof of publication will be sent to you by the advertising newspaper. The permittee must send proof of publication and proof of payment to the address at the bottom of this letter as soon as possible but no later than 30 days from the above date. Until this Department receives proof of publication of the public notice and payment of all permit fees, no further action will be taken on the issuance of your discharge permit.

THIS IS A MODIFIED PERMIT. IN ACCORDANCE WITH 40 CFR 122.62, ONLY THOSE PORTIONS OF THE PERMIT WHICH HAVE BEEN MODIFIED ARE OPEN FOR COMMENT.

This draft modified permit incorporates changes as agreed to in a Permit Appeal Resolution LIS 15-032, Docket No. 14-012-R, entered into on March 6, 2015. For a complete list of changes, please see Section 4 of the enclosed Statement of Basis. Comments must be received at ADEQ prior to the close of the public comment period as described in the enclosed public notice. Once a final permit is issued by the Director and becomes effective, the permittee must comply with all terms and conditions of the permit, or be subject to enforcement actions for any instances of noncompliance during the duration of the permit, usually five (5) years. Consequently, it is imperative that you, as the applicant, thoroughly review the enclosed documentation for accuracy, applicability, and your ability to comply with all conditions therein.

If you have any questions concerning any part of the modified draft permit, please contact Shane Byrum at (501) 682-0618.

Sincerely,

Ellen Carpenter
Chief, Water Division

EC:sb

Enclosure

PUBLIC NOTICE OF DRAFT MODIFICATION OF DISCHARGE PERMIT
PERMIT NUMBER AR0043117, AFIN 47-00202

This is to give notice that the Arkansas Department of Environmental Quality (ADEQ), Water Division, 5301 Northshore Drive, North Little Rock, Arkansas 72118-5317 at telephone number (501) 682-0622, proposes a draft modification of permit number AR0043117 in accordance with a Permit Appeal Resolution (PAR) LIS 15-032, Docket No. 14-012-R, entered into on March 6, 2015 for the following applicant under the National Pollutant Discharge Elimination System (NPDES) and the Arkansas Water and Air Pollution Control Act.

Applicant: Nucor-Yamato Steel Company, 5929 Highway 18 East, Armorel, AR 72310. Location: 5929 Highway 18 East, adjacent to State Highway 18; Latitude: 35° 54' 31.24"; Longitude: 89° 46' 32.87" in Mississippi County, Arkansas. The discharge of treated process wastewater and treated sanitary wastewater (Outfalls 001 and 003) is into the Mississippi River in Segment 6C of the Mississippi River Basin. The discharge of stormwater runoff, slag water reuse basin overflow, and sand filter backwash (Outfall 002) is into Ditch No. 14A thence to the St. Francis River in Segment 5A of the St. Francis River Basin.

THIS IS A MODIFIED PERMIT. IN ACCORDANCE WITH 40 CFR 122.62, ONLY THOSE PORTIONS OF THE PERMIT WHICH HAVE BEEN MODIFIED ARE OPEN FOR COMMENT AT THIS TIME.

The proposed changes from the previously issued permit are as follows:

1. The table of minimum quantification levels in Part II.9 of the permit was expanded to included Lead and Zinc.
2. The date upon which authorization to discharge from Outfall 002 begins in Part IA of the permit was corrected to the effective date of the permit.
3. The concentration limits for COD, TSS, O&G, and Copper for Outfall 002 (Dry Weather Month) were changed to report only and replaced with mass limits for these parameters.
4. The monthly average mass limit for COD for Outfall 002 (Dry Weather Month) was changed from 1426 lb/day to 951 lb/day, and a reporting requirement was added for the daily maximum mass.
5. A reporting requirement for daily maximum TSS mass was added for Outfall 002 (Dry Weather Month).
6. A daily maximum mass limit for Oil & Grease of 285.2 lb/day was added for Outfall 002 (Dry Weather Month) to replace the previous daily maximum concentration limit of 15 mg/l.
7. A daily maximum mass limit for Copper of 1.12 lb/day was added for Outfall 002 (Dry Weather Month) to replace the previous daily maximum concentration limit of 59.1 µg/l.

ADEQ's contact person for submitting written comments on the draft modified permit, requesting information regarding the draft modified permit, or obtaining a copy of the draft modified permit and the Statement of Basis is Shane Byrum, at the above address and telephone number or by email at Water-Draft-Permit-Comment@adeq.state.ar.us. For those with Internet access, a copy of the proposed draft modified permit as well as the publication date may be found on the ADEQ's website at: http://www.adeq.state.ar.us/water/branch_permits/individual_permits/pn_permits/pnpermits.asp.

The comment period for the draft modified permit shall end at 4:30 P.M. (Central Time) on the 30th day after the publication date. If the last day of the comment period is a Saturday, Sunday, or legal holiday, the public comment period shall expire on the next day that is not a Saturday, Sunday, or legal holiday. For information regarding the actual publication date along with the actual date and time the comment period will end, please contact Shane Byrum at the above address and telephone number or by email at Water-Draft-Permit-Comment@adeq.state.ar.us. Public notice, comments, and hearings will be conducted in accordance with Regulation 6.104(A)(5) [40 CFR Parts 124.10 through 124.12 by reference] and Regulation 8.207 through 8.210 (Administrative Procedures). All persons, including the permittee, who wish to comment on ADEQ's draft permitting decision must submit written comments to ADEQ, along with their name and mailing address. A Public Hearing will be held when ADEQ finds a significant degree of public interest. After the public comment period, ADEQ will issue a final permitting decision. ADEQ will notify the applicant and each person who has submitted written comments or request notice of the final permitting decision. Any interested person who has submitted comments may appeal a final decision by ADEQ in accordance with the APCEC Regulation No. 8.603.

Statement of Basis

This Statement of Basis is for information and justification of the permit limits only. Please note that it is not enforceable. This final permitting decision is for *major modification* of the discharge Permit Number AR0043117 with Arkansas Department of Environmental Quality (ADEQ) Facility Identification Number (AFIN) 47-00202 to discharge to Waters of the State.

All changes made to the permit based on Permit Appeal Resolution (PAR) LIS 15-032, Docket No. 14-012-R, entered into on March 6, 2015 are italicized in this Statement of Basis.

1. **PERMITTING AUTHORITY.**

   The issuing office is:

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

2. **APPLICANT.**

   The applicant's mailing and physical address is:

   Nucor-Yamato Steel Company (Limited Partnership)
   5929 Highway 18 East
   Armorel, AR 72310

3. **PREPARED BY.**

   The permit was prepared by:

   Shane Byrum
   Staff Engineer
   NPDES Discharge Permits Section
   Water Division
   (501) 682-0618
   E-mail: byrum@adeq.state.ar.us

   Kimberly A. Fuller, P.E.
   Engineer Supervisor
   NPDES Discharge Permits Section
   Water Division
   (501) 682-0643
   E-mail: fuller@adeq.state.ar.us

4. ***Permit Appeal Resolution – LIS 15-032, Docket No. 14-012-R, entered into on 3/6/2015***

   On October 29, 2014, the Arkansas Department of Environmental Quality (ADEQ) issued a renewal permit (NPDES Permit No. AR0043117) to Nucor Yamato Steel Company (Permittee) with an effective date of December 1, 2014. The permittee filed a timely request for Commission Review and Adjudicatory Hearing (Appeal) regarding ADEQ's decision to issue the permit. Ultimately, the parties have agreed to resolve the issues in dispute in the Appeal by agreement. Accordingly, the docket in the Appeal was closed and the proceedings were remanded to the Department to proceed in accordance with the terms of the Permit Appeal Resolution (PAR) LIS 15-032, Docket No. 14-012-R, entered into on March 6, 2015.

Therefore, the permit has been modified in accordance with the PAR as follows:

- *The table of minimum quantification levels in Part II.9 of the permit was expanded to include Lead and Zinc. Due to an oversight, the original table only listed Copper. All three of these parameters are monitored in the permit, therefore the table was corrected to include all three parameters.*

- *The date upon which authorization to discharge from Outfall 002 begins in Part IA of the permit was corrected to the effective date of the permit. Due to an oversight, the language in the original final permit did not authorize discharge during the first 36 months of the renewed permit.*

- *The monthly average and daily maximum concentration limits for COD, TSS, O&G, and Copper in Part IA, Section A.3 of the permit were changed to report only at Outfall 002 (Dry Weather Month) and replaced with mass limits for these parameters. 40 CFR 122.45(f) requires that all pollutants limited in NPDES permits have limits expressed in terms of mass unless: 1. The pollutant cannot be expressed appropriately by mass; 2. When applicable standards and limits are expressed in other units of measurement; or 3. Mass limits are infeasible because the mass limit cannot be related to measure of operation and permit conditions ensure that dilution will not be used as a substitute for treatment. The permittee submitted a study that estimated a continuous average flow rate from Outfall 002 to be 2.28 MGD during periods when stormwater was not contributing (dry weather months). Due to this non-stormwater continuous flow, the Department added new mass limits to the renewal permit in dry weather months to supplement the existing concentration limits. The permittee appealed the mass limits in the final permitting decision. A permit appeal resolution was agreed upon in which the permit would still contain mass limits during dry weather months, but the existing concentration limits would be replaced with report only. Since mass discharged is a function of both flow rate and concentration, the Department concluded that mass limits provide a better level of protection for the receiving water in this case because mass limits discourage dilution from being used as a substitute for treatment. In addition, 40 CFR 122.45(f)(2) states that pollutants limited in terms of mass <u>may</u> be limited in terms of other units of measurement. Since the federal regulation does not require <u>both</u> mass and concentration to be limited, the Department has agreed to include mass limits only during dry weather months. This permit modification also maintains concentration limits only for Outfall 002 during wet weather months since the flow rate at the outfall during wet weather months is uncontrollable by the facility and is highly dependent on storm events because of the large size of the watershed.*

- *The monthly average mass limit for COD for Outfall 002 (Dry Weather Month) in Part IA, Section A.3 of the permit was changed from 1426 lb/day to 951 lb/day, and a reporting requirement was added for the daily maximum mass. The revised mass limit was derived by dividing the previous daily maximum concentration limit of 75 mg/l by 1.5 (50 mg/l) and then converting to a monthly average mass limit using the maximum*

monthly average flow rate allowed under the dry weather month scenario (2.28 MGD). This calculation is as follows:

COD Monthly Average Mass = 2.28 MGD x 50 mg/L x 8.34 = 951 lb/day

- *A reporting requirement for daily maximum TSS mass was added for Outfall 002 (Dry Weather Month) in Part IA, Section A.3 of the permit to be consistent with the concentration reporting requirement.*

- *A daily maximum mass limit for Oil & Grease of 285.2 lb/day was added for Outfall 002 (Dry Weather Month) in Part IA, Section A.3 to replace the previous daily maximum concentration limit of 15 mg/l. This mass limit was calculated using the maximum monthly average flow rate allowed under the dry weather month scenario (2.28 MGD). This calculation is as follows:*

O&G Daily Maximum Mass = 2.28 MGD x 15 mg/l x 8.34 = 285.2 lb/day

- *A daily maximum mass limit for Copper of 1.12 lb/day was added for Outfall 002 (Dry Weather Month) in Part IA, Section A.3 to replace the previous daily maximum concentration limit of 59.1 µg/l. This mass limit was calculated using the maximum monthly average flow rate allowed under the dry weather month scenario (2.28 MGD). This calculation is as follows:*

Copper Daily Maximum Mass = 2.28 MGD x 0.0591 mg/l x 8.34 = 1.12 lb/day

5. **PERMIT ACTIVITY.**

Previous Permit Effective Date: 12/1/2007
Previous Permit Expiration Date: 11/30/2012

The discharge permit is being modified for the remainder of the 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:

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
NH3-N - ammonia nitrogen
NO_3 + NO_2-N - nitrate + nitrite nitrogen
NPDES - National Pollutant Discharge Elimination System
O&G - oil and grease
Reg. 2 - APCEC Regulation No. 2
Reg. 6 - APCEC Regulation No. 6
Reg. 8 - APCEC Regulation No. 8
Reg. 9 - APCEC Regulation No. 9
RP - reasonable potential
SIC - standard industrial classification
TDS - total dissolved solids
TMDL - total maximum daily load
TP - total phosphorus
TRC - total residual chlorine
TSS - total suspended solids
UAA - use attainability analysis
USF&WS - United States Fish and Wildlife Service
WET - Whole effluent toxicity
WQMP - water quality management plan
WQS - Water Quality standards
WWTP - wastewater treatment plant

Compliance and Enforcement History:

Compliance and Enforcement History for this facility can be reviewed by using the following web link:

http://www.adeq.state.ar.us/ftproot/Pub/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0043117_Compliance%20Report_20140911.pdf

5. **FINANCIAL ASSURANCE**

Financial assurance is not required from this facility since it is not defined as a "nonmunicipal domestic sewage treatment works" as defined in A.C.A. 8-4-203 because if the facility closed, there would be no wastewater generated that would require continued treatment.

6. **SIGNIFICANT CHANGES FROM THE PREVIOUSLY ISSUED PERMIT.**

The list of changes which were made in the renewal permit with an effective date of 12/1/2014 may be found in the Statement of Basis for that permit. The NPDES permit is now being modified to include the changes listed in Section 4 of this Statement of Basis.

7. **RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.**

The outfalls are located at the following coordinates based on the permit renewal application and confirmed using Google Earth with WGS84 map datum:

Outfall 001:	Latitude: 35° 53' 2.1"	Longitude: 89° 46' 28.8"
Outfall 002:	Latitude: 35° 53' 32.6"	Longitude: 89° 47' 2.5"
Outfall 003:	Latitude: 35° 53' 2.1"	Longitude: 89° 46' 28.8"

The receiving waters named:

Outfalls 001 and 003: Mississippi River in Segment 6C of the Mississippi River Basin.
Outfall 002: Ditch No. 14A, thence to Ditch 14, thence to Ditch 13, thence to Ditch 6, thence to Ditch 31, thence to the Tyronza River, thence to the St. Francis River in Segment 5A of the St. Francis River Basin.

Outfalls 001 and 003: The Mississippi River with USGS Hydrologic Unit Code (H.U.C) of 08010100 and reach # 017 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.

Outfall 002: Ditch 14A with USGS Hydrologic Unit Code (H.U.C) of 08020204 and reach # 000009 is a Water of the State classified for secondary contact recreation, raw water source for domestic (public and private), industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

8. **303(d) LIST, ENDANGERED SPECIES, AND ANTI-DEGRADATION CONSIDERATIONS.**

A. 303(d) List:

The receiving streams are not listed on the 2008 303(d) list. Therefore no permit action is needed.

B. **Endangered Species**:

A complete copy of the *renewal* application *received on 5/31/2012* was sent to the U.S. Fish and Wildlife Service (USF&WS) for review and no comments were received. The draft *modified* permit and Statement of Basis were sent to the USF&WS for their review and no comments were received.

C. **Anti-Degradation**:

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

9. **OUTFALL, TREATMENT PROCESS DESCRIPTION, AND FACILITY CONSTRUCTION.**

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

A. Flow Rates:

Outfall 001: Design Flow is 1.58 MGD
Outfall 002: Highest Monthly Average Flow reported during last two years (June 2011 – May 2013) is 328.6 MGD. *Non-stormwater sources (deep well sand filters and building footing dewatering) were estimated by the facility to average 2.28 MGD in an attachment to a letter dated 6/12/2014. Therefore, this flow rate was used to calculate monthly average mass limits for "Dry Weather Months".*
Outfall 003: Design Flow is 0.25 MGD

B. Type of Treatment:

Outfall 001: three aerated evaporation/settling basins
Outfall 002: detention pond
Outfall 003: Sequencing Batch Reactor (SBR) with UV disinfection

C. Discharge Description:

Outfall 001: treated process wastewater from the following sources: NYS 1 & 2, and Castrip Facility blowdown from non-contact cooling water systems and contact cooling water systems.

Outfall 002: stormwater runoff, backwash water from sand filters associated with deep water wells, slag quenching water reuse basin overflow (including treated sanitary wastewater), water from shallow dewatering wells, and non-stormwater sources listed as follows:

- discharges from emergency fire fighting activities;
- fire suppression supplied water lines bled for freeze protection;
- potable water sources including waterline flushings and freeze protection measures;
- landscape watering provided all pesticides, herbicides, and fertilizers have been applied in accordance with the approved labeling;
- routine external building washdown which does not use detergents;
- pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
- air compressor condensate;
- steam condensate;
- uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids (such as the discharge of thawed condensate from the surface of liquid nitrogen tanks, liquid argon tanks and oxygen tanks stored outdoors);
- incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains);
- uncontaminated ground water or spring water;
- foundation or footing drains where flows are not contaminated with process materials such as solvents;
- excavation dewatering;
- non-process water used for dust suppression on roads;
- Clean storm water from secondary containment structures;
- Water used as Dust suppression of slag storage/staging areas;
- Miscellaneous pressure washing of electrical equipment associated with Power Substation onsite and other onsite electrical distribution stations.

Outfall 003: treated sanitary wastewater

D. Facility Status: This facility was evaluated using the NPDES Permit Rating Worksheet (MRAT) to determine the correct permitting status. Since the facility's MRAT score of 70 is less than 80, this facility is classified as a minor industrial. The MRAT is available at the following hyperlink:

http://www.adeq.state.ar.us/ftproot/Pub/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0043117_Permit%20Rating%20Worksheet_20130731.pdf

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 Reg. 6.202.

10. **ACTIVITY.**

Under the Standard Industrial Classification (SIC) code of 3312 or North American Industry Classification System (NAICS) code of 324199, the applicant's activities are the operation of a steel mill.

11. **SEWAGE SLUDGE/SOLIDS PRACTICES.**

Sewage sludge from the sanitary wastewater treatment plant is wasted into a HDPE lined pond onsite. Solids (mill-scale sludge) from the process water treatment clarifiers associated with the contact/non-contact cooling water system are land applied on permitted sites under State Permit No. 5007-WR-1.

12. **DEVELOPMENT AND BASIS FOR PERMIT CONDITIONS.**

The Arkansas Department of Environmental Quality has made a determination to issue a *modified* permit for the discharge described in the application *in accordance with a Permit Appeal Resolution (PAR) – LIS 15-032, Docket No. 14-012-R, entered into on March 6, 2015*. Permit requirements are based on federal regulations (40 CFR Parts 122, 124, and Subchapter N), the National Pretreatment Regulation in 40 CFR Part 403 and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et. seq.).

The following is an explanation of the derivation of the conditions of the final 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 *modified* permit limits are based on either technology-based effluent limits pursuant to 40 CFR Part 122.44 (a) or on State water quality standards and requirements pursuant to 40 CFR Part 122.44 (d), whichever are more stringent as follows:

Parameter	Water Quality-Based		Technology-Based		Previous Permit		*Modified Draft* 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 (Tier I)								
TSS	N/A	N/A	272.0 lb/day	732.6 lb/day	272.0 lb/day	732.6 lb/day	272.0 lb/day	732.6 lb/day
O&G	10 mg/l	15 mg/l	12.9 mg/l and 169.5 lb/day	15.7 mg/l and 207.1 lb/day	10 mg/l and 169.5 lb/day	15 mg/l and 207.1 lb/day	10 mg/l and 169.5 lb/day	15 mg/l and 207.1 lb/day
Lead	6206 lb/day	12452 lb/day	0.57 lb/day	1.69 lb/day	0.57 lb/day	1.69 lb/day	0.57 lb/day	1.69 lb/day
Zinc	38266 lb/day	76783 lb/day	0.85 lb/day	2.54 lb/day	0.85 lb/day	2.54 lb/day	0.85 lb/day	2.54 lb/day
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	
Outfall 001 (Tier II)								
TSS	N/A	N/A	340.0 lb/day	915.8 lb/day	340.0 lb/day	915.8 lb/day	340.0 lb/day	915.8 lb/day
O&G	10 mg/l	15 mg/l	16.1 mg/l and 211.9 lb/day	19.6 mg/l and 258.9 lb/day	10 mg/l and 211.9 lb/day	15 mg/l and 258.9 lb/day	10 mg/l and 211.9 lb/day	15 mg/l and 258.9 lb/day
Lead	6206 lb/day	12452 lb/day	0.72 lb/day	2.12 lb/day	0.72 lb/day	2.12 lb/day	0.72 lb/day	2.12 lb/day
Zinc	38266 lb/day	76783 lb/day	1.07 lb/day	3.18 lb/day	1.07 lb/day	3.18 lb/day	1.07 lb/day	3.18 lb/day
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	
Outfall 002 (Dry Weather Month)								
Effluent Flow	N/A	N/A	2.28 MGD	N/A	Report	Report	2.28 MGD	Report
COD	N/A	N/A	*951* lb/day	*Report lb/day Report mg/l*	Report mg/l	75 mg/l	*951* lb/day *Report mg/l*	*Report lb/day Report mg/l*

Parameter	Water Quality-Based		Technology-Based		Previous Permit		*Modified Draft* 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
TSS	N/A	N/A	3803 lb/day *Report mg/l*	*Report lb/day Report mg/l*	200 mg/l	Report mg/l	3803 lb/day *Report mg/l*	*Report lb/day Report mg/l*
O & G	190.2 lb/day	*285.2 lb/day*	N/A	N/A	10 mg/l	15 mg/l	190.2 lb/day *Report mg/l*	*285.2 lb/day Report mg/l*
Copper	0.56 lb/day	*1.12 lb/day*	N/A	N/A	Report µg/L	Report µg/L	0.56 lb/day *Report µg/l*	*1.12 lb/day Report µg/L*
Outfall 002 (Wet Weather Month)								
COD	N/A	N/A	Report mg/l	75 mg/l	Report mg/l	75 mg/l	Report mg/l	75 mg/l
TSS	N/A	N/A	200 mg/l	Report mg/l	200 mg/l	Report mg/l	200 mg/l	Report mg/l
O & G	10 mg/l	15 mg/l	N/A	N/A	10 mg/l	15 mg/l	10 mg/l	15 mg/l
Copper	29.5 µg/L	59.1 µg/L	N/A	N/A	Report mg/l	Report mg/l	29.5 µg/L	59.1 µg/L
Outfall 003								
BOD5	30	45	N/A	N/A	30	45	30	45
TSS	90	135	N/A	N/A	90	135	90	135
FCB (Apr-Sep)								
(April-Sept)	200	400	N/A	N/A	200	400	200	400
(Oct-March)	1000	2000	N/A	N/A	1000	2000	1000	2000
pH	6.0-9.0 s.u.		N/A		6.0-9.0 s.u.		6.0-9.0 s.u.	

A. **Justification for Limitations and Conditions of the *modified draft* permit:**

Parameter	Water Quality or Technology	Justification
Outfall 001		
TSS	Technology	40 CFR 420.64, Subparts F and G, NSPS
Oil & Grease	Technology	40 CFR 420.64, Subparts F and G, NSPS
Lead	Technology	40 CFR 420.64, Subparts F and G, NSPS
Zinc	Technology	40 CFR 420.64, Subparts F and G, NSPS
pH	Technology	40 CFR 420.64, Subparts F and G, NSPS
Acute WET Testing	Water Quality	Testing requirements are continued from the previous permit based on Part V.C of Appendix D of the CPP (Implementation Procedures for Toxics) for continued assessment of potential toxicity of the effluent due to the known presence of Lead and Zinc in the wastewater.
Outfall 002		
Effluent Flow	Water Quality	Dry weather month mass limits for COD, TSS, O&G, Copper only apply when monthly average effluent flow is ≤ 2.28 MGD.
COD	Technology	Previous Permit, 40 CFR 122.44(l)
TSS	Technology	Previous Permit, 40 CFR 122.44(l)
O&G	Water Quality	Previous Permit, 40 CFR 122.44(l), Reg. 2.510
Copper	Water Quality	Copper data reported during previous permit term shows reasonable potential to cause or contribute to a violation of water quality standards given in Reg. 2.508, therefore the limits were developed in accordance with the CPP (Implementation of Toxic Substances). See Section 13.E. of this Statement of Basis for more details.
pH	Water Quality	2.504
Chronic WET Testing	Water Quality	Testing requirements are included based on Part V.C of Appendix D of the CPP (Implementation Procedures for Toxics) for assessment of potential toxicity of the effluent due to the known presence of Copper in the wastewater.
Outfall 003		
BOD5	Water Quality	Previous Permit, 40 CFR 122.44(l), Technically approved MultiSMP Model dated 2/14/2014 and WQMP. 40 CFR 122.44(d)(1)(vii)(B) requires NPDES permit limits to be consistent with the assumptions and requirements of the wasteload allocation (MultiSMP Model dated 2/14/2014) prepared by the State and approved by EPA.
TSS	Technology	Previous Permit, 40 CFR 122.44(l), CPP, and WQMP. 40 CFR 122.44(d)(1)(vii)(B) requires NPDES permit limits to be consistent with the assumptions and requirements of the approved WQMP.

Parameter	Water Quality or Technology	Justification
Fecal Coliform Bacteria	Water Quality	Reg. 2.507
pH	Water Quality	Reg. 2.504

B. **Anti-backsliding**

The final 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 40 CFR 122.44 (l)(2)(i).

Selenium monitoring and reporting requirements were discontinued. All but one value reported during past permit term was non-detectable. The one value that was detected by the testing lab was still below the required MQL. Removal of a monitor and report requirement does not constitute backsliding since effluent limits for Selenium were never established in the permit.

Concentration limits for COD, TSS, O&G, and Copper at Outfall 002 were replaced with mass limits during dry weather months (as defined in Part IA of permit). Since the mass limits were calculated based on the concentration limits they replaced, this is not considered backsliding. In addition, mass limits are more stringent than concentration limits since mass is based on both concentration and flow.

C. **Limits Calculations**

1. Mass limits:

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

Outfall 001

Calculation of mass limits are shown in C.3 below.

Outfall 002

Mass limits are included for COD, TSS, O&G, and Copper during "dry weather months" (defined as a month where monthly average effluent flow is less than or equal to 2.28 MGD), in accordance with 40 CFR 122.45(f)(1). See discussion below for more details on this issue.

The calculation of the monthly average loadings (lbs per day) for these pollutants uses a monthly average flow of 2.28 MGD and the following equation:

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

Additional information concerning the flow rate contributions from process related sources compared to flow rate contributions from stormwater was requested by the Department after the facility submitted a comment on the feasibility of mass limits proposed in the draft permit. This additional information submitted by the facility shows that the flow rate from this outfall is significantly affected by the amount of rainfall occurring at the site due to the large size of the watershed drained through this outfall which can consist of a stormwater component as high as 74%. However, the submitted information also showed that there is a continuous discharge from this outfall from process related sources (non-stormwater sources) consisting of sand filter backwash and footing well dewatering which the facility estimated to be 2.28 MGD. Therefore, this flow rate was used to calculate monthly average mass limits for "Dry Weather Months". Based on the information submitted and for purposes of this permit, months in which the average flow is greater than 2.28 MGD are considered "Wet Weather Months". During these wet weather months, the facility will not be subject to mass limits since the stormwater component is driven by amount of rainfall and is not related to operation. (See Response to Comment 4 attached to this Fact Sheet for discussion of this issue).

Outfall 003

The calculation of the loadings (lbs per day) for BOD5 and TSS uses a design flow of 0.25 MGD and the following equation:

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

2. Daily Maximum Limits:

Outfall 001

The daily maximum mass limits for TSS, O&G, Lead, Zinc are based on 40 CFR 420.64. The daily maximum concentration limit for Oil & Grease is based on Reg. 2.510.

Outfall 002

The daily maximum concentration limit for COD *during wet weather month* is based on previous permit and 40 CFR 122.44(l).
The daily maximum concentration limit for O&G *during wet weather month* is based on Reg. 2.510.

The daily maximum concentration limit for Copper *during wet weather month* was calculated using the procedures given in the Toxic Control Implementation Procedures found in Appendix D of the CPP.

Outfall 003

The daily maximum limit for BOD5 and TSS is based on Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control using following equation.

Daily Maximum limits = Monthly average limits X 1.5

The daily maximum limit for FCB is based on Reg. 2.507.

3. Applicable Effluent Limitations Guidelines

Discharges from facilities of this type are covered by Federal effluent limitations guidelines promulgated under 40 CFR Part 420 Point Source Category.

The production data submitted with the reapplication was found to agree within 20% of past production data upon which prior permits have been based. Therefore, the present technology-based limits and monitoring requirements are continued based on the previous discharge permit, 40 CFR Part 420, and 40 CFR Part 122.44(l).

The calculations of the ELG limits from previous permit are presented as follows:

The operations consuming water and generating wastewater at NYS consists of the Hot Mill operation. Hot Mill involves three principal production lines: Steelmaking Subcategory (Subpart D), Continuous Casting Subcategory (Subpart F), and a Hot Forming Subcategory - Section Mills – Carbon (Subpart G). All production lines generate wastewater that must meet technology-based effluent limitations. The technology-based limitations are derived from the applicable New Source Performance Standards (NSPS) specified in 40 CFR Part 420, Subparts F and G, and are continued from the previous permit. The federal effluent limitations are based on the amount of production from a particular process (see the following tables below). The technology based limitations applicable to this facility are calculated multiplying the federal limitation by the applicable rate (See equation below). The following tables and calculations present the applicable federal effluent limitations and the resultant production-based effluent limitations for each of the production lines.

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

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

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

Production Based Effluent Limit Factors From 40 CFR Part 420, Subparts F and G				
Parameter	Subpart F (NSPS) 40 CFR 420.64 (melt shop)		Subpart G (NSPS) 40 CFR 420.74 (rolling mill)	
	AML[1], lbs/1000 lb of product	DML[2], lbs/1000 lb of product	AML[1], lbs/1000 lb of product	DML[2], lbs/1000 lb of product
TSS	0.00261	0.00730	0.0125	0.0334
O & G	0.00104	0.00313	0.00834[3]	0.00834
Lead	0.0000313	0.0000939	N/A	N/A
Zinc	0.0000469	0.000141	N/A	N/A
pH	Minimum 6.0 s.u.	Maximum 9.0 s.u.	Minimum 6.0 s.u.	Maximum 9.0 s.u.

1 AML = Average Monthly Limit.
2 DML = Daily Maximum Limit.
3 No AML limit was listed in 40 CFR 420.74(b)(1). Therefore, based on the judgment of the permit writer, the DML will be used in the AML calculations below.

Production Data

The permittee anticipated increased production in the previous permit cycle. Therefore, Tier 2 was added in the previous permit for anticipated increased production. The Tier 2 limits are not effective unless the facility actually achieves a monthly average production rate greater than 18,000,000 lbs/day. The highest monthly average production reported in the previous permit term occurred in June 2008 (17,320,000 lb/day). This actual reported production rate is within 20% of the anticipated production rates used in the previous permit for effluent limits calculations. Therefore, the technology-based limits for TSS, O&G, Lead, and Zinc are being continued from previous permit. For simplicity in recordkeeping, the limits for both the Melt Shop and the Roll Mill will be calculated using the production of the Melt Shop. Roll Mill production is typically 90% of the Melt Shop Production.

Previous Production Rates Used for Tier 1 and Anticipated Increased Production of 25% for Tier 2.			
Tier	Tier Basis	Melt Shop, lb/day of product	Roll Mill, lb/day of product
1	Dec. 2006 average	18,000,000	18,000,000
2	Tier 1 + 25%	22,500,000	22,500,000

Calculations

lb/day allowed in effluent = production * effluent limitation guideline

The following sample calculation shows how the technology-based TSS limits were calculated. The building block approach was used in accordance with the permit writer's manual since this facility is subject to both Subparts F and G of 40 CFR 420. Technology limits for O&G, Lead, and Zinc are calculated using the same procedure as shown below with the applicable production based effluent limit factors from 40 CFR Part 420, Subparts F and G listed in previous table.

Sample Calculation of TSS Technology-Based Limits

Average Monthly Limit

lb/day = (18,000,000 lb/day product * 0.00261 lbs/1000 lb product) + (18,000,000 lb/day product * 0.0125 lbs/1000 lb product) = 272.0 lb/day

Daily Maximum Limit

lb/day = (18,000,000 lb/day product * 0.00730 lbs/1000 lb product) + (18,000,000 lb/day product * 0.0334 lbs/1000 lb product) = 732.6 lb/day

Technology-Based Limits

Parameter	Tier 1		Tier 2	
	AML, lb/d	DML, lb/d	AML, lb/d	DML, lb/d
TSS	272.0	732.6	340.0	915.8
O & G	169.5	207.1	211.9	258.9
Lead	0.57	1.69	0.72	2.12
Zinc	0.85	2.54	1.07	3.18
pH	Minimum 6.0 s.u.	Maximum 9.0 s.u.	Minimum 6.0 s.u.	Maximum 9.0 s.u.

Equivalent Technology-Based Concentrations

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

Ce = Mass, lb/day / (8.34 * Qe)

Where:

Ce = Concentration in effluent
Qe = Design Flow = 1.58 MGD

Equivalent Technology-Based Concentrations				
Parameter	Tier 1		Tier 2	
	AML, mg/l	DML, mg/l	AML, mg/l	DML, mg/l
Lead	0.043	0.129	0.055	0.161
Zinc	0.065	0.193	0.082	0.242
Oil & Grease	12.9	15.7	16.1	19.6

Water Quality-Based Concentrations vs. Technology-Based Concentrations

The technology based pH ranges are equal to the range contained in Section 2.504 of APCEC Regulation No. 2 so no comparison is necessary for pH limits.

APCEC Regulation No. 2 does not contain a numerical water quality based limit for TSS so no comparison with water quality standards is necessary for TSS limits.

Concentration limits have not been calculated for limitation purposes because this outfall discharges directly to the Mississippi River which has a 7Q10 of 119,000 cfs. However, concentration limits were calculated for comparison with the Water Quality Based concentration limits which were derived from the water quality standards contained in APCEC Regulation No. 2.508.

The water quality-based concentrations for Lead and Zinc were calculated for the purpose of comparison with the technology-based concentrations at Outfall 001 using the procedures 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).

Parameter	Value	Source
Flow = Q	1.58 MGD = 2.44 cfs	Application
7Q10	119000 cfs	Arkansas Geological Commission Map dated 1983 for Memphis, TN station.
TSS	8 mg/l	CPP
Hardness as CaCo3	81 mg/l	CPP
pH	8.87 s.u.	Previous PPS

Calculated Water Quality-Based Concentrations

Parameter	AML, mg/l	DML, mg/l
Lead	142	286
Zinc	824	1654
Oil & Grease	10*	15*

*Based on Reg. 2.510, not calculated.

The calculations of water quality-based concentrations using excel spreadsheet can be viewed at the following hyperlink:

http://www.adeq.state.ar.us/ftproot/Pub/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0043117_water%20quality%20limits%20calculations%20for%20Lead%20and%20Zinc%20at%20Outfall%20001_20130926.pdf

Comparison of Equivalent Tech-Based Concentrations to WQ-Based Concentrations

	Equivalent Technology-Based Concentrations (Tier 1 used for comparison since limits are more stringent than Tier 2)		WQ-Based Concentrations	
Parameter	AML, mg/l	DML, mg/l	AML, mg/l	DML, mg/l
Lead	**0.043**	**0.129**	142	286
Zinc	**0.065**	**0.193**	824	1654
Oil & Grease	12.9	15.7	**10**	**15**

Using the above comparison table, the water quality-based concentrations for Oil & Grease are included in the permit since they are more stringent than the Equivalent Technology-Based Concentrations, and Reg. 2.510 specifies that concentration limits for Oil & Grease apply with no mixing zone allowed (end-of-pipe).

The technology-based concentrations for Lead and Zinc are more stringent than the water quality-based concentrations. Therefore, the technology based mass limits for Lead and Zinc are used in the permit. However, the calculated technology-based concentrations for Lead and Zinc are not included in the permit since the receiving stream to effluent dilution factor is greater than 100:1 [EPA Technical Support Document For Water Quality Based Toxics Control, Section 5.7.1, March 1991].

Mass Permit Limits Included for Outfall 001

Parameter	Tier 1		Tier 2	
	AML, lb/d	DML, lb/d	AML, lb/d	DML, lb/d
TSS	272.0	732.6	340.0	915.8
O & G*	169.5	207.1	211.9	258.9
Lead	0.57	1.69	0.72	2.12
Zinc	0.85	2.54	1.07	3.18
pH**	Minimum 6.0 s.u.	Maximum 9.0 s.u.	Minimum 6.0 s.u.	Maximum 9.0 s.u.

*Concentration limits are also included for Oil & Grease based on Reg. 2.510.
**No mass limits for pH.

4. Stormwater Runoff

In addition to stormwater runoff, the following wastewaters are also discharged through Outfall 002: sand filter backwash water from deep water wells, cooling water storage/reuse basin overflow, slag water reuse basin overflow, and authorized discharges listed in Part II.10 of the permit. Effluent limitations guidelines have not been promulgated for discharges of this sort. Therefore under the authority of Section 402 (a) (1) of the Clean Water Act and State laws, the State has developed a permit on a case-by-case basis. Stormwater pollution prevention plan requirements have been replaced with Best Management Plan language since the facility already has a stormwater permit (ARR00C392) for stormwater runoff from a stormwater only outfall (Outfall 004).

D. 208 Plan (Water Quality Management Plan)

The 208 Plan, developed by the ADEQ under provisions of Section 208 of the federal Clean Water Act, is a comprehensive program to work toward achieving federal water goals in Arkansas. The initial 208 Plan, adopted in 1979, provides for annual updates, but can be revised more often if necessary. The design flow listed in the 208 Plan is 0.027 MGD for Outfall 003 which was public noticed on 9/14/2007. This 2007 public notice did not contain a dissolved oxygen limitation, therefore a DO limit was not included in the permit issued in 2007. For this 2014 permit renewal, the 208 Plan was updated to include the correct design flow for Outfall 003 of 0.25 MGD. This 208 Plan update to correct the design flow at Outfall 003 was public noticed on 1/5/2014, sent to EPA for

review on 1/5/2014, and again on 2/14/2014 to reflect that no dissolved oxygen limit was being included at Outfall 003. This latest 208 plan update was deemed technically acceptable by EPA on 2/14/2014.

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

ADEQ 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), Regulation No. 2 (Reg. 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 Regulation No. 6, if a discharge poses the reasonable potential to cause or contribute to an exceedance above a water quality standard, the permit must contain an effluent limitation for that pollutant. Effluent limitations for the toxicants listed below have been derived in a manner consistent with the Technical Support Document (TSD) for Water Quality-based Toxics Control (EPA, March 1991), the CPP, and 40 CFR Part 122.45(c).

Outfall 001

The following items were used in calculations for Outfall 001:

Parameter	Value	Source
Flow = Q	1.58 MGD = 2.44 cfs	Application
7Q10	119000 cfs	Arkansas Geological Commission Map dated 1983 for Memphis, TN station.
TSS	8 mg/l	CPP
Hardness as CaCo3	81 mg/l	CPP
pH	8.87 s.u.	Previous PPS

The following pollutants were reported above the required MQL at Outfall 001:

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Arsenic	10.1*	0.5
Copper	2.28*	0.5
Lead	48.5**	0.5
Nickel	13.1*	0.5
Zinc	358**	20

*Single value reported on PPS Scan
**Highest value of weekly values reported during previous permit term.

ADEQ has determined from the submitted information that the discharge does not pose the reasonable potential to cause or contribute to an exceedance above a water quality standard at Outfall 001. This evaluation is available for viewing at the following hyperlink:

http://www.adeq.state.ar.us/ftproot/Pub/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0043117_priority%20pollutant%20scan%20evaluation%20for%20Outfall%20001_20130802.pdf

Outfall 002

Copper and Selenium reported values in previous permit term were analyzed for reasonable potential.

The following items were used in the reasonable potential calculations for Outfall 002:

Parameter	Value	Source
Flow = Q	328.6 MGD = 509.3 cfs	Highest monthly average flow reported over the past two years.
7Q10	0 cfs	Arkansas Geological Commission Map dated 1983.
TSS	8 mg/l	CPP
Hardness as CaCo3	81 mg/l	CPP
pH	7.03 s.u.*	Average pH of past 12 months of data at ADEQ Station FRA0008 at Lake City, AR

*pH data used for evaluation can be viewed at the following hyperlink:

http://www.adeq.state.ar.us/ftproot/Pub/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0043117_pH%20background%20values%20for%20outfall%20002_20130802.pdf

The following pollutants were reported above the required MQL at Outfall 002 during the previous permit term:

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Copper	80[1]	0.5

ADEQ has determined from the submitted information that the discharge poses the reasonable potential to cause or contribute to an exceedance above a water quality standard as follows for Outfall 002:

[1] This is the highest value of 66 months of data reported on the DMRs from December 2007 to May 2013. The 2nd, 3rd, and 4th highest values of this data set also exceed water quality standards.

Aquatic Toxicity

Substance	Concentration (C_e) µg/l	IWC µg/l	Water Quality Standards (WQS)	
			Acute, µg/l	Chronic, µg/l
Copper	80	80	38.87	26.41

Instream Waste Concentrations (IWC's) have been calculated in the manner described in the CPP.

As can be seen in the table above, the calculated level for the following pollutants are sufficiently higher than the water quality standards. Therefore, the limits for those pollutants are calculated in the manner described in the CPP and are included in the permit as follows:

Final Limits		
Substance	AML, µg/l	DML, µg/l
Copper	29.5	59.1

This evaluation is available for viewing at the following hyperlink:

http://www.adeq.state.ar.us/ftproot/Pub/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0043117_copper%20and%20selenium%20evaluation%20for%20Outfall%20002_20130802.pdf

13. **WHOLE EFFLUENT TOXICITY (OUTFALL 001).**

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, ADEQ is required under 40 CFR Part 122.44(d)(1), adopted by reference in Regulation 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	Once/quarter

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) = (Qd / (Qd + Qb)) X 100

Qd = Design Flow = 1.58 MGD = 2.44 cfs
7Q10 = 119,000 cfs
Qb = Background flow= 0.1 X (0.25)X 7Q10 = 2975 cfs
CD = ((2.44) / (2.44 + 2975)) X 100 = 0.08%

Therefore, the critical dilution is set at 0.08%.

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 0.03%,

0.05%, 0.06%, 0.08%, and 0.1% (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 0.08% 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 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be reported according to EPA-821-R-02-012, 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 Department shows toxicity in the permittee's discharge. Modification or revocation of this permit is subject to the provisions of 40 CFR 122.62, as adopted by reference in ADEQ Regulation No. 6. Increased or intensified toxicity testing may also be required in accordance with Section 308 of the Clean Water Act and Section 8-4-201 of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

Administrative Records

The following information summarized toxicity test submitted by the permittee during the term of the current permit at outfall 001**:**

Permit Number:	AR0043117	AFIN:	47-00202	Outfall Number:	001
Date of Review:	7/31/2013	Reviewer:	M. Barnett		
Facility Name:	Nucor-Yamato Steel				
Previous Dilution series:	0.45, 0.6, 0.75, 1.0, 1.3	Proposed Dilution Series:	0.03, 0.05, 0.06, 0.08, 0.1		
Previous Critical Dilution:	1	Proposed Critical Dilution:	0.08		
Previous TRE activities:		None			

Frequency recommendation by species

Pimephales promelas (Fathead minnow):	once per quarter
Daphnia pulex (water flea):	once per quarter

TEST DATA SUMMARY

	Vertebrate		Invertebrate	
TEST DATE	Lethal NOEC		Lethal NOEC	
Mar-09	1.3		1.3	
Dec-09	1.3		1.3	
Mar-10	1.3		1.3	
Jun-10	1.3		1.3	
Sep-10	1.3		1.3	
Dec-10	1.3		1.3	
Mar-11	1.3		1.3	
Jun-11	1.3		1.3	
Sep-11	1.3		1.3	
Dec-11	1.3		1.3	
Mar-12	1.3		1.3	
Jun-12	1.3		1.3	
Sep-12	1.3		1.3	
Dec-12	1.3		1.3	
Mar-13	1.3		1.3	
Jun-13	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	16		16	
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	1250.000		1250.000	
Does Reasonable Potential Exist	No		No	

PERMIT ACTION

P. promelas lethal - monitoring
D. pulex lethal - monitoring

14. **WHOLE EFFLUENT TOXICITY (OUTFALL 002).**

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, ADEQ is required under 40 CFR Part 122.44(d)(1), adopted by reference in Regulation 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.

Part V.C of Appendix D of the CPP (Implementation Procedures for Toxics) states that permits with a potential for causing toxicity in the receiving stream will include periodic biomonitoring. Since effluent data for Copper shows reasonable potential to exceed WQS, whole effluent toxicity testing of the effluent is hereby required as a condition of this permit to assess potential toxicity. The whole effluent toxicity testing procedures stipulated as a condition of this permit are as follows:

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

Requirements for measurement frequency are based on the CPP.

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

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

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

Qd = Average flow = 328.6 MGD = 509.3 cfs (Highest Average Flow reported)
7Q10 = 0 cfs
Qb = Background flow = (0.67) X 7Q10 = 0 cfs
CD = (509.3) / (509.3 + 0) X 100 = 100%

Toxicity tests shall be performed in accordance with protocols described in "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", EPA/600/4-91/002, July 1994. A minimum of five effluent

dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are 32%, 42%, 56%, 75%, and 100% (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 100% effluent. The requirement for chronic WET tests is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species, *Ceriodaphnia dubia* and the Fathead minnow (*Pimephales promelas*) are representative of organisms indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The WET testing frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

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

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

15. **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.

Lead and Zinc sampling requirements were added at Outfall 002. The sample type and frequency are consistent with the Copper sampling requirements for consistency.

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Outfall 001				
Flow	once/day	totalizing meter	once/day	totalizing meter
TSS	once/week	grab	once/week	grab

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
O&G	once/week	grab	once/week	grab
Lead	once/week	grab	once/week	grab
Zinc	once/week	grab	once/week	grab
Production	once/day	calculated	once/day	calculated
pH	once/week	grab	once/week	grab
Acute WET testing	once/quarter	24-hr composite	once/quarter	composite
Outfall 002				
Flow	once/month	instantaneous	once/day	totalizing meter
COD	once/month	grab	once/month	grab
TSS	once/month	grab	once/month	grab
O&G	once/month	grab	once/month	grab
Copper	once/month	24-hr composite	once/month	composite
pH	once/month	grab	once/month	grab
Chronic WET testing	N/A	N/A	once/quarter	composite
Outfall 003				
Flow	once/day	totalizing meter	once/day	totalizing meter
BOD5	once/month	24-hr composite	once/month	composite
TSS	once/month	24-hr composite	once/month	composite
FCB	once/month	grab	once/month	grab
pH	once/month	grab	once/month	grab

16. **PERMIT COMPLIANCE SCHEDULE.**

A Schedule of Compliance has been included in this permit for Copper limits at Outfall 002. Compliance with all permit requirements is required in accordance with the schedule provided in Part IB of the permit. The Department has chosen to exercise its discretion provided for in Reg. 2 to allow a 3 year Schedule of Compliance for the new limits for Copper because several values reported for Copper at Outfall 002 during past permit term were higher than the water quality standard. A three year compliance schedule will allow the facility sufficient time to identify, select, and construct any necessary treatment system or

additions to the current treatment system, in order to meet the new limits. This time period will also be sufficient for the facility to identify any operational changes that would potentially reduce the levels of Copper in the effluent at Outfall 002.

17. **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.

18. **SOURCES.**

The following sources were used to draft the permit:

A. Application No. AR0043117 received 5/31/2012.
B. Arkansas Water Quality Management Plan (WQMP).
C. APCEC Regulation No. 2.
D. APCEC Regulation No. 3.
E. APCEC Regulation No. 6 which incorporates by reference certain federal regulations included in Title 40 of the Code of Federal Regulations at Reg. 6.104.
F. 40 CFR Parts 122, 125, 133 and 420.
G. Discharge permit file AR0043117.
H. Summary of Discharge Monitoring Reports (DMRs) for October 2007 to May 2013.
I. Arkansas List of Impaired Waterbodies (303d), 2008.
J. "Identification and Classification of Perennial Streams of Arkansas", Arkansas Geological Commission Map.
K. Continuing Planning Process (CPP), January 2000.
L. Permit Rating Worksheet dated 7/31/2013.
M. Water quality based limit calculations for Lead and Zinc dated 9/26/2013 at Outfall 001 for comparison with Technology-based limits.
N. Certificate of Good Standing from Delaware dated 10/1/2013.
O. Summary of pH data for outfall 002 used in PPS evaluation.
P. Priority pollutant scan evaluation for outfall 001.
Q. Copper and Selenium data evaluation for outfall 002.
R. EPA Technical Support Document For Water Quality-based Toxics Control, March 1991.
S. EPA NPDES Permit Writers' Manual, September 2010.
T. Letter of No Objection to Preliminary Draft Permit dated 12/11/2013 from EPA to ADEQ.
U. Letter dated 2/4/2014 from Nucor Yamato Steel to ADEQ containing comments on draft permit.
V. WQMP update dated 2/14/2014 for Outfall 003 sent to EPA for technical acceptance containing revised modeling package to include correct design flow and no dissolved oxygen limit.

W. Email from EPA to ADEQ dated 2/14/2014 containing technical acceptance of revised modeling package and WQMP update for Outfall 003 to include correct design flow and no dissolved oxygen limit.
X. Notes from meeting held on 2/20/2014 between ADEQ and NYS discussing submitted comments on draft permit.
Y. Phone conversation notes between Shane Byrum and Amanda Gallagher on 3/11/2014 concerning frequency of discharge from slag reuse basin and operational characteristics of deep well sand filters.
Z. ADEQ guidance memo concerning monitoring requirements for municipal and non-municipal dischargers dated July 16, 1993.
AA. Email from ADEQ to NYS dated 5/14/2014 requesting additional information by 5/30/2014 on stormwater and non-stormwater flow rates from Outfall 002 and giving NYS opportunity to demonstrate no other toxic pollutants besides Copper are present in Outfall 002 effluent to justify no WET testing at Outfall 002.
BB. Email from NYS to ADEQ dated 5/30/2014 requesting extension of 5/30/2014 deadline for additional information to 6/20/2014.
CC. Email from ADEQ to NYS dated 5/30/2014 agreeing to extend deadline for additional information to 6/13/2014.
DD. Letter dated 6/12/2014 from NYS to ADEQ containing additional information on stormwater and non-stormwater flow rates from Outfall 002 and NYS's decision not to perform PPS and accept WET testing at Outfall 002.
EE. *Permit Appeal Resolution LIS 15-032, Docket No. 14-012-R, entered into on 3/6/2014.*
FF. *Email dated 3/18/2015 from ADEQ to EPA containing draft modified permit for review.*
GG. *Email dated 4/28/2015 from EPA to ADEQ declining review of draft modified permit.*

19. **PUBLIC NOTICE.**

The public notice describes the procedures for the formulation of final determinations and shall provide for a public comment period of 30 days. During this period, any interested persons may submit written comments on the permit and may request a public hearing to clarify issues involved in the permitting decision. A request for a public hearing shall be in writing and shall state the nature of the issue(s) proposed to be raised in the hearing.

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

20. **POINT OF CONTACT.**

For additional information, contact:

Shane Byrum
Permits Branch, Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317
Telephone: (501) 682-0618

DRAFT

Permit Number: AR0043117
AFIN: 47-00202

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.),

Nucor-Yamato Steel Company (Limited Partnership)

is authorized to discharge from a facility located as follows: 5929 Highway 18 East, Armorel, AR 72310, 5929 Highway 18 East, adjacent to State Highway 18 in Mississippi County, Arkansas. The applicant's mailing address is: 5929 Highway 18 East, Armorel, AR 72310.

Latitude: 35° 54' 31.24"; Longitude: 89° 46' 32.87"

to receiving waters named:

Outfall 001: Mississippi River in Segment 6C of the Mississippi River Basin.
Outfall 002: Ditch No. 14A, thence to Ditch 14, thence to Ditch 13, thence to Ditch 6, thence to Ditch 31, thence to the Tyronza River, thence to the St. Francis River in Segment 5A of the St. Francis River Basin.
Outfall 003: Mississippi River in Segment 6C of the Mississippi River Basin.

The outfalls are located at the following coordinates:

Outfall 001:	Latitude: 35° 53' 2.1"	Longitude: 89° 46' 28.8"
Outfall 002:	Latitude: 35° 53' 32.6"	Longitude: 89° 47' 2.5"
Outfall 003:	Latitude: 35° 53' 2.1"	Longitude: 89° 46' 28.8"

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 on or before 180 days prior to the expiration date listed below for permit coverage past the expiration date.

Response to Comments is attached.

Original Issue Date:	October 29, 2014
Original Effective Date:	December 1, 2014
Major Modification Effective Date:	
Expiration Date:	November 30, 2019

_____ _____

Ellen Carpenter
Chief, Water Division
Arkansas Department of Environmental Quality

Major Modification Issue Date

PART I
PERMIT REQUIREMENTS

SECTION A1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 – treated process wastewater from the following sources: NYS 1 & 2, and Castrip Facility blowdown from non-contact cooling water systems and contact cooling water systems.

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:

Tier I – permit limits when the average daily production for a calendar month is equal to or less than 18,000,000 lb/day.

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	once/day[2]	totalizing meter
Total Suspended Solids (TSS)	272.0	732.6	Report	Report	once/week[2]	grab
Oil and Grease (O & G)	169.5	207.1	10	15	once/week[2]	grab
Lead, Total Recoverable[5]	0.57	1.69	Report	Report	once/week[2]	grab
Zinc, Total Recoverable[5]	0.85	2.54	Report	Report	once/week[2]	grab
Production[3]	Report	N/A	N/A	N/A	once/day[2]	calculated
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week[2]	grab
Acute WET Testing[1]	N/A	N/A	Report		once/quarter[2]	composite[4]
Pimephales promelas (Acute)[1]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		once/quarter[2]	composite[4]
Survival (48-Hr NOEC) **TOM6C**			Report %		once/quarter[2]	composite[4]
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report %		once/quarter[2]	composite[4]
Daphnia pulex (Acute)[1]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		once/quarter[2]	composite[4]
Survival (48-Hr NOEC) **TOM3D**			Report %		once/quarter[2]	composite[4]
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/quarter[2]	composite[4]

1 See Condition No. 11 of Part II (WET Testing Requirements).
2 When discharging.
3 Report monthly average production from Melt Shop. For the purposes of this permit, Melt Shop Production is assumed to be equal to Roll Mill Production.
4 The permittee may substitute a series of four grab samples for WET testing, each taken no sooner than 2 hours after the last sample.
5 See Condition No. 9 of Part II (Metal MQL Requirements).

Solids, Foam, and Free Oil: There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. 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 final treatment at the following monitoring coordinates: Latitude: 35° 53’ 42.9”; Longitude: 89° 46’ 56.3” (after the aerated basins).

PART I
PERMIT REQUIREMENTS

SECTION A2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 – treated process wastewater from the following sources: NYS 1 & 2, and Castrip Facility blowdown from non-contact cooling water systems and contact cooling water systems.

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:

Tier II – permit limits when the average daily production for a calendar month is greater than 18,000,000 lb/day.

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	once/day[2]	totalizing meter
Total Suspended Solids (TSS)	340.0	915.8	Report	Report	once/week[2]	grab
Oil and Grease (O & G)	211.9	258.9	10	15	once/week[2]	grab
Lead, Total Recoverable[5]	0.72	2.12	Report	Report	once/week[2]	grab
Zinc, Total Recoverable[5]	1.07	3.18	Report	Report	once/week[2]	grab
Production[3]	Report	N/A	N/A	N/A	once/day[2]	calculated
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week[2]	grab
Acute WET Testing[1]	N/A	N/A	Report		once/quarter[2]	composite[4]
Pimephales promelas (Acute)[1]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		once/quarter[2]	composite[4]
Survival (48-Hr NOEC) **TOM6C**			Report %		once/quarter[2]	composite[4]
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report %		once/quarter[2]	composite[4]
Daphnia pulex (Acute)[1]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		once/quarter[2]	composite[4]
Survival (48-Hr NOEC) **TOM3D**			Report %		once/quarter[2]	composite[4]
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/quarter[2]	composite[4]

1 See Condition No. 11 of Part II (WET Testing Requirements).
2 When discharging.
3 Report monthly average production from Melt Shop. For the purposes of this permit, Melt Shop Production is assumed to be equal to Roll Mill Production.
4 The permittee may substitute a series of four grab samples for WET testing, each taken no sooner than 2 hours after the last sample.
5 See Condition No. 9 of Part II (Metal MQL Requirements).

Solids, Foam, and Free Oil: There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. 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 final treatment at the following monitoring coordinates: Latitude: 35° 53’ 42.9”; Longitude: 89° 46’ 56.3” (after the aerated basins).

PART I
PERMIT REQUIREMENTS

SECTION A3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 002 **(Dry weather month)[6]** – stormwater runoff, backwash water from sand filters associated with deep water wells, slag quenching water reuse basin overflow (including treated sanitary wastewater), water from shallow dewatering wells, and non-stormwater sources listed in Part II.10. During the period beginning on the effective modification date and lasting until the expiration date, the permittee is authorized to discharge from Outfall 002 **(Dry weather month)[6]** when monthly average flow is less than or equal to 2.28 MGD. Such discharges shall be limited and monitored by the permittee as follows:

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	once/day[2]	totalizing meter
Chemical Oxygen Demand (COD)	951 [7]	Report[7]	Report	Report	once/month[2]	grab
Total Suspended Solids (TSS)	3803 [7]	Report	Report	Report	once/month[2]	grab
Oil and Grease (O&G)	190.2 [7]	285.2 [7]	Report	Report	once/month[2]	grab
Copper, Total Recoverable[3]	0.56 [7,8]	1.12 [7,8]	Report	Report	once/month[2]	composite[1]
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/month[2]	grab
Chronic WET Testing[4]	N/A	N/A	Report		once/quarter	composite[5]
Pimephales promelas (Chronic)[4]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/quarter	composite[5]
Pass/Fail Growth (7-day NOEC)TGP6C			Report (Pass=0/Fail=1)		once/quarter	composite[5]
Survival (7-day NOEC) TOP6C			Report %		once/quarter	composite[5]
Coefficient of Variation (Growth) TQP6C			Report %		once/quarter	composite[5]
Growth (7-day NOEC) TPP6C			Report %		once/quarter	composite[5]
Ceriodaphnia dubia (Chronic)[4]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B			Report (Pass=0/Fail=1)		once/quarter	composite[5]
Pass/Fail production (7-day NOEC)TGP3B			Report (Pass=0/Fail=1)		once/quarter	composite[5]
Survival (7-day NOEC) TOP3B			Report %		once/quarter	composite[5]
Coefficient of Variation (Reproduction) TQP3B			Report %		once/quarter	composite[5]
Reproduction (7-day NOEC) TPP3B			Report %		once/quarter	composite[5]

1 See definition of composite sample in Part IV.
2 When discharging.
3 See Condition No. 9 of Part II (Metal MQL Requirements).
4 See Condition No. 12 of Part II (WET Testing Requirements).
5 The permittee may substitute a series of four grab samples for WET testing, each taken no sooner than 2 hours after the last sample.
6 "**Dry weather month**" is defined as a calendar month where the monthly average flow from outfall 002 is less than or equal to 2.28 MGD. The monthly average flow shall be the sum of all totalized daily flow measurements taken during a calendar month divided by the number of totalized daily flow measurements taken in that calendar month.
7 Monthly average and Daily maximum mass shall be calculated using the following equation:
Mass (lb/day) = Monthly Average Flow (MGD) x 8.34 x Concentration (mg/l)
8 Copper mass and concentration is report only for first 36 months of the permit. Copper effluent limits become effective 36 months after permit effective date (See Part IB of this permit for compliance schedule for Copper).

Solids, Foam, and Free Oil: There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. 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 final treatment at the following monitoring coordinates: Latitude: 35° 53’ 32.6”; Longitude: 89° 47’ 2.5” (after the detention basin).

PART I
PERMIT REQUIREMENTS

SECTION A4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 002 **(Wet weather month)[6]** – stormwater runoff, backwash water from sand filters associated with deep water wells, slag quenching water reuse basin overflow (including treated sanitary wastewater), water from shallow dewatering wells, and non-stormwater sources listed in Part II.10.

During the period beginning on the effective modification date and lasting until the expiration date, the permittee is authorized to discharge from Outfall 002 **(Wet weather month)[6]** when monthly average flow is greater than 2.28 MGD. Such discharges shall be limited and monitored by the permittee as follows:

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	once/day[2]	totalizing meter
Chemical Oxygen Demand (COD)	N/A	N/A	Report	75	once/month[2]	grab
Total Suspended Solids (TSS)	N/A	N/A	200	Report	once/month[2]	grab
Oil and Grease (O&G)	N/A	N/A	10	15	once/month[2]	grab
Copper, Total Recoverable[3]	N/A	N/A	29.5 µg/L[7]	59.1 µg/L[7]	once/month[2]	composite[1]
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/month[2]	grab
Chronic WET Testing[4]	N/A	N/A	Report		once/quarter	composite[5]
Pimephales promelas (Chronic)[4]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/quarter	composite[5]
Pass/Fail Growth (7-day NOEC)TGP6C			Report (Pass=0/Fail=1)		once/quarter	composite[5]
Survival (7-day NOEC) TOP6C			Report %		once/quarter	composite[5]
Coefficient of Variation (Growth) TQP6C			Report %		once/quarter	composite[5]
Growth (7-day NOEC) TPP6C			Report %		once/quarter	composite[5]
Ceriodaphnia dubia (Chronic)[4]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B			Report (Pass=0/Fail=1)		once/quarter	composite[5]
Pass/Fail production (7-day NOEC)TGP3B			Report (Pass=0/Fail=1)		once/quarter	composite[5]
Survival (7-day NOEC) TOP3B			Report %		once/quarter	composite[5]
Coefficient of Variation (Reproduction) TQP3B			Report %		once/quarter	composite[5]
Reproduction (7-day NOEC) TPP3B			Report %		once/quarter	composite[5]

1 See definition of composite sample in Part IV.
2 When discharging.
3 See Condition No. 9 of Part II (Metal MQL Requirements).
4 See Condition No. 12 of Part II (WET Testing Requirements).
5 The permittee may substitute a series of four grab samples for WET testing, each taken no sooner than 2 hours after the last sample.
6 "**Wet weather month**" is defined as a calendar month where the monthly average flow from outfall 002 is greater than 2.28 MGD. The monthly average flow shall be the sum of all totalized daily flow measurements taken during a calendar month divided by the number of totalized daily flow measurements taken in that calendar month.
7 Copper concentration is report only for first 36 months of the permit. Copper effluent limits become effective 36 months after permit effective date (See Part IB of this permit for compliance schedule for Copper).

Solids, Foam, and Free Oil: There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. 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 final treatment at the following monitoring coordinates: Latitude: 35° 53’ 32.6”; Longitude: 89° 47’ 2.5” (after the detention basin).

PART I
PERMIT REQUIREMENTS

SECTION A5. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 003 – treated sanitary wastewater.

During the period beginning on the effective date and lasting until expiration date, the permittee is authorized to discharge from Outfall 003. Such discharges shall be limited and monitored by the permittee as specified below:

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	once/day[2]	totalizing meter
Biochemical Oxygen Demand (BOD5)	63	94	30	45	once/month[2]	composite[1]
Total Suspended Solids (TSS)	188	281	90	135	once/month[2]	composite[1]
Fecal Coliform Bacteria (FCB)						
(April – September)	N/A	N/A	200	400	once/month[2]	grab
(October – March)	N/A	N/A	1000	2000	once/month[2]	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/month[2]	grab

1 See definition of composite sample in Part IV.
2 When discharging.

Solids, Foam, and Free Oil: There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. 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 UV disinfection at the following monitoring coordinates:
Latitude: 35° 53’ 17.2”; Longitude: 89° 46’ 42.0”

SECTION B. PERMIT COMPLIANCE SCHEDULE

The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

Compliance with the Final Effluent Limit(s) for Copper at Outfall 002 is required in accordance with the following schedule:

Compliance Schedule		
Report No.	Due Date	Minimum Information Required in Report
1	12 months from effective date	EVALUATION OF CURRENT TREATMENT SYSTEM • Evaluation of the ability of the current treatment system, as configured, to comply with the final limit on a consistent basis. • If this evaluation concludes that the final limits are currently being achieved on a consistent basis, this report will be the final report required and shall include a certification that the final limit will be met on a consistent basis. • Otherwise, the remaining reports in this schedule shall be submitted.
2	18 months from effective date	EVALUATE/SELECT OPERATIONAL CHANGES AND/OR TREATMENT AND SUBMIT APPLICATION FOR CONSTRUCTION PERMIT • Selected operational changes and/or treatment option based on report No. 1 • Submit application for a construction permit (Form 1 and P&S), if necessary, for installation of the selected treatment option.
3	24 months from effective date	PROGRESS OF SELECTED CHANGES • Progress made to date on any operational changes and/or the installation and operation of the selected treatment option.
4	36 months from effective date	COMPLY WITH FINAL LIMITS • Certification that the treatment system operational changes and/or upgrades were completed and will comply with the final limit on a consistent basis.

All progress reports required by this compliance schedule shall be submitted to the Department within the time period specified in Part III.D.5 of the permit (no later than 14 days following each compliance schedule due date listed in above table). Progress reports shall be submitted to the following address:

Arkansas Department of Environmental Quality
Enforcement Branch, Water Division
5301 Northshore Drive
North Little Rock, AR 72118-5317

PART II
OTHER CONDITIONS

1. The operator of the wastewater treatment facility associated with Outfalls 001 and 002 shall be a Basic Industrial licensed by the State of Arkansas in accordance with Act 1103 of 1991, Act 556 of 1993, Act 211 of 1971, and Regulation No. 3, as amended.

2. The operator of this wastewater treatment facility associated with Outfall 003 shall be licensed as Class II by the State of Arkansas in accordance with Act 1103 of 1991, Act 556 of 1993, Act 211 of 1971, and APCEC Regulation No. 3, as amended.

3. 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.

4. 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 Section of the Water Division of the ADEQ 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; and
   - All associated devices are installed, calibrated, and maintained to insure 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 Control/Quality Assurance 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. ADEQ must be notified in writing and the permittee must receive written approval from ADEQ if the permittee decides to return to the original permit monitoring requirements.

5. Best Management Practices (BMPs), as defined in Part IV.6, 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. Stormwater runoff commingling with other wastewater 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. All spilled products and other spilled materials should be cleaned up and properly disposed according to applicable state and federal regulations and associated plans and guidelines. BMPs should be amended whenever there is a change in the facility or a change in operation of the facility that warrants necessary revisions in management practices in order to control the quality of storm water discharges associated with industrial activity authorized by this permit.

6. No other flow is permitted to enter Outfall 002 from the detention pond other than stormwater runoff, backwash water from deep water wells, slag water reuse basin overflow, water from shallow dewatering wells, and sources listed in Part II.10 of this permit. Mixing of process wastewater with the cooling water storage/reuse basin overflow is prohibited.

7. The permittee is allowed to use water from the slag water reuse basin for dust suppression only on the roads surrounding the slag processing area. The drainage from the roads where the water from the slag water reuse basin is used for dust suppression must drain back to this basin.

8. The permittee may send the effluent from the sanitary wastewater treatment plant to the slag water reuse basin. This does not relieve the permittee of the requirements to test the effluent from the sanitary wastewater treatment plant and comply with the permit limits for Outfall 003.

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

Pollutant	MQL (µg/l)
Copper, Total Recoverable	0.5
Lead, Total Recoverable	0.5
Zinc, Total Recoverable	20

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 ADEQ, 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 minimum quantification level (MQL) shall be determined in accordance with the following calculation:

MQL = 3.3 X 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.

10. In addition to the sources listed in Part IA for Outfall 002, the following sources of water are also authorized to be discharged at Outfall 002 in this permit:

- discharges from emergency fire fighting activities;
- fire suppression supplied water lines bled for freeze protection;
- potable water sources including waterline flushings and freeze protection measures;
- landscape watering provided all pesticides, herbicides, and fertilizers have been applied in accordance with the approved labeling;
- routine external building washdown which does not use detergents;
- pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
- air compressor condensate;
- steam condensate;
- uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids (such as the discharge of thawed condensate from the surface of liquid nitrogen tanks, liquid argon tanks and oxygen tanks stored outdoors);
- incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains);
- uncontaminated ground water or spring water;
- foundation or footing drains where flows are not contaminated with process materials such as solvents;
- excavation dewatering;
- non-process water used for dust suppression on roads;
- Clean storm water from secondary containment structures;
- Water used as Dust suppression of slag storage/staging areas;
- Miscellaneous pressure washing of electrical equipment associated with Power Substation onsite and other onsite electrical distribution stations.

11. WHOLE EFFLUENT TOXICITY TESTING (48-HOUR ACUTE NOEC FRESHWATER)

1. SCOPE AND METHODOLOGY

a. 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 (%):	0.08
EFFLUENT DILUTION SERIES (%):	0.03, 0.05, 0.06, 0.08, 0.1
TESTING FREQUENCY:	Once/quarter
COMPOSITE SAMPLE TYPE:	Defined at PART I
TEST SPECIES/METHODS:	40 CFR Part 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.

b. 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.

c. 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.

2. 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 additional tests (also referred to as 'retests' or confirmation tests) is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation.

Such testing cannot confirm or disprove a previous test result.

If any valid test demonstrates significant lethal effects to a test species at or below the critical dilution, the frequency of testing for this species is automatically increased to once per quarter with no option for frequency reduction.

a. Part I Testing Frequency Other Than Monthly

i. The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant lethal effects at or below the critical dilution. The additional tests shall be conducted monthly during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be prepared for each test required by this section in accordance with procedures outlined in Item 4 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.

ii. If any of the additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section. The permittee shall notify ADEQ 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.

iii. The provisions of Item 2.a are suspended upon submittal of the TRE Action Plan.

b. Part I Testing Frequency of Monthly

The permittee shall initiate the Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section when any two of three consecutive monthly toxicity tests exhibit significant lethal effects at or below the critical dilution. A TRE may also be required due to a demonstration of intermittent

lethal effects at or below the critical dilution, or for failure to perform the required retests.

3. REQUIRED TOXICITY TESTING CONDITIONS

a. 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:

i. Each toxicity test control (0% effluent) must have a survival equal to or greater than 90%.

ii. 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.

iii. 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.

iv. 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.

v. 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%.

b. 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 3.a 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 4 below.

c. Dilution Water

i. 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;

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

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

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), 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:

(A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;

(B) the test indicating receiving water toxicity has been carried out to completion (i.e., 48 hours);

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 below; and

(D) 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.

d. Samples and Composites

i. The permittee shall collect two flow-weighted composite samples from the outfall(s) listed at Item 1.a 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.

ii. 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.

iii. 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.

iv. 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.

v. 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 4 of this section.

4. REPORTING

a. 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 which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

b. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. Only ONE set of WET test data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST Survival results for each species during the reporting period. The full report for all 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.

c. The permittee shall report the following results of each valid toxicity test on the subsequent monthly DMR for that reporting period in accordance with PART III.D.4 of this permit. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. Pimephales promelas (Fathead minnow)

(A) If the No Observed Effect Concentration (NOEC) for survival is less than or equal to the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM6C.

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

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

ii. Daphnia pulex

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

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

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

5. TOXICITY REDUCTION EVALUATION (TRE)

a. 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:

i. 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

ii. 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;

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;

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

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

b. 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.

c. 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:

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

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

iii. 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.

d. 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.

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

6. MONITORING FREQUENCY REDUCTION

a. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing (in accordance with Item 1.a.) after the expiration date of the previous permit, for one or both test species, provided that all of the following conditions are met:

i. The issuance of the renewed permit was not delayed by any fault of the permittee, and
ii. No lethal effects are demonstrated at or below the critical dilution for the first four consecutive quarters of testing after the expiration date of the previous permit.

If any of the above conditions are not met, the permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing (in accordance with Item 1.a.) after the renewal permit is issued, for one or both test species.

If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the Fathead minnow) and not less than twice per year for the more sensitive test species (usually the Daphnia pulex).

b. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in item 3.a. above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal effects and the maximum coefficient of variation for the controls. Upon review and acceptance of this information the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's Permit Compliance System section to update the permit reporting requirements.

c. SURVIVAL FAILURES - If any test fails the survival endpoint at any time during the life of this permit, three monthly retests are required and the monitoring frequency for the affected test species shall be increased to once per quarter until the permit is re-issued. Monthly retesting is not required if the permittee is performing a TRE.

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

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

1. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL(S):	002
REPORTED ON DMR AS FINAL OUTFALL:	002
CRITICAL DILUTION (%):	100%
EFFLUENT DILUTION SERIES (%):	32, 42, 56, 75, 100
TESTING FREQUENCY	once/quarter
COMPOSITE SAMPLE TYPE:	Defined at PART I
TEST SPECIES/METHODS:	40 CFR Part 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof. This test should be terminated when 60% of the surviving females in the

control produce three broods or at the end of eight days, whichever comes first.

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

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

c. 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.

2. PERSISTENT LETHAL and/or SUB-LETHAL EFFECTS

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

If a frequency reduction, as specified in Item 6, has been granted and any subsequent valid test demonstrates significant lethal or sub-lethal effects to a test species at or below the critical dilution, the frequency of testing for that species is automatically increased to once per quarter for the life of the permit. In addition:

a. Part I Testing Frequency Other Than Monthly

i. The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant toxic effects at or below the critical dilution. The additional tests shall be conducted monthly during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be

prepared for each test required by this section in accordance with procedures outlined in Item 4 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.

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

iii. IF SUB-LETHAL EFFECTS ONLY HAVE BEEN DEMONSTRATED If any two of the three additional tests demonstrates significant sub-lethal effects at 75% effluent or lower, the permittee shall initiate the Sub-Lethal Toxicity Reduction Evaluation (TRE_{SL}) requirements as specified in Item 5 of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the Sub-Lethal Effects TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required for failure to perform the required retests.

iv. The provisions of Item 2.a.i. are suspended upon submittal of the TRE Action Plan.

b. Part I Testing Frequency of Monthly

The permittee shall initiate the Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section when any two of three consecutive monthly toxicity tests exhibit significant toxic effects at or below the critical dilution. A TRE may also be required due to a demonstration of intermittent lethal and/or sub-lethal effects at or below the critical dilution, or for failure to perform the required retests.

3. REQUIRED TOXICITY TESTING CONDITIONS

a. 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:

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

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

iii. 60% of the surviving control females must produce three broods. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.

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

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

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

vii. 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%.

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

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

b. Statistical Interpretation

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

ii. For the Ceriodaphnia dubia reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA/821/R-02-013 or the most recent update thereof.

iii. If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.

c. Dilution Water

i. 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;

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

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

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), 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:

(A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;

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

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 below; and

(D) 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.

d. Samples and Composites

i. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a 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.

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

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

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

v. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that

sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 4 of this section.

vi. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in item 1.a. above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.

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

4. REPORTING

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

b. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. Only ONE set of WET test data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST lethal and sub-lethal effects results for each species during the reporting period. The full reports for all 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.

c. The permittee shall submit the results of each valid toxicity test on the subsequent monthly DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. Pimephales promelas (Fathead minnow)

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

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

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

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

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

ii. Ceriodaphnia dubia

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

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

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

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

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

5. TOXICITY REDUCTION EVALUATIONS (TREs)

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

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

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

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

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

ii. 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;

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

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

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

b. 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.

c. 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:

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

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

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

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

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

6. MONITORING FREQUENCY REDUCTION

a. The permittee may apply for a testing frequency reduction upon the successful completion of the first twelve consecutive quarters (in accordance with Item 1.a.) of testing for one or both test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the Fathead minnow) and not less than twice per year for the more sensitive test species (usually the Ceriodaphnia dubia).

b. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in item 3.a. above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal and sub-lethal effects and the maximum coefficient of variation for the controls. Upon review and acceptance of this information the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's Permit Compliance System section to update the permit reporting requirements.

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

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

PART III
STANDARD CONDITIONS

SECTION A – GENERAL CONDITIONS

1. Duty to Comply

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

2. Penalties for Violations of Permit Conditions

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

3. Permit Actions

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

A. Violation of any terms or conditions of this permit; or
B. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
C. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
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 APCEC Regulation No. 9 (Permit fees) as required by Part III.A.11 herein.

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

4. Toxic Pollutants

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

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

5. Civil and Criminal Liability

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

6. Oil and Hazardous Substance Liability

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

7. State Laws

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

8. Property Rights

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

private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

9. Severability

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

10. Applicable Federal, State or Local Requirements

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal 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 APCEC Regulation No. 9 (Regulation 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 APCEC Regulation No. 6 and the provisions of APCEC Regulation No. 8.

SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

A. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

B. The permittee shall provide an adequate operating staff which is duly qualified to carryout operation, maintenance, and testing functions required to insure 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

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; and
(c) The permittee submitted notices as required by Part III.B.4.b.

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

5. Upset Conditions

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

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

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

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 the waters of the State. The permittee shall give at least 180 days prior notice to the Director of any change planned in the permittee's disposal practices. Produced sludge shall be disposed of by land application only when allowed through a separate land application permit issued in accordance with the applicable provisions of 40 CFR Part 503.

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 insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure 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 Department approved method (i.e., as allowed under Part II.3), 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 Department.

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 insure accuracy of measurements and shall insure 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 insure 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

Monitoring results must be reported on a Discharge Monitoring Report (DMR) form provided by the Department or other form/method approved in writing by the Department (e.g., electronic submittal of DMR once approved). Monitoring results obtained during the previous monitoring period shall be summarized and reported on a DMR form postmarked no later than the 25th day of the month or submitted electronically by 6:00 p.m. of the 25th (after NETDMR is approved), following the completed reporting period beginning on the effective date of the permit. When mailing the DMRs, duplicate copies of the forms signed and certified as required by Part III.D.11 and all other reports required by Part III.D, shall be submitted to the Director at the following address:

Enforcement Branch
Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

If permittee uses outside laboratory facilities for sampling and/or analysis, the name and address of the contract laboratory shall be included on the DMR.

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 individuals(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; and
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, and
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 within 180 days and provide plans and specification (if applicable) to the Director for review and approval prior to any planned physical alterations or additions to the permitted facility. In no case are any new connections, increased flows, removal of substances, or significant changes in influent quality permitted that cause violation of the effluent limitations specified herein.

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

A. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. 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; and
3. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

B. The following shall be included as information which 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 and
3. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part I of the permit to be reported within 24 hours to the Enforcement Section of the Water Division of the ADEQ.

C. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours to the Enforcement Section of the Water Division of the ADEQ.

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 permittee shall notify the Director as soon as he/she 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 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); or
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 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 governed by regulations promulgated in APCEC Regulation No. 6.

11. Signatory Requirements

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

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

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

   (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
   (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; or

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, or
   (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); and

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 APCEC Regulation No. 6, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department of Environmental Quality. As required by the Regulations, 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.).

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. **"Act"** means the Clean Water Act, Public Law 95-217 (33.U.S.C. 1251 et seq.) as amended.
2. **"Administrator"** means the Administrator of the U.S. Environmental Protection Agency.
3. **"APCEC"** means the Arkansas Pollution Control and Ecology Commission.
4. **"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.
5. **"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 (APCEC) Regulation No. 2, as amended.
6. **"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.
7. **"Bypass"** As defined at 122.41(m).
8. **"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.
9. **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.
10. **Daily Maximum"** discharge limitation means the highest allowable "daily discharge" during the calendar month. The 7-day average for Fecal Coliform Bacteria (FCB) or E-Coli is the geometric mean of the values of all effluent samples collected during the calendar week in colonies per 100 ml.
11. **"Department"** means the Arkansas Department of Environmental Quality (**ADEQ**).
12. **"Director"** means the Director of the Arkansas Department of Environmental Quality.

13. **"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.
14. **"E-Coli"** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For E-Coli, report the monthly average as a 30-day geometric mean in colonies per 100 ml.
15. **"Fecal Coliform Bacteria (FCB)"**a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For Fecal Coliform Bacteria (FCB) report the monthly average as a 30-day geometric mean in colonies per 100 ml.
16. **"Grab sample"** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
17. **"Industrial User**" means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a POTW.
18. **"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.
19. **"Instantaneous Minimum"** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
20. **"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.
21. **"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.
22. **"POTW"** means a Publicly Owned Treatment Works.
23. **"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.
24. **"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.
25. **"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.
26. **"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.

27. **"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.
28. **"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.
29. **"MGD"** shall mean million gallons per day.
30. **"mg/l "**shall mean milligrams per liter or parts per million (ppm).
31. **"µg/l"** shall mean micrograms per liter or parts per billion (ppb).
32. **"cfs"** shall mean cubic feet per second.
33. **"ppm"** shall mean parts per million.
34. **"s.u."** shall mean standard units.
35. **"Weekday"** means Monday – Friday.
36. **Monitoring and Reporting:**
37. 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; or
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.

ADEQ

A R K A N S A S
Department of Environmental Quality

MAY 5 2015

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (91 7199 9991 7030 4937 5473)

Leon Topalian, GM/VP Nucor Corp.
Nucor-Yamato Steel Company
5929 East State Highway 18
Blytheville, AR 72316

RE: Discharge Permit Number AR0043117 – AFIN 47-00202

Dear Mr. Topalian:

Enclosed are the public notice, a copy of the draft modified permit, and Statement of Basis which the Arkansas Department of Environmental Quality (ADEQ) has prepared and mailed to you on the above date under the authority of the National Pollutant Discharge Elimination System (NPDES) and the Arkansas Water and Air Pollution Control Act. A copy of the final permit will be mailed to you when the Department has made a final permitting decision.

In accordance with Reg. 8.207, the enclosed public notice will be or has been published by ADEQ in a newspaper of general circulation of your facility for one (1) day only. An invoice for the cost of publishing the public notice and proof of publication will be sent to you by the advertising newspaper. The permittee must send proof of publication and proof of payment to the address at the bottom of this letter as soon as possible but no later than 30 days from the above date. Until this Department receives proof of publication of the public notice and payment of all permit fees, no further action will be taken on the issuance of your discharge permit.

THIS IS A MODIFIED PERMIT. IN ACCORDANCE WITH 40 CFR 122.62, ONLY THOSE PORTIONS OF THE PERMIT WHICH HAVE BEEN MODIFIED ARE OPEN FOR COMMENT.

This draft modified permit incorporates changes as agreed to in a Permit Appeal Resolution LIS 15-032, Docket No. 14-012-R, entered into on March 6, 2015. For a complete list of changes, please see Section 4 of the enclosed Statement of Basis. Comments must be received at ADEQ prior to the close of the public comment period as described in the enclosed public notice. Once a final permit is issued by the Director and becomes effective, the permittee must comply with all terms and conditions of the permit, or be subject to enforcement actions for any instances of noncompliance during the duration of the permit, usually five (5) years. Consequently, it is imperative that you, as the applicant, thoroughly review the enclosed documentation for accuracy, applicability, and your ability to comply with all conditions therein.

If you have any questions concerning any part of the modified draft permit, please contact Shane Byrum at (501) 682-0618.

Sincerely,

Ellen Carpenter
Chief, Water Division

EC:sb

Enclosure