ADEQ

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

July 13, 2007

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (7005 1160 0000 3832 4118)

Mr. David Cameron
City Administrator
City of Siloam Springs
P. O. Box 80,
400 North Broadway
Siloam Springs, AR 72761

RE: Application to Discharge to Waters of the State Permit Number AR0020273

Dear Mr. Cameron:

Enclosed is the public notice, Fact Sheet, and a copy of the draft permit which the Arkansas Department of Environmental Quality (ADEQ) has prepared under the authority of the National Pollutant Discharge Elimination System 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 Arkansas Pollution Control and Ecology Commission (APCEC) Regulation No. 8, Part 2.1.6, the enclosed public notice will be published by ADEQ in a newspaper of general circulation 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 payment to the following address 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, no further action will be taken on the issuance of your NPDES discharge permit.

Arkansas Department of Environmental Quality
NPDES-Water Division
P.O. Box 8913
Little Rock, AR 72219-8913
501-682-0622 Fax: 501-682-0910

Comments must be received at ADEQ prior to the close of the public comment period as shown in the enclosed public notice. The public comment period will begin on the date of publication and will end no sooner than 30 days from that date. 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.

Should you have any questions concerning any part of the draft permit, please contact the NPDES Branch at (501) 682-0622.

Sincerely,

Steven L. Drown

Steven L. Drown
Acting Chief, Water Division

SD:mj
Enclosure

PUBLIC NOTICE OF DRAFT NPDES PERMIT
PERMIT NUMBER AR0020273

July 13, 2007

This is to give notice that the Arkansas Department of Environmental Quality, Post Office Box 8913, Little Rock, Arkansas 72219-8913 proposes a draft renewal of the permit for which an application was received on 12/05/2006 for the following applicant under the National Pollutant Discharge Elimination System and the Arkansas Water and Air Pollution Control Act.

City of Siloam Springs
P. O. Box 80
400 North Broadway
Siloam Springs, AR 72761

This is a renewal of the existing NPDES discharge permit

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 updated 208 Plan will add Total Phosphorus to the existing water quality limitations:

May-October:	CBOD5/TSS/NH3-N/DO=	15/20/1.5/7.0 mg/l
November-April:	CBOD5/TSS/NH3-N/DO=	15/20/4/7.0 mg/l
Design flow:	4.4 MGD	

7Q10(background flow of the receiving stream): 0 cfs

Total Phosphorus = 1 mg/l (effective December 1, 2009)

FACILITY LOCATION: The facility is located as follows: 975 Anderson, at the northwest corner of John Brown University; Latitude: 36° 11' 34"; Longitude: 94° 33' 48" in Section 36, Township 18 North, Range 34 West in Benton County, Arkansas.

DISCHARGE LOCATION: The discharge from this existing facility is made into Sager Creek in Segment 3J of the Arkansas River Basin, thence into Flint Creek, thence into the Illinois River. The receiving stream is a Water of the State classified for primary contact recreation; raw water source for public, industrial, and agricultural water supplies; propagation of desirable species of fish and other aquatic life; and other compatible uses.

OUTFALL LOCATION: The outfall is located at the following coordinates: Latitude: 36° 11' 39" Longitude: 94° 33' 53".

303(d) LIST CONSIDERATION:

Arkansas 303(d) List:

The receiving stream for this discharger is Sager Creek in Segment No. 3J of the Arkansas Basin. The receiving stream is not on the State's currently approved 303(d) list of impaired waterbodies. Therefore, no additional requirements beyond the technology-based or water quality-based effluent limitations and monitoring requirements described in the draft Fact Sheet, or those contained in the previous permit, are established in the proposed permit.

Oklahoma 303(d) List:

Since the facility discharges into Sager Creek approximately 500 yards upstream of the Oklahoma border, Oklahoma's Water Quality Standards and the State of Oklahoma "2004 Water Quality Assessment Integrated Report" have been considered. Sager Creek flows approximately 3 miles before reaching Flint Creek. Flint Creek flows approximately 7 miles before its confluence with the Illinois River.

According to Appendix C. Category 5 303(d) List of the State of Oklahoma "2004 Water Quality Assessment Integrated Report" the receiving stream, Sager Creek, is on Oklahoma's currently approved 303(d) list as impaired due to Nitrates. Additionally, Flint Creek below its confluence with Sager Creek is impaired for Nitrates, Enterococci Bacteria, Escherichia coli (E. coli), and Total Fecal Coliform. The Illinois River below the confluence with Flint Creek is impaired for Total Phosphorus. The sources of these pollutants are shown as unknown. All three of these waterbodies are listed in Category 5. TMDLs were scheduled to be performed in 2004 for Sager Creek and the Illinois River and in 2015 for Flint Creek.

Nitrates: The draft permit will not include any specific limitations for Nitrates pending completion of the TMDL, however, in order to ensure that monitoring information is made available to assess further water quality requirements for this facility, and to assist in identifying pollutant sources in this waterbody, the proposed permit will include monitoring for Nitrogen, Nitrate Total (as NO3).

A reopener clause is established in Part III of the permit, which allows the permit to be modified, if necessary, to conform with final effluent limitations established by an approved Water Quality Management Plan (WQMP), an approved waste load allocation (WLA) as part of a Total Maximum Daily Load (TMDL), or pollutant specific limits if a more specific 303(d) list is approved.

Bacteria: Escherichia coli (E. coli), Enterococci, and Total Fecal Coliform. The wastewater treatment facility employs chlorine disinfection - one of the most reliable and effective technologies used to destroy a wide spectrum of pathogenic organisms. The facility has been consistently meeting the effluent limitations for Fecal Coliform Bacteria. Based on the Best Engineering Judgment of the permit writer, Fecal Coliform Bacteria can be used as an indicator of efficiency of disinfection used at the facility. There is no need to require monitoring and reporting for Escherichia coli (E. coli), Enterococci, and Total Fecal Coliform.

Total Phosphorus:

The final permit includes a Total Phosphorus limit based on the December 18, 2003, Statement of Joint Principles and Actions between Arkansas and Oklahoma, which calls for Siloam Springs to reduce the concentration of phosphorus in its effluent to 1 mg/l, based on a 30-day average, by 2009. This schedule of compliance is more stringent than the one required in Reg. 6.401(D)(2) of the APCEC Regulation No. 6.

ENDANGERED SPECIES CONSIDERATION: No comments on the application were received from the U.S. Fish and Wildlife Service (USF&WS). The draft permit and Fact Sheet will be sent to the USF&WS for their review.

TYPE OF TREATMENT: grit removal, primary clarifiers, secondary treatment parallel trickling filters, intermediate clarifier, activated sludge nitrifying contact stabilization, final clarifiers, chlorine contact chamber, and sulphur dioxide dechlorination with the design flow of 4.4 MGD.

SLUDGE CONDITION: Sludge is treated in a gravity thickener and aerobic digester. It is dewatered using a belt press and then taken to a Cherokee Landfill in Oklahoma.

ACTIVITY: Under the standard industrial classification (SIC) code 4952, the applicant's activities are the operation of a municipal treatment plant.

CHANGES: Significant changes from the previously issued permit are listed below. The permittee is responsible for carefully reading the permit in detail and becoming familiar with all of the changes therein:

1. The coordinates for the facility location and Outfall 001 have been corrected.
2. The coordinates for the sampling locations have been added.
3. The sampling locations for flow and all other parameters have been clarified.
4. The physical address has been included.
5. The 7-day Avg. effluent limitations for Carbonaceous Biochemical Oxygen Demand (5 day) (CBOD5) have been changed.
6. The effluent limitation for Dissolved Oxygen has been changed from Inst. Min. to Monthly Avg. Min.
7. The effluent limitations for pH have been changed from 6-9 s.u. to 6.0-9.0 s.u.
8. Final limitations and a schedule of compliance have been included for Total Phosphorus.
9. The effluent limitations for Ammonia Nitrogen for the month of April have been changed.
10. A requirement for monitoring and reporting for Nitrogen, Nitrate Total (as NO3) has been added.
11. The effluent limitations for Total Recoverable Cyanide have been deleted.
12. The interim effluent limitations and a schedule of compliance for Total Recoverable Copper have been deleted.
13. The requirements for sample type for CBOD5, Total Suspended Solids (TSS), Ammonia-Nitrogen (NH3-N), and Total Recoverable Copper have been changed from 6-hr composite to 24-hr composite.
14. The requirements for sample frequencies for all parameters except pH and biomonitoring have been changed.
15. The requirements for sample type and sample frequency for Total Phosphorus have been changed.
16. The units for Total Phosphorus have been changed from µg/l to mg/l.
17. A specific requirement for a licensed operator has been included.
18. Condition 8 of Part III. (Pretreatment Requirements) has been revised to require the permittee to modify their existing Pretreatment Program to be current with the revised (10/05) Pretreatment Regulations under 40 CFR 403 and submit to ADEQ for approval.
19. Part II, Part III, and Part IV have been revised.
20. One decimal place has been added to the concentration limitations for NH3-N for the months of November through March.

PUBLIC NOTICE: In accordance with Arkansas Pollution Control and Ecology Commission (APCEC) Regulation No. 8, the public notice will be published by ADEQ in a newspaper of general circulation for one (1) day only. The public comment period will begin on the date of publication and will end no sooner than 30 days from that date. Comments must be received at ADEQ prior to the close of the public comment period.

A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers, and to the Regional Director of the USF&WS on a case-by-case basis, and the EPA and Arkansas Department of Health prior to the publication of that notice.

ISSUANCE OF THE FINAL PERMIT: The permit will become effective no sooner than 30 days after the close of the comment period unless comments are received and/or a public hearing is requested prior to August 13, 2007 requiring a delay of the effective date.

COMMENTS AND PUBLIC HEARING: NPDES comments and public hearing procedures may be found at 40 CFR Parts 124.10 through 124.12 and APCEC Regulation No. 8. 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. During the comment period, any interested person may request a public hearing by filing a written request which must state the technical issues to be raised. A public hearing will be held if ADEQ finds a significant degree of public interest. If a public hearing is held, ADEQ will issue a public notice of the hearing at least 30 days prior to the scheduled hearing.

After the public comment period, and public hearing, if one is held, ADEQ will issue a final permitting decision. ADEQ will notify the applicant and each person who has submitted written comments or requested notice of the final permitting decision. A final permitting decision means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit. Any interested person who has submitted comments may appeal a final decision by ADEQ in accordance with the APCEC Regulation No. 8 (Administrative Procedures).

Submitting written comments to ADEQ or making oral statements on the record at the public hearing on the proposed permitting decision provides individuals with legal standing to appeal a final Department permitting decision. Comments supporting or opposing the proposed decision will provide legal standing. Only parties with legal standing may appeal a permitting decision.

PERMIT APPLICATION RECORD: The permit application and the administrative record is available for review and copying in the Central Records Section, ADEQ, State Police Headquarters, One State Police Plaza, near Interstate 30 and Geyer Springs, Little Rock, Arkansas.

WEB SITE INFORMATION: For those with Internet access, a copy of the proposed draft permit may be found on the Arkansas Department of Environmental Quality's website at:

http://www.adeq.state.ar.us/water/branch_npdes/pn_permits/pnpermits.asp.

CONTACT PERSON: The ADEQ contact person for submitting written comments, requesting information, or obtaining copies of the application, permit, and the Fact Sheet is:

Marysia Jastrzebski, P.E.
NPDES Branch, Water Division
Arkansas Department of Environmental Quality
Post Office Box 8913
Little Rock, Arkansas 72219-8913
(501) 682-0622

DRAFT

Fact Sheet

for renewal of draft NPDES Permit Number AR0020273 to discharge to Waters of the State

1. **PERMITTING AUTHORITY.**

   The issuing office is:

   Arkansas Department of Environmental Quality
   8001 National Drive
   Post Office Box 8913
   Little Rock, Arkansas 72219-8913

2. **APPLICANT.**

   The applicant is:

   City of Siloam Springs
   P. O. Box 80
   400 North Broadway
   Siloam Springs, AR 72761

3. **PREPARED BY.**

   The permit was prepared by:

   Marysia Jastrzebski, P.E.
   NPDES Branch, Water Division

4. **DATE PREPARED.**

   The permit was prepared on February 13, 2007.

5. **PREVIOUS PERMIT ACTIVITY.**

   Effective Date: April 1, 2002
   Modification Date: N/A
   Expiration Date: March 31, 2007

   The permittee submitted a permit renewal application on 12/05/2006. It is proposed that the current NPDES permit be reissued for a 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

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

   The outfall is located at the following coordinates:

Latitude: 36° 11' 39" Longitude: 94° 33' 53"

The receiving waters named:

Sager Creek in Segment 3J of the Arkansas River Basin, thence into Flint Creek, thence into the Illinois River. The receiving stream is a Water of the State classified for primary, contact recreation, raw water source for public, industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

a. **303(d) LIST AND ENDANGERED SPECIES CONSIDERATIONS.**

i. **303(d) List:**

Arkansas 303(d) List:

The receiving stream for this discharger is Sager Creek in Segment No. 3J of the Arkansas Basin. The receiving stream is not on the State's currently approved 303(d) list of impaired waterbodies. Therefore, no additional requirements beyond the described below technology-based or water quality-based effluent limitations and monitoring requirements, or those contained in the previous permit, are established in the proposed permit.

Oklahoma 303(d) List:

Since the facility discharges into Sager Creek approximately 500 yards upstream of the Oklahoma border, Oklahoma's Water Quality Standards and the State of Oklahoma "2004 Water Quality Assessment Integrated Report" have been considered. Sager Creek flows approximately 3 miles before reaching Flint Creek. Flint Creek flows approximately 7 miles before its confluence with the Illinois River.

According to Appendix C. Category 5 303(d) List of the State of Oklahoma "2004 Water Quality Assessment Integrated Report" the receiving stream, Sager Creek, is on Oklahoma's currently approved 303(d) list as impaired due to Nitrates. Additionally, Flint Creek below its confluence with Sager Creek is impaired for Nitrates, Enterococci Bacteria, Escherichia coli (E. coli), and Total Fecal Coliform. The Illinois River below the confluence with Flint Creek is impaired for Total Phosphorus. The sources of these pollutants are shown as unknown. All three of these waterbodies are listed in Category 5. TMDLs were scheduled to be performed in 2004 for Sager Creek and the Illinois River and in 2015 for Flint Creek.

Nitrates: The draft permit will not include any specific limitations for Nitrates pending completion of the TMDL, however, in order to ensure that monitoring information is made available to assess further water quality requirements for this

facility, and to assist in identifying pollutant sources in this waterbody, the proposed permit will include monitoring for Nitrates.

A reopener clause is established in Part III of the permit, which allows the permit to be modified, if necessary, to conform with final effluent limitations established by an approved Water Quality Management Plan (WQMP), an approved waste load allocation (WLA) as part of a Total Maximum Daily Load (TMDL), or pollutant specific limits if a more specific 303(d) list is approved.

Bacteria: Escherichia coli (E. coli), Enterococci, and Total Fecal Coliform. The wastewater treatment facility employs chlorine disinfection - one of the most reliable and effective technologies used to destroy a wide spectrum of pathogenic organisms. The facility has been consistently meeting the effluent limitations for Fecal Coliform Bacteria. Based on the Best Engineering Judgment of the permit writer, Fecal Coliform Bacteria can be used as an indicator of efficiency of disinfection used at the facility. There is no need to require monitoring and reporting for Escherichia coli (E. coli), Enterococci, and Total Fecal Coliform.

Total Phosphorus:

The final permit includes a Total Phosphorus limit based on the December 18, 2003, Statement of Joint Principles and Actions between Arkansas and Oklahoma, which calls for Siloam Springs to reduce the concentration of phosphorus in its effluent to 1 mg/l, based on a 30-day average, by 2009.

ii. **Endangered Species**:

No comments on the application were received from the U.S. Fish and Wildlife Service (USF&WS). The draft permit and Fact Sheet will be sent to the USF&WS for their review.

7. OUTFALL AND TREATMENT PROCESS DESCRIPTION.

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

a. Design Flow: 4.4 MGD

b. Type of Treatment: screening, grit removal, primary clarifiers, secondary treatment - parallel trickling filters, intermediate clarifier, activated sludge nitrifying contact stabilization, final clarifiers, chlorine contact chamber, and sulphur dioxide dechlorination.

c. Discharge Description: treated municipal wastewater

8. INDUSTRIAL WASTEWATER CONTRIBUTIONS.

INDUSTRIAL USERS

This facility receives process wastewater from two non-categorical and two categorical Industrial Users:

Industrial Contributor	Principal Product	Process Wastewater Flow
Simmons Foods	Processed Chicken	1.4 mgd
Cobb -Ventress	Chicken Hatching	0.02 mgd
Gates Rubber	Rubber Belts	0.08 mgd
Franklin Electric	Assembling Motor Parts	0.005 mgd

Based on the applicant's effluent compliance history and the type of industrial contributions, standard Pretreatment Program implementation conditions are deemed appropriate at this time.

9. SEWAGE SLUDGE PRACTICES.

Sludge is treated in a gravity thickener and aerobic digester. It is dewatered using a belt press and then taken to a Cherokee Landfill in Oklahoma.

10. PERMIT CONDITIONS.

The Arkansas Department of Environmental Quality has made a tentative determination to issue a permit for the discharge described in the application. Permit requirements are based on NPDES 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 (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et. seq.).

a. **Interim Effluent Limitations**

Outfall 001- treated municipal wastewater

i. Conventional and/or Toxic Pollutants

Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
Flow (MGD)	N/A	Report	Report	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)	550	15	22.5	one/week	24-hr composite
Total Suspended Solids (TSS)	734	20	30	one/week	24-hr composite
Ammonia Nitrogen (NH3-N)					
(April)	59	1.6	3.9	one/week	24-hr composite
(May-Oct)	55	1.5	2.3	one/week	24-hr composite
(Nov-March)	147	4.0	6.0	one/week	24-hr composite
Dissolved Oxygen	N/A	7.0 (Monthly Avg. Min.)		one/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(Apr-Sept)	N/A	200	400	one/week	grab
(Oct-Mar)	N/A	1000	2000	one/week	grab
Total Residual Chlorine (TRC)	N/A	<0.1 mg/l (Inst. Max.)		one/week	grab
Total Phosphorus	Report	Report	Report	one/week	24-hr composite
Copper, Total Recoverable	0.56	15.21 µg/l	22.19 µg/l	one/quarter	24-hr composite
Nitrogen, Nitrate Total (as NO3)	Report	Report	Report	one/week	24-hr composite
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	two/month	grab
Chronic Biomonitoring	N/A	See Condition 14 Below		one/quarter	24-hr composite

ii. **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 due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

b. **Final Effluent Limitations**

Outfall 001- treated municipal wastewater

ii. Conventional and/or Toxic Pollutants

Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Monthly Avg.	7-Day Avg.		
Flow (MGD)	N/A	Report	Report	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)	550	15	22.5	one/week	24-hr composite
Total Suspended Solids (TSS)	734	20	30	one/week	24-hr composite
Ammonia Nitrogen (NH3-N)					
(April)	59	1.6	3.9	one/week	24-hr composite
(May-Oct)	55	1.5	2.3	one/week	24-hr composite
(Nov-March)	147	4.0	6.0	one/week	24-hr composite
Dissolved Oxygen	N/A	7.0 (Monthly Avg. Min.)		one/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(Apr-Sept)	N/A	200	400	one/week	grab
(Oct-Mar)	N/A	1000	2000	one/week	grab
Total Residual Chlorine (TRC)	N/A	<0.1 mg/l (Inst. Max.)		one/week	grab
Total Phosphorus	37	1.0	1.5	one/week	24-hr composite
Copper, Total Recoverable	0.56	15.21 µg/l	22.19 µg/l	one/quarter	24-hr composite
Nitrogen, Nitrate Total (as NO3)	Report	Report	Report	one/week	24-hr composite
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	two/month	grab
Chronic Biomonitoring	N/A	See Condition 14 Below		one/quarter	24-hr composite

ii. **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 due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

11. BASIS FOR PERMIT CONDITIONS.

The following is an explanation of the derivation of the conditions of the draft permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons suggesting the tentative decisions as required under 40 CFR Part 124.7 (48 FR 1413, April 1, 1983).

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

Following regulations promulgated at 40 CFR Part 122.44 (1)(2)(ii), the draft 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.

a. Anti-backsliding

The proposed 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)(i)(A)], which state in part that final effluent limitations for reissuance permits must be as stringent as those in the previous permit, unless material and substantial alternations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitations.

The proposed permit maintains the requirements of the previous permit with the following exceptions:

1. The effluent limitations for Total Recoverable Cyanide have been deleted based on the Best Engineering Judgment of the permit writer. This revision is allowed in accordance with the regulations contained in 40 CFR 122.44 (l)(2)(i)(B)(2), since the Department determined that technical mistake was made in issuing the previous permit which would constitute cause for permit modification or revocation and reissuance under 40 CFR 122.62. For a detailed explanation see Page 15 below.

2. The monitoring frequencies for CBOD5, TSS, NH3-N, DO, FCB, TRC, and Total Recoverable Copper have been reduced. This revision is allowed in accordance with the regulations contained in 40 CFR 122.44 (l)(2)(i)(B)(1) – since there is new information available which was not available at the time of permit issuance. For a detailed explanation see Page 18 below.

b. **Technology-Based Effluent Limitations And/Or Conditions**

The permit must at least comply with 40 CFR Part 133 (Secondary Treatment Regulation) when applicable.

c. **State Water Quality Numerical Standards Based Limitations**

The monthly average water quality-based limits for CBOD5, TSS, and DO have been based on the current NPDES permit and 40 CFR Part 122.44(l).

The calculation of the loadings (lbs per day) uses a design flow of 4.4 MGD and the following equation (See below). These limitations are included in the updated Arkansas Water Quality Management Plan (AWQMP). Fecal Coliform Bacteria and pH limitations are based on Chapter 5, Sections 2.507 and 2.504 of APCEC Regulation No. 2 as amended, respectively.

7-Day Average limits = Monthly average limits X 1.5

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

Because the Siloam Springs' discharge to Sager Creek is approximately 500 yards from the Arkansas/Oklahoma state line, modeling was conducted to ensure the limits will maintain dissolved oxygen standards in both states. Oklahoma standards are detailed in "Title 785: Oklahoma Water Resources Board, Chapter 45: Oklahoma's Water Quality Standards" (785.45). Appendix A of this document lists the designated uses of Sager Creek as (1) public and private water supply, (2) cool water aquatic community, (3) class 1 irrigation, (4) primary body contact recreation, (5) aesthetic stream, (6) outstanding resource water. Oklahoma's dissolved oxygen criteria for a cool water aquatic communities (785.45 - Table 1) includes 3 seasons; early life stages, summer conditions, and winter conditions. MultiSMP desktop models were conducted for each season using EPA approved model parameters at the 785.45 specified season temperature to ensure Oklahoma water quality standards are maintained at the current effluent limits. The results of the models show the current limits will meet or exceed standards in Arkansas and Oklahoma.

Total Phosphorus:

The final permit includes a Total Phosphorus limit based on the December 18, 2003, Statement of Joint Principles and Actions between Arkansas and Oklahoma, which calls for Siloam Springs to reduce the concentration of Total Phosphorus in its effluent to 1 mg/l, based on a 30-day average, by 2009. The 7-Day Average effluent limitations are calculated using the following equations:

7-Day Avg. limits = Monthly average limits X 1.5

The loadings (lbs per day) are calculated using a design flow of 4.4 MGD and the following equation (See below).

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

The proposed schedule of compliance is more stringent than the one required in Reg. 6.401(D)(2) of the APCEC Regulation No. 6.

Ammonia-Nitrogen (NH3-N):

The water quality effluent limitations for Ammonia are based on either DO-based effluent limits or on toxicity-based standards, whichever are more stringent.

The toxicity-based effluent limitations are based on Chapter 5, Section 2.512 of APCEC Regulation No. 2 and an ADEQ internal memo dated March 28, 2005. The following formula has been used to calculate toxicity based Ammonia limits:

$Cd = (IWC(Qd + Qb) - CbQb)/Qd,$

Where:

Cd = effluent limit concentration (mg/l)
IWC = Ammonia toxicity standard for Ecoregion
Qd = design flow = 4.4 MGD = 6.8 cfs
The 7Q10 of 0 cfs is based on "Identification and Classification of Perennial Streams of Arkansas", Arkansas Geological Commission Map
Qb = Critical flow of the receiving stream = 0 cfs. This flow is 67 percent of the 7-day, 10-year low-flow (7Q10) for the receiving stream.
Cb = background concentration = 0 mg/l

The following pH and temperature were used for the Ozark Highland Ecoregion:

Month	pH s.u.	Temperature ° C	IWC (Monthly Avg)	IWC (7-Day Avg.)
April-October	7.6	29	1.56 mg/l	3.9 mg/l
November-March	7.6	14	4.11 mg/l	10.3 mg/l

Notes:

- 7-Day Avg. = 4-day Average in APCEC Regulation No. 2
- Monthly Average = 30-day Average in APCEC Regulation No. 2

Calculations of Toxicity-Based Limits:

For April - October:

Monthly Avg:

Cd = (1.56 mg/l (6.8 cfs + 0 cfs) – (0 mg/l X 0 cfs))/ 6.8 cfs
= 1.56 mg/l, use 1.6 mg/l

7-Day Avg.:

Cd = (3.9 mg/l (6.8 cfs + 0 cfs) – (0 mg/l X 0 cfs))/ 6.8 cfs
= 3.9 mg/l

For November – March:

Monthly Avg:

Cd = (4.11 mg/l (6.8 cfs + 0 cfs) – (0 mg/l X 0 cfs))/ 6.8 cfs = 4.11 mg/l, use 4.1 mg/l

7-Day Avg.:

Cd = (10.3 mg/l (6.8 cfs + 0 cfs) – (0 mg/l X 0 cfs))/6.8 cfs
= 10.3 mg/l

Comparison between Arkansas Water Quality Standard DO based limits and calculated toxicity limits for Ammonia Nitrogen (NH3-N):

Month	DO Based Limits		Calculated Toxicity Limits		Final Water Quality Limits	
	Monthly Avg. (mg/l)	7-Day Avg. (mg/l)	Monthly Avg. (mg/l)	7-Day Avg. (mg/l)	Monthly Avg. (mg/l)	7-Day Avg. (mg/l)
(April)	4.0	6.0	1.6	3.9	1.6	3.9
(May-Oct)	1.5	2.3	1.6	3.9	1.5	2.3
(Nov-Mar)	4.0	6.0	4.1	10.3	4.0	6.0

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 updated 208 Plan will add Total Phosphorus to the existing water quality limitations:

May-October: CBOD5/TSS/NH3-N/DO= 15/20/1.5/7.0 mg/l
November-April: CBOD5/TSS/NH3-N/DO= 15/20/4/7.0 mg/l
Design flow: 4.4 MGD
7Q10(background flow of the receiving stream): 0 cfs

Total Phosphorus = 1 mg/l (effective December 1, 2009)

e. **Toxics Pollutants**

i. Post Third Round Policy and Strategy

Section 101 of the Clean Water Act (CWA) states that "...it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited...". To insure that the CWA's prohibitions on toxic discharges are met, EPA has issued a "Policy for the Development of Water Quality-Based Permit Limitations by Toxic Pollutants" (49 FR 9016-9019,3/9/84). In support of the national policy, Region 6 adopted the "Policy for post Third Round NPDES Permitting" and the "Post Third Round NPDES Permit Implementation Strategy" on October 1, 1992. The Regional policy and strategy are designed to insure that no source will be allowed to discharge any wastewater which (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical State water quality standard resulting in non-conformance with the provisions of 40 CFR Part 122.44(d); (3) results in the

endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

ii. Implementation

The State of Arkansas is currently implementing EPA's Post Third-Round Policy in conformance with the EPA Regional strategy. The 5-year NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, or where there are no applicable technology-based limits, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards from Regulation No. 2 are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

iii. Priority Pollutant Scan (PPS)

In accordance with the regional policy ADEQ has reviewed and evaluated the effluent in evaluating the potential toxicity of each analyzed pollutant:

(a) The results were evaluated and compared to EPA's Minimum Quantification Levels (MQLs) to determine the potential presence of a respective toxic pollutant. Those pollutants which are greater than or equal to the MQLs are determined to be reasonably present in the effluent and an evaluation of their potential toxicity is necessary.

(b) Those pollutants with one datum shown as "non-detect" (ND), providing the level of detection is equal to or lower than MQL are determined to be not potentially present in the effluent and eliminated from further evaluation.

(c) Those pollutants with a detectable value even if below the MQL are determined to be reasonably present in the effluent and an evaluation of their potential toxicity is necessary.

(d) For those pollutants with multiple data values and all values are determined to be non-detect, therefore no further evaluation is necessary. However, where data set includes some detectable concentrations and some values as ND, one-half of the detection level is used for those values below the level of detection to calculate the geometric mean of the data set.

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, Reg. No. 2 and with the aquatic toxicity, human health, and drinking water criteria obtained from the "Quality Criteria for Water, 1986 (Gold Book)". The following expression was used to calculate the pollutant instream waste concentration (IWC):

$$IWC = ((C_e \times Q_e) + (C_b \times Q_b))/(Q_e + Q_b)$$

where:

IWC = instream concentration of pollutant after mixing with receiving stream (μg/l)
C_e = pollutant concentration in effluent (μg/l)
Q_e = effluent flow of facility (cfs)
C_b = background concentration of pollutant in receiving stream (μg/l)
Q_b = background flow of receiving stream (cfs)

The following values were used in the IWC calculations:

C_e = varies with pollutant. A single value from the Priority Pollutant Screen (PPS) submitted by the permittee as part of the NPDES permit application or the geometric mean of a group of data points (less than 20 data points) is multiplied by a factor of 2.13. This factor is based on EPA's Region VI procedure (See attachment IV of Continuing Planning Process (CPP)) to extrapolate limited data sets to better evaluate the potential toxicity for higher effluent concentrations to exceed water quality standards. This procedure employs a statistical approach which yields an estimate of a selected upper percentile value (the 95th percentile) of an effluent data set which would be expected to exceed 95% of effluent concentrations in a discharge. If 20 or more data points during the last two years are available, do not multiply by 2.13, but instead use the maximum reported values.

Q_e = 4.4 MGD = 6.8 cfs

C_b = 0 µg/l

Q_b = (See below):

I. Aquatic Toxicity

Chronic Toxicity: Flow = 0 cfs, for comparison with chronic aquatic toxicity. This flow is 67 percent of the 7-day, 10-year low-flow (7Q10) for the receiving stream. The 7Q10 of 0 cfs is based on "Identification and Classification of Perennial Streams of Arkansas", Arkansas Geological Commission Map.

Acute Toxicity: Flow = 0 cfs, for comparison with acute aquatic toxicity. This flow is 33 percent of the 7Q10 for the receiving stream.

II. Bioaccumulation

Flow = 4 cfs, for comparison with bioaccumulation criteria. This flow is the harmonic mean assumed as per the CPP.

III. Drinking Water

Flow = 0 cfs, for comparison with drinking water criteria. This flow is the 7Q10 for the receiving stream.

The following values were used to determine limits for the pollutants:

Hardness = 148 mg/l, based on Attachment VI of the CPP.

TSS = 2.5 mg/l, based on Attachment V of the CPP

pH = 7.7 s.u., based on compliance data from Arkansas Water Quality Inventory Report"305(b), utilizing ADEQ accumulated data for Station ARK0005, Sager Creek near Siloam Springs

iv. Water Quality Standards for Metals and Cyanide

Standards for Chromium (VI), Mercury, Selenium, and Cyanide are expressed as a function of the pollutant's water-effect ratio (WER), while standards for cadmium, chromium (III), copper, lead, nickel, silver, and zinc are expressed as a function of the pollutant's water-effect ratio, and as a function of hardness.

The Water-effect ratio (WER) is assigned a value of 1.0 unless scientifically defensible study clearly demonstrates that a value less than 1.0 is necessary or a value greater than 1.0 is sufficient to fully protect the designated uses of the receiving stream from the toxic effects of the pollutant.

The WER approach compares bioavailability and toxicity of a specific pollutant in receiving water and in laboratory test water. It involves running toxicity tests for at least two species, measuring LC50 for the pollutant using the local receiving water collected from the site where the criterion is being implemented, and laboratory toxicity testing water made comparable to the site water in terms of chemical hardness. The ratio between site water and lab water LC50 is used to adjust the national acute and chronic criteria to site specific values.

v. Conversion of Dissolved Metals Criteria for Aquatic Life to Total Recoverable Metal

Metals criteria established in APCEC Regulation No. 2, Section 2.508 for aquatic life protection are based on dissolved metals concentrations and hardness values. However, Federal Regulations cited at 40 CFR Part 122.45(c) require that effluent limitations for metals in NPDES permits be expressed as total recoverable based on Attachment V of the CPP. Therefore a dissolved to the total recoverable metal conversion must be implemented. This involves determining a linear partition coefficient for the metal of concern and using this coefficient to determine the fraction of metal dissolved, so that the dissolved metal ambient criteria may be translated to a total effluent limit. The formula for converting dissolved metals to total recoverable metals for streams and lakes are provided in Attachment V of the CPP and Region 6 Implementation Guidance for Arkansas Water Quality Standards promulgated at 40 CFR Part 131.36.

vi. Comparison of the submitted information with the water quality standards and criteria

The following pollutants were determined to be present in the effluent for each pollutant as reported by the permittee.

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Zinc	45*	20
Copper	15**	10

* Geometric mean of 17 samples collected on September 11, 2002, November 13, 2002, March 12, 2003, May 14, 2003, September 10, 2003, November 19, 2003, February 10, 2004, May 11, 2004, August 18, 2004, October 12, 2004, February 8, 2005, April 13, 2005, August 1, 2005, November 01, 2005, February 7, 2006, May 2, 2006, and PPS datum.

The following equation has been used to calculate Geometric mean:

(24 µg/l x 60 µg/l x 29 µg/l x 24 µg/l x 38 µg/l x 35 µg/l x 53 µg/l x 50 µg/l x 44 µg/l x 40 µg/l x 48 µg/l x 110 µg/l x 53µg/l x 47 µg/l x 80 µg/l x 40 µg/l x 50 µg/l)$^{1/17}$ = 45 µg/l

** The highest value of twenty four concentrations reported on the Discharge Monitoring reports submitted since December 2004.

However, ADEQ has determined from the information submitted by the permittee that no water quality standards or Gold Book criteria are exceeded. Therefore, no permit action is necessary to maintain these standards or criteria (See Attachment 1.)

Discussion regarding Total Recoverable Cyanide:

The current permit includes the effluent limitations for Total Recoverable Cyanide based on Arkansas' Water Quality Standards. A review of the 2002 Fact Sheet indicates a technical error was made in assuming Cyanide was present in the effluent. The reported value of 10 µg/l was compared with Arkansas' chronic and acute water quality standards. Since this value was below MQL of 20 µg/l, Cyanide should be shown as non detect and the permit limit should not be included in the permit. Furthermore, according to the submitted Discharge Monitoring Reports this pollutant has been reported as non-detect (i. e. below 20 µg/l since June 2002). Therefore, based on the Best Engineering Judgment of the permit writer, the effluent limitations for this parameter have been deleted. Based on 40 CFR 122.44 (l)(2)(i)(B)(2) this change does not constitute backsliding since there was technical mistake made during the time of permit issuance which would constitute cause for a permit modification or revocation and reissuance under 40 CFR 122.62.

Oklahoma Water Quality Standards Evaluation

The effluent from this facility flows into Sager Creek, then to Flint Creek, thence to the Illinois River which is a Water of the State of Oklahoma. Therefore, ADEQ compared the IWC of the pollutants in Item 11.e.vi to the Oklahoma Water Quality Standards.

A. **Effluent Analysis Summary for Aquatic Life Protection**

Pollutant	Ce, µg/l	Ce X 2.13, µg/l	IWC, µg/l	WQ Acute+, µg/l	WQ Chronic+, µg/l
Zinc*	45	96	96	120.8	110.3
Copper**	6.4	13.7	13.7	19.6	13.0

Zinc*:

C_e - Geometric mean of 17 samples collected on September 11, 2002, November 13, 2002, March 12, 2003, May 14, 2003, September 10, 2003, November 19, 2003, February 10, 2004, May 11, 2004, August 18, 2004, October 12, 2004, February 8, 2005, April 13, 2005, August 1, 2005, November 01, 2005, February 7, 2006, May 2, 2006, and PPS datum.

The following equation has been used to calculate Geometric mean:

(24 µg/l x 60 µg/l x 29 µg/l x 24 µg/l x 38 µg/l x 35 µg/l x 53 µg/l x 50 µg/l x 44 µg/l x 40 µg/l x 48 µg/l x 110 µg/l x 53µg/l x 47 µg/l x 80 µg/l x 40 µg/l x 50 µg/l)$^{1/17}$ = 45 µg/l

C_e X 2.13 = Reasonable potential factor. (Referred to as C_{95} in Paragraph 785:46-5-3(b)(1) of "Title 785. Oklahoma Water Resources Board, Chapter 46. Implementation of Oklahoma's Water Quality Standards", July 2006

Instream Waste Concentration (IWC). IWC (Referred to as C) is determined by first calculating the dilution capacity of the receiving stream, Q*. The value of Q* will determine which of three equations is to be used to calculate C, the concentration on the mixing zone boundary. (Following equations were taken Paragraph 785:46-5-3(b)(2) of "Title 785. Oklahoma Water Resources Board, Chapter 46. Implementation of Oklahoma's Water Quality Standards", July 2006.

Q* = Qe/Qu = 6.8/1 = 6.8
at Qe = design flow of facility = 4.4 MGD = 6.8 cfs, and

Qu = 7Q2 of receiving stream = assume 1.0 cfs

Since Q* is greater than 0.3333, the following equation from Paragraph 785:46-5-3(b)(2) of "Title 785. Oklahoma Water Resources Board, Chapter 46. Implementation of Oklahoma's Water Quality Standards", July 2006 will be used to determine the concentration on the mixing zone:

$C = C_{95}$

+ Based on Oklahoma water quality standards (OWQS) for the numerical chronic and acute criteria for toxic substances-Fish and Wildlife Propagation (Table 2 of Appendix G of "Title 785. Oklahoma Water Resources Board, Chapter 45. Oklahoma's Water Quality Standards", July 2006.) All hardness dependent criteria were calculated using a hardness value of 106.55 mg/l $CaCo_3$ for Segment No. 121700, as taken from Appendix B of "Title 785. Oklahoma Water Resources Board, Chapter 46. Implementation of Oklahoma's Water Quality Standards", July 2006.

{e(0.8473[ln(hardness)] + 0.8604)} x 0.978 = 120.8 µg/l, Acute Criterion

{e(0.8473[ln(hardness)] + 0.7614)} x 0.986 = 110.3 µg/l, Chronic Criterion

As seen in the above table, the calculated IWC does not exceed any Oklahoma Water Quality Standards. Therefore, no permit limits are necessary for aquatic life protection.

Copper:

C_e - Geometric mean of 24 samples reported on the Discharge Monitoring Reports submitted since December 2004. PPS submitted with the applications also shows this parameter as non-detect. This pollutant was reported as non-detect, i. e. below 10 µg/l during 17 out of 24 monthly tests. During the same period of time, the facility reported eight detectable concentrations of this pollutant. According to Arkansas' CPP, the highest reported concentration of 15 µg/l geometric mean of all reported concentrations would be used as C_e since we have more than 20 datapoints available. According to Oklahoma's CPP C_e is calculated as geometric mean. The calculation is shown below(for all non-detect values, ½ of MQL of 10 µg/l was used):

$GM=(5^{17}\mu g/l \times 14\mu g/l \times 12\mu g/l \times 15\mu g/l \times 10\mu g/l \times 11\mu g/l \times 11\mu g/l \times 11\mu g/)^{1/24} =$
$= 6.4\ \mu g/l$

$C_e = GM$

C_e X 2.13 = Reasonable potential factor. (Referred to as C_{95} in Paragraph 785:46-5-3(b)(1) of "Title 785. Oklahoma Water Resources Board, Chapter 46. Implementation of Oklahoma's Water Quality Standards" July 2006)

Instream Waste Concentration (IWC). IWC (Referred to as C) is determined by first calculating the dilution capacity of the receiving stream, Q*. The value of Q* will determine which of three equations is to be used to calculate C, the concentration on the mixing zone boundary. (Following equations were taken Paragraph 785:46-5-3(b)(2) of "Title 785. Oklahoma Water Resources Board, Chapter 46. Implementation of Oklahoma's Water Quality Standards", July 2006.

Q* = Qe/Qu = 6.8/1 = 6.8
at Qe = design flow of facility = 4.4 MGD = 6.8 cfs, and

Qu = 7Q2 of receiving stream = assume 1.0 cfs

Since Q* is greater than 0.3333, the following equation from Paragraph 785:46-5-3(b)(2) of "Title 785. Oklahoma Water Resources Board, Chapter 46. Implementation of Oklahoma's Water Quality Standards", July 2006 will be used to determine the concentration on the mixing zone:

$C = C_{95}$

+ Based on Oklahoma water quality standards (OWQS) for the numerical chronic and acute criteria for toxic substances-Fish and Wildlife Propagation (Table 2 of Appendix G of "Title 785. Oklahoma Water Resources Board, Chapter 45. Oklahoma's

Water Quality Standards", July 2006.) All hardness dependent criteria were calculated using a hardness value of 106.55 mg/l $CaCo_3$ for Segment No. 121700, as taken from Appendix B of "Title 785. Oklahoma Water Resources Board, Chapter 46. Implementation of Oklahoma's Water Quality Standards", July 2006.

{e(0.9422[ln(hardness)] – 1.3844)}x 0.960 = 19.6 µg/l, Acute Criterion

{e(0.8545[ln(hardness)] – 1.386)} x 0.960 = 13.0 µg/l, Chronic Criterion

As seen in the above table, the calculated IWC exceeds Oklahoma Water Quality Standards for Copper. Therefore, the effluent limitations from the current permit will be continued.

Discussion regarding monitoring frequency for Total Recoverable Copper:

The current permit includes effluent limitations for Total Recoverable Copper based on Oklahoma's Water Quality Standards. According to the submitted Discharge Monitoring Reports this pollutant was reported as non-detect, i. e. below 10 µg/l during 17 out of 24 monthly tests since December 2004. It is the Best Engineering Judgment of the permit writer that the monitoring requirements should be reduced from 1/month to 1/quarter. Based on 40 CFR 122.44 (l)(2)(i)(B)(1) this change does not constitute backsliding since there is new information available at the time of permit issuance which would constitute cause for permit modification or revocation and reissuance under 40 CFR 122.62.

B. **Effluent Analysis Summary for Human Health Protection**

Pollutant	Ce, µg/l	Ce * 2.13, µg/l	IWC, µg/l	Human Health Standard+, µg/l
Zinc	45	96	9.6	*
Copper	6.4	13.7	13.7	*

* Oklahoma does not have any numerical criteria for these parameters, therefore, no further calculations are required.

12. **TOTAL RESIDUAL CHLORINE (TRC) REQUIREMENTS.**

No measurable which is defined as less than 0.1 mg/l is continued from the previous permit.

13. **FINAL LIMITATIONS.**

The following effluent limitations requirements were placed in the permit based on the more stringent of the technology-based, water quality-based, or previous NPDES permit limitations:

Parameter	Water Quality-Based		Technology-Based/BPJ		Previous NPDES Permit		Permit Limit	
	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l
CBOD5	15	22.5	25	40	15	23	15	22.5
TSS	20	30	30	45	20	30	20	30
NH3-N								
(April)	1.6	3.9	N/A	N/A	4.0	6.0	1.6	3.9
(May-Oct)	1.5	2.3	N/A	N/A	1.5	2.3	1.5	2.3
(Nov-March)	4.0	6.0	N/A	N/A	4.0	6.0	4.0	6.0
Dissolved Oxygen	7.0 (Monthly Avg. Min.)		N/A		7.0 (Inst. Min)		7.0 (Monthly Avg. Min.)	
FCB (col/100 ml)								
(Apr-Sept)	200	400	N/A	N/A	200	400	200	400
(Oct-Mar)	1000	2000	N/A	N/A	1000	2000	1000	2000
TRC (Inst. Max)	N/A		< 0.1 mg/l		<0.1 mg/l		<0.1 mg/l	
Total Phosphorus	1	1.5	N/A	N/A	Report	Report	1	1.5
Total Recoverable Copper	15.21 µg/l	22.19 µg/l	N/A	N/A	15.21 µg/l	22.19 µg/l	15.21 µg/l	22.19 µg/l
Nitrogen, Nitrate Total (as NO3)	N/A	N/A	Report	Report	N/A	N/A	Report	Report
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6-9 s.u.		6.0-9.0 s.u.	

14. **BIOMONITORING.**

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

TOXICITY TESTS	FREQUENCY
Chronic Biomonitoring	Once/quarter

Requirements for measurement frequency are based on Appendix D of the CPP.

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

The calculations for dilution used for chronic biomonitoring are as follows:

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

Qd = Design flow = 4.4 MGD = 6.8 cfs
7Q10 = 0 cfs
Qb = Background flow = (0.67) X 7Q10 = 0 cfs
CD = (6.8) / (6.8+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 **Attachment I** of the CPP). The low-flow effluent concentration (critical dilution) is defined as **100%** effluent. The requirement for chronic biomonitoring 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 indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The biomonitoring 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/600/4-91/002, July 1994 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

This permit may be reopened to require further biomonitoring studies, Toxicity Reduction Evaluation (TRE) and/or effluent limits if biomonitoring 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 APCEC 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**:

BIOMONITORING FREQUENCY RECOMMENDATION AND RATIONALE FOR ADDITIONAL REQUIREMENTS

Permit Number: **AR0020273**
Facility Name: **City of Siloam Springs**
Previous Critical Dilution: **100%** Proposed Critical Dilution: **100 %**
Date of Review: 2/1/07 Name of Reviewer: **Clem**

Number of Test Performed during previous 5 years by Species:
***Pimephales promelas* (Fathead minnow) : 18**
***Ceriodaphnia dubia* (water flea): 16**

Failed Test Dates during previous 5 years by Species:
***Pimephales promelas* (Fathead minnow):** Lethal:11-03 Sublethal: 12-02, 11-03, 11-05

***Ceriodaphnia dubia* (water flea):** Sublethal: 5-04, 11-05

Previous TRE Activities:

Frequency Recommendation by Species:
***Pimephales promelas* (Fathead minnow): four/year**
***Ceriodaphnia dubia* (water flea): four/year**

Additional Requirements (including WET Limits) Rationale/Comments Concerning Permitting:

Rationale: According to the EPA Region 6 Post-Third Round Whole Effluent Toxicity Testing Frequencies: "All major dischargers, and those minor dischargers specifically identified by EPA or the State permitting authority (based on available information on a case-by case basis) as posing a significant unaddressed toxic risk, will be required to perform Whole Effluent Toxicity testing at a frequency of once per quarter for the vertebrate and invertebrate tests species for the first year of a new or reissued permit."

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)].

The requirements for the sample type and sampling frequencies for pH and biomonitoring have been based on the current NPDES permit.

The requirements for sample type for flow, DO, TRC, and FBC have been based on the current NPDES permit.

The requirements for sample type for CBOD5, TSS, NH3-N, and Total Recoverable Copper have been changed from 6-hr composite to 24-hr composite as per request from the permittee. It is the Best Engineering Judgment of the permit writer that this requirement is more stringent that the requirement of the previous permit.

The requirements for sampling frequencies for CBOD5, TSS, NH3-N, DO, TRC, and FCB have been reduced using EPA's *Interim Guidance for Performance - Based Reductions of NPDES Permit Monitoring Frequencies*. This decrease in monitoring frequencies does not constitute backsliding based on 40 CFR 122.44 (l)(2)(i)(B)(1) since there is new information available which was not available at the time of permit issuance.

The sampling frequency for flow has been changed from 5/week to 1/day based on the Best Engineering Judgment of the permit writer.

The requirements for sample type and sampling frequencies for Nitrates and Total Phosphorus have been based on the Best Engineering Judgment of the permit writer.

The monitoring frequencies are based on the Best Engineering Judgment of the permit writer, taking into account the nature of the facility and the previous permit information

Parameter	Previous Permit		Draft Permit	
	Sample Type	Frequency of Sample	Sample Type	Frequency of Sample
Flow	totalizing meter	five/week	totalizing meter	once/day
CBOD5	6-hr composite	three/week	24-hr composite	one/week
TSS	6-hr composite	three/week	24-hr composite	one/week
NH3-N				
(April)	6-hr composite	three/week	24-hr composite	one/week
(May-Oct)	6-hr composite	three/week	24-hr composite	one/week
(Nov-March)	6-hr composite	three/week	24-hr composite	one/week
Dissolved Oxygen	grab	three/week	grab	one/week
FCB				
(Apr-Sept)	grab	three/week	grab	one/week
(Oct-Mar)	grab	three/week	grab	one/week
TRC	grab	three/week	grab	one/week
Total Phosphorus	grab	one/month	24-hr composite	one/week
Copper, Total Recoverable	6-hr composite	one/month	24-hr composite	one/quarter
Nitrogen, Nitrate Total (as NO3)	N/A	N/A	24-hr composite	one/week
pH	grab	two/month	grab	two/month

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

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

1. The coordinates for the facility location and Outfall 001 have been corrected.
2. The coordinates for the sampling locations have been added.
3. The sampling locations for flow and all other parameters have been clarified.
4. The physical address has been included.
5. The 7-day Avg. effluent limitations for Carbonaceous Biochemical Oxygen Demand (5 day) (CBOD5) have been changed.
6. The effluent limitation for Dissolved Oxygen has been changed from Inst. Min. to Monthly Avg. Min.

7. The effluent limitations for pH have been changed from 6-9 s.u. to 6.0-9.0 s.u.
8. Final limitations and a schedule of compliance have been included for Total Phosphorus.
9. The effluent limitations for Ammonia Nitrogen for the month of April have been changed.
10. A requirement for monitoring and reporting for Nitrates has been added.
11. The effluent limitations for Total Recoverable Cyanide have been deleted.
12. The interim effluent limitations and a schedule of compliance for Total Recoverable Copper have been deleted.
13. The requirements for sample type for Carbonaceous Biochemical Oxygen Demand (5 day)(CBOD5), Total Suspended Solids (TSS), Ammonia- Nitrogen (NH3-N), and Total Recoverable Copper have been changed from 6-hr composite to 24-hr composite.
14. The requirements for sample frequencies for all parameters except pH and biomonitoring have been changed.
15. The requirements for sample type and sample frequency for Total Phosphorus have been changed.
16. The units for Total Phosphorus have been changed from µg/l to mg/l.
17. A specific requirement for a licensed operator has been included.
18. Condition 8 of Part III.(Pretreatment Requirements) has been revised to require the permittee to modify their existing Pretreatment Program to be current with the revised (10/05) Pretreatment Regulations under 40 CFR 403 and submit to ADEQ for approval.
19. Part II, Part III, and Part IV have been revised.
20. One decimal place has been added to the concentration limitations for NH3-N for the months of November through March.

17. STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS.

Storm water pollution prevention plan requirements are included based on Storm water General Permit ARR000000, Part I, Section A.4.a.ix. which requires SWPPP for POTW's with discharges greater than 1.0 MGD. However; in lieu of storm water pollution prevention plan requirements the permittee may submit "No exposure certification for exclusion from NPDES Storm water " to the Department during the public comment period and storm water pollution prevention plan requirements will be deleted in the final permit.

18. SCHEDULE OF COMPLIANCE.

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

1. Compliance with the interim effluent limitations is required on the effective date of the permit.

2. Compliance with the final effluent limitations for Total Phosphorus is required as soon as possible but no later than December 1, 2009.

3. The annual progress reports shall be submitted in accordance with the following schedule:

   First progress report - One year from the effective date
   Second progress report - Two years from the effective date

   The permittee shall submit all necessary proposed Pretreatment Program modifications, including Ordinance revisions to ADEQ within twelve (12) months of the effective date of this permit.

   The permittee shall, within sixty (60) days of the effective date of this permit, (1) submit a **WRITTEN CERTIFICATION** that a technical evaluation has demonstrated that the existing technically based local limits (TBLL) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination, **OR** (2) submit a **WRITTEN NOTIFICATION** that a technical evaluation revising the current TBLL and a draft sewer use ordinance which incorporates such revisions will be submitted within twelve (12) months of the effective date of this permit.

19. **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.

20. **SOURCES.**

The following sources were used to draft the permit:

a. NPDES application No. AR0020273 received 12/05/2006.
b. Arkansas Water Quality Management Plan (WQMP).
c. APCEC Regulation No. 2.
d. APCEC Regulation No. 6.
e. 40 CFR Parts 122, 125, 133 and 403.
f. NPDES permit file AR0020273.
g. Discharge Monitoring Reports (DMRs).
h. "Arkansas Water Quality Inventory Report 2000 (305B)", ADEQ.
i. Memo from Mo Shafii to NPDES Engineers dated March 28, 2005
j. "Identification and Classification of Perennial Streams of Arkansas", Arkansas Geological Commission.
k. Continuing Planning Process (CPP).
l. Technical Support Document For Water Quality-based Toxic Control.

m. Region 6 Implementation Guidance for Arkansas Water Quality Standards promulgated at 40 CFR Part 131.36.
n. Title 785. Oklahoma Water Resources Board. Chapter 45. Oklahoma's Water Quality Standards, July 1, 2006.
o. Title 786. Oklahoma Water Resources Board. Chapter 46. Implementation of Oklahoma's Water Quality Standards, July 1, 2006.
p. The State of Oklahoma 2004 Water Quality Assessment Integrated Report.
q. Statement of Joint Principles and Actions between Arkansas and Oklahoma, December 18, 2003.
r. Letter dated February 9, 2007, from Trevor Bowman, P. E., to George McCluskey, Arkansas Department of Heritage.
s. Site visit and facility inspection on February 5, 2007.
t. E-mail dated January 24, 2007 and January 25, 2007, from Amy Cotter to Marysia Jastrzebski.
u. E-mail dated February 12, 2007, from Dick Cassat to Marysia Jastrzebski.
v. E-mail dated February 1, 2007, from Sarah Clem to Marysia Jastrzebski.
w. E-mail dated January 24, 2007, from Allen Gilliam to Marysia Jastrzebski.
x. E-mail dated February 13, 2007, from Allen Gilliam to Marysia Jastrzebski.
y. E-mail dated February 27, 2007, from Thomas A. Myers to Marysia Jastrzebski.

21. **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 permit 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 to the District Engineer, Corps of Engineers, and to the Regional Director of the U.S. Fish and Wildlife Service on a case-by-case basis, and the EPA and Arkansas Department of Health prior to the publication of that notice.

22. **NPDES POINT OF CONTACT.**

For additional information, contact:

Marysia Jastrzebski, P.E.
NPDES Branch, Water Division
Arkansas Department of Environmental Quality
8001 National Drive
Post Office Box 8913
Little Rock, Arkansas 72219-8913
Telephone: (501) 682-0622

	Reported Value (Ce) (ug/l)	Ce>? 13 (ug/l)	EPA Acute (ug/l)	STATE Acute (ug/l)	IWC Acute (ug/l)	EPA Chronic (ug/l)	STATE Chronic (ug/l)	IWC Chronic (ug/l)	EPA Bioacc (ug/l)	STATE Bioacc. (ug/l)	IWC Bioacc (ug/l)	Violation of Acute	Chr	Bio
DIOXIN														
18. 2-3-7-8-TCDD	0.00	0.00	0 01	**********	0 00	**********	**********	0 00	1 40E-07	1.00E-09	0.00	NO	NO	NO
VOLATILE COMPOUNDS														
19. Acrolein	0 00	0 00	68.00	**********	0 00	21.00	**********	0.00	780 00	**********	0.00	NO	NO	NO
20 Acrylonitrile	0 00	0 00	7550	**********	0.00	2600	**********	0.00	6.60	**********	0 00	NO	NO	NO
21 Benzene	0 00	0.00	5300	**********	0 00	**********	**********	0.00	710 00	**********	0 00	NO	NO	NO
22 Bromoform	0 00	0.00	**********	**********	0 00	**********	**********	0 00	3600.00	**********	0 00	NO	NO	NO
23 Carbon Tet	0.00	0 00	35200	**********	0 00	**********	**********	0 00	44 00	**********	0 00	NO	NO	NO
24 Chlorobenzene	0.00	0.00	250 00	**********	0 00	50.00	**********	0 00	2 10E+04	**********	0 00	NO	NO	NO
25 Chlorodibromomethane	0 00	0 00	**********	**********	0.00	**********	**********	0 00	340 00	**********	0 00	NO	NO	NO
26. Chloroethane	0 00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0 00	NO	NO	NO
27. 2-Chloroethylvinyl ether	0.00	0.00	**********	**********	0 00	**********	**********	0.00	**********	**********	0 00	NO	NO	NO
28. Chloroform	0.00	0.00	28900	**********	0.00	1240	**********	0 00	4700.00	**********	0 00	NO	NO	NO
29 Dichlorobromomethane	0.00	0 00	**********	**********	0 00	**********	**********	0 00	220.00	**********	0 00	NO	NO	NO
30 1-1-Dichloroethane	0.00	0 00	**********	**********	0 00	**********	**********	0.00	**********	**********	0 00	NO	NO	NO
31 1-2-Dichloroethane	0 00	0 00	118000	**********	0.00	20000	**********	0 00	990 00	**********	0 00	NO	NO	NO
32 1-1-Dichlorethylene	0 00	0.00	11600	**********	0.00	**********	**********	0.00	32 00	**********	0 00	NO	NO	NO
33. 1,2 Dichloropropane	0 00	0.00	23000	**********	0.00	5700	**********	0.00	**********	**********	0.00	NO	NO	NO
34. 1,3 Dichloropropylene	0.00	0 00	6060	**********	0 00	244.00	**********	0.00	1700 00	**********	0 00	NO	NO	NO
35 Ethylbenzene	0 00	0 00	32000	**********	0.00	**********	**********	0.00	29000 00	**********	0 00	NO	NO	NO
37 Methyl Chloride	0.00	0.00	**********	**********	0 00	**********	**********	0.00	**********	**********	0 00	NO	NO	NO
36. Methyl bromide	0 00	0.00	**********	**********	0.00	**********	**********	0.00	4000.00	**********	0 00	NO	NO	NO
38 Methylene chloride	0 00	0 00	**********	**********	0.00	**********	**********	0.00	16000 00	**********	0 00	NO	NO	NO
39. 1-1-2-2-Tetrachloroethane	0 00	0 00	9320	**********	0.00	2400	**********	0 00	110.00	**********	0.00	NO	NO	NO
40. Tetrachloethylene	0 00	0.00	5280	**********	0 00	840	**********	0.00	88 50	**********	0 00	NO	NO	NO
41. Toluene	0.00	0 00	17500	**********	0 00	**********	**********	0.00	2.0E+05	**********	0 00	NO	NO	NO
42 1,2-trans-dichloroethylene	0.00	0.00	**********	**********	0 00	**********	**********	0.00	**********	**********	0 00	NO	NO	NO
44. 1-1-2-Trichloroethane	0 00	0 00	18000	**********	0 00	9400	**********	0.00	420.00	**********	0 00	NO	NO	NO
43. 1-1-1-Trichloroethane	0 00	0.00	18000	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
45. Trichloroethylene	0.00	0.00	45000	**********	0.00	21900	**********	0.00	810 00	**********	0.00	NO	NO	NO
46. Vinyl Chloride	0.00	0 00	**********	**********	0.00	**********	**********	0.00	5250 00	**********	0.00	NO	NO	NO

	Reported Value (Ce) (ug/l)	Ce*2.13 (ug/l)	EPA Acute (ug/l)	STATE Acute (ug/l)	IWC Acute (ug/l)	EPA Chronic (ug/l)	STATE Chronic (ug/l)	IWC Chronic (ug/l)	EPA Bioacc. (ug/l)	STATE Bioacc. (ug/l)	IWC Bioacc. (ug/l)	Violation of Acute	Chr	Bio
ACID COMPOUNDS														
47. 2-Chlorophenol	0.00	0.00	4380	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
48. 2-4-Dichlorphenol	0.00	0.00	2020	*****	0.00	365	*****	0.00	*****	*****	0.00	NO	NO	NO
49. 2-4 Dimethylphenol	0.00	0.00	*****	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
50. 4,6-Dinitro-o-Cresol	0.00	0.00	*****	*****	0.00	*****	*****	0.00	765.00	*****	0.00	NO	NO	NO
51. 2,4-Dinitrophenol	0.00	0.00	*****	*****	0.00	*****	*****	0.00	14000	*****	0.00	NO	NO	NO
52.-53. Nitrophenols	0.00	0.00	230	*****	0.00	150	*****	0.00	*****	*****	0.00	NO	NO	NO
54. 4 Chloro-3-methylphenol	0.00	0.00	30.00	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
55. Pentachlorophenol	0.00	0.00	18.33	18.33	0.00	11.57	11.57	0.00	82.00	*****	0.00	NO	NO	NO
56. Phenol	0.00	0.00	10200	*****	0.00	2560	*****	0.00	4600000	*****	0.00	NO	NO	NO
57. 2-4-6-Trichlorophenol	0.00	0.00	*****	*****	0.00	*****	*****	0.00	65.00	*****	0.00	NO	NO	NO
BASE/NEUTRAL COMPOUNDS														
58. Acenaphthene	0.00	0.00	1700	*****	0.00	520	*****	0.00	*****	*****	0.00	NO	NO	NO
59. Acenapthylene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
60. Anthracene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	110000.00	*****	0.00	NO	NO	NO
61. Benzidine	0.00	0.00	2500	*****	0.00	*****	*****	0.00	5.4E-03	*****	0.00	NO	NO	NO
62. Benzo(a) anthracene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	0.310	*****	0.00	NO	NO	NO
63. Benzo(a) pyrene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	0.310	*****	0.00	NO	NO	NO
64. 3,4-benzofluoranthene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	0.310	*****	0.00	NO	NO	NO
65. Benzo(g,h,i)perylene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
66. Benzo(k) fluoranthene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	0.310	*****	0.00	NO	NO	NO
67. Bis(2-chloroethoxy)methane	0.00	0.00	*****	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
68. Bis(2-cloroethly) Ether	0.00	0.00	*****	*****	0.00	*****	*****	0.00	14.00	*****	0.00	NO	NO	NO
69. Bis(2-Chloroisopropyl) eth	0.00	0.00	*****	*****	0.00	*****	*****	0.00	1.7E+05	*****	0.00	NO	NO	NO
70. Bis(2-ethylhexyl)phthalate	0.00	0.00	*****	*****	0.00	*****	*****	0.00	59.00	*****	0.00	NO	NO	NO
71. 4-Bromophenyl phenyl ether	0.00	0.00	*****	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
72. Butylbenzy phthalate	0.00	0.00	*****	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
73. 2-chloronapthalene	0.00	0.00	1600	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
74. 4-chlorophenyl phenyl ether	0.00	0.00	*****	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
75. Chrysene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	0.310	*****	0.00	NO	NO	NO
76. Dibenzo(a,h)anthracene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	0.310	*****	0.00	NO	NO	NO
77-79. Dichlorobenzene(1,2-1,3-1,4)	0.00	0.00	1120	*****	0.00	763	*****	0.00	2600.0	*****	0.00	NO	NO	NO
80. 3,3' Dichlorobenzidine	0.00	0.00	*****	*****	0.00	*****	*****	0.00	0.770	*****	0.00	NO	NO	NO
81. Diethyl Phthalate	0.00	0.00	*****	*****	0.00	*****	*****	0.00	1.2E+05	*****	0.00	NO	NO	NO
82. Dimethyl phthalate	0.00	0.00	*****	*****	0.00	*****	*****	0.00	2.9E+06	*****	0.00	NO	NO	NO
83. Di-n-Butyl phthalate	0.00	0.00	*****	*****	0.00	*****	*****	0.00	1.2E+04	*****	0.00	NO	NO	NO
84. 2-4-Dinitrotoluene	0.00	0.00	330	*****	0.00	230	*****	0.00	91.00	*****	0.00	NO	NO	NO
85. 2-6-Dinitrotoluene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
86. Di-n-octyl phthalate	0.00	0.00	*****	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
87. 1,2-diphenylhydrazine	0.00	0.00	270	*****	0.00	*****	*****	0.00	5.400	*****	0.00	NO	NO	NO
88. Fluoranthene	0.00	0.00	3980	*****	0.00	*****	*****	0.00	370.00	*****	0.00	NO	NO	NO
89. Flubrene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	14000.000	*****	0.00	NO	NO	NO
90. Hexachlorobenzene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	0.00770	*****	0.00	NO	NO	NO
91. Hexachlorobutadiene	0.00	0.00	90.00	*****	0.00	9.30	*****	0.00	500.000	*****	0.00	NO	NO	NO
92. Hexachlorocyclopentadiene	0.00	0.00	7.00	*****	0.00	5.20	*****	0.00	1.70E+04	*****	0.00	NO	NO	NO
93. Hexachloroethane	0.00	0.00	980	*****	0.00	540	*****	0.00	89.00	*****	0.00	NO	NO	NO
Hexachlorocyclohexane	0.00	0.00	2.00	2.00	0.00	0.08	0.08	0.00	*****	*****	0.00	NO	NO	NO
94. Indeno(1,2,3-cd)pyrene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	0.31000	*****	0.00	NO	NO	NO
95. Isophorone	0.00	0.00	117000	*****	0.00	*****	*****	0.00	6000	*****	0.00	NO	NO	NO
96. Naphthalene	0.00	0.00	2300	*****	0.00	620	*****	0.00	*****	*****	0.00	NO	NO	NO
97. Nitrobenzene	0.00	0.00	27000	*****	0.00	*****	*****	0.00	1900.00	*****	0.00	NO	NO	NO
98. N-nitrosodimethylamine	0.00	0.00	*****	*****	0.00	*****	*****	0.00	81.00	*****	0.00	NO	NO	NO
99. N-nitrosod-n-propylamine	0.00	0.00	*****	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
100. N-nitrosodiphenylamine	0.00	0.00	*****	*****	0.00	*****	*****	0.00	160.00	*****	0.00	NO	NO	NO
101. Phenanthrene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO
103. 1,2,4-trichlorobenzene	0.00	0.00	*****	*****	0.00	*****	*****	0.00	*****	*****	0.00	NO	NO	NO

	Reported Value (Ce) (ug/l)	Ce*2.13 (ug/l)	EPA Acute (ug/l)	STATE Acute (ug/l)	IWC Acute (ug/l)	EPA Chronic (ug/l)	STATE Chronic (ug/l)	IWC Chronic (ug/l)	EPA Bioacc. (ug/l)	STATE Bioacc. (ug/l)	IWC Bioacc. (ug/l)	Violation of Acute	Chr	Bio
PESTICIDES														
104. Aldrin	0.00	0.00	3.00	3.00	0.00	----------	----------	0.00	0.00140	----------	0.00	NO	NO	NO
105. Alpha-BHC	0.00	0.00	----------	2.00	0.00	----------	0.08	0.00	1.300E-01	0.0373	0.00	NO	NO	NO
106. Beta-BHC	0.00	0.00	----------	2.00	0.00	----------	0.08	0.00	0.4600	----------	0.00	NO	NO	NO
107. Gamma-BHC	0.00	0.00	2.00	2.00	0.00	0.08	0.08	0.00	0.6300	----------	0.00	NO	NO	NO
108. Delta-BHC	0.00	0.00	----------	2.00	0.00	----------	0.08	0.00	----------	----------	0.00	NO	NO	NO
109. Chlordane	0.00	0.00	2.40	2.40	0.00	0.0043	0.0043	0.00	5.900E-03	0.0050	0.00	NO	NO	NO
110. 4,4'-DDT	0.00	0.00	1.10	1.10	0.00	0.0010	0.0010	0.00	0.0059	----------	0.00	NO	NO	NO
111. 4,4'-DDE	0.00	0.00	----------	1.10	0.00	----------	0.0010	0.00	0.0059	----------	0.00	NO	NO	NO
112. 4,4'-DDD	0.00	0.00	----------	1.10	0.00	----------	0.0010	0.00	0.0084	----------	0.00	NO	NO	NO
113. Dieldrin	0.00	0.00	2.50	2.50	0.00	0.0019	0.0019	0.00	1.400E-03	0.0012	0.00	NO	NO	NO
114. Alpha-endosulfan	0.00	0.00	0.22	0.22	0.00	0.0560	0.0560	0.00	2.00	----------	0.00	NO	NO	NO
115. Beta-endosulfan	0.00	0.00	0.22	0.22	0.00	0.0560	0.0560	0.00	2.00	----------	0.00	NO	NO	NO
116. Endosulfan sulfate	0.00	0.00	----------	0.22	0.00	----------	0.0560	0.00	2.00	----------	0.00	NO	NO	NO
117. Endrin	0.00	0.00	0.18	0.18	0.00	0.0023	0.0023	0.00	8.100E-01	----------	0.00	NO	NO	NO
118. Endrin aldehyde	0.00	0.00	----------	0.18	0.00	----------	0.0023	0.00	8.1000E-01	----------	0.00	NO	NO	NO
119. Heptachlor	0.00	0.00	0.52	0.52	0.00	0.0038	0.0038	0.00	0.0021	----------	0.00	NO	NO	NO
120. Heptachlor epoxide	0.00	0.00	0.52	0.52	0.00	0.0038	0.0038	0.00	0.0011	----------	0.00	NO	NO	NO
121. PCB-1242	0.00	0.00	----------	----------	0.00	0.0140	0.0140	0.00	4.500E-04	4.00E-04	0.00	NO	NO	NO
122. PCB-1254	0.00	0.00	----------	----------	0.00	0.0140	0.0140	0.00	4.500E-04	4.00E-04	0.00	NO	NO	NO
123. PCB-1221	0.00	0.00	----------	----------	0.00	0.0140	0.0140	0.00	4.500E-04	4.00E-04	0.00	NO	NO	NO
124. PCB-1232	0.00	0.00	----------	----------	0.00	0.0140	0.0140	0.00	4.500E-04	4.00E-04	0.00	NO	NO	NO
125. PCB-1248	0.00	0.00	----------	----------	0.00	0.0140	0.0140	0.00	4.500E-04	4.00E-04	0.00	NO	NO	NO
126. PCB-1260	0.00	0.00	----------	----------	0.00	0.0140	0.0140	0.00	4.500E-04	4.00E-04	0.00	NO	NO	NO
127. PCB-1016	0.00	0.00	----------	----------	0.00	0.0140	0.0140	0.00	4.500E-04	4.00E-04	0.00	NO	NO	NO
128. Toxaphene	0.00	0.00	0.73	0.73	0.00	0.00020	0.0002	0.00	4.500E-04	0.0063	0.00	NO	NO	NO
130. Chlorpyrifos	0.00	0.00	0.083	0.083	0.00	0.041	0.041	0.00	----------	----------	0.00	NO	NO	NO

	Reported Value (Ce) (ug/l)	Ce*2.13 (ug/l)	STATE Acute (ug/l)	IWC Acute (ug/l)	STATE Chronic (ug/l)	IWC Chronic (ug/l)	STATE Bioacc (ug/l)	IWC Bioacc. (ug/l)	Violation of Acute	Chr	Bio
AWQ, Reg. No. 2											
Alpha-BHC	0.00	0.00	2.00	0.00	0.08	0.00	0.0373	0.00	NO	NO	NO
Beta-BHC	0.00	0.00	2.00	0.00	0.08	0.00			NO	NO	
Gamma-BHC	0.00	0.00	2.00	0.00	0.08	0.00			NO	NO	
Delta-BHC	0.00	0.00	2.00	0.00	0.08	0.00			NO	NO	
Pentachlorophenol	0.00	0.00	18.33	0.00	11.57	0.00			NO	NO	
Aldrin	0.00	0.00	3.00	0.00					NO		
Chlordane	0.00	0.00	2.40	0.00	0.0043	0.00	0.005	0.00	NO	NO	NO
4,4'-DDT	0.00	0.00	1.10	0.00	0.0010	0.00			NO	NO	
4,4'-DDE	0.00	0.00	1.10	0.00	0.0010	0.00			NO	NO	
4,4'-DDD	0.00	0.00	1.10	0.00	0.0010	0.00			NO	NO	
Dieldrin	0.00	0.00	2.50	0.00	0.0019	0.00	0.0012	0.00	NO	NO	NO
Alpha-endosulfan	0.00	0.00	0.22	0.00	0.0560	0.00			NO	NO	
Beta-endosulfan	0.00	0.00	0.22	0.00	0.0560	0.00			NO	NO	
Endosulfan sulfate	0.00	0.00	0.22	0.00	0.0560	0.00			NO	NO	
Endrin	0.00	0.00	0.18	0.00	0.0023	0.00			NO	NO	
Endrin aldehyde	0.00	0.00	0.18	0.00	0.0023	0.00			NO	NO	
Heptachlor	0.00	0.00	0.52	0.00	0.0038	0.00			NO	NO	
Heptachlor epoxide	0.00	0.00	0.52	0.00	0.0038	0.00			NO	NO	
Toxaphene	0.00	0.00	0.73	0.00	0.0002	0.00	0.0063	0.00	NO	NO	NO
Chlorpyrifos	0.00	0.00	0.083	0.00	0.0410	0.00			NO	NO	
Cadmium Total*	0.00	0.00	25.76	0.00	6.27	0.00			NO	NO	
Chromium (hex)	0.00	0.00	15.71	0.00	10.58	0.00			NO	NO	
Copper Total*	0.00	0.00	57.11	0.00	35.81	0.00			NO	NO	
Lead Total*	0.00	0.00	430.62	0.00	16.78	0.00			NO	NO	
Mercury Total*	0.00	0.00	7.24	0.00	0.0120	0.00			NO	NO	
Nickel Total*	0.00	0.00	3405.03	0.00	378.16	0.00			NO	NO	
Selenium Total	0.00	0.00	20.00	0.00	5.00	0.00			NO	NO	
Silver Total*	0.00	0.00	22.5816	0.00					NO		
Zinc Total*	45.00	95.85	422.06	95.85	385.40	95.85			NO	NO	
Chromium (Tri)*	0.00	0.00	3466.72	0.00	1124.57	0.00			NO	NO	
Cyanide Total	0.00	0.00	22.36	0.00	5.20	0.00			NO	NO	
Beryllium Total	0.00	0.00					0.076	0.00			NO
PCB-1242	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
PCB-1254	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
PCB-1221	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
PCB-1232	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
PCB-1248	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
PCB-1260	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
PCB-1016	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
2-3-7-8-TCDD	0.00	0.00					1E-06	0.00			NO

* See Linear Partition Coefficient (Page 6)

Linear Partition Coefficients

Metals	Streams Kpo	a
Arsenic	**********	-0.73
Cadmium	**********	-1.13
Chromium(3)	**********	-0.93
Copper	**********	-0.74
Lead	**********	-0.80
Mercury	**********	-1.14
Nickel	**********	-0.57
Zinc	**********	-0.70
Silver	**********	-1.03

Kp = Kpo X TSS^a

Kp = Linear Partition Coefficient
TSS = Total Suspended Solids (mg/l)
Kpo = found from above table
a = found from above table

C/Ci = 1 /(1 + Kp X TSS X10^-6)

C / Ci = Fraction of Metal Dissolved

Metals	Streams Kp	C / Ci
Arsenic	245892	0.6193
Cadmium	1420325	0.2197
Chromium (3)	1433029	0.2182
Copper	527907	0.4311
Lead	1345259	0.2292
Mercury	1020343	0.2816
Nickel	290650	0.5792
Zinc	658191	0.3780
Silver	933970	0.2999

Total Metal = Dissolved Metal / (C/Ci)

AQUATIC LIFE CRITERIA (DISSOLVED ACUTE VALUES)

Pollutant	Dissolved(ug/l)	Formula
Cadmium	5.66	WER X Conversion Factor* X e[1.128ln(hardness)]-3.828
Chromium(III	756.50	WER X 0.316 X e[0.819ln(hardness)]+3.688
Chromium(V	15.71	WER X 0.982 X 16
Copper	24.62	WER X 0.96 X e[0.9422ln(hardness)]-1.464
Lead	98.70	WER X Conversion Factor** X e[1.273ln(hardness)]-1.460
Mercury	2.04	WER X 0.85 X 2.4
Nickel	1972.07	WER X 0.998 X e[0.8460ln(hardness)]+3.3612
Silver	6.7713	WER X 0.85 X e[1.72ln(hardness)]-6.52
Zinc	159.54	WER X 0.978 X e[0.8473ln(hardness)]+0.8604

* 1.136672 - [(ln hardness)(0.041838)]
** 1.46203 - [(ln hardness)(0.145712)]

AQUATIC LIFE CRITERIA (DISSOLVED CHRONIC VALUES)

Pollutant	Dissolved(ug/l)	Formula
Cadmium	1.38	WER X Conversion Factor* X e[0.7852ln(hardness)]-3.490
Chromium(III	245.40	WER X 0.86 X e[0.819ln(hardness)]+1.561
Chromium(V	10.58	WER X 10
Copper	15.87	WER X 0.96 X e[0.8545ln(hardness)]-1.465
Lead	3.85	WER X Conversion Factor** X e[1.273ln(hardness)]-4.705
Nickel	219.23	WER X 0.997 X e[0.8460ln(hardness)]+1.1645
Zinc	145.68	WER X 0.986 X e[0.8473ln(hardness)]+0.7614

* 1.101672 - [(ln hardness)(0.041838)]
** 1.46203 - [(ln hardness)(0.145712)]

DRAFT

Permit Number: AR0020273

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 (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. 1251 et seq.),

City of Siloam Springs
P. O. Box 80
400 North Broadway
Siloam Springs, AR 72761

is authorized to discharge from a facility located as follows: 975 Anderson, at the northwest corner of John Brown University, in Section 36, Township 18 North, Range 34 West in Benton County, Arkansas.

Latitude: 36° 11' 34"; Longitude: 94° 33' 48"

to receiving waters named:

Sager Creek in Segment 3J of the Arkansas River Basin, thence into Flint Creek, thence into the Illinois River.

The outfall is located at the following coordinates:

Outfall 001: Latitude: 36° 11' 39"; Longitude: 94° 33' 53"

Discharge shall be in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, and IV hereof.

Issue Date:

Effective Date:

Expiration Date:

Steven L. Drown
Acting Chief, Water Division
Arkansas Department of Environmental Quality

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - treated municipal wastewater.

During the period beginning on the effective date and lasting until November 30, 2009, the permittee is authorized to discharge from Outfall 001. 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.	Monthly Avg.	7-Day Avg.		
Flow[1]	N/A	Report	Report	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)	550	15	22.5	one/week	24-hr composite
Total Suspended Solids (TSS)	734	20	30	one/week	24-hr composite
Ammonia Nitrogen (NH3-N)					
(April)	59	1.6	3.9	one/week	24-hr composite
(May-Oct)	55	1.5	2.3	one/week	24-hr composite
(Nov-March)	147	4.0	6.0	one/week	24-hr composite
Dissolved Oxygen[2]	N/A	7.0 (Monthly Avg. Min.)		one/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(Apr-Sept)	N/A	200	400	one/week	grab
(Oct-Mar)	N/A	1000	2000	one/week	grab
Total Residual Chlorine (TRC)[3]	N/A	<0.1 mg/l (Inst. Max.)		one/week	grab
Total Phosphorus[4]	Report	Report	Report	one/week	24-hr composite
Copper, Total Recoverable[5]	0.56	15.21 µg/l	22.19 µg/l	one/quarter	24-hr composite
Nitrogen, Nitrate Total (as NO3)[4]	Report	Report	Report	one/week	24-hr composite
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	two/month	grab
Chronic Biomonitoring[6]	N/A	N/A	N/A	one/quarter	24-hr composite

<u>Pimephales promelas (Chronic)</u>[6]		7-Day Average		
Pass/Fail Lethality (7-day NOEC) TLP6C		Report (Pass=0/Fail=1)	once/quarter	24-hr composite
Pass/Fail Growth (7-day NOEC)TGP6C		Report (Pass=0/Fail=1)	once/quarter	24-hr composite
Survival (7-day NOEC) TOP6C		Report %	once/quarter	24-hr composite
Coefficient of Variation TQP6C		Report %	once/quarter	24-hr composite
Growth (7-day NOEC) TPP6C		Report %	once/quarter	24-hr composite
<u>Ceriodaphnia dubia (Chronic)</u>[6]		7-Day Average		
Pass/Fail Lethality (7-day NOEC) TLP3B		Report (Pass=0/Fail=1)	once/quarter	24-hr composite
Pass/Fail production (7-day NOEC)TGP3B		Report (Pass=0/Fail=1)	once/quarter	24-hr composite
Survival (7-day NOEC) TOP3B		Report %	once/quarter	24-hr composite
Coefficient of Variation TQP3B		Report %	once/quarter	24-hr composite
Reproduction (7-day NOEC) TPP3B		Report %	once/quarter	24-hr composite

1 Report monthly average and daily maximum as MGD.
2 See item #27(a) of Part IV (Dissolved Oxygen).
3 See Condition No. 12 of Part III. (TRC).
4 See Condition No. 13 of Part III (Total Phosphorus and Nitrogen, Nitrate Total (as NO3))
5 See Condition No. 11 of Part III (Metals)
6 See Condition No. 9 of Part III (Biomonitoring Condition).

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 due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following sampling locations: immediately following the chlorination/dechlorination basin (Latitude: 36° 11' 38"; Longitude: 94° 33' 50") – for all parameters except flow and immediately prior to chlorination/dechlorination basin (Latitude: 36° 11' 39"; Longitude: 94° 33' 50") for flow.

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - treated municipal wastewater.

During the period beginning on December 1, 2009 and lasting until the expiration date, the permittee is authorized to discharge from Outfall 001. 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.	Monthly Avg.	7-Day Avg.		
Flow[1]	N/A	Report	Report	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)	550	15	22.5	one/week	24-hr composite
Total Suspended Solids (TSS)	734	20	30	one/week	24-hr composite
Ammonia Nitrogen (NH3-N)					
(April)	59	1.6	3.9	one/week	24-hr composite
(May-Oct)	55	1.5	2.3	one/week	24-hr composite
(Nov-March)	147	4.0	6.0	one/week	24-hr composite
Dissolved Oxygen[2]	N/A	7.0 (Monthly Avg. Min.)		one/week	grab
Fecal Coliform Bacteria (FCB)		(colonies/100ml)			
(Apr-Sept)	N/A	200	400	one/week	grab
(Oct-Mar)	N/A	1000	2000	one/week	grab
Total Residual Chlorine (TRC)[3]	N/A	<0.1 mg/l (Inst. Max.)		one/week	grab
Total Phosphorus[4]	37	1.0	1.5	one/week	24-hr composite
Copper, Total Recoverable[5]	0.56	15.21 µg/l	22.19 µg/l	one/quarter	24-hr composite
Nitrogen, Nitrate Total (as NO3)[4]	Report	Report	Report	one/week	24-hr composite
pH	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	two/month	grab
Chronic Biomonitoring[6]	N/A	N/A	N/A	one/quarter	24-hr composite

DRAFT

Pimephales promelas (Chronic)[6]		7-Day Average		
Pass/Fail Lethality (7-day NOEC) TLP6C		Report (Pass=0/Fail=1)	once/quarter	24-hr composite
Pass/Fail Growth (7-day NOEC)TGP6C		Report (Pass=0/Fail=1)	once/quarter	24-hr composite
Survival (7-day NOEC) TOP6C		Report %	once/quarter	24-hr composite
Coefficient of Variation TQP6C		Report %	once/quarter	24-hr composite
Growth (7-day NOEC) TPP6C		Report %	once/quarter	24-hr composite
Ceriodaphnia dubia (Chronic)[6]		7-Day Average		
Pass/Fail Lethality (7-day NOEC) TLP3B		Report (Pass=0/Fail=1)	once/quarter	24-hr composite
Pass/Fail production (7-day NOEC)TGP3B		Report (Pass=0/Fail=1)	once/quarter	24-hr composite
Survival (7-day NOEC) TOP3B		Report %	once/quarter	24-hr composite
Coefficient of Variation TQP3B		Report %	once/quarter	24-hr composite
Reproduction (7-day NOEC) TPP3B		Report %	once/quarter	24-hr composite

1 Report monthly average and daily maximum as MGD.
2 See item #27(a) of Part IV (Dissolved Oxygen).
3 See Condition No. 12 of Part III. (TRC).
4 See Condition No. 13 of Part III (Total Phosphorus and Nitrogen, Nitrate Total (as NO3))
5 See Condition No. 11 of Part III (Metals)
6 See Condition No. 9 of Part III (Biomonitoring Condition).

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 due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following sampling locations: immediately following the chlorination/dechlorination basin (Latitude: 36° 11' 38"; Longitude: 94° 33' 50") – for all parameters except flow and immediately prior to chlorination/dechlorination basin (Latitude: 36° 11' 39"; Longitude: 94° 33' 50") for flow.

DRAFT

SECTION B. SCHEDULE OF COMPLIANCE

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

1. Compliance with the interim effluent limitations is required on the effective date of the permit.

2. Compliance with the final effluent limitations for Total Phosphorus is required as soon as possible but no later than December 1, 2009.

3. The annual progress reports shall be submitted in accordance with the following schedule:

   First progress report - One year from the effective date
   Second progress report – Two years from the effective date

   The permittee shall submit all necessary proposed Pretreatment Program modifications, including Ordinance revisions to ADEQ within twelve (12) months of the effective date of this permit.

   The permittee shall, within sixty (60) days of the effective date of this permit, (1) submit a **WRITTEN CERTIFICATION** that a technical evaluation has demonstrated that the existing technically based local limits (TBLL) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination, **OR** (2) submit a **WRITTEN NOTIFICATION** that a technical evaluation revising the current TBLL and a draft sewer use ordinance which incorporates such revisions will be submitted within twelve (12) months of the effective date of this permit.

   Submit updated pretreatment program status report during the month of May each year.

DRAFT

PART II
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 ten thousand dollars ($10,000) 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 II.A.10. 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 II.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 on "Bypassing" (Part II.B.4.a.), and "Upsets" (Part II.B.5.b), 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 (Act 472 of 1949, as amended).

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. Permit Fees

The permittee shall comply with all applicable permit fee requirements 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 II.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 II.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 II.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 II.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 II.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 II.D.6.; and
   (4) The permittee complied with any remedial measures required by Part II.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 waste waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the waters of the State. Written approval must be obtained from the ADEQ for land application only.

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 discharges 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.

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 (EPA No. 3320-1). Permittees are required to use preprinted DMR forms provided by ADEQ, unless specific written authorization to use other reporting forms is obtained from ADEQ. Monitoring results obtained during the previous calendar month shall be summarized and reported on a DMR form postmarked no later than the 25th day of the month following the completed reporting period to begin on the effective date of the permit. Duplicate copies of DMR forms signed and certified as required by Part II.D.11. and all other reports required by Part II.D., shall be submitted to the Director at the following address:

NPDES Enforcement Section
Water Division
Arkansas Department of Environmental Quality
8001 National Drive
P.O. Box 8913
Little Rock, AR 72219-8913

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 and provide plans and specification to the Director for review and approval prior to any planned physical alterations or additions to the permitted facility. Notice is required only when:

For Industrial Dischargers

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR Part 122.29(b).
b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR Part 122.42 (a)(1).

For POTW Dischargers:

Any change in the facility discharge (including the introduction of any new source or significant discharge or significant changes in the quantity or quality of existing discharges of pollutants) must be reported to the permitting authority. In no case are any new connections, increased flows, 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 II.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 II.D.4., 5., and 6., at the time monitoring reports are submitted. The reports shall contain the information listed at Part II.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:

(i) 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

(ii) 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:

(i) The chief executive officer of the agency, or

(ii) 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 II.A.2. and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

DRAFT

PART III
OTHER CONDITIONS

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

2. For publicly owned treatment works, the 30-day average percent removal for Carbonaceous Biochemical Oxygen Demand (CBOD5) and Total Suspended Solids shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR Part 133.102, as adopted by reference in APCEC Regulation No. 6.

3. Produced sludge shall be disposed of by land application only when meeting the following criteria:

   a. Sewage sludge from treatment works treating domestic sewage (TWTDS) must meet the applicable provisions of 40 CFR Part 503; and

   b. The sewage sludge has not been classified as a hazardous waste under state or federal regulations.

4. The permittee shall give at least 120 days prior notice to the Director of any change planned in the permittee's sludge disposal practice or land use applications, including types of crops grown (if applicable).

5. The permittee shall report all overflows with the Discharge Monitoring Report (DMR) submittal. These reports shall be summarized and reported in tabular format. The summaries shall include: the date, time, duration, location, estimated volume, and cause of overflow; observed environmental impacts from the overflow; action taken to address the overflow; and ultimate discharge location if not contained (e.g., storm sewer system, ditch, tributary). All overflows which endanger health or the environment shall be orally reported to this department (Enforcement Section of Water Division), within 24 hours from the time the permittee becomes aware of the circumstance. A written report of overflows which endanger health or the environment, shall be provided within 5 days of the time the permittee becomes aware of the circumstance.

6. 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.

7. 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 NPDES 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 acceptable to the Director; 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.

8. CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS

a. The permittee shall operate an industrial pretreatment program in accordance with Section 402(b)(8) of the Clean Water Act, the General Pretreatment Regulations (40 CFR Part 403) and the approved POTW pretreatment program submitted by the permittee. The pretreatment program was approved on 08/22/84 then subsequently modified and approved on 03/03/2000. The Sewer Use Ordinance and the Pretreatment Program have not been modified to come into compliance with the current 40 CFR 403 regulations. The permittee shall submit all necessary proposed modifications to ADEQ within twelve (12) months of the effective date of this permit. The POTW pretreatment program is hereby incorporated by reference and shall be implemented in a manner consistent with the following requirements:

(1) Industrial user information shall be updated at a frequency adequate to ensure that all Industrial Users (IUs) are properly characterized at all times;

(2) The frequency and nature of industrial user compliance monitoring activities by the permittee shall be commensurate with the character, consistency and volume of waste. The permittee must inspect and sample the effluent from each Significant Industrial User in accordance with 40 CFR 403.8(f)(2)(v). This is in addition to any industrial self-monitoring activities;

(3) The permittee shall enforce and obtain remedies for noncompliance by any industrial users with applicable pretreatment standards and requirements;

(4) The permittee shall control through permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements. In the case of Industrial Users identified as significant under 40 CFR 403.3 (v), this control shall be achieved through individual or general control mechanisms, in accordance with 40 CFR 403.8(f)(1)(iii). Both individual and general control mechanisms must be enforceable and contain, at a minimum, the following conditions:

(i) Statement of duration (in no case more than five years);
(ii) Statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator;
(iii) Effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards, categorical Pretreatment Standards, local limits, and State and local law;
(iv) Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored (including the process for seeking a waiver for a pollutant neither present nor expected to be present in the discharge in accordance with § 403.12(e)(2), or a specific waiver for a pollutant in the case of an individual control mechanism), sampling location, sampling frequency, and sample type, based on the applicable general Pretreatment Standards in 40 CFR 403, categorical Pretreatment Standards, local limits, and State and local law;
(v) Statement of applicable civil and criminal penalties for violation of Pretreatment Standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond federal deadlines; and
(vi) Requirements to control slug discharges, if determined by the POTW to be necessary.

(5) The permittee shall evaluate, whether each Significant Industrial User needs a plan or other action to control slug discharges, in accordance with 40 CFR 403.8(f)(2)(vi);

(6) The permittee shall provide adequate staff, equipment, and support capabilities to carry out all elements of the pretreatment program; and

(7) The approved program shall not be modified by the permittee without the prior approval of ADEQ.

b. The permittee shall establish and enforce specific limits to implement the provisions of 40 CFR Parts 403.5(a) and (b), as required by 40 CFR Part 403.5(c). POTWs may develop Best Management Practices (BMPs) to implement paragraphs 40 CFR 403.5 (c)(1) and (c)(2). Such BMPs shall be considered local limits and Pretreatment Standards. Each POTW with an approved pretreatment program shall continue to develop these limits as necessary and effectively enforce such limits.

The permittee shall, within sixty (60) days of the effective date of this permit, (1) submit a **WRITTEN CERTIFICATION** that a technical evaluation has demonstrated that the existing technically based local limits (TBLL) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination, **OR** (2) submit a **WRITTEN NOTIFICATION** that a technical evaluation revising the current TBLL and a draft sewer use ordinance which incorporates such revisions will be submitted within 12 months of the effective date of this permit.

All specific prohibitions or limits developed under this requirement are deemed to be conditions of this permit. The specific prohibitions set out in 40 CFR Part 403.5(b) shall be enforced by the permittee unless modified under this provision.

c. The permittee shall analyze the treatment facility influent and effluent for the presence of the toxic pollutants listed in 40 CFR 122 Appendix D (NPDES Application Testing Requirements) Table II at least once/year and the toxic pollutants in Table III at least 4 times/year (quarterly). If, based upon information available to the permittee, there is reason to suspect the presence of any toxic or hazardous pollutant listed in Table V, or any other pollutant, known or suspected to adversely affect treatment plant operation, receiving water quality, or solids disposal procedures, analysis for those pollutants shall be performed at least 4 times/year (quarterly) on both the influent and the effluent.

The influent and effluent samples collected shall be composite samples consisting of at least 12 aliquots collected at approximately equal intervals over a representative 24 hour period and composited according to flow. Sampling and analytical procedures shall be in accordance with guidelines established in 40 CFR 136. Where composite samples are inappropriate, due to sampling, holding time, or analytical constraints, at least 4 grab samples, taken at equal intervals over a representative 24 hour period, shall be taken.

d. The permittee shall prepare annually a list of Industrial Users which during the preceding twelve months were in significant noncompliance with applicable pretreatment requirements. For the purposes of this Part, significant noncompliance shall be determined based upon the more stringent of either criteria established at 40 CFR Part 403.8(f)(2)(viii) [rev. 10/14/05] or criteria established in the approved POTW pretreatment program. This list is to be published annually in the newspaper of general circulation that provides meaningful public notice within the jurisdiction(s) served by the POTW during the month of May.

In addition, during the month of May the permittee shall submit an updated pretreatment program status report to the ADEQ containing the following information:

(1) An updated list of all significant industrial users and identify which Industrial Users are Non-Significant Categorical Industrial Users (NSCIUs) or Middle Tier CIUs. The list must also identify:

i. Industrial Users subject to categorical Pretreatment Standards that are subject to reduced monitoring and reporting requirements under 40 CFR 403.12(e)(2) & (3),

ii. Industrial Users subject to the following categorical Pretreatment Standards [Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) (40 CFR Part 414), Petroleum Refining (40 CFR Part 419), and Pesticide Chemicals (40 CFR Part 455)] and for which the Control Authority has chosen to use the concentration-based standards rather than converting them to flow-based mass standards as allowed at 40 CFR 403.6(c)(6).

iii. Categorical Industrial Users subject to concentration-based standards for which the Control Authority has chosen to convert the concentration-based standards to equivalent mass limits, as allowed at 40 CFR 403.6(c)(5).

iv. General Control Mechanisms used for similar groups of SIUs along with the substantially similar types of operations and the types of wastes that

are the same, for each separate General Control Mechanism, as allowed at 40 CFR 403.8(f)(1)(iii).

v. Best Management Practices or Pollution Prevention alternatives required by a categorical Pretreatment Standard or as a local limit requirement that are implemented and documentation to demonstrate compliance, as required at 40 CFR 403 (b), (e) and (h).

For each industrial user listed the following information shall be included:

(i) Standard Industrial Classification (SIC) and NAICS code and categorical determination;

(ii) Control document status. Whether the user has an effective control document, and the date such document was last issued, reissued, or modified, (indicate which industrial users were added to the system (or newly identified) within the previous 12 months);

(iii) A summary of all monitoring activities performed within the previous 12 months. The following information shall be reported:

* total number of inspections performed;
* total number of sampling visits made;

(iv) Status of compliance with both effluent limitations and reporting requirements. Compliance status shall be defined as follows:

* Compliant (C) - no violations during the previous 12 month period;

* Non-compliant (NC) - one or more violations during the previous 12 months but does not meet the criteria for significantly noncompliant industrial users;

* Significant Noncompliance (SNC) - in accordance with requirements described in d. above; and

(v) For significantly noncompliant industrial users, indicate the nature of the violations, the type and number of actions taken (notice of violation, administrative order, criminal or civil suit, fines or penalties collected, etc.) and current compliance status. If ANY industrial user was on a schedule to attain compliance with effluent limits, indicate the date the schedule was issued and the date compliance is to be attained;

(2) A list of all significant industrial users whose authorization to discharge was terminated or revoked during the preceding 12 month period and the reason for termination;

(3) A report on any interference, pass through, upset or POTW permit violations known or suspected to be caused by industrial contributors and actions taken by the permittee in response;

(4) The results of all influent and effluent analyses performed pursuant to paragraph (c) above;

(5) A copy of the newspaper publication of the significantly noncompliant industrial users giving the name of the newspaper and the date published;

(6) The information requested may be submitted in tabular form as per the example tables provided for your convenience (See Attachment A, B and C); and

(7) The monthly average water quality based effluent concentration necessary to meet the state water quality standards as developed in the approved technically based local limits.

e. The permittee shall provide adequate notice of the following:

(1) Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Act if it were directly discharging those pollutants; and

(2) Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

Adequate notice shall include information on (i) the quality and quantity of effluent to be introduced into the treatment works, and (ii) any anticipated impact of the change on the quality or quantity of effluent to be discharged from the POTW.

9. **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:	001
CRITICAL DILUTION (%):	100 %
EFFLUENT DILUTION SERIES (%):	32%, 42%, 56%, 75%, 100%
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/600/4-91/002 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/600/4-91/002, 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 defined as the greatest effluent dilution at and below which lethality 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.

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.

d. Test failure is defined as a demonstration of statistically significant sub-lethal or lethal effects to a test species at or below the effluent critical dilution.

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).

a. Part I Testing Frequency Other Than Monthly

i. The permittee shall conduct a total of two (2) additional tests for any species that demonstrates significant lethal effects at or below the critical dilution. The two additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional tests in lieu of routine toxicity testing. The full report shall be prepared for each test required by this section in accordance with procedures outlined in Item 5 of this section and submitted with the period DMR to the permitting authority for review.

ii. If one or both of the two 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 7 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 persistent significant sub-lethal effects or intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests. Monthly retesting is not required if the permittee is performing a TRE.

iii. If one or both of the two additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall henceforth increase the frequency of testing for this species to once per quarter for the life of the permit.

iv. 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 7 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 be also be required due to a demonstration of persistent significant sub-lethal effects or intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests.

3. SUB-LETHAL FAILURES: If a statistically significant sub-lethal effect is demonstrated at or below the critical dilution during any quarterly test, the permittee shall conduct two additional tests. The additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional in lieu of routine toxicity testing.

If during the first four quarters, statistically significant sub-lethal effects are exhibited, quarterly testing will be required for that species until the effluent passes both the lethal and sub-lethal tests endpoints for the affected species, for four consecutive quarters. After passing four consecutive quarters for the affected species the permittee may request a reduction in testing frequency. Monthly retesting is not required if the permittee is performing a TRE.

4. 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.

iv. 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.

v. 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.

vi. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or nonlethal 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.

Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

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/600/4-91/002 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/600/4-91/002 or the most recent update thereof.

iii. If the conditions of Test Acceptability are met in Item 4.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 an NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 5 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 4.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 5 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.

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 are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.

iii. 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 4 degrees Centigrade during collection, shipping, and/or storage.

iv. 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 collect 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 5 of this section.

v. 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.

vi. 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.

5. 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/600/4-91/002, 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 II.C.7 of this permit. The permittee shall submit full reports upon the specific request of the Department. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for 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 biomonitoring 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. 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 ADEQ review.

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

i. Pimephales promelas (fathead minnow)

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

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

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

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

(E) Report the highest (critical dilution or control) Coefficient of Variation, 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" for Parameter No. TLP3B.

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

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

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

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

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 for one or both test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution without a major modification. 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 4.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 Department will issue a letter of confirmation of the monitoring frequency reduction.

A copy of the letter will be forwarded to the Permit Compliance System section to update the permit reporting requirements.

c. 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.

7. 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) 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 Confir-

mation 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 (800) 553-6847, 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:

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.

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).

10. Storm Water Pollution Prevention Plan Requirements

A. **General**

(1) If your facility already has a storm water pollution prevention plan (SWPPP) in place, then you shall continue the implementation of this SWPPP. If you do not have a SWPPP, then you shall prepare a SWPPP for your facility within 60 days of the effective starting date of this permit. Your SWPPP must be prepared in accordance with good engineering practices. Your SWPPP must:

(a) Identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges from your facility;

(b) Describe and ensure implementation of practices which you will use to reduce the pollutants in storm water discharges from the facility; and

(c) Assure compliance with the terms and conditions of this permit.

(2) No Exposure Exclusions, as allowed by 40 CFR 122.26(g), can be obtained for the storm water discharges from the facility as long as all of the required conditions for applicability can be certified. These required conditions can be found in the federal regulation. The No Exposure Exclusion application form can be obtained from the Storm Water section of the ADEQ. Application for this exclusion must be made on the form obtained from the ADEQ.

B. **Contents of Plan**

(1) **Pollution Prevention Team**

(a) You must identify the staff individual(s) (by name or title) that comprise the facility's storm water Pollution Prevention Team. Your Pollution Prevention Team is responsible for assisting the facility/plant manager in developing, implementing, maintaining and revising the facility's SWPPP. Responsibilities of each staff individual on the team must be listed.

(2) **Site Description**

(a) Your SWPPP must include the following:

i. *Activities at Facility.* Description of the nature of the industrial activity(ies) at your facility;

ii. *General Location Map.* A general location map (e.g., U.S.G.S. quadrangle, or other map) with enough detail to identify the location of your facility and the receiving waters within one mile of the facility;

iii. A legible site map identifying the following:

(a) Directions of storm water flow (e.g., use arrows to show which ways storm water will flow);

(b) Locations of all existing structural BMPs;

(c) Locations of all surface water bodies;

(d) Locations of potential pollutant sources identified under Section B(4)(a) of this Part and where significant materials are exposed to precipitation;

(e) Location where major spills or leaks identified under Section B(5) of this Part have occurred;

(f) Locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, and liquid storage tanks;

(g) Locations of storm water outfalls and an approximate outline of the area draining to each outfall;

(h) Location and description of non-storm water discharges;

(i) Locations of the following activities where such activities are exposed to precipitation: processing and storage areas; access roads, rail cars and tracks; the location of transfer of substance in bulk; and machinery;

(j) Location and source of runoff from adjacent property containing significant quantities of pollutants of concern to the facility (an evaluation of how the quality of the runoff impacts your storm water discharges may be included).

(3) **Receiving Waters and Wetlands**

(a) You must provide the name of the nearest receiving water(s), including intermittent streams, dry sloughs, arroyos and the areal extent and description of wetland or other special aquatic sites that may receive discharges from your facility.

(4) **Summary of Potential Pollutant Source**

(a) You must identify each separate area at your facility where industrial materials or activities are exposed to storm water. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading/unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. For each separate area identified, the description must include:

i. *Activities in Area.* A list of the activities (e.g., material storage, equipment fueling and cleaning, cutting steel beams); and

ii. *Pollutants.* A list of the associated pollutant(s) or pollutant parameter(s) (e.g., crankcase oil, iron, biochemical oxygen demand, pH, etc.) for each activity. The pollutant list must include all significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of three (3) years before being covered under this permit and the present.

(5) **Spills and Leaks**

(a) You must clearly identify areas where potential spills and leaks, which can contribute pollutants to storm water discharges, can occur, and their accompanying drainage points. For areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility to be covered under this permit, you must provide a list of significant spills and leaks of toxic or hazardous pollutants that occurred during the three (3) year period prior to the starting date of this permit. Your list must be updated if significant spills or leaks occur in exposed areas of your facility during the time you are covered by the permit.

(b) Significant spills and leaks include, but are not limited to releases of oil or hazardous substances in excess of quantities that are reportable under CWA 311 (see 40 CFR 110.10 AND 40 CFR 117.21) or section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements.

(6) **Sampling Data**

(a) You must provide a summary of existing storm water discharge sampling data taken at your facility. All storm water sampling data collected during the term of this permit must also be summarized and included in this part of the SWPPP.

(7) **Storm Water Controls**

(a) Description of Existing and Planned BMPs. Describe the type and location of existing non-structural and structural best management practices (BMPs) selected for each of the areas where industrial materials or activities are exposed to storm water. All the areas identified in Section B(4)(a) of this Part should have a BMP(s) identified for the areas discharges. For areas where BMPs are not currently in place, describe appropriate BMPs that you will use to control pollutants in storm water discharges. Selection of BMPs should take into consideration:

i. The quantity and nature of the pollutants, and their potential to impact the water quality of receiving waters;

ii. Opportunities to combine the dual purposes of water quality protection and local flood control benefits (including physical impacts of high flows on streams - e.g., bank erosion, impairment of aquatic habitat, etc.);

iii. Opportunities to offset the impact impervious areas of the facility on ground water recharge and base flows in local streams (taking into account the potential for ground water contamination.)

(b) BMP Types to be Considered. The following types of structural, non-structural, and other BMPs must be considered for implementation at your facility. Describe how each is, or will be, implemented. This requirement may have been fulfilled with area-specific BMPs identified under Section B(7)(a) of this Part, in which case the previous descriptions are sufficient. However, many of the following BMPs may be more generalized or non site-specific and therefore not previously considered. If you determine that any of these BMPs are not appropriate for your facility, you must include an explanation of why they are not appropriate. The BMP examples listed below are not intended to be an exclusive list of BMPs that you may use. You are encouraged to keep abreast of new BMPs or new applications of existing BMPs to find the most cost effective means of permit compliance for your facility. If

BMPs are being used or planned at the facility which are not listed here (e.g., replacing a chemical with a less toxic alternative, adopting a new or innovative BMP, etc.), include descriptions of them in this section of the SWPPP.

(c) Non-Structural BMPs

i. *Good Housekeeping:* You must keep all exposed areas of the facility in a clean, orderly manner where such exposed areas could contribute pollutants to storm water discharges. Common problem areas include: around trash containers, storage areas and loading docks. Measures must also include: a schedule for regular pickup and disposal of garbage and waste materials; routine inspections for leaks and conditions of drums, tanks and containers.

ii. *Minimizing Exposure:* Where practicable, industrial materials and activities should be protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, or runoff.

iii. *Preventive Maintenance:* You must have a preventive maintenance program which includes timely inspection and maintenance of storm water management devices, (e.g., cleaning oil/water separators, catch basins) as well as inspecting, testing, maintaining and repairing facility equipment and systems to avoid breakdowns or failures that may result in discharges of pollutants to surface waters.

iv. *Spill Prevention and Response Procedures:* You must describe the procedures which will be followed for cleaning up spills or leaks. Those procedures, and necessary spill response equipment, must be made available to those employees that may cause or detect a spill or leak. Where appropriate, you must explain existing or planned material handling procedures, storage requirements, secondary containment, and equipment (e.g., diversion valves), which are intended to minimize spills or leaks at the facility. Measures for cleaning up hazardous material spills or leaks must be consistent with applicable RCRA regulations at 40 CFR Part 264 and 40 CFR Part 265.

v. *Routine Facility Inspections:* In addition to or as part of the comprehensive site evaluation required under Section G of

this Part, you must have qualified facility personnel inspect all areas of the facility where industrial materials or activities are exposed to storm water. The inspections must include an evaluation of existing storm water BMPs. Your SWPPP must identify how often these inspections will be conducted. You must correct any deficiencies you find as soon as practicable, but no later than 14 days from the date of the inspection. You must document in your SWPPP the results of your inspections and the corrective actions you took in response to any deficiencies or opportunities for improvement that you identify.

vi. *Employee Training:* You must describe the storm water employee training program for the facility. The description should include the topics to be covered, such as spill response, good housekeeping, and material management practices, and must identify periodic dates (e.g., every 6 months during the months of July and January) for such training. You must provide employee training for all employees that work in areas where industrial materials or activities are exposed to storm water, and for employees that are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance people). The employee training should inform them of the components and goals of your SWPPP.

(d) Structural BMPs

i. *Sediment and Erosion Control:* You must identify the areas at your facility which, due to topography, land disturbance (e.g., construction), or other factors, have a potential for significant soil erosion. You must describe the structural, vegetative, and/or stabilization BMPs that you will be implementing to limit erosion.

ii. *Management of Runoff:* You must describe the traditional storm water management practices (permanent structural BMPs other than those which control the generation or source(s) of pollutants) that currently exist or that are planned for your facility. These types of BMPs typically are used to divert, infiltrate, reuse, or otherwise reduce pollutants in storm water discharges from the site. Factors to consider when you are selecting appropriate BMPs

should include: 1) the industrial materials and activities that are exposed to storm water, and the associated pollutant potential of those materials and activities; and 2) the beneficial and potential detrimental effects on surface water quality, ground water quality, receiving water base flow (dry weather stream flow), and physical integrity of receiving waters. Structural measures should be placed on upland soils, avoiding wetlands and flood plains, if possible. Structural BMPs may require a separate permit under section 404 of the CWA before installation begins.

iii. *Example BMPs:* BMPs you could use include but are not limited to: storm water detention structures (including wet ponds); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff onsite; and sequential systems (which combine several practices).

(e) Other Controls

i. No solid materials, including floatable debris, may be discharged to waters of the United States, except as authorized by a permit issued under section 404 of the CWA. Off-site vehicle tracking of raw, final, or waste materials or sediments, and the generation of dust must be minimized. Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas must be minimized. Velocity dissipation devices must be placed at discharge locations and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., no significant changes in the hydrological regime of the receiving water).

C. **Maintenance**

(1) All BMPs you identify in your SWPPP must be maintained in effective operating condition. If site inspections required by Section B(7)(c)(v) of this Part identify BMPs that are not operating effectively, maintenance must be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable,

maintenance must be scheduled and accomplished as soon as practicable. In the case of non-structural BMPs, the effectiveness of the BMP must be maintained by appropriate means (e.g., spill response supplies available and personnel trained, etc.).

D. **Non-Storm Water Discharges**

(1) **Certification of Non-Storm Water Discharges**

(a) Your SWPPP must include a certification that all discharges (i.e., outfalls) have been tested or evaluated for the presence of non-storm water. The certification must be signed in accordance with Part II Section D.11 of the individual permit, and include:

i. The date of any testing and/or evaluation;

ii. Identification of potential significant sources of non-storm water at the site;

iii. A description of the results of any test and/or evaluation for the presence of non-storm water discharges;

iv. A description of the evaluation criteria or testing method used; and

v. A list of the outfalls or onsite drainage points that were directly observed during the test.

vi. If you are unable to provide the certification required (testing for non-storm water discharges), you must notify the Director 180 days after the effective starting date of this permit to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification must describe:

vii. The reason(s) why certification was not possible;

viii. The procedure of any test attempted;

ix. The results of such test or other relevant observations; and

x. Potential sources of non-storm water discharges to the storm sewer.

xi. A copy of the notification must be included in the SWPPP at the facility. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

E. **Allowable Non-storm Water Discharges**

(1) Certain sources of non-storm water are allowable under this permit. For the list of allowable non-storm water discharges please see Part I.B.1.a.i on Page 16 of the Industrial Storm Water General Permit number ARR000000. In order for these discharges to be allowed, your SWPPP must include:

(a) An identification of each allowable non-storm water source;

(b) The location where it is likely to be discharged; and

(c) Descriptions of appropriate BMPs for each source.

(d) Except for flows from fire fighting activities, you must identify in your SWPPP all sources of allowable non-storm water that are discharged under the authority of this permit.

(e) If you include mist blown from cooling towers amongst your allowable non-storm water discharges, you must specifically evaluate the potential for the discharges to be contaminated by chemicals used in the cooling tower and determined that the levels of such chemicals in the discharges would not cause or contribute to a violation of an applicable water quality standard after implementation of the BMPs you have selected to control such discharges.

F. **Comprehensive Site Compliance Evaluation**

(1) **Frequency and Inspectors**

(a) You must conduct facility inspections at least once a year. The inspections must be done by qualified personnel provided by you. The qualified personnel you use may be either your own employees or outside consultants that you have hired, provided they are knowledgeable and possess the skills to assess conditions at your facility that could impact storm water quality and assess the effectiveness of the BMPs you have chosen to use to control the quality of your storm water discharges. If you decide to conduct

more frequent inspections, your SWPPP must specify the frequency of inspections.

(2) **Scope of the Compliance Evaluation**

(a) Your inspections must include all areas where industrial materials or activities are exposed to storm water, as identified in Section B(4)(a) of this Part, and areas where spills and leaks have occurred within the past 3 years. Inspectors should look for: a) industrial materials, residue, or trash on the ground that could contaminate or be washed away in storm water; b) leaks or spills from industrial equipment, drums, barrels, tanks, or similar containers; c) offsite tracking of industrial materials or sediment where vehicles enter or exit the site; d) tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas; and e) for evidence of, or the potential for, pollutants entering the drainage system. Storm water BMPs identified in your SWPPP must be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they must be inspected to see whether BMPs are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations must be inspected if possible.

(3) **Follow-up Actions**

(a) Based on the results of the inspections, you must modify your SWPPP as necessary (e.g., show additional controls on the map required by Section B(2)(a)(iii) of this Part and revise the description of controls required by Section B(7)(a) of this Part to include additional or modified BMPs designed to correct the problems identified. You must complete revisions to the SWPPP within 14 calendar days following the inspection. If existing BMPs need to be modified or if additional BMPs are necessary, implementation must be completed before the next anticipated storm event. If implementation before the next anticipated storm event is impracticable, they must be implemented as soon as practicable.

(4) **Compliance Evaluation Report**

(a) You must insure a report summarizing the scope of the inspection, name(s) of personnel making the inspection, the date(s) of the inspection, and major observations relating to the implementation

of the SWPPP is completed and retained as part of the SWPPP for at least three years from the date permit coverage expires or is terminated. Major observations should include: the location(s) of discharges of pollutants from the site; and location(s) of BMPs that need to be maintained; location(s) where additional BMPs are needed that did not exist at the time of inspection. You must retain a record of actions taken in accordance with Part II Section C.7 (Retention of Records) of this permit as part of the storm water pollution prevention plan for at least three years from the date that permit coverage expires or is terminated. The inspection reports must identify any incidents of non-compliance. Where an inspection report does not identify any incidents of non-compliance, the report must contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. Both the inspection report and any reports of follow-up actions must be signed in accordance with Part II Section D (Reporting Requirements) of this permit.

(5) **Credit As a Routine Facility Inspection**

(a) Where compliance evaluation schedules overlap with inspections required under Section B(7)(c)(v) of this Part, your annual compliance evaluation may also be used as one of the Section B(7)(c)(v) of this Part , routine inspections.

G. **Maintaining Updated SWPPP**

(1) You must amend the storm water pollution prevention plan whenever:

(a) There is a change in design, construction, operation, or maintenance at your facility which has a significant effect on the discharge, or potential for discharge, of pollutants from your facility;

(b) During inspections or investigations by you or by local, State, Tribal or Federal officials it is determined the SWPPP is ineffective in eliminating or significantly minimizing pollutants from sources identified under Section B(4) of this Part, or is otherwise not achieving the general objectives of controlling pollutants in discharges from your facility.

H. **Signature, Plan Review and Making Plans Available**

(1) You must sign your SWPPP in accordance with Part II Section D.11, and retain the plan on-site at the facility covered by this permit (see Part II Section C.7 for records retention requirements).

(2) You must keep a copy of the SWPPP on-site or locally available to the Director for review at the time of an on-site inspection. You must make your SWPPP available upon request to the Director, a State, Tribal or local agency approving storm water management plans, or the operator of a municipal separate storm sewer receiving discharge from the site. Also, in the interest of public involvement, EPA encourages you to make your SWPPPs available to the public for viewing during normal business hours.

(3) The Director may notify you at any time that your SWPPP does not meet one or more of the minimum requirements of this permit. The notification will identify provisions of this permit which are not being met, as well as the required modifications. Within thirty (30) calendar days of receipt of such notification, you must make the required changes to the SWPPP and submit to the Director a written certification that the requested changes have been made.

(4) You must make the SWPPP available to the USFWS upon request.

I. **Additional Requirements for Storm Water Discharges Associated With Industrial Activity From Facilities Subject to EPCRA Section 313 Reporting Requirements.**

(1) Potential pollutant sources for which you have reporting requirements under EPCRA 313 must be identified in your summary of potential pollutant sources as per Section B(4) of this Part. Note this additional requirement only applies to you if you are subject to reporting requirements under EPCRA 313.

11. If any individual analytical test result is less than the minimum quantification level (MQL) listed below, a value of zero (0) may be used for that individual result for the Discharge Monitoring report (DMR) calculations and reporting requirements.

Pollutant	EPA Method	MQL (μg/l)
Copper	200.7	10

The permittee may develop a matrix specific method detection limit (MDL) in accordance with Appendix B of 40 CFR Part 136. For any pollutant for which the permittee determines a site specific MDL, the permittee shall send to 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 the NPDES Permits Branch, the site specific MQL may be utilized by the permittee for all future Discharge Monitoring Report (DMR) calculations and reporting requirements.

12. If TRC test results are less than Detection Level Achieved (DL), a value of zero (0) may be used for the Discharge Monitoring Report (DMR) calculations and reporting requirements.

    Total residual chlorine (TRC) in the effluent composite sample shall be measured and reported both at the time of sample termination and at the time of toxicity test initiation. The permittee shall ensure that the effluent composite used in toxicity testing is representative of normal facility residual chlorine discharge concentration.

13. This permit may be modified, if necessary, to conform with final effluent limitations established by an approved Water Quality Management Plan (WQMP), an approved waste load allocation (WLA) as part of a Total Maximum Daily Load (TMDL), or pollutant specific limits if a more specific 303(d) list is approved.

PART IV
DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act 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. **"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.
4. **"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.
5. **"Bypass"** means the intentional diversion of waste streams from any portion of a treatment facility.
6. **"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. *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. *Concentration Calculations*: For pollutants with limitations expressed in other units of measurement, determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during that sampling day by using the following formula: where C= daily concentration, F=daily flow and n=number of daily samples

$$\frac{C_1F_1 + C_2F_2 + \cdots + C_nF_n}{F_1 + F_2 + \cdots + F_n}$$

7. **"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) report the monthly average (see 30-day average below).

8. **"Daily Maximum"** discharge limitation means the highest allowable "daily discharge" during the calendar month. The 7-day average for Fecal Coliform Bacteria (FCB) is the geometric mean of the values of all effluent samples collected during the calendar week in colonies per 100 ml.
9. **"Department"** means the Arkansas Department of Environmental Quality (**ADEQ**).
10. **"Director"** means the Administrator of the U.S. Environmental Protection Agency and/or the Director of the Arkansas Department of Environmental Quality.
11. **"Grab sample"** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
12. **"Industrial User"** means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a POTW.
13. **"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.
14. **"POTW"** means a Publicly Owned Treatment Works.
15. **"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.
16. **"APCEC"** means the Arkansas Pollution Control and Ecology Commission.
17. **"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 storm water runoff that are discharged to or otherwise enter a POTW.
18. **"7-day average"** discharge limitation, other than for Fecal Coliform Bacteria (FCB), is the highest allowable arithmetic mean of the values for all effluent samples collected during the calendar week. The 7-day average for Fecal Coliform Bacteria (FCB) is the geometric mean of the values of all effluent samples collected during the calendar week in colonies/100 ml. The Discharge Monitoring Report should report the highest 7-day average obtained during the calendar month. For reporting purposes, the 7-day average values should be reported as occurring in the month in which the Saturday of the calendar week falls in.
19. **"30-day average"**, other than for Fecal Coliform Bacteria (FCB), is the arithmetic mean of the daily values for all effluent samples collected during 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. The 30-day average for Fecal Coliform Bacteria (FCB) is the geometric mean of the values for all effluent samples collected during a calendar month. For Fecal Coliform Bacteria (FCB), report the monthly average as a 30-day geometric mean in colonies per 100 ml.

20. **"24-hour composite sample"** consists of a minimum of 12 effluent portions collected at equal time intervals over the 24-hour period and combined proportional to flow or a sample collected at frequent intervals proportional to flow over the 24-hour period.
21. **"12-hour composite sample"** consists of 12 effluent portions, collected no closer together than one hour and composited according to flow. The daily sampling intervals shall include the highest flow periods.
22. **"6-hour composite sample"** consists of six effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) and composited according to flow.
23. **"3-hour composite sample"** consists of three effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) and composited according to flow.
24. **"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.
25. **"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.
26. **"For 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.
27. **"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.
28. **The term "MGD"** shall mean million gallons per day.
29. **The term "mg/l "**shall mean milligrams per liter or parts per million (ppm).
30. **The term "µg/l"** shall mean micrograms per liter or parts per billion (ppb).
31. **The term "cfs"** shall mean cubic feet per second.
32. **The term "ppm"** shall mean parts per million.
33. **The term "s.u."** shall mean standard units.

34. **The term "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.

35. **Monitoring and Reporting:**
When a permit becomes effective, monitoring requirements are of the immediate period of the permit effective date. Where the monitoring requirement for an effluent characteristic is monthly or more frequently, the Discharge Monitoring Report (DMR) shall be submitted by the 25th of the month following the sampling. Where the monitoring requirement for an effluent characteristic is Quarterly, Semi-Annual, Annual, or Yearly, the DMR shall be submitted by the 25th of the month following the monitoring period end date.

MONTHLY:
is defined as a calendar month or any portion of a calendar month for monitoring requirement frequency of once/month or more frequently.

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.

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.

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.

36. **The term "Weekday"** means Monday – Friday.

ATTACHMENT 1

Priority Pollutant Scan Calculation

Permittee	City of Siloam Springs		
Receiving Stream	Sager Creek, thence to Flint Creek, thence to the Illinois River		
Permit number	AR0020273		Qe for:
Flow (Qe)	4.40	MGD	Municipalities = Design Flow
Flow (Qe)	6.80	CFS	Industrial Discharges = Highest monthly average flow of the last two years
7Q10 =	0.00	CFS	
Long Term Average =	4.00	CFS	TSS for:
Using Diffusers	no	Yes/No	Gulf Coastal 5.5 mg/l — Ouach Mount = 2 mg/l
pH =	7.70	S.U.	Ark River Valley = 3 mg/l — Ozark Highands = 2.5 mg/l
Total Hardness	148.00	mg/l	Boston Mount = 1.3 mg/l — Delta = 8 mg/l
TSS	2.5	mg/l	
(% of 7Q10 for Chronic)	0.67		Total Hardness for:
(% of 7Q10 for Acute)	0.06		Arkansas River = 125 mg/l — Red River = 211 mg/l
			Ouachita River = 28 mg/l — St. Francis River = 103 mg/l

For the following receiving enter 0.06 in cell *C17 White River = 116 mg/l

Mississippi, Arkansas, Red River	Gulf Coastal = 31 mg/l	Ouachita Mount = 31 mg/l
White (Below confluence with Black River)	Ozark Highlands = 148 mg/l	Ark River Valley = 25 mg/l
Ouachita (below Confluence with Little Miss. River)	Boston Mount = 25 mg/l	Delta = 81 mg/l

Upstream Flow (Qb) = 0.00 (Chronic) 0.00 (Acute)
Pollutant Concentration Upstream (Cb) = 0 ug/l
Water Effect Ratio(WER) 1.00
Cancer Risk Level 1.00E-05 (STATE), 1.00e-6 (EPA)

IWC = Instream concentration of pollutant after mixing with the receiving stream
IWC = (Ce*Qe + Cb*Qb)/(Qb +Qe)
Ce = Pollutant concentration in the effluent (ug/l) : Reported value as Total Recov

	Reported Value (Ce) (ug/l)	Ce*2.13 (ug/l)	EPA Acute (ug/l)	STATE Acute (ug/l)	IWC Acute (ug/l)	EPA Chronic (ug/l)	STATE Chronic (ug/l)	IWC Chronic (ug/l)	EPA Bioacc. (ug/l)	STATE Bioacc. (ug/l)	IWC Bioacc. (ug/l)	Violation of Acute	Chr	Bio
METALS and CYANIDE														
1. Antimony Total	0.00	0.00	9000	**********	0.00	1600	**********	0.00	4300	**********	0.00	NO	NO	NO
2. Arsenic Total	0.00	0.00	581.30	**********	0.00	306.80	**********	0.00	1.40	**********	0.00	NO	NO	NO
3. Beryllium Total	0.00	0.00	130.00	**********	0.00	5.30	**********	0.00	**********	0.076	0.00	NO	NO	NO
4. Cadmium Total*	0.00	0.00	**********	25.76	0.00	**********	6.27	0.00	**********	**********	0.00	NO	NO	NO
6. Chromium (Tri)*	0.00	0.00	**********	3466.72	0.00	**********	1124.57	0.00	**********	**********	0.00	NO	NO	NO
7. Chromium (hex)	0.00	0.00	**********	15.71	0.00	**********	10.58	0.00	**********	**********	0.00	NO	NO	NO
8. Copper Total*	0.00	15.00	**********	57.11	15.00	**********	36.81	15.00	**********	**********	9.44	NO	NO	NO
9. Lead Total*	0.00	0.00	**********	430.62	0.00	**********	16.78	0.00	**********	**********	0.00	NO	NO	NO
10. Mercury Total*	0.00	0.00	**********	7.24	0.00	**********	0.0120	0.00	0.15	**********	0.00	NO	NO	NO
12. Nickel Total*	0.00	0.00	**********	3405.03	0.00	**********	378.16	0.00	4600	**********	0.00	NO	NO	NO
13. Selenium Total	0.00	0.00	**********	20.00	0.00	**********	5.00	0.00	**********	**********	0.00	NO	NO	NO
14. Silver Total*	0.00	0.00	**********	22.5816	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
15. Thallium Total	0.00	0.00	1400	**********	0.00	40.00	**********	0.00	6.30	**********	0.00	NO	NO	NO
16. Zinc Total*	45.00	95.85	**********	422.06	95.85	**********	385.40	95.85	**********	**********	60.34	NO	NO	NO
129. Phenols, Total	0.00	0.00	**********	**********	**********	**********	**********	**********	**********	**********	0.00			NO
17. Cyanide Total	0.00	0.00	**********	22.36	0.00	**********	5.20	0.00	220000	**********	0.00	NO	NO	NO

* See dissolved partition coefficient (Page 6)