EL DORADO CHEMICAL

NPDES PERMIT No. AR0000752

PERMITTING TIMELINE RELATED TO 2" RAINFALL CAPTURE

July 2, 2002. Permit AR0000752 Issued (expires on June 30, 2007). The permit is appealed.

June 5, 2003. PAR LIS-03-067 executed to settle appeal issues. The PAR includes a condition to conduct a background flow and effluent dilution evaluation for Outfalls 002, 004, 005, 006 and 007, and provides that "Until such time as the permit is reopened and modified [following the dilution study] the effluent limits for Outfall 004 contained in the 1990 Permit shall be applied to all storm water outfalls." **(Exhibit 1)**

June 1, 2004. Modification No. 1 to Permit AR0000752 is issued to implement the PAR and authorize discharge to the Ouachita River through an EDCC individual pipeline. Permit includes final metal limits for the storm water outfalls effective in 3 years (rather than the 1990 permit limits as stated in the PAR). ADEQ's response to comment states: "Although it was premature to include final metals limits in the Permit, the Department will reopen the permit and modify the final metals limits after analysis of the results of the Hydrology Study. The schedule of compliance provides adequate time for the permit to be modified, and the new limits to become effective before the interim limits expire. Accordingly, no changes were made to the draft permit." **(Exhibit 2)**

May 31, 2005. First Annual Progress Report. The dilution study had just begun, and source reduction activities were in the early stages. At the time of this report EDCC's plan was to capture 004, 006 and 007 storm water and divert the first 2" to a new impoundment, which would be transferred to treatment and Outfall 001. **(Exhibit 3)**

June 1, 2006. Second Annual Progress Report. Data collection for the dilution study is underway. Industrial areas of 005 and part of 006 are re-routed to 001 for treatment. EDCC reports that source reduction as well as gravity diversion are being considered for the remainder of the storm water outfalls. **(Exhibit 4)**

September 21, 2006. Storm water flow/dilution study report submitted to ADEQ.

April 1, 2007. Modification No. 2 to Permit AR0000752 is issued just prior to expiration (application to renew was filed on December 20, 2006) to authorize the joint pipeline. Outfall 010 added for Joint Pipeline discharge from Outfall 001 (process water) and Outfalls 006 and 007 (storm water) (Modification No. 1 to Permit AR0000752 had authorized Outfall 001 and contaminated storm water to be discharged through Outfall 010 to the EDCC individual pipeline). The permit included a requirement to "develop a program for demonstrating that the first two inches of rainfall in a 24 hour period are routed to Outfall 010 instead of Outfalls 006 and 007. This program shall be submitted for approval to ADEQ within 90 days of the effective date of the permit." **(Exhibit 5-pages 1-17 only)**

May 30, 2009. Annual Report submitted. **(Exhibit 6)** ADEQ had completed its review of the storm water flow/dilution study, and EDCC and ADEQ had discussed how the permit would be modified to implement the results of the storm water flow/dilution study report. ADEQ had previously approved the background flow effluent ratios for Outfalls 006 and 007 **(Exhibit 7)** and after further discussions between EDCC and ADEQ, ADEQ prepared a pre-draft renewal permit that included new water quality based limits for Outfalls 006 and 007 to incorporate the results of the storm water flow/dilution study. ADEQ's pre-draft renewal permit also eliminated all references and requirements regarding routing the first two inches of rainfall from Outfalls 006 and 007 to Outfall 010. **(Exhibit 8-excludes biomonitoring protocol conditions)**

July 13, 2011. The renewal permit was delayed due to third party appeals of the April 1, 2007 Modification No. 2 to Permit AR0000752 and the Joint Pipeline Permit. EDCC requested "confirmation from ADEQ that the quarterly reporting requirement associated with the elimination or re-routing of outfalls 006 and 007 can be discontinued." EDCC's request was approved by ADEQ on August 11, 2011. **(Exhibits 9 and 10)**

November 4, 2016. EDCC is still waiting on ADEQ to issue the permit with the modified permit limits for Outfalls 006 and 007 reflecting the approved dilution ratios.

EXHIBIT 1

El Dorado Chemical Company

NPDES
pub. not: 7/10/03
penalty: none

MD

ARKANSAS POLLUTION CONTROL AND ECOLOGY COMMISSION

IN THE MATTER OF:	)	AR503-067
	)	
EL DORADO CHEMICAL COMPANY	)	**DOCKET NO.** _____
P.O. Box 231	)	
EL DORADO, AR 71731	)	
	)	
NPDES PERMIT No. AR0000752	)	

PERMIT APPEAL RESOLUTION

This Permit Appeal Resolution ("PAR") is issued pursuant to the authority of the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. 8-4-101 *et seq.*, and water pollution control regulations promulgated thereunder as a resolution of this matter. The issues herein having been settled by the agreement of El Dorado Chemical Company ("EDCC") and the Director of the Arkansas Department of Environmental Quality ("ADEQ"), it is hereby agreed and stipulated that the following Findings of Fact and Order and Agreement be entered herein.

FINDINGS OF FACT

1. El Dorado Chemical Company ("EDCC") is a corporation which manufactures sulfuric acid, nitric acid, ammonium nitrate fertilizers, and industrial grade ammonium nitrate products at its facility located in El Dorado, Union County, Arkansas. EDCC operates a wastewater treatment system pursuant to Arkansas State NPDES Permit Number AR0000752 (hereinafter the NPDES Permit), issued effective July 1, 1990 ("1990 Permit").
2. On March 8, 2002 ADEQ issued a Draft Permit to renew the 1990 Permit for public comment. The Draft Permit was published for a 30- day comment period, and EDCC

RECEIVED JUN - 5 2003

timely filed comments. ADEQ issued a Final Permit renewing the 1990 Permit on May 31, 2002 ("2002 Permit"). EDCC timely filed a Request for Adjudicatory Hearing and Commission Review which operated as an automatic stay of the 2002 Permit, leaving the 1990 Permit in full force and effect. The terms of the 1990 Permit will remain in effect until the effective date of the permit which will be issued pursuant to this PAR.

3. EDCC and ADEQ have agreed to a resolution of this Appeal, the terms of which are stated in this PAR.

ORDER AND AGREEMENT

Therefore, EDCC and ADEQ do hereby stipulate and agree as follows:

1. ADEQ will re-issue the Permit, in draft form, for public comment. ADEQ agrees to support the revised limits and conditions in the NPDES Permit, and in particular the following terms and conditions which will be included in the draft NPDES Permit as a result of the resolution of the Appeal:

   (a) With the exception of Outfalls 010 and 011, all more restrictive permit limits and conditions shall include the three (3) year implementation schedule, as provided in Consent Administrative Order No. 02-059. The three (3) year implementation schedule for all water-quality based permit limits and conditions shall be implemented through interim limits (applicable upon the effective date of the Permit and continuing for three years) and final limits (applicable three years from the effective date of the Permit) The three (3) year implementation schedule for all technology based permit limits and conditions shall be

implemented through Consent Administrative Order No. 02-059 which shall be referenced through a special condition which provides as follows: "Consent Administrative Order No. 02-059 continues to remain in effect and provides the Permittee three (3) years from the effective date of this Permit to comply with technology-based limits contained herein."

(b) The requirement stated in Part 1 of Part IB under "Pond Bottom" of the 2002 Permit that the fifty (50) acre equalization basin be sealed with a synthetic liner shall be removed. EDCC and ADEQ agree to enter into a consent administrative order which requires EDCC to evaluate the presence of nitrates in the upper aquifer, to conduct a risk assessment, and to implement such remedial action as may be appropriate to address such risks as may be identified in the risk assessment.

(c) EDCC shall follow the standard sample collection, preservation, chain of custody and analytical protocols for all biomonitoring. The additional requirements stated in Part III 3.4 and Part III 4.6 of the Permit will be deleted.

(d) EDCC has completed "clean sampling" for metals in all outfalls. ADEQ has not yet completed its analysis of those samples. If the completed analysis of the clean sampling reveals no violations, the following metals limits will no longer be required: Outfall 001

(cadmium, lead and silver are not required); Outfall 002 (cadmium, silver and nickel are not required); Outfall 004 (cadmium, selenium and silver are not required); Outfall 005 (cadmium, selenium and silver are not required); Outfall 006 (selenium and silver are not required); and Outfall 007 (cadmium, selenium and silver are not required).

(e) EDCC has completed a watershed analysis to determine the appropriate credit to be applied under the Ammonium Nitrate Subcategory and the Nitric Acid Subcategory effluent guidelines for the contribution of contaminants from outside the battery limits of the ammonium nitrate and nitric acid production processes. Based upon the results of that study, the effluent limits for ammonia nitrogen and nitrate nitrogen at Outfalls 001, 002, SUM, 010 and 011 shall be as follows: the ammonia effluent limitation will be 265.7 lbs (monthly average) and 811.84 lbs (daily maximum); and the nitrate effluent limitation would be 405.02 lbs (monthly average) and 1153.73 (daily maximum). No concentration limits will be included in the permit for ammonia nitrogen or nitrate nitrogen at Outfalls 010 and 011, provided that WET limits will be included and the flow through Outfalls 010 and 011 shall be limited to a maximum daily flow of 2.0 million gallons per day.

(f) EDCC shall undertake an evaluation of the background flow of the receiving streams for the storm water outfalls (Outfalls 002, 004, 005,

006 and 007) and the dilution of effluent in the receiving stream as a result of a storm event. EDCC shall present a protocol for this evaluation to ADEQ within ninety (90) days of the effective date of the permit, and shall complete the evaluation within 18 months of approval by ADEQ. ADEQ may reopen and modify the permit based on the results of this evaluation. Until such time as the permit is reopened and modified, the effluent limits for Outfall 004 contained in the 1990 Permit shall be applied to all storm water outfalls, and the toxicity testing requirements as stated in paragraph (h) below shall remain in effect for all storm water outfalls.

(g) The toxicity testing requirements for the storm water outfalls, Outfalls 002, 004, 005, 006 and 007 will be revised to provide for acute instead of chronic toxicity testing, and until such time as the watershed analysis provided for in paragraph (f) above is completed and the permit modification resulting from such analysis is effective, the acute toxicity testing shall be a "monitor and report" requirement.

(h) The sampling frequency for dissolved minerals at all outfalls shall be once per month. After 24 consecutive months with no violations, the frequency automatically reduced to once per quarter. If a violation occurs, the frequency automatically increases to once per month. The sampling frequency for metals at all outfalls shall be reduced to once per quarter after 24 consecutive months with no violations. If a

violation occurs, the permit will provide that frequency automatically returns to the frequency stated in the 2002 Permit.

(i) The mass limitation for TSS at Outfall 010 and Outfall 011 will be deleted.

(j) The mass limitations for dissolved minerals at Outfall 001 will be deleted.

(k) EDCC shall undertake an evaluation of the temperature regime of the fifty (50) acre equalization basin for the purpose of determining if the elevation of temperatures in the equalization basin are related to ambient sources of heat resulting from summertime conditions. EDCC shall present a protocol for this evaluation to ADEQ within ninety (90) days of the effective date of the permit, and shall complete the evaluation within 18 months of approval by ADEQ. ADEQ will modify the permit through the removal of the temperature limitation for Outfall 001 if the evaluation documents that the elevation of water temperatures in the fifty (50) acre equalization basin are related to ambient sources of heat under summertime conditions.

(l) Compliance with the dissolved oxygen limit for Outfall 001 shall be based on an average of all samples taken each hour.

(m) Compliance with the pH limit for all outfalls for which a continuous monitor is utilized shall be based on an average of all samples taken each hour.

2. This PAR shall in no way limit the rights of EDCC to comment on any term of the draft permit issued pursuant to this PAR that differs in any respect from this PAR

3. This PAR is subject to public review and comment. However, this PAR is effective immediately. ADEQ retains the right and discretion to set aside this PAR based on comments received within the thirty (30) days public comment period, provided that ADEQ agrees to support the issuance of a permit which incorporates the terms of this PAR. If the PAR is set aside, the Appeal shall be simultaneously reinstated. In accordance with § 2.5.15 of Regulation No. 8, the Request for Commission Review and Adjudicatory Hearing in this matter is hereby withdrawn.

ENTERED into this 5th day of June, 2003.

Marcus Devine, Director
ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

APPROVED AS TO FORM AND CONTENT:

Name: John M. Carver
Title: Vice President Safety & Environmental Compliance
EL DORADO CHEMICAL COMPANY

EXHIBIT 2

ADEQ

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

RESPONSE TO COMMENTS
FINAL PERMIT DECISION

This is our response to comments received on the subject draft permit in accordance with regulations promulgated at 40 CFR Part 124.17.

Permit No. : AR0000752

Applicant : El Dorado Chemical Company

Prepared by : Mo Shafii

Permit Action : Arkansas Department of Environmental Quality (ADEQ) had made a decision to issue the NPDES permit No. AR0000752 for the El Dorado Chemical Company. The draft permit was sent to public notice on January 15, 2004. At the same time due to anticipated public interest, ADEQ scheduled a public hearing on April 13, 2004 to receive comments on the draft permit.

Date Prepared : April 29, 2004

The following comments have been received on the draft permit.

Letter from Mr. Hank Bates on behalf of Marty and Lane Davis dated January 29, 2004 (Comments #1 through #10)
Letter from John Talpas (Permittee) dated February 9, 2004 (Comments #11 through #13).
Comment from Marty Davis dated April 13, 2004 (Comment #14)

I. Response to issues raised

Comment #1

The Ammonia Nitrogen (NH3-N) limits for Outfall 001 are not stringent enough to ensure compliance with the waste load allocation for ammonia toxicity set out in the TMDL developed by the U.S. EPA.

Response #1

In accordance with 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. Arkansas Water Quality Standards (AWQS) limits for NH3-N are 12 mg/l (Monthly Average) and 18 mg/l (Daily Maximum). The technology-based concentration limits are 10.4 mg/l (Monthly

Average) and 31.9 mg/l (Daily Maximum) based on 1st drafted permit in the year 2002. However, based on paragraph "e" of the permit appeal resolution (PAR), mass limits for ammonia and nitrate should be revised. Therefore concentration limits also should be adjusted accordingly. The modified permit was drafted incorrectly with concentration limits of the 1st drafted permit in the year 2002. By comparing these numbers, final ammonia limits in the permit are 12 mg/l (Monthly Average) and 18 mg/l (Daily Maximum) which are Water Quality based limits. Additionally, based on EPA recommendation, ADEQ must either include a WET (Whole Effluent Toxicity) limits testing during the months of January, February, March, April, September, and December or include specific ammonia limits to levels at 4 mg/l monthly average and 6 mg/l daily maximum. This permit has included a WET limit instead of the 4 mg/l monthly average ammonia limit. Please note that in accordance with 40 CFR 122.62, only the modified portion of the permit can be reopened for revision. Therefore; TMDL was not approved when ADEQ issued the first permit in the year 2002. The TMDL must be applied to the next renewal of the El Dorado Chemical permit.

Comment #2

The ammonia nitrogen (NH3-N) limits for outfall 001 are not stringent enough to meet the waste load allocation for Dissolved Oxygen in the receiving stream by ADEQ.

Response #2

Please see #1 above.

Comment #3

The Total Dissolved Solids (TDS) limits are inconsistent with the WLA and reduction requirements set forth in EPA's TMDL.

Response #3

TDS limits are based on Regulation No. 2 and the Continuing Planning Process (CPP) which has been reviewed and approved by EPA. Additionally, TDS is listed in the 303(d) list as a minor source contamination.

Comment #4

A three year schedule of compliance should not be given to EDCC.

Response #4

A schedule of compliance of up to three years for all more restrictive water quality permit limits and conditions is based on Regulation No. 2, Section 2.104- Policy for Compliance and Consent Administrative Order (CAO) No. 02-059.

Comment #5

The narrative description of the discharge location for outfall 010 should be revised to accurately describe the location.

Response #5

Information in our files indicate that the discharge for outfall 010 or outfall 011 is the Ouachita River.

Comment #6

The permit limits for potential outfalls 010 and 011 should be revised to include concentration limits and to protect the WQ of the receiving stream waters.

Response #6

In accordance with 40 CRF 122.45(f)(2), a pollutant limited in terms of mass may be limited in terms of other units of measurement. Additionally, in order to protect the Water Quality (WQ) of the receiving stream, a maximum flow limit of 2 MGD has been included in the permit in lieu of concentration limits. ADEQ does not believe that the permit applicant=s discharge, as limited by the terms of the draft permit and the maximum flow of 2 MGD, will cause or contribute to any identifiable violation of water quality standards in the Ouachita River.

Comment #7

ADEQ should coordinate closely with the City of El Dorado on the wisdom of publicly funding EDCC's pipeline to the Ouachita River.

Response #7

ADEQ does not have any jurisdiction in this request.

Comment #8

The requirement to construct a liner for EDCC's 50-acre holding pond should not be deleted from the permit.

Response #8

EDCC and ADEQ agreed to enter into a consent administrative order (CAO) which requires EDCC to evaluate the presence of nitrate in the upper aquifer, and to implement required remediation.

Comment #9

Notification to the public. 1) "Did ADEQ provide actual notice to the persons who own land at, and immediately downstream from the location of potential Outfalls 010 and 011? 2) Did ADEQ provide actual, individualized notice of the Draft permit to the individuals who attended the public meetings and otherwise made their interest in the EDCC facility known to ADEQ? If no notice other than legal notice in the paper was given, why did ADEQ not make an attempt to contact interested and potentially impacted parties?

Response #9

1) No. 2) A copy of the permit was provided at the public meeting for review. In accordance with Regulation No. 8, Section 2.1.10(c), the final permitting decision shall be mailed to the applicant or permittee and those persons who submitted public comments as part of the record.

Comment #10

Request for Public Hearing.

Response #10

The Department concurs.

Comment #11

Outfall 001, 002 and SUM ammonia and nitrate limits.

Permittee has requested that the ammonia and nitrate concentration limits for Outfalls 001, 002 and SUM (final) to be revised in order to reflect the appropriate concentration limits.

The May 31, 2002 Permit, which was the subject of the appeal, included BAT effluent limitations based on 40 CFR 418.43 for ammonia and nitrate. The effluent limitations calculated were 138.96 lbs/day ammonia and 243.18 lbs/day nitrate (monthly average). Equivalent concentration limits of 10.4 mg/l (monthly average) and 31.9 mg/l (daily maximum) ammonia and 19.8 mg/l (monthly average) and 56.3 (daily maximum) nitrates were also calculated. The May 31, 2002 Permit used a water quality derived value of 18 mg/l (daily maximum) value for ammonia because that limit was more restrictive. The higher 31.9 mg/l value was used for the interim limit. The settlement of the appeal of the May 31, 2002 Permit included credits for loadings from stormwater, which increased the mass limits calculated under the effluent guidelines to 265.7 lbs/day ammonia and 405.02 lbs/day nitrate (monthly average). Using those values, the monthly average and daily maximum concentration limits for ammonia derived from the technology limits should be 17.3 mg/L and 52.8 mg/L respectively. The water quality based concentration limits for ammonia are 12 mg/L (monthly average) and 18 mg/L (daily maximum). Using the more restrictive limit, the water quality based concentration limits would apply and should have been included in the permit as the final limits. The nitrate monthly average and daily maximum concentration limitations derived from the technology limits should be 26.4 mg/L and 75.2 mg/L, respectively. There is no water

quality based limitation for nitrates, so the concentration limits derived from the technology limits should have been included in the permit as final limits.

The PAR provides for a three year compliance schedule for all more restrictive effluent limits. The mass effluent limits for Outfall 001 in the 1990 Permit (the current permit) are:

Ammonia (mass)	1852 lbs/day (monthly average)	3505 lbs/day (daily max)
Ammonia (conc)	Report (monthly average)	Report (daily max)
Nitrate (mass)	2043 lbs/day (monthly average)	4160 lbs/day (daily max)
Nitrate (conc)	Report (monthly average)	Report (daily max)

Pursuant to CAO No. 02-059 and the PAR, the above stated limits apply as interim limits for Outfall 001 for three years after the effective date of the permit. Please confirm that you agree that the interim ammonia and nitrate limits for Outfall 001 are as stated above.

The ammonia and nitrate limits for Outfall 002 in the 1990 Permit are "Report" for both concentration and mass limits. Accordingly, the interim ammonia and nitrate limits for Outfall 002 for both concentration and mass should be "Report". Please confirm that you agree that the interim ammonia and nitrate limits for Outfall 002 for both concentration and mass are "Report".

There is no Outfall SUM listed in the 1990 Permit. Accordingly, the ammonia and nitrate limits listed for Outfall SUM in the permit are more restrictive than the 1990 Permit, and the interim limits for ammonia and nitrate for both concentration and mass should be "Report." Please confirm that you agree that the interim ammonia and nitrate limits for Outfall SUM for both concentration and mass are "Report".

Response # 11

Staff agrees. Equivalent concentration limits of 10.4 mg/l (monthly average) and 31.9 mg/l (daily maximum) ammonia and 19.8 mg/l (monthly average) and 56.3 (daily maximum) nitrates were included in the drafted modification permit incorrectly. Equivalent concentration limits based on the flow of 1.845 MGD and the following formula should be as follows:

Equivalent Concentration limit = Mass limit (lbs/day) / (8.34 X 1.845 MGD)

Pollutant	Mass limits (lbs/day)		Concentration limits (mg/l)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Ammonia Nitrogen	265.7	811.84	17.3	52.8
Nitrate Nitrogen	405.02	1153.73	26.3	74.9

Therefore the interim concentration limits for ammonia and nitrate nitrogen will be corrected. Additionally, the final monthly average concentration limit for ammonia nitrogen will be corrected to 12 mg/l (Water Quality limit).

The permittee must comply with the PAR and CAO No. 02-059, which provides a three year compliance schedule for all more restrictive effluent limits.

Comment #12

Outfalls 002, 004, 005, 006 and 007 metals limits.

There should not be any effluent limitations for those metals at Outfalls 002, 004, 005, 006, and 007 that are subject to the hydrologic studies that are required by Section 1(f) of the PAR. The PAR provides that until the hydrologic study is completed and the permit reopened, the permit effluent limitations for all stormwater outfalls will be the same as those provided for Outfall 004 under the 1990 NPDES permit. The 1990 Permit does not include any metals limitations for Outfall 004. ADEQ may reopen the permit and add metals limitations after the hydrologic study is completed.

Response #12

The Department agrees that the PAR provides that until the evaluation of the background flow of the receiving stream for Outfalls 002, 004, 005, 006 and 007 (the "Hydrology Study") is completed and the permit is modified, the metals limits for Outfalls 002, 004, 005, 006 and 007 will be "REPORT". This has been provided through the three year interim metals limits for Outfalls 002, 004, 005, 006 and 007. The schedule of compliance for the Hydrology Study set out in Section B of Part I.B. of the Permit provides that the Hydrology Study must be completed within eighteen (18) months of the effective date of the Permit. Although it was premature to include final metals limits in the Permit, the Department will reopen the permit and modify the final metals limits after analysis of the results of the Hydrology Study. The schedule of compliance provides adequate time for the permit to be modified, and the new limits to become effective before the interim limits expire. Accordingly, no changes were made to the draft permit.

Comment #13

Outfalls 004, 005, 006 and 007 toxicity testing.

Section 1(g) of the Order and Agreement of the PAR provided that the toxicity testing on stormwater Outfalls 004, 005, 006 and 007 would be acute instead of the chronic. While this change was made in many respects, all of the changes to the monitoring requirements and monitoring frequencies applicable to acute biomonitoring were not included. In particular, the sample type should be "grab" and the monitoring frequency should be "quarterly" which are the appropriate references for acute biomonitoring.

Response #13

Staff does not agree. Paragraph 1(g) of PAR stay "The toxicity testing requirements for the storm water outfalls, Outfalls 002, 004, 005, 006, and 007 will be revised to provide for acute instead of chronic toxicity testing, and until such time as the watershed analysis provided for in paragraph (f)

above is complete and the permit modification resulting from such analysis is effective, the acute toxicity testing shall be a "monitor and report" requirement." A frequency of once/quarter and sample type of grab sampling were not specified in paragraph 1(g) of the PAR. A frequency of once/quarter in the fact sheet has been correct to once/month based on 40 CFR 122.63(a).

Comment #14

Transcript from tape of public hearing dated April 13, 2004 is as follows:

"My name is Marty Davis. I'm a resident of Union County and this property, creek crosses my property. At time the water is green. The top soil – you had told us earlier has killed fish. I'd like to know who could give me some assurance that if my cattle get in this creek will it be safe for them to drink it? And I'd also like to know what would need to be done so that some outside personnel could go in and monitor the discharges of these chemical plant and to make sure that things are being handled properly?"

Response #14

The Arkansas Department of Environmental Quality is responsible issuing permits to protect water quality. El Dorado Chemical Company (EDCC) must comply with all state and federal regulations regarding the protection of water of the state. ADEQ does not have authority to grant a third party permission to monitor the discharge of the facility . A Third party may make an official request from the facility to monitor the discharge point.

Permit number: AR0000752

AUTHORIZATION TO DISCHARGE 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.),

El Dorado Chemical Company
P. O. Box 231
El Dorado, AR 71731

is authorized to discharge from a facility located at

approximately 1 mile west of State Hwy. 7 Spur on North West Ave. in Sections 6 and 7, Township 17 South, Range 15 West in Union County, Arkansas.

Latitude: 33E 09' 55"; Longitude: 92E 24' 40"

to receiving waters named:

Outfalls 001, 002, 003, 004, 005, 006,007: an unnamed tributary of Flat Creek in Segment 2D of the Ouachita River Basin.
Outfalls 010 and 011: Ouachita River in Segment 2E of the Ouachita River.

The outfall is located at the following coordinates:
Outfall 001:Latitude : 33E 15' 32"; Longitude: 92E 41' 12"
Outfall 002:Latitude : 33E 15' 48"; Longitude: 92E 41' 24"
Outfall 003:Latitude : 33E 15' 38"; Longitude: 92E 41' 07"
Outfall 004:Latitude : 33E 15' 42"; Longitude: 92E 41' 27"
Outfall 005:Latitude : 33E 15' 42"; Longitude: 92E 41' 17"
Outfall 006:Latitude : 33E 16' 03"; Longitude: 92E 41' 02"
Outfall 007:Latitude : 33E 16' 11"; Longitude: 92E 41' 16"
Outfall 010:Latitude : 33E 17' 22"; Longitude: 92E 28' 05"
Outfall 011:Latitude : 33E 19' 03"; Longitude: 92E 31' 15"

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

This permit became effective on July 1, 2002

This modified permit shall become effective on June 1, 2004

This permit and the authorization to discharge shall expire at midnight, June 30, 2007

Signed this 30th day of April, 2004

Martin Maner, P.E.
Chief, Water Division
Arkansas Department of Environmental Quality

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001-treated process and contaminated storm water**

During the period beginning on the effective date and lasting through three(3) years from the effective date of the permit, the permittee is authorized to discharge from outfall serial number 001. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day)		Other Units (specify)		Measurement	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Continuous	Record
Total Suspended Solids(TSS)	462	692	30 mg/l	45 mg/l	Three/week	24-hr composite
Ammonia Nitrogen as N	265.7	811.84	17.3 mg/l	52.8 mg/l	Three/week	24-hr composite
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l	Three/week	24-hr composite
Dissolved Oxygen (DO)*						
(May-October)	N/A	N/A	4.0 mg/l,Min	N/A	Three/week	Grab
(November-April)	N/A	N/A	5.0 mg/l,Min	N/A	Three/week	Grab
Copper, Total Recov++	Report	Report	Report µg/l	Report µg/l	Once/month	24-hr composite
Selenium, Total Recov++	Report	Report	Report µg/l	Report µg/l	Once/month	24-hr composite
Zinc, Total Recov++	Report	Report	Report µg/l	Report µg/l	Once/month	24-hr composite
Sulfate(SO4)	Report	Report	Report mg/l	Report mg/l	Once/month	24-hr composite
Chlorides(Cl)	Report	Report	Report mg/l	Report mg/l	Once/month	24-hr composite
Total Dissolved Solids(TDS)	Report	Report	Report mg/l	Report mg/l	Once/month	24-hr composite
Temperature +++	N/A	N/A	N/A	86 E F	Three/week	In-Situ
			Minimum	Maximum		
pH	N/A	N/A	6 s.u.	9 s.u.	Continuous	Grab

		Daily Average Minimum	7-day Minimum		
Whole Effluent Lethality					
(7-day NOEC)[1,2]	22414	Report%	Report%	Once/month	24-hr composite

Pimephales promelas (Chronic)[2]	7-day Average		
Pass/Fail Growth (7-day NOEC) **TGP6C**	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Pass/Fail Lethality (7-day NOEC) **TLP6C**	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Survival (7-day NOEC) **TOP6C**	Report %	Once/month	24-hr composite
Coefficient of Variation **TQP6C**	Report %	Once/month	24-hr composite
Growth (7-day NOEC) **TPP6C**	Report %	Once/month	24-hr composite

Ceriodaphnia dubia (Chronic)[2]	7-day Average		
Pass/Fail Reproduction (7-day NOEC) **TGP3B**	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Pass/Fail Lethality (7-day NOEC) **TLP3B**	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Survival (7-day NOEC) **TOP3B**	Report %	Once/month	24-hr composite
Coefficient of Variation **TQP3B**	Report %	Once/month	24-hr composite
Reproduction(7-day NOEC) **TPP3B**	Report %	Once/month	24-hr composite

[1] The daily average lethality and 7-day minimum lethality (7-day NOEC) value shall not be less than 100% effluent. 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.

[2] See Part III, Condition No. 3.

\+ Report monthly average and daily maximum as MGD.

++ See Condition No. 6 of Part III.

+++ Instantaneous Maximum.

* Instantaneous Minimum. Dissolved Oxygen must be equal or exceed the permit limit at all times.

** See condition No. 5 of Part III.

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.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the outfall 001, following the final treatment unit.

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001-treated process and contaminated storm water**

During the period beginning three(3) years from the effective date of the permit and lasting through date of expiration, the permittee is authorized to discharge from outfall serial number 001. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day)		Other Units (specify)		Measurement	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Continuous	Record
Total Suspended Solids(TSS)	462	692	30 mg/l	45 mg/l	Three/week	24-hr composite
Ammonia Nitrogen as N	265.7	811.84	12 mg/l	18 mg/l	Three/week	24-hr composite
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l	Three/week	24-he composite
Dissolved Oxygen (DO)*						
(May-October)	N/A	N/A	4.0 mg/l,Min	N/A	Three/week	Grab
(November-April)	N/A	N/A	5.0 mg/l,Min	N/A	Three/week	Grab
Copper, Total Recov++	0.19	0.38	12.2 µg/l	24.48 µg/l	Once/month	24-hr composite
Selenium, Total Recov++	0.09	0.17	5.58 µg/l	11.2 µg/l	Once/month	24-hr composite
Zinc, Total Recov++	1.78	3.57	115.62 µg/l	231.99 µg/l	Once/month	24-hr composite
Sulfate	Report	Report	81 mg/l	122 mg/l	Once/month	24-hr composite
Chlorides(Cl)	Report	Report	38 mg/l	57 mg/l	Once/month	24-hr composite
Total Dissolved Solids(TDS)	Report	Report	237 mg/l	356 mg/l	Once/month	24-hr composite
Temperature +++	N/A	N/A	N/A	86 E F	Three/week	In-Situ
			Minimum	Maximum		
pH	N/A	N/A	6 s.u.	9 s.u.	Continuous	Grab

		Daily Average Minimum	7-day Minimum		
Whole Effluent Lethality					
(7-day NOEC)[1,2]	22414	not <100%	not <100%	Once/month	24-hr composite

Pimephales promelas (Chronic)[2]	7-day Average		
Pass/Fail Growth (7-day NOEC) **TGP6C**	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Pass/Fail Lethality (7-day NOEC) **TLP6C**	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Survival (7-day NOEC) **TOP6C**	Report %	Once/month	24-hr composite
Coefficient of Variation **TQP6C**	Report %	Once/month	24-hr composite
Growth (7-day NOEC) **TPP6C**	Report %	Once/month	24-hr composite

Ceriodaphnia dubia (Chronic)[2]	7-day Average		
Pass/Fail Reproduction (7-day NOEC) **TGP3B**	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Pass/Fail Lethality (7-day NOEC) **TLP3B**	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Survival (7-day NOEC) **TOP3B**	Report %	Once/month	24-hr composite
Coefficient of Variation **TQP3B**	Report %	Once/month	24-hr composite
Reproduction(7-day NOEC) **TPP3B**	Report %	Once/month	24-hr composite

1 The daily average lethality and 7-day minimum lethality (7-day NOEC) value shall not be less than 100% effluent. 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.

2 See Part III, Condition No. 3.

\+ Report monthly average and daily maximum as MGD.

++ See Condition No. 6 of Part III.

+++ Instantaneous Maximum.

* Instantaneous Minimum. Dissolved Oxygen must be equal or exceed the permit limit at all times.

** See condition No. 5 of Part III.

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.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the outfall 001, following the final treatment unit.

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 010-treated process and contaminated storm water++

During the period beginning on the effective date of the permit and lasting through date of expiration, the permittee is authorized to discharge from outfall serial number 010. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day)		Other Units (specify)		Measurement Frequency	Sample Type
	Monthly Avg	Daily Max	Monthly Avg	Daily Max		
Flow (MGD)+	N/A	N/A	N/A	2 MGD	Continuous	Record
Total Suspended Solids(TSS)	Report	Report	30 mg/l	45 mg/l	Three/week	24-hr composite
Ammonia Nitrogen as N	265.7	811.84	Report mg/l	Report mg/l	Three/week	24-hr composite
Nitrate Nitrogen as N	405.02	1153.73	Report mg/l	Report mg/l	Three/week	24-hr composite
	30-day Average Minimum		48-Hr Minimum			
Whole Effluent Lethality (48-hr NOEC)[1,2] 22414	not < 17%		not < 17%		Once/quarter	24-hr composite
Pimephales promelas (Acute)[2]		48-Hr Minimum				
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**		Report (Pass=0/Fail=1)			Once/quarter	24-hr composite
Survival (48-Hr NOEC) **TOM6C**		Report%			Once/quarter	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM6C**		Report %			Once/quarter	24-hr composite
Daphnia pulex (Acute)[2]		48-Hr Minimum				
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**		Report (Pass=0/Fail=1)			Once/quarter	24-hr composite
Survival (48-Hr NOEC) **TOM3D**		Report %			Once/quarter	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM3D**		Report %			Once/quarter	24-hr composite
			Minimum	Maximum		
pH	N/A	N/A	6 s.u.	9 s.u.	Daily	Grab

\+ Report monthly average and daily maximum as MGD.

++ See Condition No. 5 of Part III.

1 The daily average minimum lethality and 48-hr minimum lethality (48-Hr NOEC) value shall not be less than 17% effluent. 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.

2 See Part III, Condition No. 4.

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.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the outfall 010, following the final treatment unit.

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 011-treated process and contaminated storm water++

During the period beginning on the effective date of the permit and lasting through date of expiration, the permittee is authorized to discharge from outfall serial number 011. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day)		Other Units (specify)		Measurement Frequency	Sample Type
	Monthly Avg	Daily Max	Monthly Avg	Daily Max		
Flow (MGD)+	N/A	N/A	N/A	2 MGD	Continuous	Record
Total Suspended Solids(TSS)	Report	Report	30 mg/l	45 mg/l	Three/week	24-hr composite
Ammonia Nitrogen as N	265.7	811.84	Report mg/l	Report mg/l	Three/week	24-hr composite
Nitrate Nitrogen as N	405.02	1153.73	Report mg/l	Report mg/l	Three/week	24-hr composite
	30-day Average Minimum0		48-Hr Minimum			
Whole Effluent Lethality (48-hr NOEC)[1,2] 22414	not < 17%		not < 17%		Once/quarter	24-hr composite
Pimephales promelas (Acute)[2]		48-Hr Minimum				
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**		Report (Pass=0/Fail=1)			Once/quarter	24-hr composite
Survival (48-Hr NOEC) **TOM6C**		Report%			Once/quarter	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM6C**		Report %			Once/quarter	24-hr composite
Daphnia pulex (Acute)[2]		48-Hr Minimum				
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**		Report (Pass=0/Fail=1)			Once/quarter	24-hr composite
Survival (48-Hr NOEC) **TOM3D**		Report%			Once/quarter	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM3D**		Report %			Once/quarter	24-hr composite
			Minimum	Maximum		
pH	N/A	N/A	6 s.u.	9 s.u.	Daily	Grab

\+ Report monthly average and daily maximum as MGD.

++ See Condition No. 5 of Part III.

1 The daily average minimum lethality and 48-hr minimum lethality (48-Hr NOEC) value shall not be less than 17% effluent. 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.

2 See Part III, Condition No. 4.

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.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the outfall 011, following the final treatment unit.

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 002-overflow pond (process water and storm water***)

During the period beginning on the effective date and lasting through three(3) years from the effective date of the permit, the permittee is authorized to discharge from outfall serial number 002. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day)		Other Units (specify)		Measurement	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency**	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Daily	Estimate
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l	Daily	Grab
Ammonia Nitrogen as N	265.7	811.84	17.3 mg/l	52.8 mg/l	Daily	Grab
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l	Daily	Grab
Copper, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Lead, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Selenium, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Zinc, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l	Daily	Grab
Sulfate (SO4)	N/A	N/A	Report mg/l	Report mg/l	Once/month	Grab
Total Dissolved Solids(TDS)	N/A	N/A	Report mg/l	Report mg/l	Once/month	Grab
			Minimum	Maximum		
pH	N/A	N/A	6 s.u.	9 s.u.	Daily	Grab
Acute Biomonitoring*	N/A	N/A	N/A	N/A	Once/month	24-hr composite
Pimephales promelas (Acute)		48-Hr Minimum				
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**		Report (Pass=0/Fail=1)			Once/month	24-hr composite
Survival (48-Hr NOEC) **TOM6C**		Report%			Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM6C**		Report %			Once/month	24-hr composite
Daphnia pulex (Acute)		48-Hr Minimum				
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**		Report (Pass=0/Fail=1)			Once/month	24-hr composite
Survival (48-Hr NOEC) **TOM3D**		Report%			Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM3D**		Report %			Once/month	24-hr composite

* See Part III, Condition No. 15.
\+ Report monthly average and daily maximum as MGD.
++ See Condition No. 6 of Part III.
*** See condition No. 5 of Part III. Additionally See Condition No. 8 of Part III.
** Samples are to be taken within 24 hours of the first discharge.

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.
Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the outfall 002 before mixing with other waters.

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 002-overflow pond (process water and storm water***)

During the period beginning on three(3) years from the effective date of the permit and lasting through date of expiration, the permittee is authorized to discharge from outfall serial number 002. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day)		Other Units (specify)		Measurement	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency**	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Daily	Estimate
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l	Daily	Grab
Ammonia Nitrogen as N	265.7	811.84	12 mg/l	18 mg/l	Daily	Grab
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l	Daily	Grab
Copper, Total Recov++	N/A	N/A	12.2 µg/l	24.48 µg/l	Once/month	24-hr composite
Lead, Total Recov++	N/A	N/A	3.8 µg/l	7.62 µg/l	Once/month	24-hr composite
Selenium, Total Recov++	N/A	N/A	5.58 µg/l	11.2 µg/l	Once/month	24-hr composite
Zinc, Total Recov++	N/A	N/A	115.62 µg/l	231.99 µg/l	Once/month	24-hr composite
Sulfate (So4)	N/A	N/A	250 mg/l	375 mg/l	Once/month	Grab
Total Dissolved Solids(TDS)	N/A	N/A	500 mg/l	750 mg/l	Once/month	Grab
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l	Daily	Grab
			Minimum	Maximum		
pH	N/A	N/A	6 s.u.	9 s.u.	Daily	Grab
Acute Biomonitoring*	N/A	N/A	N/A	N/A	Once/month	24-hr composite
Pimephales promelas (Acute)			48-Hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) **TOM6C**			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM6C**			Report %		Once/month	24-hr composite
Daphnia pulex (Acute)			48-Hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) **TOM3D**			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM3D**			Report %		Once/month	24-hr composite

* See Part III, Condition No. 15.
\+ Report monthly average and daily maximum as MGD.
++ See Condition No. 6 of Part III.
*** See condition No. 5 of Part III. Additionally, See Condition No. 8 of Part III.
** Samples are to be taken within 24 hours of the first discharge.

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.
Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the outfall 002 before mixing with other waters.

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 003-treated domestic wastewater

During the period beginning on the effective date and lasting through three(3) years from the effective date of the permit, the permittee is authorized to discharge from outfall serial number 003. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day)		Other Units (specify)		Measurement	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Once/week	Instantaneous
Carbonaceous Biochemical Oxygen Demand (CBOD5)	3.5	5.4	25 mg/l	38 mg/l	Once/quarter	Grab
Total Suspended Solids(TSS)	4.3	6.4	30 mg/l	45 mg/l	Once/quarter	Grab
Ammonia Nitrogen as NH3-N						
(May-October)	1.4	2.1	10 mg/l	15 mg/l	Once/quarter	Grab
(November-December)	2.1	3.3	15 mg/l	23 mg/l	Once/quarter	Grab
Fecal Coliform Bacteria*	N/A	N/A	1000	2000	Once/quarter	Grab
pH	N/A	N/A	Minimum 6 s.u.	Maximum 9 s.u.	Once/week	Grab

\+ Report monthly average and daily maximum as MGD.
* See condition No. 2 of Part III

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.
Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the outfall 003, following the final treatment unit.

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 003-treated domestic wastewater

During the period beginning on three years from effective date and lasting through date of expiration, the permittee is authorized to discharge from outfall serial number 003. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day)		Other Units (specify)		Measurement	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Once/week	Instantaneous
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1.4	2.1	10 mg/l	15 mg/l	Once/quarter	Grab
Total Suspended Solids(TSS)	2.1	3.3	15 mg/l	23 mg/l	Once/quarter	Grab
Ammonia Nitrogen as NH3-N						
(May-October)	0.7	1.1	5 mg/l	7.5 mg/l	Once/quarter	Grab
(November-December)	1.4	2.1	10 mg/l	15 mg/l	Once/quarter	Grab
Fecal Coliform Bacteria*	N/A	N/A	1000	2000	Once/quarter	Grab
pH	N/A	N/A	Minimum 6 s.u.	Maximum 9 s.u.	Once/week	Grab

\+ Report monthly average and daily maximum as MGD.
* See condition No. 2 of Part III

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.
Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the outfall 003 following the final treatment unit.

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 004- Contaminated storm water**

During the period beginning on the effective date and lasting through three(3) years from the effective date of the permit, the permittee is authorized to discharge from outfall serial number 004. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day)		Other Units (specify)		Measurement	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency*	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Daily	Estimate
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Ammonia Nitrogen as NH3-N	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l	Weekly	Grab
Lead, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Zinc, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Total Dissolved Solids(TDS)	N/A	N/A	Report mg/l	Report mg/l	Once/month	Grab
			Minimum	Maximum		
pH	N/A	N/A	6 s.u.	9 s.u.	Daily	Grab
Acute Biomonitoring[1]	N/A	N/A	N/A	N/A	Once/month	24-hr composite
Pimephales promelas (Acute)			48-Hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) **TOM6C**			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM6C**			Report %		Once/month	24-hr composite
Daphnia pulex (Acute)			48-Hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) **TOM3D**			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM3D**			Report %		Once/month	24-hr composite

1 See Part III, Condition No. 4.
\+ Report monthly average and daily maximum as MGD.
++ See Condition No. 6 of Part III.
* Samples are to be taken within 24 hours of the first discharge.
** See Condition No. 5 of Part III.

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.
Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the outfall 004.

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 004- Contaminated storm water**

During the period beginning on three(3) years from the effective date of the permit and lasting through date of expiration, the permittee is authorized to discharge from outfall serial number 004. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day)		Other Units (specify)		Measurement	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency*	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Daily	Estimate
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Ammonia Nitrogen as NH3-N	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l	Weekly	Grab
Lead, Total Recov++	N/A	N/A	3.80 µg/l	7.62 µg/l	Once/month	24-hr composite
Zinc, Total Recov++	N/A	N/A	115.62 µg/l	231.99 µg/l	Once/month	24-hr composite
Total Dissolved Solids(TDS)	N/A	N/A	291 mg/l	436.5 mg/l	Once/month	Grab
			Minimum	Maximum		
pH	N/A	N/A	6 s.u.	9 s.u.	Daily	Grab
Acute Biomonitoring[1]	N/A	N/A	N/A	N/A	Once/month	24-hr composite
Pimephales promelas (Acute)			48-Hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) **TOM6C**			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM6C**			Report %		Once/month	24-hr composite
Daphnia pulex (Acute)			48-Hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) **TOM3D**			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM3D**			Report %		Once/month	24-hr composite

1 See Part III, Condition No. 4.
\+ Report monthly average and daily maximum as MGD.
++ See Condition No. 6 of Part III.
* Samples are to be taken within 24 hours of the first discharge.
** See Condition No. 5 of Part III.

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.
Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the outfall 004.

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALLS 005,006,007 - Contaminated storm water**

During the period beginning on the effective date and lasting through three(3) years from the effective date of the permit, the permittee is authorized to discharge from outfalls serial number 005, 006,007. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day)		Other Units (specify)		Measurement	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency*	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Daily	Estimate
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Ammonia Nitrogen as NH3-N	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l	Weekly	Grab
Cadmium, Total Recov++,***	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Lead, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Zinc, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Total Dissolved Solids(TDS)	N/A	N/A	Report mg/l	Report mg/l	Once/month	Grab
			Minimum	Maximum		
pH	N/A	N/A	6 s.u.	9 s.u.	Daily	Grab
Acute Biomonitoring[1]	N/A	N/A	N/A	N/A	Once/month	24-hr composite
Pimephales promelas (Acute)			48-Hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) **TOM6C**			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM6C**			Report %		Once/month	24-hr composite
Daphnia pulex (Acute)			48-Hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) **TOM3D**			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM3D**			Report %		Once/month	24-hr composite

1 See Part III, Condition No. 4.
\+ Report monthly average and daily maximum as MGD.
++ See Condition No. 6 of Part III.
* Samples are to be taken within 24 hours of the first discharge.
** See Condition No. 5 of Part III.
*** Testing for Cadmium is required only at Outfall 006.

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.
Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the outfalls 005,006,007.

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALLS 005,006,007- Contaminated storm water**

During the period beginning on three(3) years from the effective date of the permit and lasting through date of expiration, the permittee is authorized to discharge from outfalls serial number 005,006,007. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day)		Other Units (specify)		Measurement	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency*	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Daily	Estimate
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Ammonia Nitrogen as NH3-N	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Cadmium, Total Recov++, **	N/A	N/A	2.03 µg/l	4.08 µg/l	Once/month	24-hr composite
Lead, Total Recov++	N/A	N/A	3.80 µg/l	7.62 µg/l	Once/month	24-hr composite
Zinc, Total Recov++	N/A	N/A	115.62 µg/l	231.99 µg/l	Once/month	24-hr composite
Total Dissolved Solids(TDS)	N/A	N/A	291 mg/l	436.5 mg/l	Once/month	Grab
			Minimum	Maximum		
pH	N/A	N/A	6 s.u.	9 s.u.	Daily	Grab
Acute Biomonitoring[1]	N/A	N/A	N/A	N/A	Once/month	24-hr composite
Pimephales promelas (Acute)			48-Hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) **TOM6C**			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM6C**			Report %		Once/month	24-hr composite
Daphnia pulex (Acute)			48-Hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) **TOM3D**			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC)**TQM3D**			Report %		Once/month	24-hr composite

1 See Part III, Condition No. 4.
\+ Report monthly average and daily maximum as MGD.
++ See Condition No. 7 of Part III.
* Samples are to be taken within 24 hours of the first discharge.
** See Condition No. 6 of Part III.
*** Testing for Cadmium is required only at Outfall 006.

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.
Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the outfalls 005,006,007.

PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL SUM (Outfall 001 + Outfall 002)

During the period beginning on three years from effective date and lasting through date of expiration, the permittee is authorized to discharge from outfall sum. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic**	**Discharge Limitations**				**Monitoring Requirements ***	
	Mass (lbs/day)		Other Units (specify)		Measurement	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Daily	Calculated
Ammonia Nitrogen as N	265.7	811.84	12 mg/l	18 mg/l	Daily	Calculated
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l	Daily	Calculated

\+ Report monthly average and daily maximum as MGD.
* When outfall 002 has a discharge.
** See Condition No. 8 of Part III.

SECTION B. SCHEDULE OF COMPLIANCE

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

Outfalls 001, 002, 003, 004, 005, 006, and 007:

1. Compliance with interim limitations is required on the effective date of the permit.
2. The permittee shall achieve compliance with final limitations in accordance with the following:

Activity	Compliance Date from Effective date of the modified permit
1. Submit Progress Report	One Year
2. Submit Progress Report	Two Years
3. Achieve final limitations	Three Years

3. Consent Administrative Order No. 02-059 continues to remain in effect and provides the permittee three(3) years from the effective date of this permit to comply with technology-based limits contained herein.

Outfalls 010 or 011 (Combined flows of Outfalls 001, 002, and 004):

1. Compliance with final limitations is required on the effective date of the permit. Permittee must notify ADEQ in writing ten days after operation of outfall 010 or 011 in order to terminate outfalls 001, 002 and 004.

Outfalls 002, 004, 005, 006, and 007 - Item #12 in Part III

1. Within 90 days of permit issuance, the permittee shall submit a protocol for the evaluation of the background flow of the receiving streams for these outfalls and the dilution of the effluent in the receiving stream as a result of a storm event.
2. The evaluation shall be completed within 18 months of permit issuance.
3. Until such time as the permit is reopened and modified, the effluent limits and toxicity testing requirements in this permit remain in effect.

Outfall 001 - Item #1 in Part III

1. Within 90 days of permit issuance, the permittee shall submit a protocol for the evaluation of the temperature regime of the fifty (50) acre equalization basin for the purpose of determining if the elevation of the temperatures in the equalization basin are related to ambient sources of heat resulting from summertime conditions.
2. The evaluation shall be completed within 18 months of permit issuance.

PART III
OTHER CONDITIONS

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

2. For Fecal Coliform Bacteria (FCB) report the monthly average as a 30-day geometric mean and the daily maximum as a 7-day geometric mean in colonies per 100 ml.

3. **WHOLE EFFLUENT TOXICITY LIMITS (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 sectio

APPLICABLE TO FINAL OUTFALL(S): **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' the surviving females in the control produce three broods or at the end of eight days, whichev comes first.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and grow test, Method 1000.0, EPA/600/4-91/002, or the most recent update thereof. A minimum of fi replicates with eight (8) organisms per replicate must be used in the control and in each efflue 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. The conditions of this item are effective beginning with the effective date of the WET limit. When the testing frequency stated above is less than monthly and the effluent fails

the survival endpoint at or below the critical dilution, the permittee shall be considered in violation of this permit limit and the frequency for the affected species will increase to monthly until such time compliance with the Lethal No Observed Effect Concentration (NOEC) effluent limitation is demonstrated for a period of three consecutive months, at which time the permittee may return to the testing frequency stated in PART I of this permit. During the period the permittee is out of compliance, test results shall be reported on the DMR for that reporting period.

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

e. 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. 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:

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

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

3. 60% of the surviving control females must produce three broods.

4. 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.

5. 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 of the fathead minnow test.

6. 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 in 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.

If the conditions of Test Acceptability are met in Item 2.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 3 below.

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.

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 where the receiving stream is classified as intermittent or where the receiving stream has no flow 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 2.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 2.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 3.a 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 3 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.

3. 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.3 of this permit. The permittee shall sub mit 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 Department review.

b. The permittee shall report the Whole Effluent Lethality values for the 30-Day Average Minimum and the 7-Day Minimum under Parameter No. 22414 on the DMR for that reporting period in accordance with PART II.D.4 of this permit.

If more than one valid test for a species was performed during the reporting period, the test NOECs will be averaged arithmetically and reported as the DAILY AVERAGE MINIMUM NOEC for that reporting period.

If more than one species is tested during the reporting period, the permittee shall report the lowest 30-Day Average Minimum NOEC and the lowest 7-Day Minimum NOEC for Whole Effluent Lethality.

A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit. 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 the valid toxicity test on the 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 No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP6C.

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

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

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

(E) Report the highest (critical dilution or control) Coefficient of Variation, 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) Report the NOEC value for survival, Parameter No. TOP3B.
(C) Report the NOEC value for reproduction, Parameter No. TPP3B.

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

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

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

1. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL: **010 or 011**

CRITICAL DILUTION (%): **17**

EFFLUENT DILUTION SERIES (%): **7, 10, 13, 17, and 23**

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS:40 CFR Part 136

Daphnia pulex acute static renewal 48-hour definitive toxicity test using EPA/600/4-90/027F, or the latest update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

Pimephales promelas (fathead minnow) acute static renewal 48-hour definitive toxicity test using EPA/600/4-90/027F, or the latest update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

b. The NOEC (No Observed Effect Concentration) is defined as the greatest effluent dilution at and below which lethality that is statistically different from the control (0% effluent) at the 95% confidence level does not occur.

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 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 4 of this section and submitted with the period discharge monitoring report (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 5 of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests.

iii. 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 5 of this section when any two of three consecutive monthly toxicity tests exhibit significant lethal effects at or below the critical dilution. A TRE may be also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests.

3. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

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

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

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

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

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

For the Daphnia pulex survival test and the fathead minnow survival test, the statistical analyses used to determine if there is a statistically significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA/600/4-90/027F or the most recent update thereof.

If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 90% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report an NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.

c. Dilution Water

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

(A) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and
(B) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

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

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

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 below; and
(D) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

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

ii. The permittee shall collect a second composite sample for use during the 24-hour renewal of each dilution concentration the for both tests. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to 4 degrees Centigrade during collection, shipping, and/or storage.

iii. 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.

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. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 4 of this section.

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.

4. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this Part in accordance with the Report Preparation Section of EPA/600/4-90/027F, 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.3 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 report the following results of each valid toxicity test on DMR for that reporting period in accordance with PART II.D.4 of this permit. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. Pimephales promelas (fathead minnow)

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

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

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

ii. Daphnia pulex

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

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

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

5. TOXICITY REDUCTION EVALUATION (TRE)

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

i. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA-600/6-91/003) or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee

shall perform multiple identifications and follow the methods specified in the documents "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081), as appropriate.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (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 24 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;

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

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

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

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

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

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

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

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

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

5. **Storm Water Pollution Prevention Plan Requirements**

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:

i. identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges from your facility;

ii. describe and ensure implementation of practices which you will use to reduce the pollutants in storm water discharges from the facility; and

iii. assure compliance with the terms and conditions of this permit.

a. Contents of Plan

i. Pollution Prevention Team

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.

ii. Site Description

Your SWPPP must include the following:

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

(2) *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;

(3) 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 Part 5.a.iv and where significant materials are exposed to precipitation;

(e) location where major spills or leaks identified under Part 5.a.v 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).

iii. **Receiving Waters and Wetlands**

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 Aspecial aquatic sites@ that may receive discharges from your facility.

iv. Summary of Potential Pollutant Source

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:

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

(2) *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.

v. Spills and Leaks

(1) 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.

(2) 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.

vi. Sampling Data

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.

vii. Storm Water Controls

(1) *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 Part 5.a.ii should have a BMP(s) identified for the area=s 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:

(a) the quantity and nature of the pollutants, and their potential to impact the water quality of receiving waters;

(b) 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.);

(c) 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.)

(2) 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 Part 5.a.vii.(1), 11.3.ii.(4)(c), 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 encourage 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.

(3) Non-Structural BMPs

(a) *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.

(b) *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.

(c) *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.

(d) *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 exiting 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.

(e) *Routine Facility Inspections:* In addition to or as part of the comprehensive site evaluation required under Part 5.f, 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 in implementation of your SWPPP you find as soon as practicable, but not later than within 14 days 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.

(f) *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.

(4) Structural BMPs

(a) *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.

(b) *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 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.

(c) *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).

(5) Other Controls

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).

b. Maintenance

All BMPs you identify in your SWPPP must be maintained in effective operating condition. If site inspections required by Part 5.a.vii.(3)(e) 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.).

c. Non-Storm Water Discharges

Certification of Non-Storm Water Discharges

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 V.I.H 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.

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:

(1) reason(s) why certification was not possible;
(2) the procedure of any test attempted;
(3) the results of such test or other relevant observations; and
(4) potential sources of non-storm water discharges to the storm sewer.
(5) 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.

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

Certain sources of non-storm water are allowable under this permit. In order for these discharges to be allowed, your SWPPP must include:

i. identification of each allowable non-storm water source;

ii. the location where it is likely to be discharged; and

iii. descriptions of appropriate BMPs for each source.

iv. 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.

v. 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.

e. Applicable State or Local Plans

Your SWPPP must be consistent (and updated as necessary to remain consistent) with applicable State and/or local storm water, waste disposal, sanitary sewer or septic system regulations to the extent these apply to your facility and are more stringent than the requirements of this permit.

f. Comprehensive Site Compliance Evaluation

i. Frequency and Inspectors

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.

ii. Scope of the Compliance Evaluation

Your inspections must include all areas where industrial materials or activities are exposed to storm water, as identified in Part 5.a.iv, 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.

iii. Follow-up Actions

Based on the results of the inspections, you must modify your SWPPP as necessary (e.g., show additional controls on map required by Part 5.a.v; revise description of controls required by Part 5.a.vii.(1), 11.3.ii.(4)(c) to include additional or modified BMPs designed to correct 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.

iv. Compliance Evaluation Report

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; 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 2, Section C (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 2, Section D (Reporting Requirements) of this permit.

v. Credit As a Routine Facility Inspection

Where compliance evaluation schedules overlap with inspections required under Part 5.a.vii.(3)(e), your annual compliance evaluation may also be used as one of the Part 5.a.vii.(3)(e), routine inspections.

g. Maintaining Updated SWPPP

You must amend the storm water pollution prevention plan whenever:

i. 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;

ii. 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 Part 5.a.iv, or is otherwise not achieving the general objectives of controlling pollutants in discharges from your facility.

h. Signature, plan Review and Making Plans Available

You must sign your SWPPP in accordance with Part 2, Section D.11, and retain the plan on-site at the facility covered by this permit (see Part 2, Section C.7 for records retention requirements).

i. 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.

ii. 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.

iii. You must make the SWPPP available to the USFWS or NMFS upon request.

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

Potential pollutant sources for which you have reporting requirements under EPCRA 313 must be identified in your summary of potential pollutant sources as per Part 5.a.iv. Note this additional requirement only applies to you if you are subject to reporting requirements under EPCRA 313.

6. If any individual analytical test results 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	220.2	10
Cadmium	213.2	1
Lead	239.2	5
Nickel	200.7	40
Selenium	270.2	5
Silver	272.2	2
Zinc	200.7	20

The permittee may develop a matrix specific method detection limit (MDL) in accordance with Appendix B of 40 CFR Part 136. For any pollutant for which the permittee determines a site specific MDL, the permittee shall send to ADEQ, NPDES Permits Branch, a report containing QA/QC

documentation, analytical results, and calculations necessary to demonstrate that a site specific MDL was correctly calculated. A site specific minimum quantification level (MQL) shall be determined in accordance with the following calculation:

MQL = 3.3 X MDL

Upon written approval by 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.

If the permittee can demonstrate through more sensitive analyses that the discharge does not have the potential to exceed state water quality standards-based effluent limits for the above pollutants, the more stringent state water quality numerical standard-based effluent limit(s), monitoring requirements, and the schedule of compliance will be deleted in the final permit. Such new information must be submitted during the first two years from the effective date of the permit.

7. All samples must be composite samples. If use of an automatic sampler is infeasible the minimum of four grab samples collected 10 A.M., 12 P.M., 2 P.M., and 4 P.M. during a normal business day and composite according to flow.

8. When outfall 002 has a discharge, Ammonia as N and Nitrate as N discharge from outfall 002 combined with Ammonia as N and Nitrate as N discharge through outfall 001 should not exceed Ammonia as N and Nitrate as N limits at outfall sum (Page 13 of Part IA).

9. If the sampling results at outfall 001 for sulfate, chloride, TDS, and pH and at outfall 002 and WET limits for Outfall 010 or 011 are below permit limitations during the first two years with at least 24 sets of data, the permittee shall certify this information in writing to ADEQ, so monitoring and reporting requirements for those parameters can be reduced upon written authorization by the Department without a major modification. Modification of the permit will not violate the anti-backsliding (40 CFR Part 122.44 (l)(i)(B)). If a permit violation occurs, the monitoring frequency will revert back to the frequency stated in this permit.

10. When a permittee continuously monitors pH pursuant to an option or requirement of the permit, the pH shall be monitored, calculated, and reported as an hourly average of the pH measurements taken each minute. Hourly averages outside of the permitted range are violations and the number of violations shall be reported as excursions in accordance with Part II.C.5 of this permit.

11. When a permittee continuously monitors D.O. pursuant to an option or requirement of the permit, the D.O. shall be monitored, calculated, and reported as an hourly average as an hourly average of all of the D.O. measurements taken each hour. Hourly averages below the permitted minimum D.O. level are violations and the number of violations shall be reported as excursions in accordance with Part II.C.5 of this permit.

12. The permittee shall perform an evaluation of the background flow of the receiving streams for the storm water outfalls (Outfalls 002, 004, 005, 006, and 007) and the dilution of effluent in the receiving stream as a result of a storm event. This permit may be reopened and modified as a result of this study.

13. The sampling frequency for dissolved minerals at all outfalls shall be reduced automatically to once per quarter after 24 consecutive months with no violations. If a violation occurs after the frequency has been reduced, the monitoring frequency will then automatically increase back to once per month. However, if a violation of the dissolved minerals effluent limitations occurs at Outfall 001 while the permittee is monitoring once per month, the frequency shall than be increased to three times per week.

14. The permittee shall perform an evaluation of the temperature regime of the fifty (50) acre equalization basin for the purpose of determining if the elevation of temperatures in the equalization basin are related to ambient sources of heat resulting from summertime conditions. This permit may be modified to remove the temperature limitation for Outfall 001 if the evaluation documents that the elevation of water temperatures in the fifty (50) acre equalization basin are related to ambient sources of heat under summertime conditions.

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

1. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALLS: **002, 004, 005, 006, and 007**

CRITICAL DILUTION (%): **100%** (all outfalls in this condition)

EFFLUENT DILUTION SERIES (%): **32%, 42%, 56%, 75%, 100%**

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS:40 CFR Part 136

Daphnia pulex acute static renewal 48-hour definitive toxicity test using EPA/600/4-90/027F, or the latest update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

Pimephales promelas (fathead minnow) acute static renewal 48-hour definitive toxicity test using EPA/600/4-90/027F, or the latest update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

b. The NOEC (No Observed Effect Concentration) is defined as the greatest effluent dilution above which lethality that is statistically different from the control (0%effluent) at the 95% confidence level does not occur.

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 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 4 of this section and submitted with the period discharge monitoring report (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 5 of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests.

iii. 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.

3. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

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

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

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

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

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

For the Daphnia pulex survival test and the fathead minnow survival test, the statistical analyses used to determine if there is a statistically significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA/600/4-90/027F or the most recent update thereof.

If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 90% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report an NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.

c. Dilution Water

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

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

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

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

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

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

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

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

d. Samples and Composites

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

ii. The permittee shall collect a second composite sample for use during the 24-hour renewal of each dilution concentration the for both tests. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to 4 degrees Centigrade during collection, shipping, and/or storage.

iii. 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.

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. The effluent composite sample collection duration and the static

renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 4 of this section.

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.

4. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this Part in accordance with the Report Preparation Section of EPA/600/4-90/027F, 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 report the following results of each valid toxicity test on DMR for that reporting period in accordance with PART II.D.4 of this permit. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. Pimephales promelas (fathead minnow)

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

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

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

ii. Daphnia pulex

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

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

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

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 effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the fathead minnow) and not less than twice per year for the more sensitive test species (usually the Daphnia pulex).

b. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in item 3.a. above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal 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. SURVIVAL FAILURES - If any test fails the survival endpoint at any time during the life of this permit, two monthly retests are required and the monitoring frequency for the affected test species shall be increased to once per quarter until the permit is re-issued. Monthly retesting is not required if the permittee is performing a TRE.

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

5. TOXICITY REDUCTION EVALUATION (TRE)

a. Within ninety (90) days of confirming lethality in the retests, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined

as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The TRE Action Plan shall lead to the successful elimination of effluent toxicity at the critical dilution and include the following:

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

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (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 24 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;

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

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

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

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

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

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

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

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

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

FINAL Fact Sheet

for modification of NPDES Permit Number AR0000752 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:

El Dorado Chemical Company
P. O. Box 231
El Dorado, AR 71731

3. **PERMIT WRITER.**

The permit writer is:

Morteza ("Mo") Shafii
NPDES Branch, Water Division

4. **DATE PREPARED**

April 29, 2004

5. **REASONS FOR PERMIT ISSUANCE.**

On May 31, 2002, the Department issued NPDES Permit No. AR0000752 to El Dorado Chemical Company with an effective date of July 1, 2002. The permittee filed a timely Request for Adjudicatory Hearing and Commission Review (Appeal) regarding the Department's final permit decision. Ultimately, the parties have agreed to resolve the issues in dispute in the Appeal by agreement. Accordingly, docket in the Appeal was closed and the proceedings were remanded to the Department to proceed in accordance with the terms of the Permit Appeal Resolution (PAR) entered in LIS No. 03-067. The permit is revised according to the PAR as follows:

A. With the exception of Outfalls 010 and 011, all more restrictive permit limits and conditions include a three (3) year implementation schedule as provided in CAO No. 02-059;

B. The requirement for a "Pond Bottom" synthetic liner for the fifty (50) acre equalization basin has been removed;
C. The requirements, in addition to the standard sample collection, preservation, chain of custody, and analytical protocols for all biomonitoring, have been removed from Part III, Items 3.4 and 4.6;
D. All of the metals listed in Item 1.d of the Order and Agreement section of the PAR have been removed since the data submitted by the permittee demonstrate that there is no reasonable potential for the listed metals at the specified outfalls;
E. Ammonia-Nitrogen and Nitrate-Nitrogen limitations have been revised;
F. The permittee is required to perform an evaluation of the background flow of the receiving streams for the storm water outfalls (Outfalls 002, 004, 005, 006, and 007) and the dilution of the effluent in the receiving stream as a result of a storm event;
G. Biomonitoring requirements at Outfalls 002, 004, 005, 006, and 007 have been changed to acute "monitor and report";
H. Sampling frequencies for dissolved minerals have been reduced to once/month;
I. Mass limitations for TSS at Outfalls 010 and 011 have been deleted;
J. Mass limitations for dissolved minerals at Outfall 001 have been deleted;
K. The permittee is required to perform an evaluation of the temperature regime of the fifty (50) acre equalization basin for the purpose of determining if the elevation of temperatures in the basin are related to ambient sources of heat resulting from summertime conditions;
L. Compliance with the dissolved oxygen limits at Outfall 001 will be based on an average of all samples taken each hour; and
M. Compliance with the pH limitations for all outfalls which have a continuous monitor is utilized shall be based on an average of all samples taken each hour.

Other changes to the permit are as follows:

A. The planning segment for Outfalls 001, 002, 003, 004, 005, 006, and 007 has been corrected; and
B. Any footnotes regarding D.O. in Part IA of the permit have been removed.
C. Footnotes in regard to biomonitoring have been corrected to reflect correct items in Part III of the permit.

6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

The outfall is located at the following coordinates:

Outfall 001:Latitude : 33E 15' 32"; Longitude: 92E 41' 12"
Outfall 002:Latitude : 33E 15' 48"; Longitude: 92E 41' 24"
Outfall 003:Latitude : 33E 15' 38"; Longitude: 92E 41' 07"
Outfall 004:Latitude : 33E 15' 42"; Longitude: 92E 41' 27"
Outfall 005:Latitude : 33E 15' 42"; Longitude: 92E 41' 17"
Outfall 006:Latitude : 33E 16' 03"; Longitude: 92E 41' 02"
Outfall 007:Latitude : 33E 16' 11"; Longitude: 92E 41' 16"
Outfall 010:Latitude : 33E 17' 22"; Longitude: 92E 28' 05"
Outfall 011:Latitude : 33E 19' 03"; Longitude: 92E 31' 15"

The receiving waters named:

Outfalls 001, 002, 003, 004, 005, 006, and 007:an unnamed tributary of Flat Creek in Segment 2D of the Ouachita River Basin and Outfalls 010 and 011: Ouachita River in Segment 2E of the Ouachita River. The receiving stream is a Water of the State classified for primary (Outfalls 010 or 011) and secondary contact recreation(001, 002, 003, 004, 005, 006, 007), raw water source for public, industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

7.OUTFALL AND TREATMENT PROCESS DESCRIPTION.

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

1. Average flow:

   Outfall 001: 1.845 MGD; Outfall 002: variable MGD; Outfall 003:0.017 MGD(Design); Outfall 004:1.203 MGD; Outfalls 005,006,007: Variable; Outfall 010: 2 MGD (Max Flow); and Outfall 011: 2 MGD (Max Flow) ,based on the highest monthly average flow during the last two years (Outfalls 001 and 004.)

2. Type of treatment: Outfalls 001, 002, 010, 011: pH neutralization, aeration pond, equalization pond; Outfall 003: Imhoff tank; Outfalls 004, 005,006,007:None

8.APPLICANT ACTIVITY.

The applicant's activities are the operation of a fertilizer manufacturing plant.

9. SEWAGE SLUDGE PRACTICES.

Sludge is accumulating on the bottom of the ponds.

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) 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 Limits**

Outfall 001-treated process and contaminated storm water

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	Discharge Limitations			
	Mass (lbs/day)		Other Units	
(Specify)	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	462	692	30 mg/l	45 mg/l
Ammonia Nitrogen as N	265.7	811.84	17.3 mg/l	52.8 mg/l
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l
Dissolved Oxygen (DO)				
(May-October)	N/A	N/A	4.0 mg/l(Ins Min)	N/A
(November-April)	N/A	N/A	5.0 mg/l(Ins Min)	N/A
Copper, Total Recov	Report	Report	Report µg/l	Report µg/l
Selenium, Total Recov	Report	Report	Report µg/l	Report µg/l
Zinc, Total Recov	Report	Report	Report µg/l	Report µg/l
Sulfate (SO4)	Report	Report	Report mg/l	Report mg/l
Chlorides (Cl)	Report	Report	Report mg/l	Report mg/l
Total Dissolved Solids (TDS)	Report	Report	Report mg/l	Report mg/l
Temperature (Ins. Max)	N/A	N/A	N/A	86 EF
	Daily Average Minimum		7-day Minimum	
Whole Effluent Lethality				
(7-day NOEC)	Report%		Report %	
Pimephales promelas (Chronic)		7-day Average		
Pass/Fail Growth (7-day NOEC)		Report (Pass=0/Fail=1)		
Pass/Fail Lethality (7-day NOEC)		Report (Pass=0/Fail=1)		
Survival (7-day NOEC)		Report %		
Coefficient of Variation		Report %		
Growth (7-day NOEC)		Report %		
Ceriodaphnia dubia (Chronic)		7-day Average		
Pass/Fail Reproduction (7-day NOEC)		Report (Pass=0/Fail=1)		
Pass/Fail Lethality (7-day NOEC)		Report (Pass=0/Fail=1)		
Survival (7-day NOEC)		Report %		
Coefficient of Variation		Report %		
Reproduction(7-day NOEC)		Report %		
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.

ii. **Solids and Foam:** 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.

b. **Final Effluent Limits**

Outfall 001-treated process and contaminated storm water

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	**Discharge Limitations**			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	462	692	30 mg/l	45 mg/l
Ammonia Nitrogen as N	265.7	811.84	12 mg/l	18 mg/l
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l
Dissolved Oxygen (DO)				
(May-October)	N/A	N/A	4.0 mg/l(Ins Min)	N/A
(November-April)	N/A	N/A	5.0 mg/l(Ins Min)	N/A
Copper, Total Recov	0.19	0.38	12.2 µg/l	24.48 µg/l
Selenium, Total Recov	0.09	0.17	5.58 µg/l	11.2 µg/l
Zinc, Total Recov	1.78	3.57	115.62 µg/l	231.99 µg/l
Sulfate (SO4)	Report	Report	81 mg/l	122 mg/l
Chlorides (Cl)	Report	Report	38 mg/l	57 mg/l
Total Dissolved Solids (TDS)	Report	Report	237 mg/l	356 mg/l
Temperature (Ins. Max)	N/A	N/A	N/A	86 EF

	Daily Average Minimum	7-day Minimum
Whole Effluent Lethality		
(7-day NOEC)	not < **100%**	not < **100%**
Pimephales promelas (Chronic)	7-day Average	
Pass/Fail Growth (7-day NOEC)	Report (Pass=0/Fail=1)	
Pass/Fail Lethality (7-day NOEC)	Report (Pass=0/Fail=1)	
Survival (7-day NOEC)	Report %	
Coefficient of Variation	Report %	
Growth (7-day NOEC)	Report %	
Ceriodaphnia dubia (Chronic)	7-day Average	
Pass/Fail Reproduction(7-day NOEC)	Report (Pass=0/Fail=1)	
Pass/Fail Lethality (7-day NOEC)	Report (Pass=0/Fail=1)	
Survival (7-day NOEC)	Report %	
Coefficient of Variation	Report %	
Reproduction(7-day NOEC)	Report %	
	Minimum	Maximum
pH N/A	N/A	6 s.u. 9 s.u.

ii. **Solids and Foam:** 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.

c. **Final Effluent Limits**

Outfall 010-treated process and contaminated storm water

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	Discharge Limitations			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	2 MGD
Total Suspended Solids (TSS)	Report	Report	30 mg/l	45 mg/l
Ammonia Nitrogen as N	265.7	811.84	Report mg/l	Report mg/l
Nitrate Nitrogen as N	405.02	1153.73	Report mg/l	Report mg/l
	30-day Average Minimum		48-Hr Minimum	
Whole Effluent Lethality (48-hr NOEC)	not < 17%		not < 17%	
Pimephales promelas (Acute)			48-Hr Minimum	
Pass/Fail Lethality (48-Hr NOEC)			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC)			Report%	
Coefficient of Variation (48-Hr NOEC)			Report %	
Daphnia pulex (Acute)			48-Hr Minimum	
Pass/Fail Lethality (48-Hr NOEC)			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC)			Report%	
Coefficient of Variation (48-Hr NOEC)			Report %	
			Minimum	Maximum
pH	N/A		N/A	6 s.u. 9 s.u.

ii. **Solids and Foam:** 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.

d. **Final Effluent Limits**

Outfall 011-treated process and contaminated storm water

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	Discharge Limitations			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	2 MGD
Total Suspended Solids (TSS)	Report	Report	30 mg/l	45 mg/l
Ammonia Nitrogen as N	265.7	811.84	Report mg/l	Report mg/l
Nitrate Nitrogen as N	405.02	1153.73	Report mg/l	Report mg/l
	30-day Average Minimum		48-Hr Minimum	
Whole Effluent Lethality (48-hr NOEC)	not < 17%		not < 17%	
Pimephales promelas (Acute)			48-Hr Minimum	
Pass/Fail Lethality (48-Hr NOEC)			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC)			Report%	
Coefficient of Variation (48-Hr NOEC)			Report %	
Daphnia pulex (Acute)			48-Hr Minimum	
Pass/Fail Lethality (48-Hr NOEC)			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC)			Report%	
Coefficient of Variation (48-Hr NOEC)			Report %	

			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.

ii. **Solids and Foam:** 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.

e. **Interim Effluent Limits**

Outfall 002-Overflow pond(process water and contaminated storm water)

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	**Discharge Limitations**		
	Mass (lbs/day)	Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	N/A	N/A	30 mg/l	45 mg/l
Ammonia Nitrogen as N	265.7	811.84	17.4 mg/l	52.8 mg/l
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l
Copper, Total Recov	Report	Report	Report µg/l	Report µg/l
Lead, Total Recov	Report	Report	Report µg/l	Report µg/l
Selenium, Total Recov	Report	Report	Report µg/l	Report µg/l
Zinc, Total Recov	Report	Report	Report µg/l	Report µg/l
Sulfate (SO4)	Report	Report	Report mg/l	Report mg/l
Total Dissolved Solids (TDS)	Report	Report	Report mg/l	Report mg/l
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l
Acute Biomonitoring1	N/A	N/A	N/A	N/A
Pimephales promelas (Acute)		48-Hr Minimum		
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**		Report (Pass=0/Fail=1)		
Survival (48-Hr NOEC) **TOM6C**		Report%		
Coefficient of Variation (48-Hr NOEC) **TQM6C**		Report%		
Daphnia pulex (Acute)		48-Hr Minimum		
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**		Report (Pass=0/Fail=1)		
Survival (48-Hr NOEC) **TOM3D**		Report%		
Coefficient of Variation (48-Hr NOEC) **TQM3D**		Report %		

			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.

ii. **Solids and Foam:** 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.

f. **Final Effluent Limits**

Outfall 002-Overflow pond (process water and contaminated storm water

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	Discharge Limitations			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l
Ammonia Nitrogen as	265.7	811.84	12 mg/l	18 mg/l
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l
Copper, Total Recov	N/A	N/A	12.2 µg/l	24.48 µg/l
Lead, Total Recov	N/A	N/A	3.8 µg/l	7.62 µg/l
Selenium, Total Recov	N/A	N/A	5.58 µg/l	11.2 µg/l
Zinc, Total Recov	N/A	N/A	115.62 µg/l	231.99 µg/l
Sulfate (SO4)	N/A	N/A	250 mg/l	375 mg/l
Total Dissolved Solids (TDS)	N/A	N/A	500 mg/l	750 mg/l
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.
Acute Biomonitoring	N/A	N/A	N/A	N/A

Pimephales promelas (Acute)	48-Hr Minimum
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**	Report (Pass=0/Fail=1)
Survival (48-Hr NOEC) **TOM6C**	Report%
Coefficient of Variation (48-Hr NOEC) **TQM6C**	Report%
Daphnia pulex (Acute)	48-Hr Minimum
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**	Report (Pass=0/Fail=1)
Survival (48-Hr NOEC) **TOM3D**	Report%
Coefficient of Variation (48-Hr NOEC) **TQM3D**	Report %

ii. **Solids and Foam:** 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.

g. **Interim Effluent Limits**

Outfall 003-treated domestic wastewater

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	Discharge Limitations			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Carbonaceous Biochemical Oxygen Demand (CBOD5)	3.5	5.4	25 mg/l	38 mg/l
Total Suspended Solids(TSS)	4.3	6.4	30 mg/l	45 mg/l
Ammonia Nitrogen as N				
(May-October)	1.4	2.1	10 mg/l	15 mg/l
(November-April)	2.1	3.3	15 mg/l	23 mg/l
Fecal Coliform Bacteria (FCB)	N/A	N/A	(Colonies/100 ml) 1000	2000
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.

ii. **Solids and Foam:** 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.

h. **Final Effluent Limits**

Outfall 003-treated domestic wastewater

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	Discharge Limitations			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1.4	2.1	10 mg/l	15 mg/l
Total Suspended Solids(TSS)	2.1	3.3	15 mg/l	23 mg/l
Ammonia Nitrogen as N				
(May-October)	0.7	1.1	5 mg/l	7.5 mg/l
(November-April)	1.4	2.1	10 mg/l	15 mg/l
Fecal Coliform Bacteria (FCB)			(Colonies/100 ml)	
	N/A	N/A	1000	2000
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.

ii. **Solids and Foam:** 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.

i. **Interim Effluent Limits**

Outfall 004-Contaminated storm water

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	Discharge Limitation			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l
Ammonia Nitrogen as N	N/A	N/A	Report mg/l	Report mg/l
Lead, Total Recov	N/A	N/A	Report µg/l	Report µg/l
Zinc, Total Recov	N/A	N/A	Report µg/l	Report µg/l
Total Dissolved Solids (TDS)	N/A	N/A	Report mg/l	Report mg/l
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.
Acute Biomonitoring	N/A	N/A	N/A	N/A
Pimephales promelas (Acute)			48-Hr Minimum	
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC) **TOM6C**			Report%	
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report%	
Daphnia pulex (Acute)			48-Hr Minimum	
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC) **TOM3D**			Report%	
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %	

ii. **Solids and Foam:** 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.

j. **Final Effluent Limits**

Outfall 004- Contaminated storm water

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	Discharge Limitations			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l
Ammonia Nitrogen as N	N/A	N/A	Report mg/l	Report mg/l
Lead, Total Recov	N/A	N/A	3.8 µg/l	7.62 µg/l
Zinc, Total Recov	N/A	N/A	115.62 µg/l	231.99 µg/l
Total Dissolved Solids (TDS)	N/A	N/A	291 mg/l	436.5 mg/l
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.
Acute Biomonitoring	N/A	N/A	N/A	N/A
Pimephales promelas (Acute)			48-Hr Minimum	
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC) **TOM6C**			Report%	
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report%	
Daphnia pulex (Acute)			48-Hr Minimum	
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC) **TOM3D**			Report%	
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %	

ii. **Solids and Foam:** 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.

k. **Interim Effluent Limits**

Outfalls 005,006,007- Contaminated storm water

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	Discharge Limitations			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l
Ammonia Nitrogen as N	N/A	N/A	Report mg/l	Report mg/l
Cadmium, Total Recov*	N/A	N/A	Report µg/l	Report µg/l
Lead, Total Recov	N/A	N/A	Report µg/l	Report µg/l
Zinc, Total Recov	N/A	N/A	Report µg/l	Report µg/l
Total Dissolved Solids (TDS)	N/A	N/A	Report mg/l	Report mg/l
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.

Acute Biomonitoring	N/A	N/A	N/A	N/A
Pimephales promelas (Acute)			48-Hr Minimum	
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC) **TOM6C**			Report%	
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report%	
Daphnia pulex (Acute)			48-Hr Minimum	
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC) **TOM3D**			Report%	
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %	

*Cadmium testing is required only at Outfall 006.

i. **Solids and Foam:** 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.

1. **Final Effluent Limits**

Outfalls 005,006,007- Contaminated storm water

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	**Discharge Limitations**			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids (TSS)	N/A	N/A	Report mg/l	Report mg/l
Ammonia Nitrogen as N	N/A	N/A	Report mg/l	Report mg/l
Cadmium, Total Recov*	N/A	N/A	2.03 µg/l	4.08 µg/l
Lead, Total Recov	N/A	N/A	3.8 µg/l	7.62 µg/l
Zinc, Total Recov	N/A	N/A	115.62 µg/l	231.99 µg/l
Total Dissolved Solids (TDS)	N/A	N/A	291 mg/l	436.5 mg/l
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.
Acute Biomonitoring	N/A	N/A	N/A	N/A
Pimephales promelas (Acute)			48-Hr Minimum	
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC) **TOM6C**			Report%	
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report%	
Daphnia pulex (Acute)			48-Hr Minimum	
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC) **TOM3D**			Report%	
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %	

*Cadmium testing is required only at Outfall 006.

ii. **Solids and Foam:** 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.

m. **Final Effluent Limits**

Outfall Sum (Outfall 001 + Outfall 002)

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	Discharge Limitations			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Ammonia Nitrogen as N	265.7	811.84	12 mg/l	18 mg/l
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l

11. BASIS FOR PERMIT CONDITIONS.

All permit limits are continued from the previous permit with the exception of those limits contained in the PAR. These exceptions are as follows:

A. With the exception of Outfalls 010 and 011, all more restrictive permit limits and conditions include a three (3) year implementation schedule as provided in CAO No. 02-059;
B. The requirement for a "Pond Bottom" synthetic liner for the fifty (50) acre equalization basin has been removed;
C. The requirements, in addition to the standard sample collection, preservation, chain of custody, and analytical protocols for all biomonitoring, have been removed from Part III, Items 3.4 and 4.6;
D. All of the metals listed in Item 1.d of the Order and Agreement section of the PAR have been removed since the data submitted by the permittee demonstrate that there is no reasonable potential for the listed metals at the specified outfalls;
E. Ammonia-Nitrogen and Nitrate-Nitrogen limitations have been revised;
F. The permittee is required to perform an evaluation of the background flow of the receiving streams for the storm water outfalls (Outfalls 002, 004, 005, 006, and 007) and the dilution of the effluent in the receiving stream as a result of a storm event;
G. Biomonitoring requirements at Outfalls 002, 004, 005, 006, and 007 have been changed to acute "monitor and report";
H. Sampling frequencies for dissolved minerals have been reduced to once/month;
I. Mass limitations for TSS at Outfalls 010 and 011 have been deleted;
J. Mass limitations for dissolved minerals at Outfall 001 have been deleted;
K. The permittee is required to perform an evaluation of the temperature regime of the fifty (50) acre equalization basin for the purpose of determining if the elevation of temperatures in the basin are related to ambient sources of heat resulting from summertime conditions;
L. Compliance with the dissolved oxygen limits at Outfall 001 will be based on an average of all samples taken each hour; and
M. Compliance with the pH limitations for all outfalls which have a continuous monitor is utilized shall be based on an average of all samples taken each hour.

B. Final Limitations

The following effluent limitations or "report" 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		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
			Outfall 001					
TSS	N/A	N/A	30	45	30	45	30	45
NH3-N	12	18	17.3	52.8	Report	Report	12	18
NO3-N	N/A	N/A	26.3	74.9	Report	Report	26.3	74.9
DO (May-Oct) (Nov-April)	4.0 Ins. Min. 5.0 Ins. Min.		N/A	N/A	4 Min. 6 Min.	N/A N/A	4.0 Ins. Min. 5.0 Ins. Min.	
Copper (ug/l)	12.2	24.48	N/A	N/A	N/A	N/A	12.2	24.48
Selenium (ug/l)	5.58	11.2	N/A	N/A	N/A	N/A	5.58	11.2
Zinc (ug/l)	115.62	231.99	N/A	N/A	N/A	N/A	115.62	231.99
SO4	81	122	N/A	250	Report	Report	81	122
Cl	38	57	N/A	250	N/A	N/A	38	57
TDS	237	356	N/A	500	N/A	N/A	237	356
Temperature	86 F Ins. Max.		N/A	N/A	30 C Max = 86 F		86 F Ins. Max	
WET Limit	not<100%	not<100%	not<100%	not<100%	N/A	N/A	not<100%	not<100%
pH	6-9 s.u.		N/A		6-9 s.u.		6-9 s.u.	
			Outfalls 010 and 011					
TSS	N/A	N/A	30	45	N/A	N/A	30	45
NH3-N	N/A	N/A	Report	Report	N/A	N/A	Report	Report
NO3-N	N/A	N/A	Report	Report	N/A	N/A	Report	Report
WET Limits	not<17%	not<17%	not<17%	not<17%	N/A	N/A	not<17%	not<17%
pH	6-9 s.u.		N/A		N/A		6-9 s.u.	
			Outfall 002					
TSS	N/A	N/A	Report	Report	N/A	Report	Report	Report
NH3-N	12	18	17.3	52.8	N/A	N/A	12	18
NO3-N	N/A	N/A	26.3	74.9	N/A	N/A	26.3	74.9

Parameter	Water Quality-Based		Technology-Based/BPJ		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
O&G	10	15	N/A	N/A	10	15	10	15
Copper (ug/l)	12.2	24.48	N/A	N/A	N/A	N/A	12.2	24.48
Lead (ug/l)	3.8	7.62	N/A	N/A	N/A	N/A	3.8	7.62
Selenium (ug/l)	5.58	11.2	N/A	N/A	N/A	N/A	5.58	11.2
Zinc (ug/l)	115.62	231.99	N/A	N/A	N/A	N/A	115.62	231.99
SO4	N/A	N/A	250	375	Report	Report	250	375
TDS	751	1127	500	750	N/A	N/A	500	750
pH	6-9 s.u		N/A	N/A	6-9 s.u.		6-9 s.u.	
			Outfall 003					
CBOD5	10	15	N/A	N/A	25	38	10	15
TSS	15	23	N/A	N/A	30	45	15	23
NH3-N (May-Oct) (Nov-April)	 5 10	 7.5 15	N/A	N/A	 10 15	 15 23	 5 10	 7.5 15
FCB(col/100ml)	1000	2000	N/A	N/A	1000	2000	1000	2000
pH	6-9 s.u.		N/A	N/A	6-9 s.u.		6-9 s.u.	
			Outfalls 004, 005, 006, 007					
TSS	N/A	N/A	Report	Report	Report	Report	Report	Report
NH3-N	N/A	N/A	Report	Report	N/A	Report	Report	Report
O&G	10	15	N/A	N/A	10	15	10	15
Cadmium (ug/l)*	2.03	4.08	N/A	N/A	N/A	N/A	2.03	4.08
Lead (ug/l)	3.8	7.62	N/A	N/A	N/A	N/A	3.8	7.62
Zinc (ug/l)	115.62	231.99	N/A	N/A	N/A	N/A	115.62	231.99
TDS	291	436.5	500	750	N/A	N/A	291	436.5
pH	6-9 s.u.		N/A		6-9 s.u.		6-9 s.u.	

*Only at Outfall 006.

C. **Biomonitoring**

The biomonitoring requirements have been carried forth from the current permit with the exception of the following changes required by the PAR:

i. Acute biomonitoring, with "monitor and report" requirements, is now required instead of chronic biomonitoring at Outfalls 002, 004, 005, 006, and 007.

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.

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**
Acute Biomonitoring	Once/month

Because the discharges from Outfalls 002, 004, 005, 006, and 007 consist only of stormwater (some of which may be contaminated) and are therefore not occurring on a regular basis, the Department has determined that acute biomonitoring requirements are appropriate.

The calculations for dilution used for the acute biomonitoring are as follows:

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

Because the background flow, Qb, is 0 cfs, the critical dilution will be 100%.

Toxicity tests shall be performed in accordance with protocols described in "Methods for Measuring the Acute Toxicity of Effluent to Freshwater and Marine Organisms", EPA/600/4-90/027. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are **32%, 42%, 56%, 75%, and 100%** (See **Attachment I** of CPP). The low-flow effluent concentration (critical dilution) is defined as **100**% effluent. The requirement for acute biomonitoring tests is based on the magnitude of the facility's discharge with

respect to receiving stream flow. The stipulated test species are representative of organisms indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The 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/600/4-90/027 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 ADEQ Regulation No. 6. Increased or intensified toxicity testing may also be required in accordance with Section 308 of the Clean Water Act and Section 8-4-201 of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

1. **Changes from the previously issued permit**

A. With the exception of Outfalls 010 and 011, all more restrictive permit limits and conditions include a three (3) year implementation schedule as provided in CAO No. 02-059;
B. The requirement for a "Pond Bottom" synthetic liner for the fifty (50) acre equalization basin has been removed;
C. The requirements, in addition to the standard sample collection, preservation, chain of custody, and analytical protocols for all biomonitoring, have been removed from Part III, Items 3.4 and 4.6;
D. All of the metals listed in Item 1.d of the Order and Agreement section of the PAR have been removed since the data submitted by the permittee demonstrate that there is no reasonable potential for the listed metals at the specified outfalls;
E. Ammonia-Nitrogen and Nitrate-Nitrogen limitations have been revised;
F. The permittee is required to perform an evaluation of the background flow of the receiving streams for the storm water outfalls (Outfalls 002, 004, 005, 006, and 007) and the dilution of the effluent in the receiving stream as a result of a storm event;
G. Biomonitoring requirements at Outfalls 002, 004, 005, 006, and 007 have been changed to acute "monitor and report";
H. Sampling frequencies for dissolved minerals have been reduced to once/month;
I. Mass limitations for TSS at Outfalls 010 and 011 have been deleted;
J. Mass limitations for dissolved minerals at Outfall 001 have been deleted;
K. The permittee is required to perform an evaluation of the temperature regime of the fifty (50) acre equalization basin for the purpose of determining if the elevation of temperatures in the basin are related to ambient sources of heat resulting from summertime conditions;
L. Compliance with the dissolved oxygen limits at Outfall 001 will be based on an average of all samples taken each hour; and
M. Compliance with the pH limitations for all outfalls which have a continuous monitor is utilized shall be based on an average of all samples taken each hour.

Other changes to the permit are as follows:

A. The planning segment for Outfalls 001, 002, 003, 004, 005, 006, and 007 has been corrected; and
B. Any footnotes regarding D.O. in Part IA of the permit have been removed.
C. Footnotes in regard to biomonitoring have been revised.

12.**SCHEDULE OF COMPLIANCE.**

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

Outfalls 001, 002, 003, 004, 005, 006, and 007:

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

2. The permittee shall achieve compliance with final limitations in accordance with the following:

	Activity	Compliance Date from Effective date of the modified permit
1.	Submit Progress Report	One Year
2.	Submit Progress Report	Two Years
3.	Achieve final limitations	Three Years

3. Consent Administrative Order No. 02-059 continues to remain in effect and provides the permittee three(3) years from the effective date of this permit to comply with technology-based limits contained herein.

Outfalls 010 or 011 (Combined flows of outfalls 001, 002, and 004):

1. Compliance with final limitations is required on the effective date of the permit. Permittee must notify ADEQ in writing ten days after operation of outfall 010 or 011 in order to terminate outfalls 001, 002 and 004.

Outfalls 002, 004, 005, 006, and 007 - Item #12 in Part III

1. Within 90 days of permit issuance, the permittee shall submit a protocol for the evaluation of the background flow of the receiving streams for these outfalls and the dilution of the effluent in the receiving stream as a result of a storm event.

2. The evaluation shall be completed within 18 months of permit issuance.

3. Until such time as the permit is reopened and modified, the effluent limits and toxicity testing requirements in this permit remain in effect.

Outfall 001 - Item #1 in Part III

1. Within 90 days of permit issuance, the permittee shall submit a protocol for the evaluation of the temperature regime of the fifty (50) acre equalization basin for the purpose of determining if the elevation of the

temperatures in the equalization basin are related to ambient sources of heat resulting from summertime conditions.

2. The evaluation shall be completed within 18 months of permit issuance.

13. OPERATION AND MONITORING.

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

14. SOURCES.

The following sources were used to draft the permit:

1. NPDES permit file AR0000752.
2. Continuing Planning Process (CPP).
3. PAR Lis 03-067.
4. Comments from Hank Bates, Permittee, and Mart Davis
5. Public Hearing dated 4/13/2004
6. 40 CFR 122.63

15. NPDES POINT OF CONTACT.

For additional information, contact:

Mo Shafii
Arkansas Department of Environmental Quality
8001 National Drive
Post Office Box 8913
Little Rock, Arkansas 72219-8913
Telephone: (501) 682-0616

EXHIBIT 3

P.O. BOX 1373 • OKLAHOMA CITY, OKLAHOMA 73101 • 405-235-4546

EL DORADO
CHEMICAL COMPANY

VIA CERTIFIED MAIL: 7004 0750 0000 9377 2399
RETURN RECEIPT REQUESTED

May 31, 2005

Mr. Dennis Benson
Technical Assistance Manager
NPDES Permits Section - Water Division
Arkansas Department of Environmental Quality
8001 National Drive
Little Rock, Arkansas 72219-8913

RE: Annual Compliance Progress Report – El Dorado Chemical Company
NPDES No. AR0000752

Dear Mr. Benson:

Pursuant to the requirements of Part IB Section B2 of the referenced permit, this letter serves as the first year Annual Compliance Progress Report. Pursuant to Part II Section D 5, this report is being submitted within 14 days of the schedule date of June 1, 2005.

In the year since the effective date of the referenced El Dorado Chemical Company (EDCC) has conducted numerous projects and studies in an effort to not only meet the final limitations of the NPDES permit, but to ensure compliance with current permit limitations. The following paragraphs present details regarding these activities.

1. Hydrologic Study

   Pursuant to the requirements of the final NPDES permit, during the reporting period EDCC submitted a hydrologic study plan for the storm water outfalls. This plan was approved by ADEQ and then subsequently revised to modify the location of the background monitor for Outfalls 006 and 007. During the 1st quarter of 2005 the level loggers were installed at EDCC in accordance with the work plan and data collection was initiated in accordance with the approved work plan. The study will be completed within the timeframes set by the NPDES permit.

2. Retention Basin Temperature Study

   Pursuant to the requirements of the final NPDES permit, during the reporting period EDCC submitted a temperature study plan for the purpose of determining the influence of ambient conditions on the temperature regime of the retention basin at EDCC. During the 4th quarter of 2004 ADEQ approved the study plan. The study is scheduled to be conducted starting in

the second quarter of 2005 and will be completed within the timeframes set by the NPDES permit.

3. Storm Water Outfall Compliance

During the annual reporting period the following activities were accomplished to effectuate compliance with storm water discharges from Outfalls 004, 005, 006 and 007.

- Moved equipment and pipe racks out of the area north of the administration building to eliminate industrial storm water exposure in this drainage area. The pipe racks and equipment were moved to the south side of the east wing of the gas engine building.
- Moved fuel tank from the switch engine (Watco) outside storage area to the existing fuel storage area just west of the garage. Secondary containment pans were eliminated on the oil tank by installing a double wall tank. The location also provides drainage to Lake Lee through the new line.
- Installed a new underground drain line to eliminate industrial area storm water drainage to 005. The line will allow the parking lot south to the entrance road and front lawn area to be the only source of storm water discharging to 005. This line will be opened for use as soon as the dredging is completed and force main installed at Lake Lee.
- Identified, removed, and replaced approximately 100 cubic yards of stained soil and gravel around the Watco area.
- Excavated, removed and concrete sealed old sanitary sewer field lines and drain tile in the 004 area. Installed new head walls, cleaned and added limestone to ditch drainage areas coming into 004 outfall.
- Regraded approximately 5 acres to redirect storm water to new Lake Lee line that previously drained to Outfall 006. The activities required to regrade the area included changing the slope and clearing the existing drainage ditches and culverts.
- Old facility drawings indicate that an underground drainage system is located north of the gas engine building. Efforts were made to locate and verify the condition of this drainage system. This system may be used to redirect storm water runoff currently flowing to Outfall 007 to the basement of the gas engine building and then to Lake Lee via gravity flow.
- GBM[c] developed a conceptual design to capture storm water runoff from Outfalls 004, 006, and 007 and divert the runoff to Lake Lee. The conceptual design plans include channels from Outfalls 006 and 007 that direct storm water discharge to an impoundment to be constructed northeast of Outfall 006. The impoundment is designed to contain and pump the runoff from a 2-inch rainfall event to the basement of the gas engine building and then gravity flow to Lake Lee. Runoff that exceeds the capacity of the capture and transfer system (>2 inches) will discharge through an overflow structure to the current receiving stream for Outfalls 006 and 007. Existing topography and a pump station will be used at Outfall 004 to contain and transfer runoff from a 2-inch rainfall event into

Lake Lee. The existing outfall configuration will require modification to create an impoundment as well as an overflow structure to discharge runoff from rainfall events greater than 2 inches.

- Lined approximately 1,000 linear feet of drainage ditches to Outfalls 006 and 007 with limestone to provide pH control for storm water runoff.
- Anderson Engineering completed 12 borings for geotechnical analysis of the area for the proposed Outfall 004, 006, and 007 storm water capture systems.
- GBM[c] coordinated surveyors to provide information required for final design of the Outfall 004, 006, and 007 storm water capture systems.
- Completed regrading approximately two (2) acres north of the warehouse. Constructed new top sections on old manholes and repaired lines in the area to redirect storm water to the collection system new line that will convey water to Lake Lee.

4. Source Reduction Analysis

During the reporting period there were several source reduction activities accomplished, including:

- Met with GE Betz to discuss the possibility of installing an RO unit to assist in capturing, treating, and returning some high nitrogen streams to the process that are currently flowing to the wastewater treatment system.
- GBM[c] compiled data gathered from the facility through the source reduction survey, site visits, and correspondence to develop a basis of design for a wastewater treatment system.
- Provided sample from Lake Lee to GE Betz to assist in determining the appropriate technology for the application at EDCC.
- Reduction of loading from the E2 plant has been accomplished by improved neutralizer performance and addition of E2 Chemical Steam Scrubber.
- Engineering continues to evaluate the KT and E2 processes for further source loading reductions.

Wastewater System

During the reporting period, there were numerous activities conducted in relation to the upgrade of the wastewater treatment system. These activities focused on both Lake Lee and Lake Kildeer as listed in the following sections.

Lake Lee

- Contracted with Terra Renewal Services (TRS) to remove the accumulated sludges from Lake Lee. All documentation required to initiate this project was been submitted to ADEQ and a State land application permit for TRS has been finalized. Consequently, the sludge cleanout project has been initiated in accordance with the permit. The removal of the sludge will increase retention time and therefore the treatment efficiency of Lake Lee.
- The capacity of the existing gravity line from Lake Lee to Lake Kildeer is adequate to convey the water entering Lake Lee under the current drainage configuration. However, the addition of multiple storm water sources (i.e., 004, 006, and 007 drainage areas) could create the potential to exceed the capacity of the existing line. Therefore, additional capacity is required to transport the water entering Lake Lee to Lake Kildeer to prevent discharging through Outfall 002. Based on elevation data gathered from the facility, a pump and forcemain from Lake Lee to Lake Kildeer is the most feasible solution. Information was gathered to enable the preliminary design of the pump and forcemain system.
- The outfall structure at Lake Lee is equipped with a normally closed butterfly drain valve that would discharge uncontrolled to Outfall 002 if it failed. If the valve were to fail the entire contents of Lake Lee could be discharged to the receiving stream for Outfall 002. To prevent this occurrence, EDCC developed a plan to protect the valve from failure. Concrete was placed in the bottom of the Lake Lee overflow structure to raise the floor of the structure to the invert elevation of the discharge tile. Reinforcement and forms were constructed and concrete was placed around the butterfly drain valve on Lake Lee and sealed to prevent its failure.
- Process drains from the KT plant flow west to a concrete collection box that measures approximately 14 feet by 9 feet. The french drain sump also pumps to this collection box. The collected water flows to Lake Lee via approximately 1,900 feet of gravity pipeline. Sediment has accumulated in the collection box and pipeline, causing a decrease in the flow capacity. The accumulated solids were removed from the collection box and the pipeline was cleaned with a Sewer Jet.
- Engineering is implementing changes to the pH neutralization system to minimize pH swings in Lake Lee.

Lake Kildeer

During the reporting period GBMc completed the detailed engineering analyses regarding the upgrading the wastewater treatment facilities at EDCC to meet the final NPDES permit limitations. EDCC is now reviewing the options in concert with the source reduction activities to determine the most cost effective methods of implementation.

5. Wastewater Treatment Bioaugmentation
   During the reporting period, El Dorado Chemical Company continued implementation of the alternative wastewater treatment technology. We continue the collection of performance data to determine the efficacy of the organisms in our wastewater treatment system.

6. Joint Pipeline Activities

   During the reporting period, there were additional actions regarding the joint pipeline construction and permitting. These actions included meeting with the ADEQ NPDES Permitting staff on joint and individual permit issues, involvement in the ADEQ NPDES site visit to El Dorado and completion of the joint effluent toxicity testing project in accordance with the protocol approved by the ADEQ. In addition, in concert with the other entities, the surveying of the proposed joint pipeline route was completed along with development of the bid package for the final design of the joint pipeline. The Request for Qualifications (RFQ) for the selection of the design engineer was completed by the City of El Dorado.

   In May 2005, EDDC along with the other local entities met with ADEQ management in Little Rock for the purpose of determining the status of the permitting process involved in the project. At this time all documentation requested by ADEQ in regard to the pipeline has been developed and transmitted. We are now awaiting the initiation of the NPDES and state construction permitting processes by ADEQ.

   Hopefully, this letter has adequately explained the status of our NPDES compliance efforts during the reporting period. Should you have any questions, please feel free to call me at (405) 235-4546.

Sincerely,

John M. Carver
Vice President Safety and
Environmental Compliance

JMC/ymq

cc: Martin Maner, Chief, Water Division

jcgc\benson_05.0531

EXHIBIT 4

P.O. BOX 1373 • OKLAHOMA CITY, OKLAHOMA 73101 • 405-235-4546

EL DORADO
CHEMICAL COMPANY

VIA CERTIFIED MAIL: 7004 0750 0000 9377 2108
RETURN RECEIPT REQUESTED

June 1, 2006

Mr. Dennis Benson
Technical Assistance Manager
NPDES Permits Section - Water Division
Arkansas Department of Environmental Quality
8001 National Drive
Little Rock, Arkansas 72219-8913

RE: Annual Compliance Progress Report – El Dorado Chemical Company
NPDES No. AR0000752

Dear Mr. Benson:

Pursuant to the requirements of Part IB Section B2 of the referenced NPDES permit, this letter serves as the second year Annual Compliance Progress Report. Pursuant to Part II Section D 5, this report is being submitted within 14 days of the schedule date of June 1, 2006.

During the second year under the referenced NPDES Permit, El Dorado Chemical Company (EDCC) has continued to conduct projects and studies in an effort to not only meet the final limitations of the NPDES permit, but to ensure compliance with current permit limitations. During the past year, there continued to be significant progress as a result of these activities. The following paragraphs present the details.

1. Hydrologic Study

   EDCC submitted a hydrologic study plan for the storm water outfalls. This plan was approved by ADEQ and then subsequently revised to modify the location of the background monitor for Outfalls 006 and 007. During 2006 the level loggers continued to collect data pursuant to the approved work plan and the subsequent revision due to low flow conditions in 2005. Additional flow measurements required by the study plan were made during this quarter and we anticipate completion of the flow measurements during the 3rd quarter of 2006. The hydrologic study report will be developed and submitted to the ADEQ after that data is collected.

2. Retention Basin Temperature Study

   Pursuant to the requirements of the final NPDES permit, EDCC submitted a temperature study plan for the purpose of determining the influence of ambient conditions on the temperature regime of the retention basin at EDCC. The study report was completed and submitted to the ADEQ during the 4th quarter of 2005. During the 1st quarter of 2006 ADEQ sent out review comments which were addressed by GBMc in correspondence. At this time there has been no permitting action based on the final study report. EDCC requests ADEQ to move forward on permitting action for EDCC to be able to discharge in July and August 2006.

COMPLIANCE FILE
NPDES # 752
DMR'S
NCR coded
CORRESPONDENCE

3. Storm Water Outfall Compliance

During the reporting period the following activities were accomplished to effectuate compliance with storm water discharges from Outfalls 004, 005, 006 and 007.

- EDCC evaluated alternatives including gravity diversion and source reduction to attain compliance with permit limits at Outfalls 006 and 007.
- Outfall 004 is in final stages of being diverted to Lake Lee.
- Storm water runoff from the industrial areas of Outfall 005 and part of Outfall 006 were routed into Lake Lee.
- Outfall 005 will be physically eliminated and a request to delete it from our NPDES permit was sent to the ADEQ on March 29, 2006. This project is on hold pending ADEQ's approval for routing Outfall 003 to Lake Lee.

4. Source Reduction Analysis

During the reporting period source reduction activities continued, including:

- Process improvements in the Nitrate Plant and Acid Plant areas were implemented to reduce waste loading to the wastewater system. These efforts have paid-off with major reductions in the nitrate and ammonia concentrations in the wastewater measured in Lake Lee. 2006 year to date Lake Lee effluent averaged 33 mg/L Ammonia-N and 67 mg/L Nitrate-N down from 2005's average of 120 mg/L Ammonia-N and 178 mg/L Nitrate-N. 2006 year to date Outfall 001 averaged 12 mg/L Ammonia-N and 63 mg/L Nitrate-N down from 2005's average of 70 mg/L Ammonia-N and 142 mg/L Nitrate-N.
- Efforts continue to identify and repair piping and collection sumps in the Nitrate Plant area and Acid Plant Area to reduce waste loading to the wastewater system.
- The plant continues to recover waste streams for recycling in the processes. The plant has reduced the overall wastewater flowing to Lake Lee on a dry weather basis from 1.0 MGD to 0.6 MGD.

5. Wastewater System

During the reporting period, EDCC continued activities regarding the upgrade of the wastewater treatment system. These activities focused on both Lake Lee and Lake Kildeer as listed in the following sections.

Wastewater/Storm Water Treatment

- Engineering work being done to route Outfall 006 and 007 to Lake Lee will be completed in the 2nd quarter of 2006.

- Constructed a new pipeline from Lake Lee to Lake Kildeer to convey peak storm/ process flows and minimize discharges from Outfall 001.

- In March of 2006, EDCC requested that ADEQ authorize a pilot test allowing the diversion of raw domestic sewage to Lake Lee to be used as a carbonaceous material supplement for the biological nitrification/denitrification process. As of this writing, ADEQ has not approved the request and EDCC is pursuing a meeting at which to discuss the need for this pilot project. With the lack of a carbon source in EDCC's wastewater, it is essential that raw domestic sewage be routed to Lake Lee. This could prevent EDCC from having to add Methanol as a carbon source.

- EDCC installed AquaMats in Lake Lee and Lake Kildeer. AquaMats are membranes for biofilm to attach. The AquaMats will sustain colonies of nitrifying and denitrifying bacteria to effectuate nitrogen removal treatment.

6. Wastewater Treatment Bioaugmentation

During the reporting period, EDCC continued implementation of the alternative wastewater treatment technology. We continue the collection of performance data to determine the efficacy of the organisms in our wastewater treatment system.

The data that EDCC has collected so far indicates that the source reduction and wastewater treatment improvements (including the addition of various microbes) has had a positive impact on the wastewater treatment system. The biomonitoring results from Outfall 001 continue to demonstrate steady improvement with all of the 2006 tests to date passing at 100% effluent water for lethality. The concentrations of contaminants such as ammonia-nitrogen and nitrate also continue to decline as well. The attached charts present the biomonitoring test results, the results of the source reduction efforts and effluent quality from Outfall 001.

7. Joint Pipeline Activities

During the reporting period, the ADEQ public noticed draft NPDES permits, the construction permit and the Water Quality Management Plan (WQMP) which supports the NPDES permit effluent limitations. In addition, the ADEQ conducted a public hearing on all the draft permits and the WQMP. We anticipate finalization of the permits during 2006.

8. Ouachita River Nutrient Study

Additionally, during the reporting period, EDCC participated in the completion of the Ouachita River nutrient study requested by the ADEQ and other natural resource agencies. The final report for the study is to be completed and submitted to ADEQ by June 1, 2006.

9. Dissolved Minerals Study

During the reporting period, EDCC initiated a review of the receiving streams for Outfall 001 for the purpose of determining the feasibility of conducting a water quality study to amend the Arkansas Water Quality Standards for dissolved minerals and to remove the designated, but not existing, domestic water supply use. Based on the initial biological survey, the decision was made to proceed with the third-party rulemaking process and the fieldwork was completed during the reporting period. We anticipate submittal of the third party rulemaking request during 2006.

Hopefully, this letter has adequately explained the status of our NPDES compliance efforts during the reporting period. Should you have any questions, please feel free to call me at (405) 235-4546.

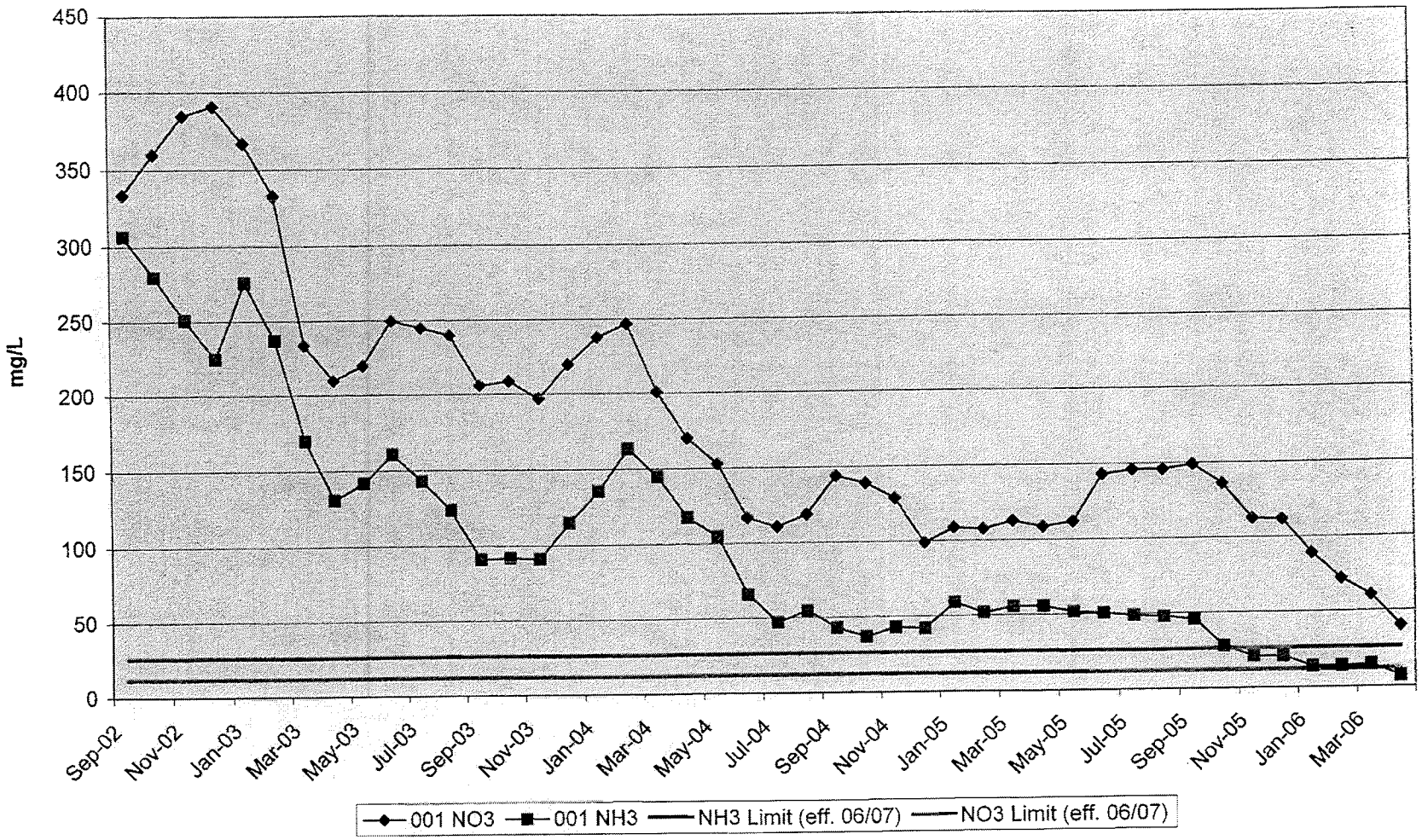
Sincerely,

John M. Carver
Vice President Safety and
Environmental Compliance

cc: Mary Leath, Chief Deputy Director, ADEQ
Martin Maner, Chief, Water Division, ADEQ

El Dorado Chemical Co.

Outfall 001 Monthly Averages



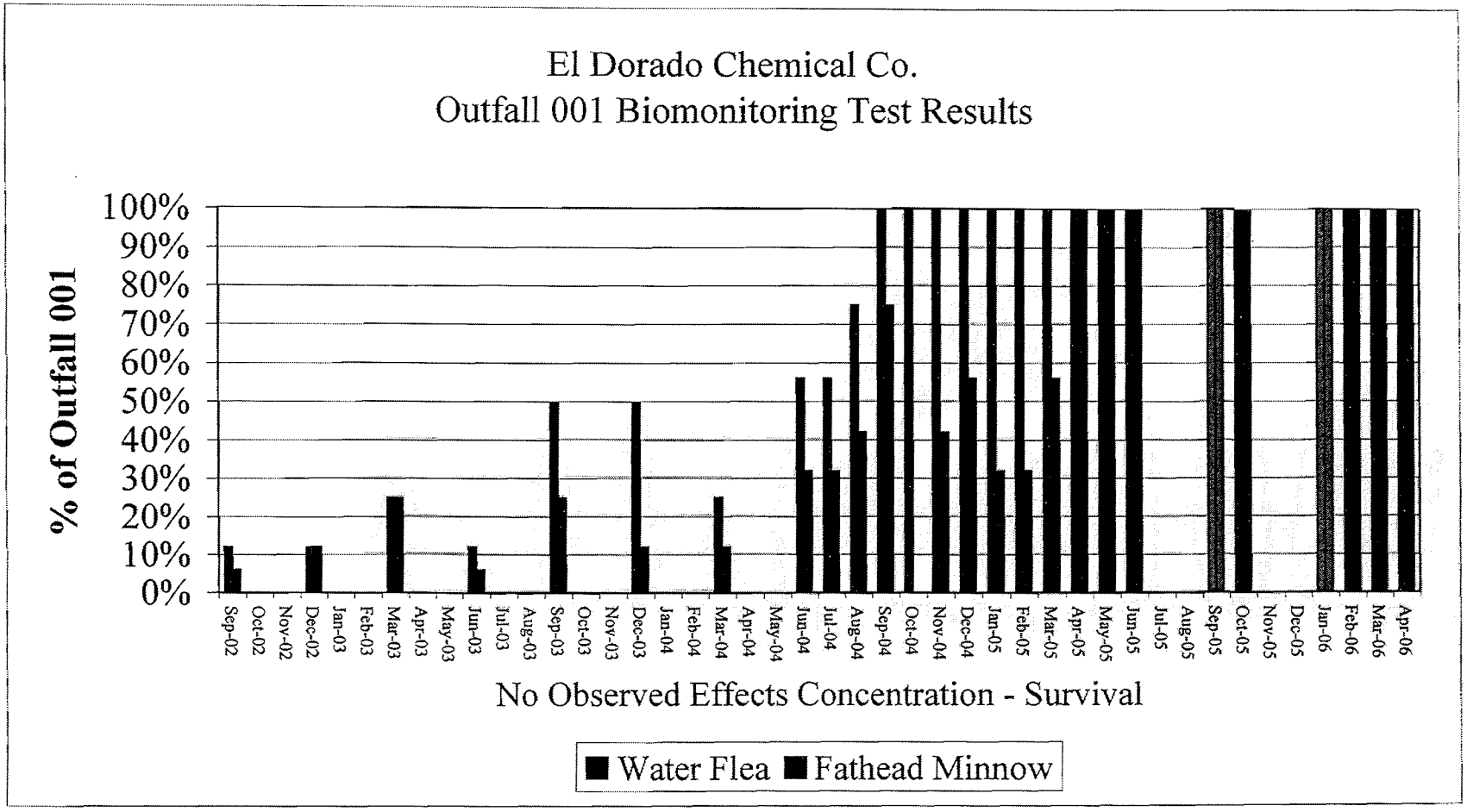

El Dorado Chemical Co.
Outfall 001 Biomonitoring Test Results
% of Outfall 001
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Sep-02
Oct-02
Nov-02
Dec-02
Jan-03
Feb-03
Mar-03
Apr-03
May-03
Jun-03
Jul-03
Aug-03
Sep-03
Oct-03
Nov-03
Dec-03
Jan-04
Feb-04
Mar-04
Apr-04
May-04
Jun-04
Jul-04
Aug-04
Sep-04
Oct-04
Nov-04
Dec-04
Jan-05
Feb-05
Mar-05
Apr-05
May-05
Jun-05
Jul-05
Aug-05
Sep-05
Oct-05
Nov-05
Dec-05
Jan-06
Feb-06
Mar-06
Apr-06
No Observed Effects Concentration - Survival
Water Flea
Fathead Minnow

EXHIBIT 5

Permit number: AR0000752

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.),

El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71731-0231

is authorized to discharge from a facility located on the north side of the City of El Dorado, approximately 1 mile west of Hwy. 7 Spur at 4500 North West Avenue, in Sections 6 & 7, Township 17 South, Range 15 West in Union County, Arkansas.

Latitude: 33° 15' 55"; Longitude: 92° 41' 15"

to receiving waters named:
Outfalls 001, 002, 003, 006, and 007 - unnamed tributary of Flat Creek, thence to the Ouachita River in Segment 2D of the Ouachita River Basin.
Outfall 010 - Via the joint pipeline to the Ouachita River, approximately 1.5 miles downstream of the H.K. Thatcher Lock and Dam at Latitude: 33° 17' 30"; Longitude: 92° 28' 12" in Segment 2D of the Ouachita River Basin.

The monitoring outfalls are located at the following coordinates:

Outfall 001: Latitude: 33° 15' 32"; Longitude: 92° 41' 12"
Outfall 002: Latitude: 33° 15' 48"; Longitude: 92° 41' 24"
Outfall 003: Latitude: 33° 15' 38"; Longitude: 92° 41' 07"
Outfall 006: Latitude: 33° 15' 03"; Longitude: 92° 41' 02"
Outfall 007: Latitude: 33° 16' 11"; Longitude: 92° 41' 16"
Outfall 010: Latitude: 33° 15' 55"; Longitude: 92° 41' 15"

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

This permit became effective on July 1, 2002.

The first modification to this permit became effective on June 1, 2004.
The second modification to this permit shall become effective on April 1, 2007.

This permit and the authorization to discharge shall expire at midnight, June 30, 2007.

Signed this 28th day of February, 2007.

Martin Maner, P.E.
Chief, Water Division
Arkansas Department of Environmental Quality

PART I
PERMIT REQUIREMENTS

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 – treated process and contaminated storm water and domestic wastewater

During the period beginning on June 1, 2004, and lasting until May 31, 2007, the permittee is authorized to discharge from outfall serial number 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.	Daily Max	Monthly Avg.	Daily Max		
Flow[1]	N/A	N/A	Report	Report	continuous	record
Total Suspended Solids	462	692	30	45	three/week	24-hr composite
Ammonia Nitrogen (NH3-N)	265.7	811.84	17.3	52.8	three/week	24-hr composite
Nitrate Nitrogen as N	405.02	1153.73	26.3	74.9	three/week	24-hr composite
Dissolved Oxygen[2]						
(May – October)	N/A	N/A	4.0, Min.		three/week	grab
(November – April)	N/A	N/A	5.0, Min.		three/week	grab
Total Recoverable Copper[3]	Report	Report	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Selenium[3]	Report	Report	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Zinc[3]	Report	Report	Report µg/l	Report µg/l	once/month	24-hr composite
Sulfates	Report	Report	Report	Report	once/month	24-hr composite
Chlorides	Report	Report	Report	Report	once/month	24-hr composite
Total Dissolved Solids (TDS)	Report	Report	Report	Report	once/month	24-hr composite
Temperature. Instantaneous Maximum	N/A	N/A	N/A	86°F	three/week	in-situ
Fecal Coliform Bacteria (FCB)			col/100 ml			
(April – September)	N/A	N/A	200	400	three/week	grab
(October – March)	N/A	N/A	1000	2000	three/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous	grab
Whole Effluent Lethality (7-day NOEC)[4, 5] 22414	Daily Average Minimum not < 100%		7-day Minimum not < 100%		once/month	24-hr composite
Pimephales promelas (Chronic)[4, 5]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/month	24-hr composite
Pass/Fail Growth (7-day NOEC)TGP6C			Report (Pass=0/Fail=1)		once/month	24-hr composite
Survival (7-day NOEC) TOP6C			Report %		once/month	24-hr composite
Coefficient of Variation TQP6C			Report %		once/month	24-hr composite
Growth (7-day NOEC) TPP6C			Report %		once/month	24-hr composite
Ceriodaphnia dubia (Chronic)[4, 5]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B			Report (Pass=0/Fail=1)		once/month	24-hr composite
Pass/Fail Growth (7-day NOEC)TGP3B			Report (Pass=0/Fail=1)		once/month	24-hr composite
Survival (7-day NOEC) TOP3B			Report %		once/month	24-hr composite
Coefficient of Variation TQP3B			Report %		once/month	24-hr composite
Reproduction (7-day NOEC) TPP3B			Report %		once/month	24-hr composite

1 Report monthly average and daily maximum as MGD.
2 See item #27 of Part IV.

3 See Condition No. 3 of Part III (Metals Requirements).

4 The NOEC (No Observed Lethal 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.

5 See Condition No. 16 of Part III. (WET Limits testing requirements.)

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. No visible sheen (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 discharge from the final treatment unit.

PART I
PERMIT REQUIREMENTS

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 – treated process and contaminated storm water and domestic wastewater

During the period beginning on June 1, 2007, and lasting until the date of expiration, the permittee is authorized to discharge from outfall serial number 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.	Daily Max	Monthly Avg.	Daily Max		
Flow[1]	N/A	N/A	Report	Report	continuous	record
Total Suspended Solids	462	692	30	45	three/week	24-hr composite
Ammonia Nitrogen (NH3-N)	265.7	811.84	12	18	three/week	24-hr composite
Nitrate Nitrogen as N	405.02	1153.73	26.3	74.9	three/week	24-hr composite
Dissolved Oxygen[2]						
(May – October)	N/A	N/A	4.0, Min.		three/week	grab
(November – April)	N/A	N/A	5.0, Min.		three/week	grab
Total Recoverable Copper[3]	0.19	0.38	12.2 µg/l	24.48 µg/l	once/month	24-hr composite
Total Recoverable Selenium[3]	0.09	0.17	5.58 µg/l	11.2 µg/l	once/month	24-hr composite
Total Recoverable Zinc[3]	1.78	3.57	115.62 µg/l	231.99 µg/l	once/month	24-hr composite
Sulfates	Report	Report	81	122	once/month	24-hr composite
Chlorides	Report	Report	38	57	once/month	24-hr composite
Total Dissolved Solids (TDS)	Report	Report	237	356	once/month	24-hr composite
Temperature, Instantaneous Maximum	N/A	N/A	N/A	86°F	three/week	in-situ
Fecal Coliform Bacteria (FCB)			col/100 ml			
(April – September)	N/A	N/A	200	400	three/week	grab
(October – March)	N/A	N/A	1000	2000	three/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous	grab
Whole Effluent Lethality (7-day NOEC)[4, 5] 22414	Daily Average Minimum not < 100%		7-day Minimum not < 100%		once/month	24-hr composite
Pimephales promelas (Chronic)[4, 5]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/month	24-hr composite
Pass/Fail Growth (7-day NOEC)TGP6C			Report (Pass=0/Fail=1)		once/month	24-hr composite
Survival (7-day NOEC) TOP6C			Report %		once/month	24-hr composite
Coefficient of Variation TQP6C			Report %		once/month	24-hr composite
Growth (7-day NOEC) TPP6C			Report %		once/month	24-hr composite
Ceriodaphnia dubia (Chronic)[4, 5]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B			Report (Pass=0/Fail=1)		once/month	24-hr composite
Pass/Fail Growth (7-day NOEC)TGP3B			Report (Pass=0/Fail=1)		once/month	24-hr composite
Survival (7-day NOEC) TOP3B			Report %		once/month	24-hr composite
Coefficient of Variation TQP3B			Report %		once/month	24-hr composite
Reproduction (7-day NOEC) TPP3B			Report %		once/month	24-hr composite

1 Report monthly average and daily maximum as MGD.
2 See item #27 of Part IV.

3 See Condition No. 3 of Part III (Metals Requirements).

4 The NOEC (No Observed Lethal 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.

5 See Condition No. 16 of Part III. (WET Limits testing requirements.)

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. No visible sheen (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 discharge from the final treatment unit.

PART I
PERMIT REQUIREMENTS

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 002 – overflow pond (process water and storm water)

During the period beginning on June 1, 2004, and lasting until May 31, 2007, the permittee is authorized to discharge from outfall serial number 002. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow[1]	N/A	N/A	Report	Report	once/day	estimate
Total Suspended Solids	N/A	N/A	Report	Report	once/day	grab
Ammonia Nitrogen (NH3-N)	265.7	811.84	17.3	52.9	once/day	grab
Nitrate Nitrogen as N	405.02	1153.73	26.3	74.9	once/day	grab
Total Recoverable Copper[2]	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Lead[2]	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Selenium[2]	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Zinc[2]	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Sulfates	N/A	N/A	Report	Report	once/month	grab
Total Dissolved Solids (TDS)	N/A	N/A	Report	Report	once/month	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Acute Biomonitoring[3]	N/A	N/A	N/A	N/A	once/month	24-hr composite
Pimephales promelas (Acute)[3]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		once/month	24-hr composite
Survival (48-Hr NOEC) **TOM6C**			Report %		once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report %		once/month	24-hr composite
Daphnia pulex (Acute)[3]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		once/month	24-hr composite
Survival (48-Hr NOEC) **TOM3D**			Report %		once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/month	24-hr composite

1 Report monthly average and daily maximum as MGD.
2 See Condition No. 3 of Part III (Metals Requirements).
3 See Condition No. 18 of Part III (Acute Biomonitoring Requirements).

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. No visible sheen (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 discharge from the final treatment unit.

PART I
PERMIT REQUIREMENTS

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 002 – overflow pond (process water and storm water)

During the period beginning on June 1, 2007, and lasting until the date of expiration, the permittee is authorized to discharge from outfall serial number 002. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow[1]	N/A	N/A	Report	Report	once/day	estimate
Total Suspended Solids	N/A	N/A	Report	Report	once/day	grab
Ammonia Nitrogen (NH3-N)	265.7	811.84	12	18	once/day	grab
Nitrate Nitrogen as N	405.02	1153.73	26.3	74.9	once/day	grab
Total Recoverable Copper[2]	N/A	N/A	12.2 µg/l	24.48 µg/l	once/month	24-hr composite
Total Recoverable Lead[2]	N/A	N/A	3.8 µg/l	7.62 µg/l	once/month	24-hr composite
Total Recoverable Selenium[2]	N/A	N/A	5.58 µg/l	11.2 µg/l	once/month	24-hr composite
Total Recoverable Zinc[2]	N/A	N/A	115.62 µg/l	231.99 µg/l	once/month	24-hr composite
Sulfates	N/A	N/A	250	375	once/month	grab
Total Dissolved Solids (TDS)	N/A	N/A	500	750	once/month	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Acute Biomonitoring[3]	N/A	N/A	N/A	N/A	once/month	24-hr composite
Pimephales promelas (Acute)[3] Pass/Fail Lethality (48-Hr NOEC) **TEM6C** Survival (48-Hr NOEC) **TOM6C** Coefficient of Variation (48-Hr NOEC) **TQM6C**			48-hr Minimum Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite
Daphnia pulex (Acute)[3] Pass/Fail Lethality (48-Hr NOEC) **TEM3D** Survival (48-Hr NOEC) **TOM3D** Coefficient of Variation (48-Hr NOEC) **TQM3D**			48-hr Minimum Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite

1 Report monthly average and daily maximum as MGD.
2 See Condition No. 3 of Part III (Metals Requirements).
3 See Condition No. 18 of Part III (Acute Biomonitoring Requirements).

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. No visible sheen (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 discharge from the final treatment unit.

PART I
PERMIT REQUIREMENTS

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 003 – treated domestic waste water

During the period beginning on June 1, 2004, and lasting until May 31, 2007, the permittee is authorized to discharge from outfall serial number 003. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow[1]	N/A	N/A	Report	Report	once/day	estimate
Carbonaceous Biochemical Oxygen Demand (CBOD5)	3.5	5.4	25	38	once/quarter	grab
Total Suspended Solids	4.3	6.4	30	45	once/quarter	grab
Ammonia Nitrogen (NH3-N)						
(May – October)	1.4	2.1	10	15	once/quarter	grab
(November – April)	2.1	3.3	15	23	once/quarter	grab
Fecal Coliform Bacteria, col/100 ml	N/A	N/A	1000	2000	once/quarter	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab

1 Report monthly average and daily maximum as MGD.

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. No visible sheen (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 discharge from the final treatment unit.

PART I
PERMIT REQUIREMENTS

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 003 –treated domestic waste water

During the period beginning on June 1, 2007, and lasting until the date of expiration, the permittee is authorized to discharge from outfall serial number 003. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow[1]	N/A	N/A	Report	Report	once/day	estimate
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1.4	2.1	10	15	once/quarter	grab
Total Suspended Solids	2.1	3.3	15	23	once/quarter	grab
Ammonia Nitrogen (NH3-N)						
(May – October)	0.7	1.1	5	7.5	once/quarter	grab
(November – April)	1.4	2.1	10	2.1	once/quarter	grab
Fecal Coliform Bacteria, col/100 ml	N/A	N/A	1000	2000	once/quarter	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab

1 Report monthly average and daily maximum as MGD.

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. No visible sheen (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 discharge from the final treatment unit.

PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALLS 006 and 007 – contaminated storm water

During the period beginning on effective date of the second permit modification and lasting until date of expiration. the permittee is authorized to discharge from outfall serial numbers 006 and 007. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow[1]	N/A	N/A	Report	Report	once/day	estimate
Total Suspended Solids	N/A	N/A	Report	Report	once/week	grab
Ammonia Nitrogen (NH3-N)	N/A	N/A	Report	Report	once/week	grab
Total Recoverable Cadmium[2,3]	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Lead[2]	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Zinc[2]	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Dissolved Solids (TDS)	N/A	N/A	Report	Report	once/month	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Acute Biomonitoring[4]	N/A	N/A	N/A	N/A	once/month	24-hr composite
Pimephales promelas (Acute)[4]						
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			48-hr Minimum			
Survival (48-Hr NOEC) **TOM6C**			Report (Pass=0/Fail=1)		once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report %		once/month	24-hr composite
			Report %		once/month	24-hr composite
Daphnia pulex (Acute)[4]						
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			48-hr Minimum			
Survival (48-Hr NOEC) **TOM3D**			Report (Pass=0/Fail=1)		once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/month	24-hr composite
			Report %		once/month	24-hr composite

1 Report monthly average and daily maximum as MGD.
2 See Condition No. 3 of Part III (Metals Requirements).
3 The Total Recoverable Cadmium requirements only apply to Outfall 006.
4 See Condition No. 18 of Part III (Acute Biomonitoring Requirements).

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. No visible sheen (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 discharge from the final treatment unit.

PART I
PERMIT REQUIREMENTS

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALLS 006 and 007 – contaminated storm water

During the period beginning on June 1, 2007, and lasting until the date of expiration, the permittee is authorized to discharge from outfall serial numbers 006 and 007. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow[1]	N/A	N/A	Report	Report	once/day	estimate
Total Suspended Solids	N/A	N/A	Report	Report	once/week	grab
Ammonia Nitrogen (NH3-N)	N/A	N/A	Report	Report	once/week	grab
Total Recoverable Cadmium[2, 3]	N/A	N/A	2.03 µg/l	4.08 µg/l	once/month	24-hr composite
Total Recoverable Lead[2]	N/A	N/A	3.8 µg/l	7.62 µg/l	once/month	24-hr composite
Total Recoverable Zinc[2]	N/A	N/A	115.62 µg/l	231.99 µg/l	once/month	24-hr composite
Total Dissolved Solids (TDS)	N/A	N/A	291	436.5	once/month	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Acute Biomonitoring[4]	N/A	N/A	N/A	N/A	once/month	24-hr composite
Pimephales promelas (Acute)[4]						
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			48-hr Minimum			
Survival (48-Hr NOEC) **TOM6C**			Report (Pass=0/Fail=1)		once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report %		once/month	24-hr composite
			Report %		once/month	24-hr composite
Daphnia pulex (Acute)[4]						
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			48-hr Minimum			
Survival (48-Hr NOEC) **TOM3D**			Report (Pass=0/Fail=1)		once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/month	24-hr composite
			Report %		once/month	24-hr composite

1 Report monthly average and daily maximum as MGD.
2 See Condition No. 3 of Part III (Metals Requirements).
3 The Total Recoverable Cadmium requirements only apply to Outfall 006.
4 See Condition No. 18 of Part III (Acute Biomonitoring Requirements).

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. No visible sheen (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 discharge from the final treatment unit.

PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 010 – combined outfall of 001, 006, and 007.[4]

During the period beginning on the effective date of the second modified permit and lasting until the date of expiration, the permittee is authorized to discharge from outfall serial number 010. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow[1]	N/A	N/A	Report	2	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)						
(May – October)	83.4	125.1	N/A	N/A	once/day[5]	24-hr composite
(November – April)	166.8	250.2	N/A	N/A	once/day[5]	24-hr composite
Total Suspended Solids (TSS)	500.4	750.6	N/A	N/A	once/day[5]	24-hr composite
Ammonia – Nitrogen (NH3-N)	265.2	605	N/A	N/A	once/day[5]	24-hr composite
Nitrate Nitrogen as N	405.02	1153.73	N/A	N/A	three/week	24-hr composite
Oil and Grease (O & G)	166.8	250.2	N/A	N/A	two/week	grab
Dissolved Oxygen (DO)[6]	N/A	N/A	Report, minimum		once/day[5]	grab
Total Dissolved Solids (TDS)	N/A	N/A	Report	Report	two/week	grab
Sulfates	N/A	N/A	Report	Report	two/week	grab
Chlorides	N/A	N/A	Report	Report	two/week	grab
Mercury, Total Recoverable[2]	N/A	N/A	N/A	<0.2 µg/l	once/month	24-hr composite
Cadmium, Total Recoverable[2]	0.22	0.45	N/A	N/A	once/month	24-hr composite
Hexavalent Chromium, Dissolved[2]	0.96	1.93	N/A	N/A	once/month	24-hr composite
Copper, Total Recoverable[2]	0.82	1.65	N/A	N/A	once/month	24-hr composite
Lead, Total Recoverable[2]	0.40	0.80	N/A	N/A	once/month	24-hr composite
Nickel, Total Recoverable[2]	14.23	28.55	N/A	N/A	once/month	24-hr composite
Selenium, Total Recoverable[2]	0.66	1.32	N/A	N/A	once/month	24-hr composite
Silver, Total Recoverable[2]	0.08	0.16	N/A	N/A	once/month	24-hr composite
Zinc, Total Recoverable[2]	7.35	14.75	N/A	N/A	once/month	24-hr composite
Chromium (III), Total Recoverable[2]	39.52	79.29	N/A	N/A	once/month	24-hr composite
Cyanide, Total Recoverable[2]	0.68	1.37	N/A	N/A	once/month	grab
Total Phosphorus	N/A	N/A	Report	Report	once/day[5]	24-hr composite
Fecal Coliform Bacteria (FCB)			colonies/100 ml			
	N/A	N/A	Report	Report	once/day[5]	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Chronic Biomonitoring[3]	N/A		N/A		N/A	N/A
Pimephales promelas (Chronic)[3]			7-Day Average			
Pass/Fail Growth (7-day NOEC)TLP6C			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Lethality (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)[3]			7-Day Average			
Pass/Fail Growth (7-day NOEC)TLP3B			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Lethality (7-day NOEC) TGP3B			Report (Pass=0/Fail=1)		once/quarter	24-hr composite

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
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 Condition No. 3 of Part III (Metals Condition).
3 See Condition No. 17 of Part III (Chronic Biomonitoring Requirements).
4 The first 2.0 inches of rainfall per 24 hour period will be routed to this outfall instead of Outfalls 004, 006, and/or 007. Any rainfall above 2.0 inches in a 24 hour period will be discharged through Outfalls 004, 006, and/or Outfall 007.
5 See Condition No. 4 of Part III. (Monitoring Frequency Reduction)
6 See Condition No. 27(b) of Part IV.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the outfall 010 (Latitude: 33° 15' 55"; Longitude: 92° 41' 15"), prior to commingling with any other waters.

PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: SUM of Outfalls 001, 002, and 010

During the period beginning on effective date of the modified permit and lasting until the date of expiration, the permittee is authorized to discharge from outfall serial numbers 001, 002, and 010. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow[1]	N/A	N/A	Report	Report	once/day	calculated
Ammonia Nitrogen as N	265.7	811.84	12	18	once/day	calculated
Nitrate Nitrogen as N	405.02	1153.73	26.3	74.9	once/day	calculated

1 Report monthly average and daily maximum as MGD.

SECTION B. SCHEDULE OF COMPLIANCE

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

Outfalls 001, 002, 003, 006, and 007:

1. Compliance with interim limitations is required on the effective date of the permit.
2. The permittee shall achieve compliance with final limitations in accordance with the following:

	Activity	Compliance Date from Effective Date of the Modified Permit (June 1, 2004)
a)	Submit Progress Report	One Year
b)	Submit Progress Report	Two Years
c)	Achieve final limitations	Three Years

3. Consent Administrative Order No. 02-059 continues to remain in effect and provides the permittee three(3) years from the effective date of this permit to comply with technology-based limits contained herein.

Required Evaluations

Outfalls 002, 006, and 007 - Item #12 in Part III

1. Within 90 days of permit issuance, the permittee shall submit a protocol for the evaluation of the background flow of the receiving streams for these outfalls and the dilution of the effluent in the receiving stream as a result of a storm event.
2. The evaluation shall be completed no later than November 30, 2005. (18 months from the date of issuance of the first modified permit.)
3. Until such time as the permit is reopened and modified, the effluent limits and toxicity testing requirements in this permit remain in effect.

Outfall 010

Compliance is required on the effective date of the permit for all effluent limitations.

The permittee must perform a Priority Pollutant Scan within 90 days of the first discharge to the joint pipeline.

The permittee shall develop a program for demonstrating that the first two inches of rainfall in a 24 hour period are routed to Outfall 010 instead of Outfalls 006 and 007. This program shall be submitted for approval to ADEQ within 90 days of the effective date of the permit.

EXHIBIT 6

P.O. BOX 1373 • OKLAHOMA CITY, OKLAHOMA 73101 • 405-235-4546

EL DORADO
CHEMICAL COMPANY

May 30, 2009

Ms. Cindy Garner
Technical Assistance Manager
Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

RE: Annual Progress Report – El Dorado Chemical Company
NPDES No. AR0000752

Dear Ms. Garner:

Although no longer required under Part IB, Section B of the referenced NPDES permit, this letter serves as our Annual Progress Report.

As stated in previous annual reports, during the past year El Dorado Chemical Company (EDCC) has continued its efforts to ensure continued compliance with current permit limitations. The following paragraphs present the details.

1. Hydrologic Study

As related in previous reports, EDCC submitted a hydrologic study plan for the storm water outfalls. This plan was approved by ADEQ and then subsequently revised to modify the location of the background monitor for Outfalls 006 and 007. During the 3rd quarter of 2006 the hydrologic study was completed and the final report submitted to the ADEQ. During the 1st quarter of 2007, EDCC received comments dated January 5, 2007 and met with ADEQ to discuss those comments. Subsequent to that meeting, GBMc received a permitting options letter for which EDCC responded. During the 1st quarter of 2008, EDCC had discussions with NPDES permitting staff regarding the utilization of the hydrologic study in the permit renewal process.

As of the date of this report, ADEQ has not proposed a modification to the NPDES permit regarding Outfalls 006 and 007 based on the hydrologic study, but has informed EDCC of potential options in the development of the permit. Our 1st Quarter 2009 Report under CAO LIS 08-067 as submitted to ADEQ presents the latest summary of actions regarding Outfalls 006 and 007. It should be noted during this reporting period that both outfalls remain in compliance.

2. Retention Basin Temperature Study

   Pursuant to the requirements of the final NPDES permit, EDCC submitted a temperature study plan for the purpose of determining the influence of ambient conditions on the temperature regime of the retention basin at EDCC. The study report was completed and submitted to the ADEQ during the 4th quarter of 2005. Through the 1st quarter of 2009, there continued to be no permitting action based on the final study report. However, EDCC received approval of the temperature study in a letter dated January 5, 2007 and the temperature limit will be removed from the permit upon renewal or modification of the existing permit. That modification or renewal was not proposed by ADEQ during this reporting period.

3. Storm Water Outfall Compliance

   In June of 2008 EDCC and ADEQ signed CAO No. LIS 08-067 to address historical compliance issues at Outfalls 006 and 007. As stated previously, EDCC is in compliance with the effluent limitations at those outfalls and the reporting requirements of that CAO.

4. Source Reduction Activities

   During the reporting period, source reduction activities have continued be implemented to reduce waste loading to the wastewater system. These efforts have paid-off with major reductions in the nitrate and ammonia concentrations in the wastewater measured in Lake Lee. For 2009 YTD through April, Lake Lee effluent averaged 6 mg/L Ammonia-N and 21 mg/L Nitrate-N. For the same time period, Outfall 001 averaged 1.0 mg/L Ammonia-N and 8.6 mg/L Nitrate-N compared to the June 1, 2007 daily average permit limits of 12 mg/L and 26.3 mg/L respectively. In addition, the biomonitoring of Outfall 001 effluent continues to show no toxicity at 100% effluent.

   The charts attached show the source reduction the plant has accomplished to date.

5. Wastewater System

   During the reporting period, EDCC continued use of the AquaMats in Lake Lee and Lake Kildeer. AquaMats are membranes for sustaining colonies of nitrifying and denitrifying bacteria.

6. Wastewater Treatment Bio-augmentation

As discussed in previous reports, during the reporting period, EDCC continued implementation of the alternative wastewater treatment technology. We continue the collection of performance data to determine the efficacy of the organisms in our wastewater treatment system.

The data that EDCC has collected so far indicates that the addition of various microbes continues to have a positive impact on the wastewater treatment system. The biomonitoring results from Outfall 001 continue to demonstrate the improvements.

7. Joint Pipeline Activities

Throughout the reporting period, EDCC, in support of the joint pipeline, continued to be active in the finalization of the joint pipeline related NPDES permits by participating in the permit appeal hearing process both before the Arkansas Pollution Control and Ecology Commission and the subsequent appeal to the Circuit Court in Union County. At this time the Circuit Court decision is under appeal and we anticipate that action to be resolved in 2009.

8. Water Quality (4g) Study for Dissolved Minerals

During 2009 EDCC continued its efforts to get USEPA approval of the amended State of Arkansas Water Quality Standards as approved by the Arkansas Pollution Control and Ecology Commission. Those efforts are continuing in coordination with the ADEQ Water Division and we anticipate successful resolution of those issues in 2009.

9. CAO LIS No. 08-067

As stated previously, in June of 2008, EDCC entered into a CAO with ADEQ which provided interim limitations for temperature and dissolved minerals at Outfall 001 and for metals at Outfalls 006 and 007. EDCC has met the reporting requirements of the CAO and is diligently working towards resolving any issues related to those parameters prior to the expiration date of the interim limits of December 2009 or at such time as the permit is renewed. At this time (due to issues related to the continued appeal of the joint pipeline permits) it appears that there may be a need to extend the interim limits beyond the December 31, 2009 date.

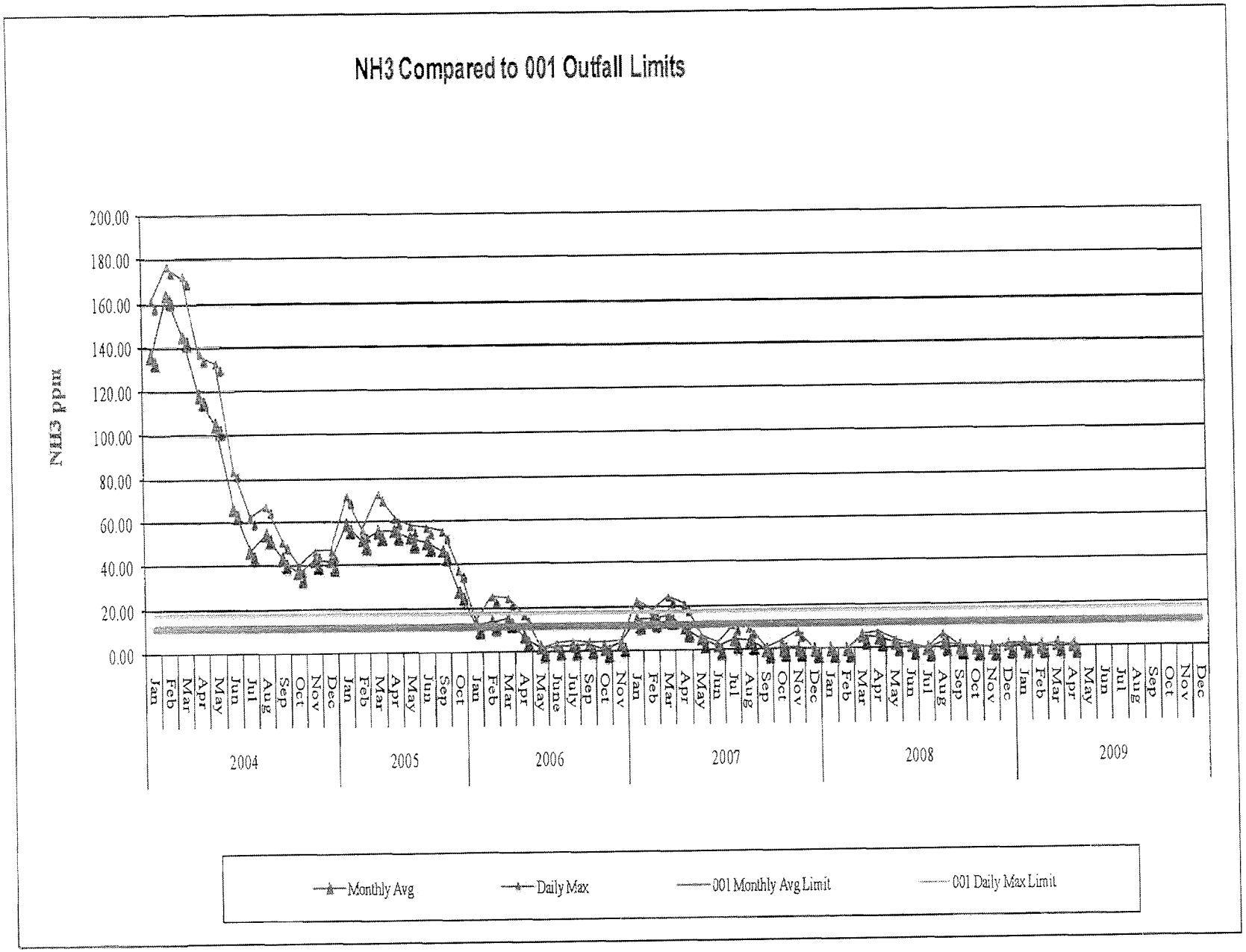
Hopefully, this letter has adequately explained the status of our NPDES efforts over the last year. Should you have any questions, please feel free to call me at (405) 235-4546.

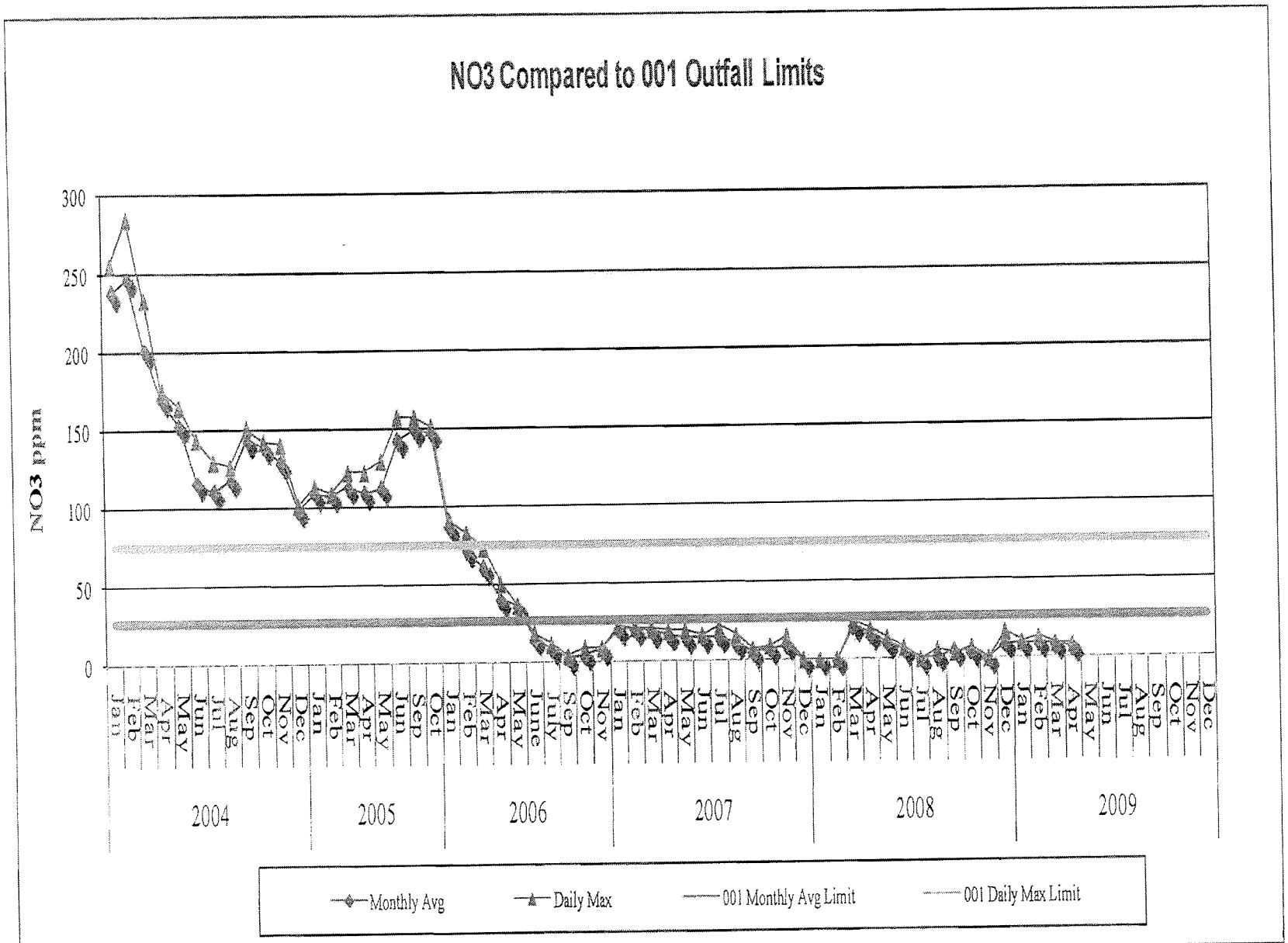
Sincerely,

John M. Carver
Vice President Safety and
Environmental Compliance

JMC/ymq

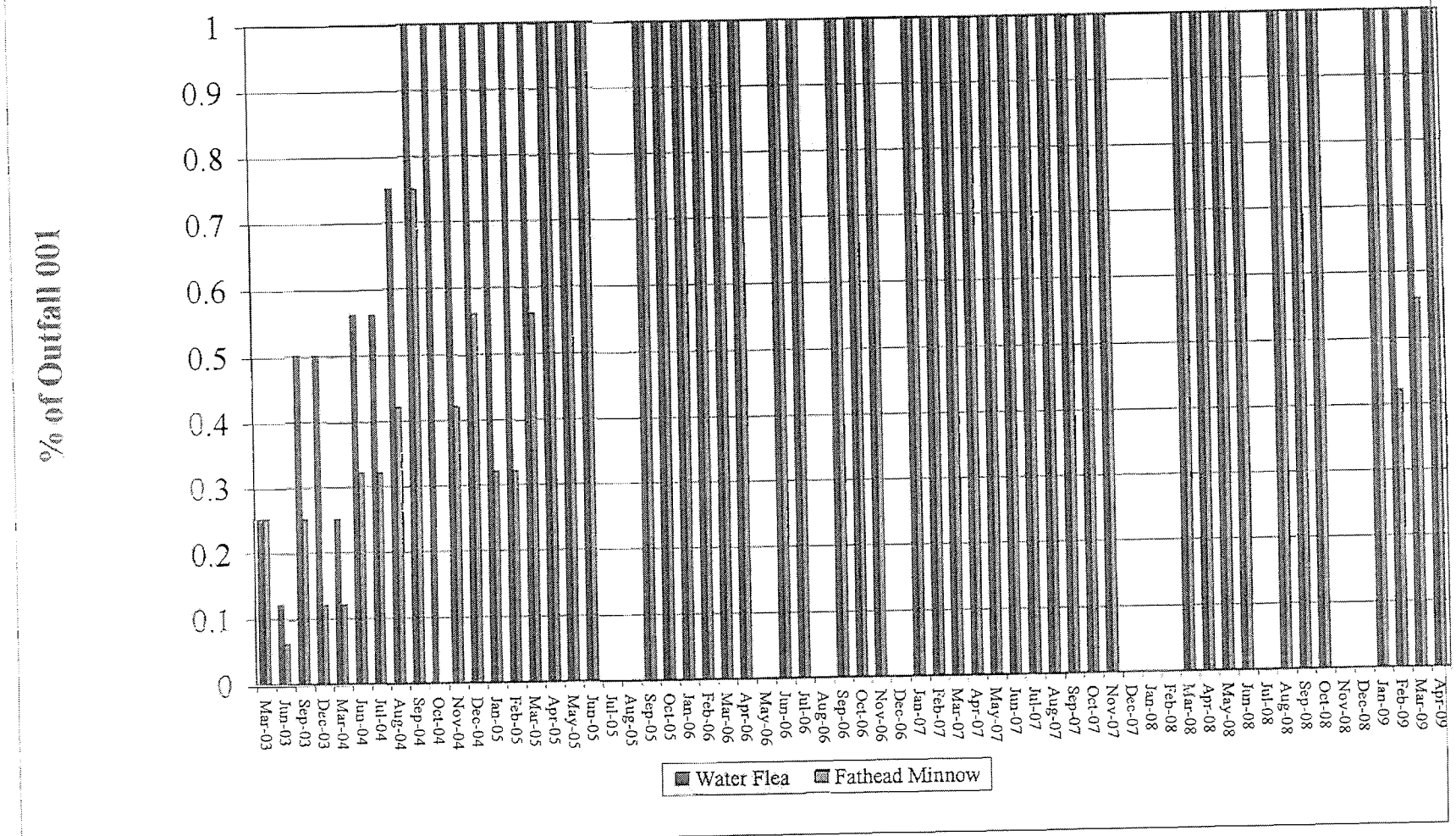
cc: Steve Drown, Water Division Chief, ADEQ
Mo Shaffi, Water Division Asst. Chief, ADEQ


NH3 Compared to 001 Outfall Limits
NH3 ppm
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
2004
2005
2006
2007
2008
2009
Monthly Avg
Daily Max
001 Monthly Avg Limit
001 Daily Max Limit


NO3 Compared to 001 Outfall Limits
NO3 ppm
300
250
200
150
100
50
0
2004
2005
2006
2007
2008
2009
Monthly Avg
Daily Max
001 Monthly Avg Limit
001 Daily Max Limit

El Dorado Chemical Co.
Outfall 001 Biomonitoring Test Results

No Observed Effects Concentration - Survival
Months With No Data - There Was No Discharge From 001



El Dorado Chemical Co.

Outfall 001 Biomonitoring Test Results

No Observed Effects Concentration - Sub - Lethal

Months With No Data - There Was No Discharge From 001

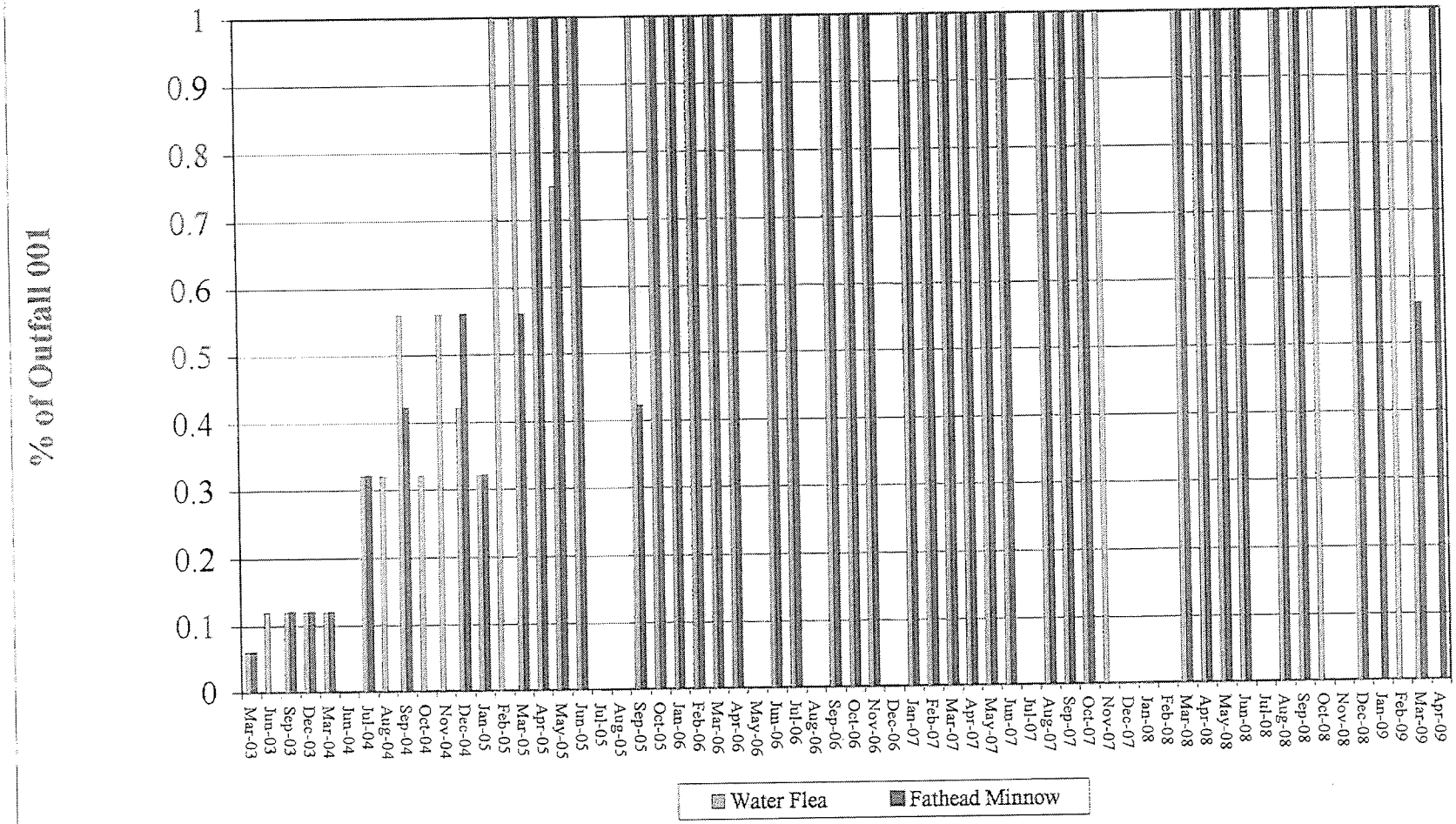


EXHIBIT 7

ADEQ

ARKANSAS
Department of Environmental Quality

February 7, 2008

Greg Withrow, General Manager
El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71731

RE: NPDES Permit No. AR0000752, AFIN 70-00040

Dear Mr. Withrow:

1. The NH3-N permit limits are being lowered due to the toxicity criteria in Section 2.512 of Arkansas Pollution Control and Ecology Commission Regulation No. 2 and the Total Maximum Daily Load (TMDL) which has been set by EPA for the receiving stream. How will the facility meet the lower NH3-N limits at each of the outfalls? The Department recognizes that the NH3-N levels in the effluent discharged through Outfall 001 have fallen a significant amount over the past few years. However, the levels reported are still above what the new permit limits will be.
2. How will the facility meet the lower chlorides limit at Outfall 001? All reported values are above what the permit limit will be (16 mg/l).
3. The Department has agreed to the use of background flow to effluent flow ratios for Outfalls 006 and 007 based upon a study performed for the facility by GBMc & Associates. Part of the background flow for Outfall 006 will consist of the effluent from Outfall 007. Therefore, the Department will be considering the permit limits for Outfall 007 as part of the background concentration when determining the limits for Outfall 006. The Department does not want to set a limit at one of the outfalls that is at a level which would cause a limit that is too restrictive at the other outfall. Therefore, the Department will set the limits at Outfall 007 as close as possible to the limits for Outfall 006 while ensuring that all limits meet the required water quality standards.
4. How will the facility meet the new permit limits for Outfalls 006 and 007? The Department recognizes that there will likely be a schedule of compliance for NH3-N for these two outfalls. However, there is currently no treatment in place at these outfalls and any change in operation at these outfalls may affect the background to effluent flow ratios used to calculate the permit limits.

If you have any questions or would like to schedule a meeting to discuss the issues in this letter, please feel free to contact me at reiber@adeq.state.ar.us or call me at (501) 682-0612.

Sincerely,

Loretta Reiber

Loretta Reiber, P.E.
Engineer, NPDES Permits

cc: Vince Blubaugh, GBMc & Associates

EXHIBIT 8

DRAFT

Permit Number: AR0000752
AFIN 70-00040

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.),

The applicant's mailing address is:

El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71731-0231

The facility address is:

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

is authorized to discharge from a facility located as follows: on the north side of the City of El Dorado, approximately 1 mile west of Hwy. 7 Spur in Union County, Arkansas.

Latitude: 33° 15' 47.28"; Longitude: 92° 40' 58.75"

Comment [MS1]: Check PDS by entering permit number

to receiving waters named:

Outfalls 001, 002, 003, 006, and 007 – an unnamed tributary of Flat Creek (a/k/a ELCC tributary), thence to Flat Creek, thence to Haynes Creek, thence to Smackover Creek, thence to the Ouachita River in Segment 2D of the Ouachita River Basin.
Outfall 010 – via the joint pipeline to the Ouachita River approximately 1.5 miles downstream of the H.K. Thatcher Lock and Dam in Segment 2D of the Ouachita River Basin.

The outfalls are located at the following coordinates:

Outfall 001:	Latitude: 33° 15' 33.8";	Longitude: 92° 41' 14.2"
Outfall 002:	Latitude: 33° 15' 45.3";	Longitude: 92° 41' 20.3"
Outfall 003:	Latitude: 33° 15' 38";	Longitude: 92° 41' 07"
Outfall 006:	Latitude: 33° 16' 03";	Longitude: 92° 41' 02"
Outfall 007:	Latitude: 33° 16' 06.3";	Longitude: 92° 41' 16"
Outfall 010:	Latitude: 33° 17' 30";	Longitude: 92° 28' 12"

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

Comment [KF2]: Insert submittal date based on permit expiration date. Will be completed upon final.

Comment [MS3]: Add, Response to comments is attached to this permit

Issue Date:
Effective Date:
Expiration Date:

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

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - treated process wastewater and contaminated stormwater.

During the period beginning on the effective date and lasting three years, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below from a treatment system consisting of pH neutralization, aeration pond, and equalization pond.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	continuous	record
Total Suspended Solids (TSS)	583.0	874.4	30	45	three/week	composite
Ammonia, NH3-N	Report[4]	Report[4]	Report	Report	three/week	composite
Nitrates as N	Report[5]	Report[5]	Report	Report	three/week	composite
Dissolved Oxygen						
(May – October)	N/A	N/A	4.0 (Inst. Min.)		three/week	grab
(November – April)	N/A	N/A	5.0 (Inst. Min.)		three/week	grab
Total Recoverable Copper[1]	0.24	0.48	12.20 µg/l	24.48 µg/l	once/month	composite
Total Recoverable Zinc[1]	2.25	4.51	115.62 µg/l	231.99 µg/l	once/month	composite
Chlorides	Report[5]	Report[5]	Report	Report	once/month	composite
Sulfates	Report[5]	Report[5]	Report	Report	once/month	composite
Total Dissolved Solids	Report[5]	Report[5]	Report	Report	once/month	composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous	grab
Whole Effluent Lethality (7-day NOEC)[2,3] 22414	Daily Average Minimum Not < 100%		7-day Minimum Not <100%		once/2 months	composite
Whole Effluent Sub-Lethality (7-day NOEC)[3] 22414	Daily Average Minimum Report %		7-day Minimum Report %		once/2 months	composite
Pimephales promelas (Chronic)[3]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/2 months	composite
Pass/Fail Growth (7-day NOEC)TGP6C			Report (Pass=0/Fail=1)		once/2 months	composite
Survival (7-day NOEC) TOP6C			Report %		once/2 months	composite
Coefficient of Variation (Growth) TQP6C			Report %		once/2 months	composite
Growth (7-day NOEC) TPP6C			Report %		once/2 months	composite
Ceriodaphnia dubia (Chronic)[3]			7-Day Average			
Pass/Fail Growth (7-day NOEC)TLP3B			Report (Pass=0/Fail=1)		once/2 months	composite
Pass/Fail Lethality (7-day NOEC) TGP3B			Report (Pass=0/Fail=1)		once/2 months	composite
Survival (7-day NOEC) TOP3B			Report %		once/2 months	composite
Coefficient of Variation (reproduction) TQP3B			Report %		once/2 months	composite
Reproduction (7-day NOEC) TPP3B			Report %		once/2 months	composite

1 See Condition No. 3 of Part III (Metals Requirements).

DRAFT

2 See Condition No. 12 of Part III (Chronic WET Limits Conditions).

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

4 See SUM Total for Outfalls 001, 002, and 003 on Page 17 of Part IA. (TMDL based)

5 See SUM Total for Outfalls 001 and 002 **OR** Outfall 010. (Technology based)

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 and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken following Lake Kildare and in the area of the following coordinates: Latitude: 33° 15' 33.8"; Longitude: 92° 41' 14.2". Samples for pH and temperature may be taken in the area of the following coordinates: Latitude: 33° 15' 33.9"; Longitude: 92° 41' 13.3".

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - treated process wastewater and contaminated stormwater.

During the period beginning on three years from the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below from a treatment system consisting of pH neutralization, aeration pond, and equalization pond.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	continuous	record
Total Suspended Solids (TSS)	583.0	874.4	30	45	three/week	composite
Ammonia, NH3-N	Report[4]	Report[4]	Report	Report	three/week	composite
Nitrates as N	Report[5]	Report[5]	Report	Report	three/week	composite
Dissolved Oxygen						
(May – October)	N/A	N/A	4.0 (Inst. Min.)		three/week	grab
(November – April)	N/A	N/A	5.0 (Inst. Min.)		three/week	grab
Total Recoverable Copper[1]	0.24	0.48	12.20 µg/l	24.48 µg/l	once/month	composite
Total Recoverable Zinc[1]	2.25	4.51	115.62 µg/l	231.99 µg/l	once/month	composite
Chlorides	Report[5]	Report[5]	Report	Report	once/month	composite
Sulfates	Report[5]	Report[5]	Report	Report	once/month	composite
Total Dissolved Solids	Report[5]	Report[5]	Report	Report	once/month	composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous	grab
Whole Effluent Lethality (7-day NOEC)[2,3] 22414	Daily Average Minimum Not < 100%		7-day Minimum Not <100%		once/2 months	composite
Whole Effluent Sub-Lethality (7-day NOEC)[3] 22414	Daily Average Minimum not < 80%		7-day Minimum not <80%		once/2 months	composite
Pimephales promelas (Chronic)[3]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/2 months	composite
Pass/Fail Growth (7-day NOEC)TGP6C			Report (Pass=0/Fail=1)		once/2 months	composite
Survival (7-day NOEC) TOP6C			Report %		once/2 months	composite
Coefficient of Variation (Growth) TQP6C			Report %		once/2 months	composite
Growth (7-day NOEC) TPP6C			Report %		once/2 months	composite
Ceriodaphnia dubia (Chronic)[3]			7-Day Average			
Pass/Fail Growth (7-day NOEC)TLP3B			Report (Pass=0/Fail=1)		once/2 months	composite
Pass/Fail Lethality (7-day NOEC) TGP3B			Report (Pass=0/Fail=1)		once/2 months	composite
Survival (7-day NOEC) TOP3B			Report %		once/2 months	composite
Coefficient of Variation (reproduction) TQP3B			Report %		once/2 months	composite
Reproduction (7-day NOEC) TPP3B			Report %		once/2 months	composite

1 See Condition No. 3 of Part III (Metals Requirements).

2 See Condition No. 12 of Part III (Chronic WET Limits Conditions).

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

4 See SUM Total for Outfalls 001, 002, and 003 on Page 17 of Part IA. (TMDL based)

5 See SUM Total for Outfalls 001 and 002 **OR** Outfall 010. (Technology based)

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 and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken following Lake Kildare and in the area of the following coordinates: Latitude: 33° 15' 33.8"; Longitude: 92° 41' 14.2". Samples for pH and temperature may be taken in the area of the following coordinates: Latitude: 33° 15' 33.9"; Longitude: 92° 41' 13.3".

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 002 – overflow pond (treated process wastewater and contaminated stormwater).

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 002. Such discharges shall be limited and monitored by the permittee as specified below from a treatment system consisting of pH neutralization, aeration pond, and equalization pond.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Total Suspended Solids (TSS)	N/A	N/A	Report	Report	once/day	grab
Ammonia (NH3-N)	Report[3]	Report[3]	Report	Report	once/day	grab
Nitrates as N	Report[4]	Report[4]	Report	Report	once/day	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/day	grab
Total Recoverable Copper[1]	N/A	N/A	12.2 µg/l	24.48 µg/l	once/month	composite
Total Recoverable Lead[1]	N/A	N/A	3.8 µg/l	7.62 µg/l	once/month	composite
Total Recoverable Zinc[1]	N/A	N/A	115.62 µg/l	231.99 µg/l	once/month	composite
Chlorides	Report[3]	Report[3]	Report	Report	once/month	grab
Sulfates	Report[3]	Report[3]	Report	Report	once/month	grab
Total Dissolved Solids	Report[3]	Report[3]	Report	Report	once/month	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Acute WET testing[2]	N/A		N/A	N/A	once/month	composite
Pimephales promelas (Acute)[2] Pass/Fail Lethality (48-Hr NOEC) **TEM6C** Survival (48-Hr NOEC) **TOM6C** Coefficient of Variation (48-Hr NOEC) **TQM6C**			48-hr Minimum Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	composite composite composite
Daphnia pulex (Acute)[2] Pass/Fail Lethality (48-Hr NOEC) **TEM3D** Survival (48-Hr NOEC) **TOM3D** Coefficient of Variation (48-Hr NOEC) **TQM3D**			48-hr Minimum Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	composite composite composite

1 See Condition No. 3 of Part III (Metals Requirements).
2 See Condition No. 11 of Part III (WET testing Requirements).
3 See SUM Total for Outfalls 001, 002, and 003 on Page 17 of Part IA. (TMDL based)
4 See SUM Total for Outfalls 001 and 002 **OR** Outfall 010. (Technology based)

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).

DRAFT

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken following Lake Lee and in the area of the following coordinates: Latitude: 33° 15' 47.9"; Longitude: 92° 41' 20.0".

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 003 - treated domestic wastewater.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 003. Such discharges shall be limited and monitored by the permittee as specified below from a treatment system consisting of an Imhoff tank and sand filtration with a design flow of 0.017 MGD.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/week	instantaneous
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1.4	2.1	10	15	once/quarter	grab
Total Suspended Solids (TSS)	2.1	3.2	15	22.5	once/quarter	grab
Ammonia Nitrogen (NH3-N)	Report[2]	Report[2]	Report	Report	once/month	grab
Dissolved Oxygen						
(May – October)	N/A	N/A	4.0 (Inst. Min.)		once/quarter	grab
(November – April)	N/A	N/A	2.0 (Inst. Min.)		once/quarter	grab
Fecal Coliform Bacteria (FCB)			(colonies/100ml)			
	N/A	N/A	1000	2000	once/quarter	grab
Total Recoverable Copper[1]	Report	Report	Report µg/l	Report µg/l	once/quarter	composite
Total Recoverable Zinc[1]	Report	Report	Report µg/l	Report µg/l	once/quarter	composite
Chlorides	Report[2]	Report[2]	Report	Report	once/month	composite
Sulfates	Report[2]	Report[2]	Report	Report	once/month	composite
Total Dissolved Solids	Report[2]	Report[2]	Report	Report	once/month	composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab

Comment [MS4]: Make sure to include correct frequency (i.e. 1/5 months)

1 See condition No. 3 of Part III (Metals Condition).
2 See SUM Total for Outfalls 001, 002, and 003 on Page 17 of Part IA. (TMDL based)

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 and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken following the sanitary sewer treatment plant and in the area of the following coordinates: Latitude: 33° 15' 40.8"; Longitude: 92° 41' 09.7".

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 006 - contaminated stormwater.

During the period beginning on the effective date and lasting three years, the permittee is authorized to discharge from Outfall 006. Such discharges shall be limited and monitored by the permittee as specified below. There are no treatment units nor a design flow associated with this outfall. Limits are based upon an effluent flow to downstream flow ratio of 1:53.6.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Downstream Flow	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Total Suspended Solids (TSS)	N/A	N/A	Report	100	once/week	grab
Ammonia (NH3-N)	Report[5]	Report[5]	Report	Report	once/week[3]	grab
Total Recoverable Cadmium[1]	N/A	N/A	Report µg/l	Report µg/l	once/month	composite
Total Recoverable Lead[1]	N/A	N/A	Report µg/l	Report µg/l	once/month	composite
Total Recoverable Copper[1]	N/A	N/A	244.27 µg/l	490.11 µg/l	once/month	composite
Total Recoverable Zinc[1]	N/A	N/A	2161.53 µg/l	4337.00 µg/l	once/month	composite
Chlorides	Report[5]	Report[5]	Report	Report	once/month	grab
Sulfates	Report[5]	Report[5]	Report	Report	once/month	grab
Total Dissolved Solids	Report[5]	Report[5]	Report	Report	once/month	grab
Nitrates	N/A	N/A	Report	Report	once/month	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab
Whole Effluent Lethality[2, 4] (48-hr NOEC)			48-hr Minimum Report %		once/2 months	composite
Pimephales promelas (Acute)[2]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		once/2 months	composite
Survival (48-Hr NOEC) **TOM6C**			Report %		once/2 months	composite
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report %		once/2 months	composite
Daphnia pulex (Acute)[2]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		once/2 months	composite
Survival (48-Hr NOEC) **TOM3D**			Report %		once/2 months	composite
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/2 months	composite

1 See Condition No. 3 of Part III (Metals Requirements).
2 See Condition No. 11 of Part III (WET testing Requirements).
3 See Condition No. 20 of Part III (NH3-N monitoring frequency reduction).
4 See Condition No. 21 of Part III (Maintaining M & R for WET Testing).
5 See SUM Total for Outfalls 006 and 007 on Page 18 of Part IA. (TMDL based)

DRAFT

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 and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken in the area of the following coordinates: Latitude: 33° 16' 01.0"; Longitude: 92° 41' 03.0".

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 006 - contaminated stormwater.

During the period beginning on three years from the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 006. Such discharges shall be limited and monitored by the permittee as specified below. There are no treatment units nor a design flow associated with this outfall. Limits are based upon an effluent flow to downstream flow ratio of 1:53.6.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Downstream Flow	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Total Suspended Solids (TSS)	N/A	N/A	Report	100	once/week	grab
Ammonia (NH3-N)	Report[5]	Report[5]	Report	Report	once/week[3]	grab
Total Recoverable Cadmium[1]	N/A	N/A	Report µg/l	Report µg/l	once/month	composite
Total Recoverable Lead[1]	N/A	N/A	Report µg/l	Report µg/l	once/month	composite
Total Recoverable Copper[1]	N/A	N/A	244.27 µg/l	490.11 µg/l	once/month	composite
Total Recoverable Zinc[1]	N/A	N/A	2161.53 µg/l	4337.00 µg/l	once/month	composite
Chlorides	Report[5]	Report[5]	Report	Report	once/month	grab
Sulfates	Report[5]	Report[5]	Report	Report	once/month	grab
Total Dissolved Solids	Report[5]	Report[5]	Report	Report	once/month	grab
Nitrates	N/A	N/A	Report	Report	once/month	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab
Whole Effluent Lethality[2,4] (48-hr NOEC)			48-hr Minimum not < 22%		once/2 months	composite
Pimephales promelas (Acute)[2] Pass/Fail Lethality (48-Hr NOEC) **TEM6C** Survival (48-Hr NOEC) **TOM6C** Coefficient of Variation (48-Hr NOEC) **TQM6C**			48-hr Minimum Report (Pass=0/Fail=1) Report % Report %		once/2 months once/2 months once/2 months	composite composite composite
Daphnia pulex (Acute)[2] Pass/Fail Lethality (48-Hr NOEC) **TEM3D** Survival (48-Hr NOEC) **TOM3D** Coefficient of Variation (48-Hr NOEC) **TQM3D**			48-hr Minimum Report (Pass=0/Fail=1) Report % Report %		once/2 months once/2 months once/2 months	composite composite composite

1 See Condition No. 3 of Part III (Metals Requirements).
2 See Condition No. 13 of Part III (WET testing Requirements).
3 See Condition No. 20 of Part III (NH3-N monitoring frequency reduction).
4 See Condition No. 21 of Part III (Maintaining M & R for WET Testing).
5 See SUM Total for Outfalls 006 and 007 on Page 18 of Part IA. (TMDL based)

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 and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken in the area of the following coordinates: Latitude: 33° 16' 01.0"; Longitude: 92° 41' 03.0".

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 007 - contaminated stormwater.

During the period beginning on the effective date and lasting three years, the permittee is authorized to discharge from Outfall 007. Such discharges shall be limited and monitored by the permittee as specified below. There are no treatment units nor a design flow associated with this outfall. Limits are based upon an effluent flow to downstream flow ratio of 1:15.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Downstream Flow	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Total Suspended Solids (TSS)	N/A	N/A	Report	100	once/week	grab
Ammonia-Nitrogen (NH3-N)	Report[5]	Report[5]	Report	Report	once/week[3]	grab
Total Recoverable Copper[1]	N/A	N/A	77.77 µg/l	156.04 µg/l	once/month	composite
Total Recoverable Lead[1]	N/A	N/A	Report µg/l	Report µg/l	once/month	composite
Total Recoverable Zinc[1]	N/A	N/A	688.17 µg/l	1380.78 µg/l	once/month	composite
Chlorides	Report[5]	Report[5]	Report	Report	once/month	grab
Sulfates	Report[5]	Report[5]	Report	Report	once/month	grab
Total Dissolved Solids	Report[5]	Report[5]	Report	Report	once/month	grab
Nitrates	N/A	N/A	Report	Report	once/month	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab
Whole Effluent Lethality[3,4] (48-hr NOEC)			48-hr Minimum Report %		once/2 months	composite
Pimephales promelas (Acute)[2]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		once/2 months	composite
Survival (48-Hr NOEC) **TOM6C**			Report %		once/2 months	composite
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report %		once/2 months	composite
Daphnia pulex (Acute)[2]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		once/2 months	composite
Survival (48-Hr NOEC) **TOM3D**			Report %		once/2 months	composite
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/2 months	composite

1 See Condition No. 3 of Part III (Metals Requirements).
2 See Condition No. 11 of Part III (WET testing Requirements).
3 See Condition No. 20 of Part III (NH3-N monitoring frequency reduction).
4 See Condition No. 21 of Part III (Maintaining M & R for WET Testing).
5 See SUM Total for Outfalls 006 and 007 on Page 18 of Part IA. (TMDL based)

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).

DRAFT

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken in the area of the following coordinates: Latitude: 33° 16' 06.3"; Longitude: 92° 41' 15.9".

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 007 - contaminated stormwater.

During the period beginning on three years from the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 007. Such discharges shall be limited and monitored by the permittee as specified below. There are no treatment units nor a design flow associated with this outfall. Limits are based upon an effluent flow to downstream flow ratio of 1:15.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Downstream Flow	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Total Suspended Solids (TSS)	N/A	N/A	Report	100	once/week	grab
Ammonia-Nitrogen (NH3-N)	Report[5]	Report[5]	Report	Report	once/week[3]	grab
Total Recoverable Copper[1]	N/A	N/A	77.77 µg/l	156.04 µg/l	once/month	composite
Total Recoverable Lead[1]	N/A	N/A	Report µg/l	Report µg/l	once/month	composite
Total Recoverable Zinc[1]	N/A	N/A	688.17 µg/l	1380.78 µg/l	once/month	composite
Chlorides	Report[5]	Report[5]	Report	Report	once/month	grab
Sulfates	Report[5]	Report[5]	Report	Report	once/month	grab
Total Dissolved Solids	Report[5]	Report[5]	Report	Report	once/month	grab
Nitrates	N/A	N/A	Report	Report	once/month	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab
Whole Effluent Lethality[2, 4] 22414 (48-hr NOEC)			48-hr Minimum not < 50%		once/2 months	composite
Pimephales promelas (Acute)[2]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		once/2 months	composite
Survival (48-Hr NOEC) **TOM6C**			Report %		once/2 months	composite
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report %		once/2 months	composite
Daphnia pulex (Acute)[2]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		once/2 months	composite
Survival (48-Hr NOEC) **TOM3D**			Report %		once/2 months	composite
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/2 months	composite

1 See Condition No. 3 of Part III (Metals Requirements).
2 See Condition No. 13 of Part III (WET testing Requirements).
3 See Condition No. 20 of Part III (NH3-N monitoring frequency reduction).
4 See Condition No. 21 of Part III (Maintaining M & R for WET Testing).
5 See SUM Total for Outfalls 006 and 007 on Page 18 of Part IA. (TMDL based)

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).

DRAFT

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken in the area of the following coordinates: Latitude: 33° 16' 06.3"; Longitude: 92° 41' 15.9".

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 010 - treated process wastewater and contaminated stormwater.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 010. Such discharges shall be limited and monitored by the permittee as specified below from a treatment system consisting of pH neutralization, aeration pond, and equalization pond with a permitted flow of 2 MGD.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	2 MGD	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)						
(May – October)	83.4	125.1	N/A	N/A	once/day	24-hr composite
(November – April)	166.8	250.2	N/A	N/A	once/day	24-hr composite
Total Suspended Solids (TSS)	500.4	750.6	N/A	N/A	once/day	24-hr composite
Ammonia – Nitrogen (NH3-N)	265.2	605.0	N/A	N/A	once/day	24-hr composite
Nitrate Nitrogen as N	Report lb/day[3]	Report lb/day[3]	N/A	N/A	three/week	24-hr composite
Oil and Grease (O & G)	166.8	250.2	N/A	N/A	two/week	grab
Dissolved Oxygen (DO)	N/A	N/A	Report, minimum		once/day	grab
Total Dissolved Solids (TDS)	N/A	N/A	Report	Report	two/week	grab
Sulfates	N/A	N/A	Report	Report	two/week	grab
Chlorides	N/A	N/A	Report	Report	two/week	grab
Mercury, Total Recoverable[2]	N/A	N/A	N/A	<0.2µg/l	once/month	24-hr composite
Cadmium, Total Recoverable[2]	0.22	0.45	N/A	N/A	once/month	24-hr composite
Hexavalent Chromium, Dissolved[2]	0.96	1.93	N/A	N/A	once/month	24-hr composite
Copper, Total Recoverable[2]	0.82	1.65	N/A	N/A	once/month	24-hr composite
Lead, Total Recoverable[2]	0.40	0.80	N/A	N/A	once/month	24-hr composite
Nickel, Total Recoverable[2]	14.23	28.55	N/A	N/A	once/month	24-hr composite
Selenium, Total Recoverable[2]	0.66	1.32	N/A	N/A	once/month	24-hr composite
Silver, Total Recoverable[2]	0.08	0.16	N/A	N/A	once/month	24-hr composite
Zinc, Total Recoverable[2]	7.35	14.75	N/A	N/A	once/month	24-hr composite
Chromium (III), Total Recoverable[2]	39.52	79.29	N/A	N/A	once/month	24-hr composite
Cyanide, Total Recoverable[2]	0.68	1.37	N/A	N/A	once/month	grab
Total Phosphorous	N/A	N/A	Report	Report	once/day	24-hr composite
Fecal Coliform Bacteria (FCB)			col/100 ml			
	N/A	N/A	Report	Report	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab
Chronic WET testing[1]	N/A	N/A	N/A	N/A	once/quarter	24-hr composite

DRAFT

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Pimephales promelas (Chronic)[1]			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 (Growth) TQP6C			Report %		once/quarter	24-hr composite
Growth (7-day NOEC) TPP6C			Report %		once/quarter	24-hr composite
Ceriodaphnia dubia (Chronic)[1]			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 (Reproduction) TQP3B			Report %		once/quarter	24-hr composite
Reproduction (7-day NOEC) TPP3B			Report %		once/quarter	24-hr composite

1 See Condition No. 10 of Part III (WET testing Requirements).
2 See Condition No. 3 of Part III (Metals Requirements).
3 See SUM Total for Outfalls 001 and 002 OR 010 on Page 16 of Part IA. (Technology based)

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 and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken at the Outfall 010 in the area of the following coordinates: Latitude: 33° 15' 55"; Longitude: 92° 41' 15" and prior to commingling with any other waters.

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: SUM TOTALS for OUTFALLS 001 and 002 **OR** Outfall 010 - treated process wastewater and contaminated stormwater.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfalls 001 and 002. Such discharges shall be limited and monitored by the permittee as specified below from a treatment system consisting of pH neutralization, aeration pond, and equalization pond.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Nitrate Nitrogen as N	450.3	1070.4	N/A	N/A	three/week	calculated

THIS OUTFALL IS FOR PROCESS WASTEWATER AND CONTAMINATED STORMWATER. THESE LIMITS ARE TECHNOLOGY-BASED LIMITS.

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: TMDL SUM TOTAL of Outfalls 001 & 002 - treated process wastewater, contaminated stormwater, and Outfall 003 - treated sanitary wastewater.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfalls 001, 002, and 003. Such discharges shall be limited and monitored by the permittee as specified below from a treatment system for Outfalls 001 and 002 consisting of pH neutralization, aeration pond, and equalization pond with a flow of 2 MGD and a treatment system for Outfall 003 consisting of an Imhoff tank and sand filtration with a design flow of 0.017 MGD.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Ammonia – Nitrogen (NH3-N)						
(April – October)	37.90	37.90	N/A	N/A	three/week	calculated
(November – March)	85.78	85.78	N/A	N/A	three/week	calculated
Chlorides	265.0	265.0	N/A	N/A	three/week	calculated
Sulfates	503.0	503.0	N/A	N/A	three/week	calculated
Total Dissolved Solids	1,338.0	1,338.0	N/A	N/A	three/week	calculated

THESE LIMITS ARE THE WASTE LOAD ALLOCATIONS SET FORTH IN THE TMDL FOR THE UNNAMED TRIBUTARY OF FLAT CREEK (A/K/A EL DORADO CHEMICAL COMPANY (ELCC) TRIBUTARY).

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: TMDL SUM TOTALS for OUTFALLS 006 and 007 - contaminated stormwater.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfalls 006 and 007. There are no treatment units nor a design flow associated with either of these outfalls.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Ammonia – Nitrogen (NH3-N)						
(April – October)	0.00	0.00	N/A	N/A	three/week	calculated
(November – March)	5.16	5.16	N/A	N/A	three/week	calculated
Chlorides	73.0	73.0	N/A	N/A	once/week	calculated
Sulfates	33.0	33.0	N/A	N/A	once/week	calculated
Total Dissolved Solids	635.0	635.0	N/A	N/A	once/week	calculated

THESE LIMITS ARE THE LOAD ALLOCATIONS SET FORTH IN THE TMDL FOR THE UNNAMED TRIBUTARY OF FLAT CREEK (A/K/A EL DORADO CHEMICAL COMPANY (ELCC) TRIBUTARY).

DRAFT

SECTION B. PERMIT COMPLIANCE

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

Compliance with the interim limits is required on the effective date of the permit.

1. Compliance with the final sub-lethal WET limits at Outfall 001 is required three years from the effective date of the permit. After 18 bi-monthly tests (beginning at Permit effective date), at the request of the permittee, ADEQ will reevaluate the Reasonable Potential associated with *C. dubia* and *P. promelas* sub-lethality. If Reasonable Potential no longer exists, the final *C. dubia* and/or *P. promelas* sub-lethal limits will be removed through a minor modification (prior to the effective date of the final limits) and replaced with report only.

2. Compliance with the final WET *P. promelas* limit at Outfall 006 is required three years from the effective date of the permit. After 18 bi-monthly tests (beginning at Permit effective date), at the request of the permittee, ADEQ will reevaluate the Reasonable Potential associated with *P. promelas* lethality. If Reasonable Potential no longer exists, the final *P. promelas* lethal limit will be removed through a minor modification (prior to the effective date of the final limits) and replaced with report only.

   The permittee is currently beginning a TRE. The TRE plan is due to the Department December 23, 2010. Compliance with the final WET limit for *D. pulex* at Outfall 006 is required by April 1, 2013.

   Upon completion of the TRE, or anytime before, if the permittee has successfully eliminated effluent toxicity at the critical dilution, the *D. pulex* lethal WET final effluent limits may be replaced by monitoring and reporting only requirements through a minor modification. The modification may include limits on the pollutant(s) identified as the source of toxicity. Institution of a chemical-specific limit in lieu of the *D. pulex* lethal limit is appropriate per federal regulations at 40 CFR 122.44(d)(1)(v). Otherwise the permittee must comply with the final *D. pulex* lethal WET effluent limit.

3. Compliance with the final WET limits at Outfall 007 is required three years from the effective date of the permit. After 18 bi-monthly tests (beginning at Permit effective date), at the request of the permittee, ADEQ will reevaluate the Reasonable Potential associated with *D. pulex* and *P. promelas* lethality. If Reasonable Potential no longer exists, the final *D. pulex* and/or *P. promelas* lethal limits will be removed through a minor modification (prior to the effective date of the final limits) and replaced with report only.

DRAFT

Formatted: Left: 0.88", Do not suppress endnotes, Header distance from edge: 0.5", Footer distance from edge: 0.5"

PART II
OTHER CONDITIONS

1. All pollutants listed in Part IA (i.e., Outfall 010) of this permit must be sampled concurrently with the sampling requirements for Outfall 010 at Lion Oil Company (AR0000647), Outfalls 010 North and South at the City of El Dorado (AR0049743), Outfall 010 at Great Lakes Chemical Corporation – Central Plant (AR0001171), and Outfall 010R for the joint pipeline (AR0050296). For the purposes of this permit, concurrently shall mean that the samples are taken within a two-hour period.

2. The permittee must notify the Department a minimum of 48 hours ***prior*** to the first discharge to the joint pipeline. In addition to the exceptions noted in Condition No. 6 below, the permittee shall notify the Department within 24 hours of any emergency or maintenance event that results in diverting wastewater from Outfall 010 to another permitted outfall. For non-emergency and non-maintenance events that may result in diverting wastewater from Outfall 010 to another permitted outfall, the permittee must provide notice an explanation of the anticipated diversion to the Department at least two weeks in advance of any such event. The Department may, at its discretion, condition the diversion of water to another permitted outfall as may be reasonably necessary to protect human health and the environment.

3. The permittee may use any EPA approved method provided the MQL for the chosen method is equal to or less than what has been specified.

Pollutant	MQL (µg/l)
Mercury, Total Recoverable	0.005
Cadmium, Total Recoverable	0.5
Chromium (III), Total Recoverable	10
Hexavalent Chromium, Dissolved	10
Copper, Total Recoverable	0.5
Lead, Total Recoverable	0.5
Nickel, Total Recoverable	0.5
Selenium, Total Recoverable	5
Silver, Total Recoverable	0.5
Zinc, Total Recoverable	20
Cyanide, Total Recoverable	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.

4. After 365 consecutive data points have been collected at Outfall 010, the permittee may request (in writing) reductions in monitoring frequencies for those pollutants which have monitoring requirements in excess of three times per week except for pH and flow. The internal outfall monitoring frequency will be reduced to three times per week provided that the permittee submits certification that the following conditions have been met:

   A. Condition #1 of Part II; and
   B. No demonstrated violations of the permit limits during this time period.

5. The permittee is required to submit a monthly DMR for each outfall contained in this permit even if that outfall is not in use because the effluent is being routed to the joint pipeline.

6. The permittee shall develop a program for demonstrating that the first two inches of rainfall in a 24-hour period are routed to Outfall 010 instead of Outfalls 006 and 007. This program shall be submitted for approval to ADEQ within 90 days of the effective date of this permit.

   Any rainfall above 2.0 inches in a 24-hour period may be discharged through Outfalls 006 and 007.

7. The operator of this wastewater treatment facility shall have a Basic Industrial license from the State of Arkansas in accordance with Act 1103 of 1991, Act 556 of 1993, Act 211 of 1971, and Regulation No. 3, as amended.

8. 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.

Comment [MS5]: Please delete #1 or #2

Comment [MS6]: Please keep #2 if there is sanitary waste regardless of #1

9. 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 ADEQ Water Division for use of the alternate method or instrument.
- The method and/or instrument is in compliance with 40 CFR Part 136 or approved by 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.

DRAFT

Fact Sheet

This Fact Sheet is for information and justification of the permit limits only. Please note that it is not enforceable. This draft permitting decision is for renewal of the discharge Permit Number AR0000752 with Arkansas Department of Environmental Quality (ADEQ) Facility Identification Number (AFIN) 70-00040 to discharge to Waters of the State.

1. **PERMITTING AUTHORITY.**

   The issuing office is:

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

2. **APPLICANT.**

   The applicant's mailing address is:

   El Dorado Chemical Company
   P.O. Box 231
   El Dorado, AR 71731-0231

   The facility address is:

   El Dorado Chemical Company
   4500 North West Avenue
   El Dorado, AR 71730

3. **PREPARED BY.**

   The permit was prepared by:

   Loretta Reiber, P.E.
   Staff Engineer
   Discharge Permits Section, Water Division
   (501) 682-0612
   E-mail: reiber@adeq.state.ar.us

4. **PREVIOUS PERMIT ACTIVITY.**

Effective Date:	07/01/2002
Modification Date:	06/01/2004
Expiration Date:	06/30/2007

The permittee submitted a permit renewal application on 12/21/2006 with additional information submitted by 10/09/2007. 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).

NPDES Permit No. AR0000752 was reissued to El Dorado Chemical Company (EDCC) on July 1, 2002. A modified permit with an effective date of July 1, 2004, was issued to settle several issues (such as metals limits), which had been appealed in the reissued permit. The reissued permit as well as the modified permit contained two outfalls (Outfall 010 and Outfall 011) for the permittee to discharge directly to the Ouachita River via a pipeline. Those two outfalls, one of which would be located approximately 1.5 miles downstream of the the H.K. Thatcher Lock and Dam, were included because the permittee had not yet decided the route of the pipeline and therefore the discharge location. AR0000752 contained limits for Total Suspended Solids, Ammonia-Nitrogen, and Nitates as well as Whole Effluent Toxicity (WET) limits at Outfalls 010 and 011.

EDCC made the decision to enter into a joint pipeline agreement with two area industries – Lion Oil Company – El Dorado Refinery and Chemtura Corp. d/b/a Great Lakes Chemical Company – Central Plant as well as El Dorado Water Utilities. This decision necessitated the need to modify NPDES Permit No. AR0000752 to allow for the necessary changes (i.e., modification of Outfall 010) and to issue a new permit to all of the joint pipeline participants (AR0050296) with limits for the outfall at the Ouachita River.

A modified version of AR0000752 (which allowed EDCC to discharge to the Ouachita River via the joint pipeline) was issued on February 28, 2007, and subsequently appealed. An administrative hearing was held in the fall of 2007 and a recommended decision was issued by the Administrative Hearing Officer on May 8, 2008. Oral arguments before the APCEC took place on June 27, 2008. This permit incorporates the changes mandated by the APCEC on June 27, 2008.

The decision made by the APCEC was appealed in Circuit Court within the required time frame. On March 31, 2009, the Honorable David Guthrie of the 13th Judicial District issued a Judgment of the Court upholding the APCEC's ruling. That decision was then appealed to the State Supreme Court. Arguments before the State Supreme Court occurred on September 23, 2010. A decision upholding the issuance of the permits as outlined in the Administrative Hearing Officer's recommended decision was issued on October 7, 2010.

In addition to the outfalls where the discharges are made to unnamed tributaries of Flat Creek, AR0000752 includes an outfall (Outfall 010) for EDDC to discharge directly to the Ouachita River via the joint pipeline.

In an e-mail dated September 9, 2008, the permittee stated that they did not wish to have an outfall for an individual pipeline to the Ouachita River included in their permit. They stated that they would only discharge directly to the Ouachita River via the joint pipeline. The permittee will be required to modify their permit if they wish to have such an outfall included in the future.

DOCUMENT ABBREVIATIONS

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

BAT - best available technology economically achievable
BCT - best conventional pollutant control technology
BMP - best management plan
BOD_5 - five-day biochemical oxygen demand
BPJ - best professional judgment
BPT - best practicable control technology currently available
$CBOD_5$ - carbonaceous biochemical oxygen demand
CD - critical dilution
CFR - Code of Federal Regulations
cfs - cubic feet per second
COD - chemical oxygen demand
COE - United States Corp of Engineers
CPP - continuing planning process
CWA - Clean Water Act
DMR - discharge monitoring report
DO - dissolved oxygen
ELG - effluent limitation guidelines
EPA - United States Environmental Protection Agency
ESA - Endangered Species Act
FCB - fecal coliform bacteria
gpm - gallons per minute
MGD - million gallons per day
MQL - minimum quantification level
NAICS - North American Industry Classification System
NH3-N - ammonia nitrogen
$NO_3 + NO_2$-N - nitrate + nitrite nitrogen
NPDES - National Pollutant Discharge Elimination System

O&G - oil and grease
Reg. 2 - APCEC Regulation No. 2
Reg. 6 - APCEC Regulation No. 6
Reg. 8 - APCEC Regulation No. 8
Reg. 9 - APCEC Regulation No. 9
RP - reasonable potential
SIC - standard industrial classification
TDS - total dissolved solids
TMDL - total maximum daily load
TP - total phosphorus
TRC - total residual chlorine
TSS - total suspended solids
UAA - use attainability analysis
USFWS - United States Fish and Wildlife Service
WET - Whole effluent toxicity
WQMP - water quality management plan
WQS - Water Quality standards
WWTP - wastewater treatment plant

DMR/Legal Notice Review

The Discharge Monitoring Reports for the time frame of January 2007 through July 2010 were reviewed. Several exceedances of various parameters were noted during this review. The Consent Administrative Order (CAO), LIS #08-067, was also reviewed during the permit renewal process. The CAO addressed the permit exceedances which occurred prior to March 2008. The CAO was closed out in October 2009. The following exceedances have occurred since the closure of the CAO:

Outfall 002
Copper (January 2010)
Lead (January 2010)
NH3-N (January 2010)
Nitrates (January 2010)

Outfall 006
TDS (February 2010, June 2010, and July 2010)
Zinc (March 2010 and July 2010)

Outfall 007
TDS (February 2010, June 2010, and July 2010)
Zinc (January 2010, March 2010, and July 2010)

The background flows for the unnamed tributary into which Outfalls 006 and 007 discharge are being corrected with this permit modification. As a result, the Zinc limits are also being corrected. No additional permit action will be taken regarding the Zinc exceedances at Outfalls 006 and 007.

All other exceedances listed above have been referred to the Water Division's Enforcement Branch. Therefore, no permit action will be taken at this time.

5. FINANCIAL ASSURANCE

The permittee is not required to submit financial assurance in regards to this NPDES permit because the sanitary wastewater treatment plant serves only this business.

6. 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 description of the physical location has been expanded.
2. The facility and the outfall coordinates have been corrected based upon data collected during the site visit.
3. The following changes have been made at Outfall 001 in the permit:
   a. The TSS mass limits have increased due to a change in the flow from this outfall;
   b. The NH3-N requirements are now based on the TMDL. The numerical limits are included in a SUM TOTAL outfall;
   c. The Nitrates mass limits have increased due to an increase in production;
   d. The Nitrates concentration limits have been removed since the drinking water use has been removed from the receiving stream;
   e. The Total Recoverable Copper and the Total Recoverable Zinc mass limits have been increased due to the change in flow;
   f. The minerals limits are now based on the TMDL;
   g. The selenium limits have been removed;
   h. The temperature limit has been removed based upon a study conducted on the permittee;
   i. The pH limits have been changed to 6.0 – 9.0 s.u. to ensure the required accuracy in reporting;
   j. The monitoring location has been clarified; and
   k. The permittee is now required to take samples at the first discharge of the reporting period.
   l. Sub-lethal WET limits for *C. dubia* have been added. A three-year schedule of compliance has been included in the permit.
4. The following changes have been made at Outfall 002 in the permit:
   a. The NH3-N limits are now based on the TMDL;

b. The Nitrates mass limits have increased due to an increase in production;
c. The Nitrates concentration limits have been removed because the drinking water use has been removed from the receiving stream;
d. The selenium limit has been removed;
e. Chlorides have been added at this outfall because of the applicable TMDL;
f. The Sulfates and the Total Dissolved Solids limits are now based on the TMDL;
g. The pH limits have been changed to 6.0 – 9.0 s.u. in order to ensure the required accuracy in reporting;
h. The monitoring location has been clarified; and
i. The permittee is now required to take samples at the first discharge of the reporting period.

5. The following changes have been made at Outfall 003 in the permit:
   a. The NH3-N limits are now based on the TMDL;
   b. Minimum monthly average DO levels have been added;
   c. Minerals have been added based on the TMDL;
   d. The pH limits have been changed to 6.0 – 9.0 s.u. in order to ensure the required accuracy in reporting;
   e. The TSS daily maximum concentration and mass limits have been corrected;
   f. Monitoring and reporting requirements for Total Recoverable Zinc and Total Recoverable Copper have been added to the permit;
   g. The monitoring location has been clarified; and
   h. The permittee is now required to take samples at the first discharge of the reporting period.
6. Outfall 004 has been deleted.
7. Outfall 005 has been deleted.
8. The following changes have been made at Outfalls 006 and 007 in the permit:
   a. The NH3-N limits are based on the TMDL;
   b. The permittee is required to monitor the flow of the receiving stream downstream from both of the outfalls;
   c. The Cadmium (at Outfall 006 only) and the Lead limits has been replaced with monitoring and reporting requirements;
   d. Copper limits have been added because the receiving stream is on the 303(d) list for this parameter;
   e. The Zinc limits are less stringent due to the use of the background flow to effluent flow ratio developed through the stormwater flow study;
   f. Monitoring and reporting requirements for nitrates has been added to the permit since the receiving stream is on the 303(d) list for this parameter;
   g. The minerals requirements are now based on the applicable TMDL;
   h. The TDS concentration limits have been removed due to the inclusion of the mass limits based on the TMDL;
   i. The critical dilutions and the dilution series have been modified based upon the use of the background flow to effluent flow ratios;
   j. WET limits have been included in the permit;

k. A schedule of compliance for the WET limits has been included in the permit;
l. The monitoring locations have been clarified; and
m. The permittee is now required to take the samples at the first discharge of the reporting period.

9. The following changes have been made to the SUM Total at Outfalls 001 and 002:
   a. The NH3-N and the nitrates limits have increased due to the increase in production;
   b. The nitrates concentration limits have been removed since the drinking water use has been removed from the receiving stream; and
   c. The concentration limits have been removed because this outfall is contains only the technology based limits.
10. SUM Total outfalls have been added to the permit for the NH3-N and the minerals TMDLs. There are separate outfalls for the point sources (Outfalls 001, 002, and 003) and for the non-point sources (Outfalls 006 and 007). Outfall 010 is not included in these SUM Total outfalls because they discharge directly to the Ouachita River. The TMDLs are only applicable to the unamed tributaries to which the other outfalls discharge.
11. Outfall 010 has been modified. This is now the outfall for the joint pipeline to the Ouachita River.
12. The following changes have been made to Part II (formerly Part III):
    a. Conditions 1 – 10 of the draft permit have been added or modified;
    b. The required class of the licensed operator for this facility has been specified as Basic Industrial;
    c. Stream flow monitoring conditions for Outfalls 006 and 007 have been added;
    d. A condition specifically prohibiting the discharge of any waters other than contaminated stormwater through Outfalls 006 and 007 has been added to the permit;
    e. The WET testing language has been modified; and
    f. The SWPPP language has been removed. The permittee is required to obtain alternate permit coverage for stormwater runoff associated with industrial activity which is not discharged through one of the outfalls included in NPDES Permit No. AR0000752.
    g. BMP language has been added.
13. Parts III (formerly Part II) and IV have been modified.

7. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

Comment [8]: if permit is modified explain reasons, date of the request, etc.)

The outfalls are located at the following coordinates:

Outfall 001:	Latitude: 33° 15' 33.8";	Longitude: 92° 41' 14.2"
Outfall 002:	Latitude: 33° 15' 45.3";	Longitude: 92° 41' 20.3"
Outfall 003:	Latitude: 33° 15' 38";	Longitude: 92° 41' 07"
Outfall 006:	Latitude: 33° 16' 03";	Longitude: 92° 41' 02"
Outfall 007:	Latitude: 33° 16' 06.3";	Longitude: 92° 41' 16"
Outfall 010:	Latitude: 33° 17' 30";	Longitude: 92° 28' 12"

Comment [9]: Use one of the following if there are FCB limits:
primary

Secondary

The receiving waters named:

Outfalls 001, 002, 003, 006, and 007 - unnamed tributaries of Flat Creek (a/k/a Elcc Tributary), thence to Flat Creek, thence to Haynes Creek, thence to Smackover Creek, thence to the Ouachita River in Segment 2D of the Ouachita River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C) of 8040201 and reach #606 is a Water of the State classified for secondary contact recreation, raw water source for industrial and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

Outfall 010 – via a joint pipeline to the Ouachita River approximately 1.5 miles downstream of the H.K. Thatcher Lock and Dam in Segment 2D of the Ouachita River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C) of 8040201 and reach #002 is a Water of the State classified for primary contact recreation, raw water source for domestic (public and private), industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

6. **303(d) LIST, ENDANGERED SPECIES, AND ANTI-DEGRADATION CONSIDERATIONS.**

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

Unnamed tributary of Flat Creek (a/k/a ELCC Tributary) and Flat Creek - Outfalls 001, 002, 003, 006, and 007

The unnamed tributary to Flat Creek is on the 2008 303(d) list (as ELCC Tributary) for Ammonia, Chlorides, Sulfates, and Total Dissolved Solids in Category 4a as well as Nitrates, Copper, and Zinc in Category 5a. Flat Creek is on the 2008 303(d) list for Chlorides, Sulfates, and Total Dissolved Solids in Category 4a as well as for Copper and Zinc in Category 5e.

The permit will contain numerical limits set forth in the Total Maximum Daily Load (TMDL) for Ammonia, Chlorides, Sulfates, and Total Dissolved Solids which are on the 303(d) list in Category 4a.

TMDLs have not yet been established for those parameters listed on the 303(d) list in Category 5a and Category 5e.

Nitrates

Reg. No. 2 does not contain numerical water quality standards for Nitrates being discharged into a receiving stream that has had the drinking water use removed.

Therefore, the permit will contain the technology-based mass limits calculated for Outfalls 001 and 002. These limits are contained in the SUM Total Outfall for Outfalls 001 and 002 **OR** Outfall 010. Monitoring and reporting requirements for Nitrates at Outfalls 003, 006, and 007 will be included in the permit.

Copper and Zinc

Water quality based limits for Copper and Zinc (as determined through Reg. 2.508) will be included in the permit for Outfalls 001, 002, 006, and 007. Monitoring and reporting requirements for Copper and Zinc will be included in the permit at Outfall 003. Numerical Copper and Zinc limits have not been included in the permit at Outfall 003 because the permittee is only allowed to discharge treated sanitary wastewater from this outfall. The Department reserves the right to reopen the permit to include numerical Copper and Zinc limits at Outfall 003 if necessary.

Via the Joint Pipeline to the Ouachita River - Outfall 010

The Ouachita River is on the 2008 303(d) list for Mercury in Category 4a due to unknown causes. A daily maximum mercury limit of <0.2 µg/l, which was included in the modified permit issued in 2007 and subsequently via reference to Order No. 9 of Docket No. 07-006-P in Minute Order 08-023, will be included in the renewed permit.

The Department recognizes that portions of the Ouachita River (both upstream and downstream of the discharge point) are on the 2008 303(d) list for Copper and Zinc. However, the reach of the Ouachita River to which the permittee may discharge, reach #002 of H.U.C. 8040201, is not on the 2008 303(d) list for those metals. Therefore, no permit action concerning this listing is necessary at this time.

b. **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.

c. **Anti-Degradation**:

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

7. OUTFALL, TREATMENT PROCESS DESCRIPTION, AND CONSTRUCTION.

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

a. Flows: Outfall 001 – 2.33 MGD, highest monthly average flow from the past two years (September 2008).
Outfall 002 – 1 MGD, highest monthly average flow from the past two years (August 2008).
Outfall 006 – background flow to effluent flow ratio of 53.6:1
Outfall 007 – background flow to effluent flow ratio of 15:1
Design Flow: Outfall 003 – 0.017 MGD
Permitted Flow: Outfall 010 – 2 MGD (This is a limit included in the permit for Outfall 010.)

b. Type of Treatment: Outfalls 001, 002, & 010 - pH neutralization, aeration pond, & equalization pond.
Outfall 003 - Imhoff tank and sand filter.
Oufalls 006 and 007 - none.

c. Discharge Description: Outfalls 001 and 002 – treated process wastewater & contaminated stormwater.
Outfall 003 – treated sanitary wastewater.
Outfalls 006 and 007 – contaminated stormwater.
Outfall 010 – combination of Outfalls 001, 002, 006, and 007

Per the EPA Form 2C submitted by the permittee, the treated process wastewater consists of rail car cleaning water, decanted water from the vaporizer associated with the manufacturing of nitric acid, wash down of solid material spills from the ammonium nitrate prilling shipping and storage area, and condensate from the ammonia storage containers. Cooling tower blowdown, boiler blowdown, and a reverse osmosis waste stream are also discharged as treated process wastewater.

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

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

8. **APPLICANT ACTIVITY.**

Under the standard industrial classification (SIC) code 2873 or the North American Industry Classification System (NAICS) code of 325311, the applicant's activities are the operation of a fertilizer manufacturing plant.

9. **SOLIDS PRACTICES.**

Solids are accumulating on the bottom of the ponds (Outfalls 001 and 002) and in the sanitary wastewater treatment plant (Outfall 003).

Treated process wastewater and contaminated stormwater pass through Lake Lee (Outfall 002) prior to being routed to Lake Kildare (Outfall 001). Most of the solids settle out in Lake Lee. The solids were removed from Lake Lee in 2006. Based on the size of Lake Kildare and the fact that most of the solids settle out in Lake Lee, solids have not been removed from Lake Kildare.

The solids will be removed from Outfall 003 by a licensed septic tank hauler as necessary.

10. **PERMIT CONDITIONS.**

The Arkansas Department of Environmental Quality has made a determination to issue a draft permit for the discharge described in the application. Permit requirements are based on NPDES regulations (40 CFR Parts 122, 124, and Subchapter N) 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**

Comment [MS10]: Delete "a" if you don't have two sets of data

Outfall 001 - treated process wastewater and contaminated stormwater

1. **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.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	continuous	record
Total Suspended Solids (TSS)	583.0	874.4	30	45	three/week	composite
Ammonia, NH3-N	Report*	Report*	Report	Report	three/week	composite

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Nitrates as N	Report**	Report**	Report	Report	three/week	composite
Dissolved Oxygen						
(May – October)	N/A	N/A	4.0 (Inst. Min.)		three/week	grab
(November – April)	N/A	N/A	5.0 (Inst. Min.)		three/week	grab
Total Recoverable Copper	0.24	0.48	12.20 µg/l	24.48 µg/l	once/month	composite
Total Recoverable Zinc	2.25	4.51	115.62 µg/l	231.99 µg/l	once/month	composite
Total Phosphorous	Report	Report	Report	Report	once/month	composite
Chlorides	Report*	Report*	Report	Report	once/month	composite
Sulfates	Report*	Report*	Report	Report	once/month	composite
Total Dissolved Solids	Report*	Report*	Report	Report	once/month	composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab
Chronic Lethal WET Limit	Daily Average Minimum Not < 100%		7-day Minimum Not <100%		once/2 months	composite
Sub-Lethal WET Limit	Daily Average Minimum Report %		7-day Minimum Report %		once/2 months	composite

*Included in the SUM TOTAL for Outfalls 001, 002, and 003. (TMDL based)
**Included in the SUM TOTAL for Outfalls 001, 002, or 010. (Technology based)

2. **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 process wastewater and contaminated stormwater

1. **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.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	continuous	record
Total Suspended Solids (TSS)	583.0	874.4	30	45	three/week	composite
Ammonia, NH3-N	Report*	Report*	Report	Report	three/week	composite
Nitrates as N	Report**	Report**	Report	Report	three/week	composite
Dissolved Oxygen						
(May – October)	N/A	N/A	4.0 (Inst. Min.)		three/week	grab
(November – April)	N/A	N/A	5.0 (Inst. Min.)		three/week	grab
Total Recoverable Copper	0.24	0.48	12.20 µg/l	24.48 µg/l	once/month	composite
Total Recoverable Zinc	2.25	4.51	115.62 µg/l	231.99 µg/l	once/month	composite
Total Phosphorous	Report	Report	Report	Report	once/month	composite
Chlorides	Report*	Report*	Report	Report	once/month	composite
Sulfates	Report*	Report*	Report	Report	once/month	composite
Total Dissolved Solids	Report*	Report*	Report	Report	once/month	composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab
Chronic Lethal WET Limit	Daily Average Minimum Not < 100%		7-day Minimum Not <100%		once/2 months	composite
Sub-Lethal WET Limit	Daily Average Minimum Not < 80%		7-day Minimum Not <80%		once/2 months	composite

*Included in the SUM TOTAL for Outfalls 001, 002, and 003. (TMDL based)
**Included in the SUM TOTAL for Outfalls 001, 002, or 010. (Technology based)

2. **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).

Comment [MS11]: Delete "a" if you don't have two sets of data

c. **Final Effluent Limitations**

Outfall 002 – overflow pond (treated process wastewater and contaminated stormwater)

1. **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.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	totalizing meter
Total Suspended Solids (TSS)	N/A	N/A	Report	Report	once/day	grab
Ammonia (NH3-N)	Report*	Report*	Report	Report	once/day	grab
Nitrates as N	Report**	Report**	Report	Report	once/day	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/day	grab
Total Recoverable Copper	N/A	N/A	12.20 µg/l	24.48 µg/l	once/month	composite
Total Recoverable Lead	N/A	N/A	3.8 µg/l	7.62 µg/l	once/month	composite
Total Recoverable Zinc	N/A	N/A	115.62 µg/l	231.99 µg/l	once/month	composite
Total Phosphorous	N/A	N/A	Report	Report	once/month	composite
Chlorides	Report*	Report*	Report	Report	once/month	composite
Sulfates	Report*	Report*	Report	Report	once/month	composite
Total Dissolved Solids	Report*	Report*	Report	Report	once/month	composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Acute WET testing	N/A	N/A	Report %		once/month	composite

*Included in the SUM TOTAL for Outfalls 001, 002, and 003.
**Included in the SUM TOTAL for Outfalls 001, 002, and 010.

2. **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).

Comment [MS12]: Delete "a" if you don't have two sets of data

DRAFT

d. **Final Effluent Limitations**

Outfall 003 - treated sanitary wastewater

1. **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.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/week	estimate
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1.4	2.1	10	15	once/quarter	grab
Total Suspended Solids (TSS)	2.1	3.2	15	22.5	once/quarter	grab
Ammonia Nitrogen (NH3-N)	Report*	Report*	Report	Report	once/month	grab
Dissolved Oxygen						
(May – October)	N/A	N/A	4.0 (Inst. Min.)		once/quarter	grab
(November – April)	N/A	N/A	2.0 (Inst. Min.)		once/quarter	grab
Fecal Coliform Bacteria (FCB)			(colonies/100ml)			
	N/A	N/A	1000	2000	once/quarter	grab
Chlorides	Report*	Report*	Report	Report	once/month	composite
Sulfates	Report*	Report*	Report	Report	once/month	composite
Total Dissolved Solids (TDS)	Report*	Report*	Report	Report	once/month	composite
Total Recoverable Copper	Report	Report	Report µg/l	Report µg/l	once/quarter	composite
Total Recoverable Zinc	Report	Report	Report µg/l	Report µg/l	once/quarter	composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab

*Included in the SUM TOTAL outfall(s) for Outfalls 001, 002, and 003.

Comment [MS13]: Make sure to include correct frequency (i.e. 1/5 months)

2. **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).

Comment [MS14]: Delete "a" if you don't have two sets of data

Comment [MS15]: Delete "a" if you don't have two sets of data

e. **Interim Effluent Limitations**

Outfall 006 - contaminated stormwater

1. **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.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Downstream Flow*	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Total Suspended Solids (TSS)	N/A	N/A	Report	100	once/week	grab
Ammonia (NH3-N)	Report**	Report**	Report	Report	once/week	grab
Total Recoverable Cadmium	N/A	N/A	Report µg/l	Report µg/l	once/month	composite
Total Recoverable Lead	N/A	N/A	Report µg/l	Report µg/l	once/month	composite
Total Recoverable Copper	N/A	N/A	244.27 µg/l	490.11 µg/l	once/month	composite
Total Recoverable Zinc	N/A	N/A	2161.53 µg/l	4337.00 µg/l	once/month	composite
Chlorides	Report**	Report**	Report	Report	once/week	grab
Sulfates	Report**	Report**	Report	Report	once/week	grab
Total Dissolved Solids (TDS)	Report**	Report**	Report	Report	once/week	grab
Nitrates	N/A	N/A	Report	Report	once/month	grab
Oil and Grease	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab
Acute WET Testing			48-hr Minimum Report %		once/2 months	composite

*See Condition Nos. 16 and 17 of Part III of the permit.
**Included in the SUM TOTAL for Outfalls 006 and 007.

2. **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).

Comment [MS16]: Delete "a" if you don't have two sets of data

f. **Final Effluent Limitations**

Outfall 006 - contaminated stormwater

1. **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.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Downstream Flow*	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Total Suspended Solids (TSS)	N/A	N/A	Report	100	once/week	grab
Ammonia (NH3-N)	Report**	Report**	Report	Report	once/week	grab
Total Recoverable Cadmium	N/A	N/A	Report µg/l	Report µg/l	once/month	composite
Total Recoverable Lead	N/A	N/A	Report µg/l	Report µg/l	once/month	composite
Total Recoverable Copper	N/A	N/A	244.27 µg/l	490.11 µg/l	once/month	composite
Total Recoverable Zinc	N/A	N/A	2161.53 µg/l	4337.00 µg/l	once/month	composite
Chlorides	Report**	Report**	Report	Report	once/week	grab
Sulfates	Report**	Report**	Report	Report	once/week	grab
Total Dissolved Solids (TDS)	Report**	Report**	Report	Report	once/week	grab
Nitrates	N/A	N/A	Report	Report	once/month	grab
Oil and Grease	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab
Acute WET Limit			48-hr Minimimum Not < 22%		once/2 months	composite

*See Condition Nos. 16 and 17 of Part III of the permit.
**Included in the SUM TOTAL for Outfalls 006 and 007.

2. **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).

Comment [MS17]: Delete "a" if you don't have two sets of data

g. **Interim Effluent Limitations**

Outfall 007 - contaminated stormwater

1. **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.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Downstream Flow*	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Total Suspended Solids (TSS)	N/A	N/A	Report	100	once/week	grab
Ammonia (NH3-N)	Report**	Report**	Report	Report	once/week	grab
Total Recoverable Lead	N/A	N/A	Report µg/l	Report µg/l	once/month	composite
Total Recoverable Copper	N/A	N/A	77.77 µg/l	156.04 µg/l	once/month	composite
Total Recoverable Zinc	N/A	N/A	688.17 µg/l	1380.78 µg/l	once/month	composite
Chlorides	Report**	Report**	Report	Report	once/week	grab
Sulfates	Report**	Report**	Report	Report	once/week	grab
Total Dissolved Solids (TDS)	Report**	Report**	Report	Report	once/week	grab
Nitrates	N/A	N/A	Report	Report	once/month	grab
Oil and Grease	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab
Acute WET Testing			48-hr Minimum Report %		once/2 months	composite

*See Condition Nos. 16 and 17 of Part III of the permit.
**Included in the SUM TOTAL for Outfalls 006 and 007.

2. **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).

h. **Final Effluent Limitations**

Outfall 007 - contaminated stormwater

1. **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.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Downstream Flow*	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Total Suspended Solids (TSS)	N/A	N/A	Report	100	once/week	grab
Ammonia (NH3-N)	Report**	Report**	Report	Report	once/week	grab
Total Recoverable Lead	N/A	N/A	Report µg/l	Report µg/l	once/month	composite
Total Recoverable Copper	N/A	N/A	77.77 µg/l	156.04 µg/l	once/month	composite
Total Recoverable Zinc	N/A	N/A	688.17 µg/l	1380.78 µg/l	once/month	composite
Chlorides	Report**	Report**	Report	Report	once/week	grab
Sulfates	Report**	Report**	Report	Report	once/week	grab
Total Dissolved Solids (TDS)	Report**	Report**	Report	Report	once/week	grab
Nitrates	N/A	N/A	Report	Report	once/month	grab
Oil and Grease	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab
Acute WET Limit			48-hr Minimum Not < 50%		once/2 months	composite

*See Condition Nos. 16 and 17 of Part III of the permit.
**Included in the SUM TOTAL for Outfalls 006 and 007.

2. **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).

Comment [MS18]: Delete "a" if you don't have two sets of data

i. **Final Effluent Limitations**

Outfall 010 - treated process wastewater and contaminated stormwater (discharging via the joint pipeline to the Ouachita River approximately 1.5 miles downstream of the H.K. Thatcher Lock and Dam)

1. **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.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	2 MGD	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)						
(May – October)	83.4	125.1	N/A	N/A	once/day	24-hr composite
(November – April)	166.8	250.2	N/A	N/A	once/day	24-hr composite
Total Suspended Solids (TSS)	500.4	750.6	N/A	N/A	once/day	24-hr composite
Ammonia – Nitrogen (NH3-N)	265.2	605.0	N/A	N/A	once/day	24-hr composite
Nitrate Nitrogen as N	450.3*	1070.4*	N/A	N/A	three/week	24-hr composite
Oil and Grease (O & G)	166.8	250.2	N/A	N/A	two/week	grab
Dissolved Oxygen (DO)	N/A	N/A	Report, minimum		once/day	grab
Total Dissolved Solids (TDS)	N/A	N/A	Report	Report	two/week	grab
Sulfates	N/A	N/A	Report	Report	two/week	grab
Chlorides	N/A	N/A	Report	Report	two/week	grab
Mercury, Total Recoverable	N/A	N/A	N/A	<0.2 µg/l	once/month	24-hr composite
Cadmium, Total Recoverable	0.22	0.45	N/A	N/A	once/month	24-hr composite
Hexavalent Chromium, Dissolved	0.96	1.93	N/A	N/A	once/month	24-hr composite
Copper, Total Recoverable	0.82	1.65	N/A	N/A	once/month	24-hr composite
Lead, Total Recoverable	0.40	0.80	N/A	N/A	once/month	24-hr composite
Nickel, Total Recoverable	14.23	28.55	N/A	N/A	once/month	24-hr composite
Selenium, Total Recoverable	0.66	1.32	N/A	N/A	once/month	24-hr composite
Silver, Total Recoverable	0.08	0.16	N/A	N/A	once/month	24-hr composite
Zinc, Total Recoverable	7.35	14.75	N/A	N/A	once/month	24-hr composite
Chromium (III), Total Recoverable	39.52	79.29	N/A	N/A	once/month	24-hr composite
Cyanide, Total Recoverable	0.68	1.37	N/A	N/A	once/month	grab
Total Phosphorous	N/A	N/A	Report	Report	once/day	24-hr composite
Fecal Coliform Bacteria (FCB)			colonies/100 ml			
	N/A	N/A	Report	Report	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab
Chronic WET testing	N/A	N/A	Report %		once/quarter	24-hr composite

*These limits are equal to the technology based limits contained in the SUM TOTAL Outfall for the process wastewater. The permittee will only be allowed to discharge through Outfalls 001 and 002 ***or*** Outfall 010.

Comment [MS19]: Delete "a" if you don't have two sets of data

Comment [MS20]: Delete "a" if you don't have two sets of data

Comment [MS21]: Delete "a" if you don't have two sets of data

j. **Final Effluent Limitations**

SUM TOTAL of Outfalls 001 and 002 **OR** Outfall 010 - treated process wastewater and contaminated stormwater

THESE LIMITS ARE TECHNOLOGY-BASED LIMITS.

1. **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.	Daily Max	Monthly Avg.	Daily Max		
Nitrates as N	450.3	1070.4	N/A	N/A	three/week	calculated

k. **Final Effluent Limitations**

TMDL SUM TOTAL of Outfalls 001 & 002 - treated process wastewater, contaminated stormwater, and Outfall 003 - treated sanitary wastewater

THESE LIMITS ARE THE WASTE LOAD ALLOCATIONS SET FORTH IN THE TMDL FOR THE EL DORADO CHEMICAL COMPANY (ELCC) TRIBUTARY.

1. **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.	Daily Max	Monthly Avg.	Daily Max		
NH3-N						
(April – October)	37.90	37.90	N/A	N/A	three/week	calculated
(November – March)	85.78	85.78	N/A	N/A	three/week	calculated
Chlorides	265.0	265.0	N/A	N/A	three/week	calculated
Sulfates	503.0	503.0	N/A	N/A	three/week	calculated
Total Dissolved Solids	1,338.0	1,338.0	N/A	N/A	three/week	calculated

Comment [MS22]: Delete "a" if you don't have two sets of data

1. **Final Effluent Limitations**

Comment [MS23]: Delete "a" if you don't have two sets of data

TMDL SUM TOTAL of Outfalls 006 and 007 - contaminated stormwater

THESE LIMITS ARE THE LOAD ALLOCATIONS SET FORTH IN THE TMDL FOR THE EL DORADO CHEMICAL COMPANY (ELCC) TRIBUTARY.

1. **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.	Daily Max	Monthly Avg.	Daily Max		
NH3-N						
(April – October)	0.00	0.00	N/A	N/A	once/week	calculated
(November – March)	5.16	5.16	N/A	N/A	once/week	calculated
Chlorides	73.0	73.0	N/A	N/A	once/week	calculated
Sulfates	33.0	33.0	N/A	N/A	once/week	calculated
TDS	635.0	635.0	N/A	N/A	once/week	calculated

Comment [MS24]: Delete "a" if you don't have two sets of data

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.

Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
OUTFALL 001								
TSS	N/A	N/A	30.0	45.0	30	45	30.0	45.0
NH3-N								
(April – October)	Report lb/day*	Report lb/day*	N/A	N/A	12	18	Report lb/day*	Report lb/day*
(November – March)	Report lb/day*	Report lb/day*	N/A	N/A	12	18	Report lb/day*	Report lb/day*
Nitrates as N	N/A	N/A	Report lb/day*	Report lb/day*	405.02 lb/day	1153.73 lb/day	Report lb/day*	Report lb/day*
DO								
(May – October)	4.0 (Inst. Min.)		N/A	N/A	4.0 (Inst. Min.)		4.0 (Inst. Min.)	
(November – April)	5.0 (Inst. Min.)		N/A	N/A	5.0 (Inst. Min.)		5.0 (Inst. Min.)	
Total Recoverable Copper	12.20 µg/l	24.48 µg/l	N/A	N/A	12.20 µg/l	24.48 µg/l	12.20 µg/l	24.48 µg/l
Total Recoverable Zinc	115.62 µg/l	231.99 µg/l	N/A	N/A	115.62 µg/l	231.99 µg/l	115.62 µg/l	231.99 µg/l
Chlorides	Report lb/day*	Report lb/day*	N/A	N/A	81	122	Report lb/day*	Report lb/day*
Sulfates	Report lb/day*	Report lb/day*	N/A	N/A	38	57	Report lb/day*	Report lb/day*
TDS	Report lb/day*	Report lb/day*	N/A	N/A	237	356	Report lb/day*	Report lb/day*
pH	6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6 – 9 s.u.		6.0 – 9.0 s.u.	
Chronic Lethal WET Limit	Not <100%		N/A		Not <100%		Not <100%	
Sub-Lethal WET Limit	Not <80%		N/A		N/A		Not <80%	
OUTFALL 002								
TSS	N/A	N/A	Report	Report	Report	Report	Report	Report
NH3-N								
(April – October)	Report lb/day*	Report lb/day*	N/A	N/A	12	18	Report lb/day*	Report lb/day*

DRAFT

Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
(November – March)	Report lb/day*	Report lb/day*	N/A	N/A	12	18	Report lb/day*	Report lb/day*
Nitrates as N	N/A	N/A	Report lb/day*	Report lb/day*	405.02 lb/day	1153.73 lb/day	Report lb/day*	Report lb/day*
O & G	10.0	15.0	N/A	N/A	10	15	10.0	15.0
Total Recoverable Copper	12.20 µg/l	24.48 µg/l	N/A	N/A	12.20 µg/l	24.48 µg/l	12.20 µg/l	24.48 µg/l
Total Recoverable Lead	3.8 µg/l	7.62 µg/l	N/A	N/A	3.8 µg/l	7.62 µg/l	3.8 µg/l	7.62 µg/l
Total Recoverable Zinc	115.62 µg/l	231.99 µg/l	N/A	N/A	115.62 µg/l	231.99 µg/l	115.62 µg/l	231.99 µg/l
Chlorides	Report lb/day*	Report lb/day*	N/A	N/A	N/A	N/A	Report lb/day*	Report lb/day*
Sulfates	Report lb/day*	Report lb/day*	N/A	N/A	250	375	Report lb/day*	Report lb/day*
TDS	Report lb/day*	Report lb/day*	N/A	N/A	500	750	Report lb/day*	Report lb/day*
pH	6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6 – 9 s.u.		6.0 – 9.0 s.u.	
OUTFALL 003								
CBOD5	10.0	15.0	N/A	N/A	10	15	10.0	15.0
TSS	15.0	22.5	N/A	N/A	15	23	15.0	22.5
NH3-N								
(April)	Report lb/day*	Report lb/day*	N/A	N/A	10	15	Report lb/day*	Report lb/day*
(May – October)	Report lb/day*	Report lb/day*	N/A	N/A	5	7.5	Report lb/day*	Report lb/day*
(November – March)	Report lb/day*	Report lb/day*	N/A	N/A	10	15	Report lb/day*	Report lb/day*
DO								
(May – October)	4.0 (Inst. Min.)		N/A	N/A	N/A	N/A	4.0 (Inst. Min.)	
(November – March)	2.0 (Inst. Min.)		N/A	N/A	N/A	N/A	2.0 (Inst. Min.)	
FCB, col/100 ml	1000	2000	N/A	N/A	1000	2000	1000	2000

DRAFT

Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
Total Recoverable Copper	N/A	N/A	Report µg/l	Report µg/l	N/A	N/A	Report µg/l	Report µg/l
Total Recoverable Zinc	N/A	N/A	Report µg/l	Report µg/l	N/A	N/A	Report µg/l	Report µg/l
Chlorides	Report lb/day*	Report lb/day*	N/A	N/A	N/A	N/A	Report lb/day*	Report lb/day*
Sulfates	Report lb/day*	Report lb/day*	N/A	N/A	N/A	N/A	Report lb/day*	Report lb/day*
TDS	Report lb/day*	Report lb/day*	N/A	N/A	N/A	N/A	Report lb/day*	Report lb/day*
pH	6.0 – 9.0 s.u.		N/A		6 – 9 s.u.		6.0 – 9.0 s.u.	
OUTFALL 006								
TSS	N/A	N/A	Report	100	Report	Report	Report	100
NH3-N								
(April – October)	Report lb/day*	Report lb/day*	N/A	N/A	Report	Report	Report lb/day*	Report lb/day*
(November – March)	Report lb/day*	Report lb/day*	N/A	N/A	Report	Report	Report lb/day*	Report lb/day*
Total Recoverable Cadmium	N/A	N/A	Report	Report	2.03 µg/l	4.08 µg/l	Report	Report
Total Recoverable Lead	N/A	N/A	Report	Report	3.8 µg/l	7.62 µg/l	Report	Report
Total Recoverable Copper	244.27 µg/l	490.11 µg/l	N/A	N/A	N/A	N/A	244.27 µg/l	490.11 µg/l
Total Recoverable Zinc	2161.53 µg/l	4337.00 µg/l	N/A	N/A	115.62 µg/l	231.99 µg/l	2161.53 µg/l	4337.00 µg/l
Chlorides	Report lb/day*	Report lb/day*	N/A	N/A	N/A	N/A	Report lb/day*	Report lb/day*
Sulfates	Report lb/day*	Report lb/day*	N/A	N/A	N/A	N/A	Report lb/day*	Report lb/day*
Total Dissolved Solids	Report lb/day*	Report lb/day*	N/A	N/A	291	436.5	Report lb/day*	Report lb/day*
Nitrates	N/A	N/A	Report	Report	N/A	N/A	Report	Report
O & G	10.0	15.0	N/A	N/A	N/A	N/A	10.0	15.0

DRAFT

Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
pH	6.0 – 9.0 s.u.		N/A		6 – 9 s.u.		6.0 – 9.0 s.u.	
Acute WET Limit	Not < 22%		N/A		Report		Not < 22%	
OUTFALL 007								
TSS	N/A	N/A	Report	100	Report	Report	Report	100
NH3-N								
(April – October)	Report lb/day*	Report lb/day*	N/A	N/A	Report	Report	Report lb/day*	Report lb/day*
(November – March)	Report lb/day*	Report lb/day*	N/A	N/A	Report	Report	Report lb/day*	Report lb/day*
Total Recoverable Lead	N/A	N/A	Report	Report	3.8 µg/l	7.62 µg/l	Report	Report
Total Recoverable Copper	244.27 µg/l	490.11 µg/l	N/A	N/A	N/A	N/A	244.27 µg/l	490.11 µg/l
Total Recoverable Zinc	2161.53 µg/l	4337.00 µg/l	N/A	N/A	115.62 µg/l	231.99 µg/l	2161.53 µg/l	4337.00 µg/l
Chlorides	Report lb/day*	Report lb/day*	N/A	N/A	N/A	N/A	Report lb/day*	Report lb/day*
Sulfates	Report lb/day*	Report lb/day*	N/A	N/A	N/A	N/A	Report lb/day	Report lb/day
Total Dissolved Solids	Report lb/day*	Report lb/day*	N/A	N/A	291	436.5	Report lb/day*	Report lb/day*
Nitrates	N/A	N/A	Report	Report	N/A	N/A	Report	Report
O & G	10.0	15.0	N/A	N/A	N/A	N/A	10.0	15.0
pH	6.0 – 9.0 s.u.		N/A		6 – 9 s.u.		6.0 – 9.0 s.u.	
Acute WET Limit	Not < 50%		N/A		Report		Not < 50%	
OUTFALL 010								
Flow, MGD	Report	2	N/A	N/A	N/A	2	Report	2
CBOD5								
(May – October)	83.4 lb/day	125.1 lb/day	N/A	N/A	N/A	N/A	83.4 lb/day	125.1 lb/day

DRAFT

Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
(November – April)	166.8 lb/day	250.2 lb/day	N/A	N/A	N/A	N/A	166.8 lb/day	250.2 lb/day
TSS	500.4 lb/day	750.6 lb/day	N/A	N/A	30 mg/l 500.4 lb/day	45 mg/l 750.6 lb/day	500.4 lb/day	750.6 lb/day
NH3-N	265.2 lb/day*	605.0 lb/day*	N/A	N/A	265.7 lb/day	811.84 lb/day	265.2 lb/day*	605.0 lb/day*
Nitrate Nitrogen as N	N/A	N/A	450.0 lb/day*	1070.4 lb/day*	405.02 lb/day	1153.73 lb/day	450.0 lb/day*	1070.4 lb/day*
O & G	166.8 lb/day	250.2 lb/day	N/A	N/A	N/A	N/A	166.8 lb/day	250.2 lb/day
DO, minimum	Report	N/A	N/A	N/A	N/A	N/A	Report	N/A
TDS	N/A	N/A	Report	Report	N/A	N/A	Report	Report
Sulfates	N/A	N/A	Report	Report	N/A	N/A	Report	Report
Chlorides	N/A	N/A	Report	Report	N/A	N/A	Report	Report
Mercury, Total Recoverable	0.012 µg/l	0.012 µg/l	N/A	N/A	N/A	N/A	0.012 µg/l	0.012 µg/l
Cadmium, Total Recoverable	0.22 lb/day	0.45 lb/day	N/A	N/A	N/A	N/A	0.22 lb/day	0.45 lb/day
Hexavalent Chromium, Dissolved	0.96 lb/day	1.93 lb/day	N/A	N/A	N/A	N/A	0.96 lb/day	1.93 lb/day
Copper, Total Recoverable	0.82 lb/day	1.65 lb/day	N/A	N/A	N/A	N/A	0.82 lb/day	1.65 lb/day
Lead, Total Recoverable	0.40 lb/day	0.80 lb/day	N/A	N/A	N/A	N/A	0.40 lb/day	0.80 lb/day
Nickel, Total Recoverable	14.23 lb/day	28.55 lb/day	N/A	N/A	N/A	N/A	14.23 lb/day	28.55 lb/day
Selenium, Total Recoverable	0.66 lb/day	1.32 lb/day	N/A	N/A	N/A	N/A	0.66 lb/day	1.32 lb/day
Silver, Total Recoverable	0.08 lb/day	0.16 lb/day	N/A	N/A	N/A	N/A	0.08 lb/day	0.16 lb/day
Zinc, Total Recoverable	7.35 lb/day	14.75 lb/day	N/A	N/A	N/A	N/A	7.35 lb/day	14.75 lb/day
Chromium (III), Total Recoverable	39.52 lb/day	79.29 lb/day	N/A	N/A	N/A	N/A	39.52 lb/day	79.29 lb/day

Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
Cyanide, Total Recoverable	0.68 lb/day	1.37 lb/day	N/A	N/A	N/A	N/A	0.68 lb/day	1.37 lb/day
Total Phosphorous	N/A	N/A	Report	Report	N/A	N/A	Report	Report
FCB, col/100 ml	N/A	N/A	Report	Report	N/A	N/A	Report	Report
pH	6.0 – 9.0 s.u.		N/A		6 – 9 s.u.		6.0 – 9.0 s.u.	
Technology-Based SUM TOTAL for OUTFALLs 001, 002, and 010								
Nitrates as N	N/A	N/A	450.0 lb/day	1070.4 lb/day	405.02 lb/day	1153.73 lb/day	450.0 lb/day	1070.4 lb/day
TMDL SUM TOTALS for OUTFALLS 001, 002, and 003								
NH3-N								
(April – October)	37.90 lb/day	37.90 lb/day	N/A	N/A	N/A	N/A	37.90 lb/day	37.90 lb/day
(November – March)	85.78 lb/day	85.78 lb/day	N/A	N/A	N/A	N/A	85.78 lb/day	85.78 lb/day
Chlorides	265.0 lb/day	265.0 lb/day	N/A	N/A	N/A	N/A	265.0 lb/day	265.0 lb/day
Sulfates	503.0 lb/day	503.0 lb/day	N/A	N/A	N/A	N/A	503.0 lb/day	503.0 lb/day
TDS	1,338.0 lb/day	1,338.0 lb/day	N/A	N/A	N/A	N/A	1,338.0 lb/day	1,338.0 lb/day
TMDL SUM TOTALS for OUTFALLS 006 and 007								
NH3-N								
(April – October)	0.00 lb/day	0.00 lb/day	N/A	N/A	N/A	N/A	0.00 lb/day	0.00 lb/day
(November – March)	5.16 lb/day	5.16 lb/day	N/A	N/A	N/A	N/A	5.16 lb/day	5.16 lb/day
Chlorides	73 lb/day	73 lb/day	N/A	N/A	N/A	N/A	73 lb/day	73 lb/day
Sulfates	33 lb/day	33 lb/day	N/A	N/A	N/A	N/A	33 lb/day	33 lb/day
TDS	635 lb/day	635 lb/day	N/A	N/A	N/A	N/A	635 lb/day	635 lb/day

*Included in the SUM TOTAL outfall(s) for the parameter at the indicated outfall. Numerical limits not included at the individual outfalls due to the sum total outfalls. The NH3-N limits at Outfall 010 include the NH3-N levels which are set by the technology based standards. The difference between these limits and the technology based limits is more than made up by the NH3-N contained in the stormwater which will be routed through the joint pipeline instead of Outfalls 006 and 007. The Nitrates limits at Outfall 010 are equal to the technology based limits contained in the SUM TOTAL Outfall for the process wastewater. The permittee will only be allowed to discharge through Outfalls 001 and 002 ***or*** Outfall 010.

A. **Justification for Limitations and Conditions of the Draft Permit:**

Regulations promulgated at 40 CFR Part 122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on effluent limitations guidelines where applicable, on Best Professional Judgment (BPJ) in the absence of guidelines, or on a combination of the two.

(1) Applicable Effluent Limitations Guidelines

Discharges from facilities of this type are covered by Federal effluent limitations guidelines promulgated under 40 CFR Part 418 Fertilizer Manufacturing Point Source Category, Subpart D – Ammonium Nitrate Subcategory and Subpart E – Nitric Acid Subcategory. The permittee may discharge process wastewater only through Outfalls 001, 002, or 010.

A schedule of compliance with the TMDL based limits will not be granted. The TMDL has been in effect since 2002. Also, the Waste Load Allocation (for point sources, i.e., Outfalls 001, 002, and 003) along with the Load Allocation (for non-point sources, i.e., Outfalls 006 and 007) represents the maximum amount of NH3-N, Chlorides, Sulfates, and TDS that the stream can assimilate.

Several SUM TOTAL outfalls have been established in this permit. This has been done to allow the permittee flexibility in daily operations.

SUM TOTALS have been established for the following:

a. SUM TOTAL for Outfalls 001, 002, and 003 – NH3-N, Chlorides, Sulfates, and Total Dissolved Solids limits established under the TMDL dated December 16, 2002.
b. SUM TOTAL for Outfalls 001 and 002 **OR** Outfall 010 – Nitrates as Nitrogen limits established under the Effluent Limitation Guidelines contained in 40 CFR Part 418, Subparts D and E, i.e., technology based limits.
c. SUM TOTAL for Outfalls 006 and 007 – NH3-N, Chlorides, Sulfates, and Total Dissolved Solids limits established under the TMDL dated December 16, 2002.

DRAFT

Outfalls 001, 002, and 003 (Point Sources Discharging to the unnamed tributary to Flat Creek, a/k/a ELCC Tributary)

Parameter	Water Quality or Technology	Justification
OUTFALL 001		
TSS	Technology	Judgment of previous permit writer and continued from previous permit.
NH3-N	Technology[1]	TMDL[3]
Nitrates	Technology[2]	40 CFR 418.43 and 40 CFR 418.53(b)
DO	Water Quality	MultiSMP Model dated 07/11/2007.
Total Recoverable Copper	Water Quality	Reg. 2.508
Total Recoverable Zinc	Water Quality	Reg. 2.508
Chlorides	Technology[1]	TMDL[3]
Sulfates	Technology[1]	TMDL[3]
TDS	Technology[1]	TMDL[3]
pH	Water Quality	Reg. 2.504
OUTFALL 002		
TSS	Technology	Judgment of previous permit writer and continued from previous permit.
NH3-N	Technology[1]	TMDL[3]
Nitrates	Technology[2]	40 CFR 418.43 and 40 CFR 418.53(b)
Oil and Grease	Water Quality	Reg. 2.510
Total Recoverable Copper	Water Quality	Reg. 2.508
Total Recoverable Lead	Water Quality	Reg. 2.508
Total Recoverable Zinc	Water Quality	Reg. 2.508
Chlorides	Technology[1]	TMDL[3]
Sulfates	Technology[1]	TMDL[3]
TDS	Technology[1]	TMDL[3]
pH	Water Quality	Reg. 2.504
OUTFALL 003		
CBOD5	Water Quality	MultiSMP Model dated 07/11/2007.
TSS	Water Quality	MultiSMP Model dated 07/11/2007.
NH3-N	Technology*	TMDL**
DO	Water Quality	MultiSMP Model dated 07/11/2007.
FCB	Water Quality	Reg. 2.507
Total Recoverable Copper	Technology	Judgment of permit writer and 2008 303(d) list.
Total Recoverable Zinc	Technology	Judgment of permit writer and 2008 303(d) list.
Chlorides	Technology[1]	TMDL[3]
Sulfates	Technology[1]	TMDL[3]
TDS	Technology[1]	TMDL[3]

Parameter	Water Quality or Technology	Justification
pH	Water Quality	Reg. 2.504

1. Listed as technology because only monitoring and reporting requirements are included at the individual outfalls. The numerical limits are included in the SUM Total Outfall for Outfalls 001, 002, and 003. (See Page 17 of Part IA of the permit.)
2. Numerical limits are included in the SUM Total Outfall for Outfalls 001 and 002 **OR** Outfall 010. (See Page 16 of Part IA of the permit.)
3. TMDLs for Chlorides, Sulfates, TDS, and Ammonia in the ELCC Tributary, Arkansas. (Reach 08040201-606) Dated December 16, 2002.

Outfall 001

The TSS and the DO limits are continued unchanged from the previous permit.

Numerical limits for Total Recoverable Copper and Total Recoverable Zinc have been included because the receiving stream is on the 303(d) list in Category 5a for those parameters and the permittee has also shown reasonable potential for water quality violations for those two parameters.

The pH limits have been changed to 6.0 – 9.0 s.u. to ensure the required accuracy in reporting.

The limits calculations for NH3-N, Nitrates, Chlorides, Sulfates, and TDS begin on page 20 of this Fact Sheet.

Outfall 002

The TSS, the O & G, and the DO limits are continued unchanged from the previous permit.

Numerical limits for Total Recoverable Copper and Total Recoverable Zinc have been included because the receiving stream is on the 303(d) list in Category 5a for those parameters and the permittee has also shown reasonable potential for water quality violations for those two parameters.

Numerical limits for Total Recoverable Lead have been continued from the previous permit. The permittee has continued to demonstrate reasonable potential for water quality violations due to the levels of lead in the effluent.

The pH limits have been changed to 6.0 – 9.0 s.u. to ensure the required accuracy in reporting.

The limits calculations for NH3-N, Nitrates, Chlorides, Sulfates, and TDS begin on page 20 of this Fact Sheet.

Outfall 003

The CBOD5, the TSS, and the FCB limits are continued unchanged from the previous permit.

Minimum required monthly average DO levels have been added to the permit based upon the review of the MultiSMP model.

Total Recoverable Copper and Total Recoverable Zinc have been included because the receiving stream is on the 303(d) list for those parameters. The permit only includes monitoring and reporting requirements for Total Recoverable Copper and Total Recoverable Zinc at Outfall 003 because the permittee is only allowed to discharge sanitary wastewater through this outfall.

The pH limits have been changed to 6.0 – 9.0 s.u. to ensure the required accuracy in reporting.

The limits calculations for Chlorides, Sulfates, and TDS begin below.

SUM TOTAL Calculations for Outfalls 001, 002, and 003

The limits calculations for NH3-N, Chlorides, Sulfates, and TDS are below.

Ammonia-Nitrogen (NH3-N)

The water quality effluent limitations for Ammonia are based on the most stringent of the following: DO-based effluent limits, toxicity-based standards, technology based limits, or the TMDL.

DO-Based Effluent Limits

The DO based effluent limits were obtained through a MultiSMP model ran on 07/11/2007.

Outfalls 001 and 002

Months	Avg. Monthly Limit, mg/l	Daily Maximum Limit, mg/l
May – October	10	15
November – April	12	18

Outfall 003

Months	Avg. Monthly Limit, mg/l	Daily Maximum Limit, mg/l
May – October	5	7.5
November – April	10	15

Toxicity-Based Limits

The toxicity-based effluent limitations are based on Chapter 5, Section 2.512 of 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
Outfall 001 Qd = flow = 2.33 MGD = 3.60 cfs
Outfall 002 Qd = flow = 1 MGD = 1.545 cfs
Outfall 003 Qd = flow = 0.017 MGD = 0.027 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 = not needed for these calculations since 7Q10 = 0 cfs

Comment [MS25]: pick one

The following pH and temperature were used for the Gulf Coastal Plains Ecoregion:

Month	pH s.u.	Temperature °C	IWC (Monthly Avg)	IWC (Daily Max)
April-October	6.6	30	2.4 mg/l	6.1 mg/l
November-March	6.6	14	6.8 mg/l	17.0 mg/l

Notes:
- Daily Max = 4-day Average in APCEC Regulation No. 2
- Monthly Average = 30-day Average in APCEC Regulation No. 2

Calculations of Toxicity-Based Limits:

Since background flow of the receiving stream is 0 cfs then Cd = IWC.

DRAFT

TMDL

Total Maximum Daily Loads (TMDLs) have been established for the parameters listed on the 303(d) list in Category 4a. The TMDLs were developed in 2002. The TMDL set the NH3-N Waste Load Allocations (WLA) for El Dorado Chemical Company as follows:

	Ammonia, lb/day	
	Summer	Winter
WLA for Outfalls 001, 002, and 003	37.90	85.78

Section 4.2.3 of the TMDL Dated December 16, 2002, stated that the ammonia concentrations were limited by ammonia toxicity. The Department will therefore consider the summer months of the TMDL to be April through October and the winter months of the TMDL to be November through March. These are the time frames which are used when calculating the toxicity based limits using criteria in Reg. 2.512. The limits in the above table are both the monthly average and the daily maximum limits.

The TMDL incorrectly listed Outfall 002 as a non-point source. Outfall 002 is considered to be a point source since the discharge is from a pond (Lake Lee). Also, Outfall 002 has historically been and continues to be permitted to discharge process wastewater in addition to contaminated stormwater. The wasteload allocations for point sources remains at the levels listed in the TMDL.

Technology-Based Limits (NH3-N and Nitrates)

The technology based mass limitations are calculated using the following formula:

ML = ELG * P

Where:

ML = Mass Limit

ELG = Effluent Limitation Guideline, lb/1,000 lb product

P = Production, 1,000 lb/product

40 CFR Part 418 – Subpart D (Ammonium Nitrate Subcategory)

The highest monthly production rate from the twelve months prior to submittal of the permit renewal application is **3,852,000 lbs/day (3,852 1,000 lbs/day) of Ammonium Nitrate**. The Effluent Limitation Guidelines (ELGs) applicable to this facility are as follows. The most stringent ELGs will be used to calculate the technology based limits.

Parameter	40 CFR 418.43 (BAT)	
	AML, lb/1000 lb product	DML, lb/1000 lb product
NH3-N	0.04	0.08
Nitrates-N	0.07	0.12

NH3-N

Average Monthly Limit (AML)

ML = 0.04 lb/1,000 lb product * 3,852 1,000 lb product = 154.1 lb/day

Daily Maximum Limit (DML)

ML = 0.08 lb/1,000 lb product * 3,852 1,000 lb product = 308.2 lb/day

Nitrates-N

AML

ML = 0.07 lb/1,000 lb product * 3,852 1,000 lb product = 269.6 lb/day

DML

ML = 0.12 lb/1,000 lb product * 3,852 1,000 lb product = 462.2 lb/day

40 CFR Part 418 – Subpart E (Nitric Acid Subcategory)

The highest monthly production rate from the twelve months prior to submittal of the permit renewal application is **2,910,000 lbs/day (2,910 1,000 lbs/day) of Nitric Acid**. The Effluent Limitation Guidelines (ELGs) applicable to this facility are as follows. The most stringent ELGs will be used to calculate the technology based limits.

Parameter	40 CFR 418.53(b) (BAT)	
	AML, lb/1000 lb product	DML, lb/1000 lb product
NH3-N	0.008	0.08
Nitrates-N	0.023	0.17

NH3-N

AML

ML = 0.008 lb/1,000 lb product * 2,910 1,000 lb product = 23.3 lb/day

DML

ML = 0.08 lb/1,000 lb product * 2,910 1,000 lb product = 232.8 lb/day

Nitrates-N

AML

ML = 0.023 lb/1,000 lb product * 2,910 1,000 lb product = 66.9 lb/day

DML

ML = 0.17 lb/1,000 lb product * 2,910 1,000 lb product = 494.7 lb/day

Watershed Analysis

A watershed analysis was conducted and summarized in a report dated 03/13/2003. This report was accepted by the Department in a Permit Appeal Resolution, LIS No. 03-067.

The purpose of the analysis was to determine the appropriate credit to be applied under the Ammonium Nitrate Subcategory and the Nitric Acid Subcategory effluent guidelines. The amounts to be added to the technology based limits as a result of these credits are 116.5 lb/day of Ammonia-Nitrogen and 113.5 lb/day of Nitrates as Nitrogen.

Total Technology Based Limits

The technology based NH3-N limit will not be placed in the SUM Total Outfall for Outfalls 001 and 002 since it is not the most stringent of the NH3-N limits. (See the comparison of the NH3-N limits.)

Month	40 CFR 418, Subpart D		40 CFR 418, Subpart E		Watershed Analysis		Total*	
	Monthly Avg. (lb/day)	Daily Max (lb/day)	Monthly Avg. (lb/day)	Daily Max (lb/day)	Monthly Avg. (lb/day)	Daily Max (lb/day)	Monthly Avg. (lb/day)	Daily Max (lb/day)
NH3-N	154.4	308.2	23.3	232.8	116.5	116.5	294.2	657.5
Nitrates	269.9	462.2	66.9	494.7	113.5	113.5	450.3	1070.4

*Total of technology based limits and watershed analysis background numbers.

Comment [MS26]: remove if it is not applicable for the permit

Comparison of NH3-N Limits

The mass limits calculated using the toxicity based limits and the DO model based limits were determined using the following formula:

Mass, lb/day = Concentration, mg/l * Flow, MGD * 8.34

The comparison of the Arkansas Water Quality Standard DO based limits, calculated toxicity limits, and technology based limits for Ammonia Nitrogen (NH3-N) are listed in the table below. The most stringent limits, which are in bold, will be placed in the SUM Total for Outfalls 001, 002, and 003.

Month	Calculated Toxicity Limits		DO Model Based Limits		Calculated Technology Based Limits		TMDL Limits	
	Monthly Avg. (lb/day)	Daily Max (lb/day)	Monthly Avg. (lb/day)	Daily Max (lb/day)	Monthly Avg. (lb/day)	Daily Max (lb/day)	Monthly Avg. (lb/day)	Daily Max (lb/day)
(April)	67.0	170.3	334.7	502.1	294.2	657.5	**37.90**	**37.90**
(May – October)	67.0	170.3	278.4	417.7	294.2	657.5	**37.90**	**37.90**
(November – March)	189.8	474.5	334.7	502.1	294.2	657.5	**85.78**	**85.78**

Comment [MS27]: remove if it is not applicable for the permit

DRAFT

MINERALS

The drinking water use has been removed from the unnamed tributaries to which Outfalls 001 and 002 at El Dorado Chemical Company discharges through a Use Attainability Analysis. The applicable in-stream mineral standards have been revised through a third party rule-making decision which became effective in APCEC Regulation No. 2 in November 2007. The new standards are as follows and are based on a critical background flow of 4 cfs:

Outfalls	Mineral	Stream Standard, mg/l
001, 002	Chlorides	16
	Sulfates	80
	Total Dissolved Solids	315

The drinking water use has not been removed from the unnamed tributary to which Outfall 003 discharges. The mineral water quality standards for the receiving stream for Outfall 003 are as follows:

Outfall	Mineral	Stream Standard, mg/l	Secondary Drinking Water Standard, mg/l
003	Chlorides	18.7	250
	Sulfates	41.3	250
	Total Dissolved Solids	138	500

A harmonic mean flow of 4 cfs is used when calculating limit for compliance with the stream standard. The 7Q10 of the receiving stream is used when calculating limits for compliance with the secondary drinking water standards.

TMDL

The mineral TMDLs established for the point sources at El Dorado Chemical Company are as follows:

Mineral	TMDL, lb/day
Chlorides	265
Sulfates	503
Total Dissolved Solids	1338

DRAFT

LIMITS DETERMINATION FOR MINERALS

Normally, calculations to determine if there is reasonable potential for water quality violations are performed in order to determine if permit limits are necessary. However, since TMDLs exist for minerals in the receiving streams for El Dorado Chemical, limits are necessary and reasonable potential calculations will not be performed.

The average monthly permit limits can be calculated by rearranging the IWC formula as follows:

$C_e = \{[IWC * (Q_b + Q_e)] - (C_b * Q_b)\} / Q_e$

IWC = water quality standard

C_e = concentration of parameter in effluent, mg/l

C_b = Varies with mineral, in mg/l. Background concentration of pollutant in receiving stream. Mineral concentrations to be used as background concentrations in receiving streams (See Table 5-1 in Section 5.32.1 of the 2009 CPP) are consistent with the ADEQ's proposed Mineral Permitting Strategy, developed by the Water Division. For small streams (7Q10 less than 100 cfs) the value is a mean concentration by ecoregion. For large streams (7Q10 greater than 100 cfs) the mineral concentrations are from the closest upstream monitoring station. C_b's, for the Gulf Coastal Plains Ecoregion:

Mineral	C_b, mg/l
Chlorides	5
Sulfates	13
Total Dissolved Solids	67

Outfall 001: Q_e = 2.23 MGD = 3.445 cfs.

Outfall 002: Q_e = 1 MGD = 1.545 cfs.

Outfall 003: Q_e = 0.017 MGD = 0.0263 cfs.

Q_b = the background flow of receiving stream:

$\mathbf{Q_{b,stream}}$ = 4 cfs. For instream determination of exceedances of stream mineral standards, the background flow is the harmonic mean flow or, in the absence of sufficient data to determine harmonic mean flows in small watersheds, a critical flow of 4 cubic feet per second may be assumed.

$\mathbf{Q_{b,drinking\ water}}$ = 0 cfs. For determination of exceedances of the secondary drinking water standards, the background flow is equal to the 7Q10 of the receiving stream.

Only the average monthly limit will be calculated for the stream mineral standards as the limits are being calculated for comparison with the TMDLs and the TMDLs are such that the average monthly limit is equal to the daily maximum limit. At Outfall 003, the secondary drinking water standards are daily maximum limits as well as average monthly limits, i.e., the two limits are equal.

The mass limits are then calculated using the following formula:

Mass = C_e (in mg/l) * Q_b (in MGD) * 8.34

Outfall 001 Water Quality Standard Limits

Chlorides

C_e = {[16 mg/l * (4 cfs + 3.445 cfs)] – (5 mg/l * 4 cfs)}/3.445 cfs

C_e = 28.77 mg/l

Mass = 28.77 * 2.23 * 8.34 = 535.1 lb/day

Sulfates

C_e = {[80 mg/l * (4 cfs + 3.445 cfs)] – (13 mg/l * 4 cfs)}/3.445 cfs

C_e = 157.79 mg/l

Mass = 157.79 * 2.23 * 8.34 = 2934.6 lb/day

Total Dissolved Solids

C_e = {[315 mg/l * (4 cfs + 3.445 cfs)] – (67 mg/l * 4 cfs)}/3.445 cfs

C_e = 602.95 mg/l

Mass = 602.95 * 2.23 * 8.34 = 11213.78 lb/day

Outfall 002 Water Quality Standard Limits

Chlorides

C_e = {[16 mg/l * (4 cfs + 1.545 cfs)] – (5 mg/l * 4 cfs)}/1.545 cfs

C_e = 44.48 mg/l

Mass = 44.48 * 1 * 8.34 = 370.96 lb/day

Sulfates

C_e = {[80 mg/l * (4 cfs + 1.545 cfs)] – (13 mg/l * 4 cfs)}/1.545 cfs

C_e = 253.46 mg/l

Mass = 253.46 * 1 * 8.34 = 2113.86 lb/day

Total Dissolved Solids

C_e = {[315 mg/l * (4 cfs + 1.545 cfs)] – (67 mg/l * 4 cfs)}/1.545 cfs

C_e = 957.07 mg/l

Mass = 957.07 * 1 * 8.34 = 7981.96 lb/day

Outfall 003 Water Quality Standard Limits

The most stringent of the limits calculated based on the stream standards and the secondary water quality standards will be added to the limits for Outfalls 001 and 002 for comparison with the TMDLs.

Stream Standard Calculations

Chlorides

C_e = {[18.7 mg/l * (4 cfs + 0.0263 cfs)] – (5 mg/l * 4 cfs)}/0.0263 cfs

C_e = 2102.4 mg/l

Mass = 2102.4 * 0.0263 * 8.34 = 461.1 lb/day

Sulfates

C_e = {[41.3 mg/l * (4 cfs + 0.0263 cfs)] – (13 mg/l * 4 cfs)}/0.0263 cfs

C_e = 4345.5 mg/l

Mass = 4345.5 * 0.0263 * 8.34 = 953.2 lb/day

Total Dissolved Solids

C_e = {[138 mg/l * (4 cfs + 0.0263 cfs)] – (67 mg/l * 4 cfs)}/0.0263 cfs

C_e = 10936.5 mg/l

Mass = 10936.5 * 0.0263 * 8.34 = 2404.8 lb/day

Secondary Drinking Water Standards

Chlorides

C_e = {[250 mg/l * (0 cfs + 0.0263 cfs)] – (5 mg/l * 0 cfs)}/0.0263 cfs

C_e = 250 mg/l

Mass = 250 * 0.0263 * 8.34 = 54.8 lb/day

Sulfates

C_e = {[250 mg/l * (0 cfs + 0.0263 cfs)] – (13 mg/l * 0 cfs)}/0.0263 cfs

C_e = 250 mg/l

Mass = 250 * 0.0263 * 8.34 = 54.8 lb/day

Total Dissolved Solids

C_e = {[500 mg/l * (0 cfs + 0.0263 cfs)] – (67 mg/l * 0 cfs)}/0.0263 cfs

C_e = 500 mg/l

Mass = 500 * 0.0263 * 8.34 = 109.7 lb/day

Comparison of Water Quality Standards to TMDLs

Mineral	Water Quality Standards, lb/day	TMDL, lb/day	Permit Limit, lb/day*
Chlorides	960.86	265	265
Sulfates	5103.26	503	503
Total Dissolved Solids	19305.44	1338	1338

*Monthly average and daily maximum permit limits.

DRAFT

OUTFALLS 006 and 007 – Non-point sources discharging to the unnamed tributary of Flat Creek, a/k/a ELCC Tributary

Parameter	Water Quality or Technology	Justification
Downstream Flow	Water Quality	Stormwater flow study.
TSS	Technology	Judgment of permit writer and ARR000000.
NH3-N	Technology[1]	TMDL[2]
Total Recoverable Cadmium[3]	Technology	40 CFR 122.44(l) and continued from previous permit.
Total Recoverable Lead	Technology	40 CFR 122.44(l)
Total Recoverable Copper	Water Quality	Reg. 2.508
Total Recoverable Zinc	Water Quality	Reg. 2.508
Chlorides	Technology[1]	TMDL[2]
Sulfates	Technology[1]	TMDL[2]
TDS	Technology[1]	TMDL[2]
Nitrates	Technology	Judgment of permit writer and 2008 303(d) list
O & G	Water Quality	Reg. 2.510
pH	Water Quality	Reg. 2.504

1. Listed as technology because only monitoring and reporting requirements are included at the individual outfalls. The numerical limits are included in the SUM Total Outfall for Outfalls 006 and 007. (See Page 18 of Part IA of the permit.)
2. TMDLs for Chlorides, Sulfates, TDS, and Ammonia in the ELCC Tributary, Arkansas. (Reach 08040201-606) Dated December 16, 2002.
3. Applicable only at Outfall 006.

The permittee conducted a stream flow study regarding the receiving stream for Outfall 006 and Outfall 007. Background flow to effluent flow ratios were established as a result of this study. The background flow to effluent flow ratios are 53.6:1 at Outfall 006 and 15:1 at Outfall 007. (Outfall 007 is between 300 – 400 yards upstream of Outfall 006.) The water quality based limits were calculated using the background to effluent flow ratios where appropriate. The permittee is required in Part III of the permit to continue monitoring the downstream flow in order to ensure that the background flow to effluent flow ratios remain unchanged.

The TSS monitoring and reporting requirements from the previous permit have been replaced with a daily maximum concentration limit. The permittee will continue to be required to report the monthly average TSS concentration. The daily maximum concentration limit is equal to the benchmark value for TSS contained in ARR000000 (general permit for stormwater runoff associated with industrial activity). The source of this TSS value is the National Urban Runoff Program conducted by the US EPA.

The Department has included the TSS limit in the permit on the basis of the reported TSS values during the term of the current permit. At both Outfall 006 and Outfall 007, the permittee

reported several values above the benchmark value. Also, the reported values have varied widely, i.e., a reported daily maximum of 8 mg/l in February 2007 and a reported daily maximum of 320 in March 2007. However, a schedule of compliance cannot be given for TSS at these outfalls. Reg. 2.104 only allows a schedule of compliance to be granted in the case of water quality based limits. The TSS limit is based on the engineering judgment of the permit writer.

Total Recoverable Cadmium (at Outfall 006 only) and Total Recoverable Lead requirements are continued from the previous permit. The Department may remove these requirements at the time of the next permit renewal depending upon the results of the required monitoring and the continuing background flow to effluent flow ratios.

Numerical limits for Total Recoverable Copper and Total Recoverable Zinc are included in the permit because the receiving stream is on the 303(d) list for those parameters. A TMDL for those parameters has not yet been completed.

Monitoring and reporting requirements for Nitrates has been added to the permit because the receiving stream is on the 303(d) list for that parameter. A TMDL has not yet been completed for Nitrates.

Oil and Grease is continued unchanged from the previous permit.

The pH limits have been changed to 6.0 – 9.0 s.u. to ensure the required accuracy in reporting.

The calculations for NH3-N, Chlorides, Sulfates, and TDS are below.

Ammonia-Nitrogen (NH3-N)

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

DO-Based Effluent Limits

The DO based effluent limits were obtained through a MultiSMP model ran on 05/12/2008.

Outfall 006

Months	Avg. Monthly Limit, mg/l	Daily Maximum Limit, mg/l
May – October	25	37.5
November – April	75	112.5

Outfall 007

Months	Avg. Monthly Limit, mg/l	Daily Maximum Limit, mg/l
May – October	25	37.5
November – April	75.14	112.7

The mass limits calculated using the DO model based limits were determined using the following formula:

Mass, lb/day = Concentration, mg/l * Flow, MGD * 8.34

For the purpose of calculating mass limits for comparison with the TMDLs only, the Department will use flow rates of 0.076 MGD at Outfall 006 and 0.174 MGD at Outfall 007 (both of which occurred in May 2007).

Outfall 006

May – October

Average Monthly Limit

Mass, lb/day = 25 * 0.076 * 8.34 = 15.85 lb/day

Daily Maximum Limit

Mass, lb/day = 37.5 * 0.076 * 8.34 = 23.77 lb/day

November – April

Average Monthly Limit

Mass, lb/day = 75.14 * 0.076 * 8.34 = 47.63 lb/day

Daily Maximum Limit

Mass, lb/day = 112.7 * 0.076 * 8.34 = 71.43 lb/day

Outfall 007

May – October

Average Monthly Limit

Mass, lb/day = 25 * 0.174 * 8.34 = 36.28 lb/day

Daily Maximum Limit

Mass, lb/day = 37.5 * 0.174 * 8.34 = 54.42 lb/day

November – April

Average Monthly Limit

Mass, lb/day = 75 * 0.174 * 8.34 = 108.84 lb/day

Daily Maximum Limit

Mass, lb/day = 112.5 * 0.174 * 8.34 = 163.26 lb/day

Totals

November – April

Average Monthly

47.63 lb/day + 108.84 lb/day = 156.47 lb/day

Daily Maximum

71.43 lb/day + 163.26 lb/day = 234.69 lb/day

May – October

Average Monthly

15.85 lb/day + 36.28 lb/day = 52.13 lb/day

Daily Maximum

23.77 lb/day + 54.42 lb/day = 78.19 lb/day

Toxicity-Based Effluent Limits

The toxicity-based effluent limitations are based on Reg. 2.512 and an ADEQ internal memo dated March 28, 2005.

The following pH, temperature, and IWCs were used for the Gulf Coastal Plains Ecoregion:

Month	pH s.u.	Temperature °C	IWC (Monthly Avg)	IWC (Daily Max)
April-October	6.6	30	2.4 mg/l	6.1 mg/l
November-March	6.6	14	6.8 mg/l	17.0 mg/l

Notes:
- Daily Max = 4-day Average in APCEC Regulation No. 2
- Monthly Average = 30-day Average in APCEC Regulation No. 2

The following formula has been used to calculate toxicity based Ammonia limits:

Cd = (IWC(Qd + Qb) – CbQb)/Qd,

The mass limits calculated using the toxicity based limits were determined using the following formula:

Mass, lb/day = Concentration, mg/l * Flow, MGD * 8.34

For the purpose of calculating mass limits for comparison with the TMDLs only, the Department will use flow rates of 0.076 MGD at Outfall 006 and 0.174 MGD at Outfall 007 (both of which occurred in May 2007).

Outfall 007

Cd = effluent limit concentration (mg/l)
IWC = Ammonia toxicity standard for Ecoregion
Background flow to effluent flow ratio: 15:1
Qd = 1 cfs (for calculation purposes due to the use of background flow to effluent flow ratio)
Background flow = 15 cfs (for calculation purposes due to the use of background flow to effluent flow ratio)
Qb = Critical flow of the receiving stream = 10.05 cfs. This flow is 67 percent of the background flow.
Cb = background concentration = 0 mg/l

Comment [MS28]: pick one

Calculations of Toxicity-Based Limits:

April – October

Cd = (2.4(10.05+1) – (0*10.05))/1
Cd = 26.52 mg/l AML

Mass, lb/day = 26.52 * 0.174 * 8.34 = 38.48 lb/day

Cd = (6.1(10.05+1) – (0*10.05))/1
Cd = 67.41 mg/l DML

Mass, lb/day = 67.41 * 0.174 * 8.34 = 97.82 lb/day

November – March

Cd = (6.8(10.05+1) – (0*10.05))/1
Cd = 75.14 mg/l AML

Mass, lb/day = 75.14 * 0.174 * 8.34 = 109.04 lb/day

Cd = (17.0(10.05+1) – (0*10.05))/1
Cd = 187.85 mg/l DML
Mass, lb/day = 187.85 * 0.174 * 8.34 = 272.60 lb/day

Outfall 006

Cd = effluent limit concentration (mg/l)
IWC = Ammonia toxicity standard for Ecoregion
Background flow to effluent flow ratio: 53.6:1
Qd = 1 cfs (for calculation purposes due to the use of background flow to effluent flow ratio)
Background flow = 53.6 cfs (for calculation purposes due to the use of background flow to effluent flow ratio)
Qb = Critical flow of the receiving stream = 35.9 cfs. This flow is 67 percent of the background flow.
Cb = background concentration = see calculation below

Comment [MS29]: pick one

Outfall 007 discharges upstream of Outfall 006. Therefore, the background concentration of NH3-N at Outfall 006 must be calculated using the allowable IWC immediately following Outfall 007 and the additional water added to the receiving stream between the two outfalls from the watershed.

DRAFT

The additional flow added between the two outfalls is calculated by subtracting the flow immediately downstream of Outfall 007 from the flow immediately upstream of Outfall 006. This portion of the flow will be assumed to have an NH3-N concentration = 0 mg/l.

53.6 cfs – (15 cfs + 1 cfs) = 37.6 cfs

April – October

IWC = ((2.4 mg/l*16 cfs)+(0 mg/l*37.6 cfs))/(16 cfs+37.6 cfs) = 0.72 mg/l monthly avg.

IWC = ((6.1 mg/l*16 cfs)+(0 mg/l*37.6 cfs))/(16 cfs+37.6 cfs) = 1.82 mg/l daily max.

November – April

IWC = ((6.8 mg/l*16 cfs)+(0 mg/l*37.6 cfs))/(16 cfs+37.6 cfs) = 2.03 mg/l monthly avg.

IWC = ((17.0 mg/l*16 cfs)+(0 mg/l*37.6 cfs))/(16 cfs+37.6 cfs) = 5.07 mg/l daily max.

The toxicity based limits for Outfall 006 are calculated below:

April – October

Cd = (2.4(35.9+1) – (0.72*35.9))/1
Cd = 60.32 mg/l AML

Mass, lb/day = 60.32 * 0.076 * 8.34 = 38.23 lb/day

Cd = (6.1(35.9+1) – (1.82*35.9))/1
Cd = 159.75 mg/l DML

Mass, lb/day = 159.75 * 0.076 * 8.34 = 101.26 lb/day

November – March

Cd = (6.8(35.9+1) – (2.03*35.9))/1
Cd = 178.04 mg/l AML

Mass, lb/day = 178.04 * 0.076 * 8.34 = 112.85 lb/day

Cd = (17.0(35.9+1) – (5.07*35.9))/1
Cd = 445.29 mg/l DML

Mass, lb/day = 445.29 * 0.076 * 8.34 = 282.24 lb/day

Totals

November – March

Average Monthly

38.48 lb/day + 38.23 lb/day = 76.71 lb/day

Daily Maximum

97.82 lb/day + 101.26 lb/day = 199.08 lb/day

April – October

Average Monthly

109.04 lb/day + 112.85 lb/day = 221.89 lb/day

Daily Maximum

272.60 lb/day + 282.24 lb/day = 554.84 lb/day

TMDL

Total Maximum Daily Loads (TMDLs) have been established for the parameters listed on the 303(d) list in Category 4a. The TMDLs were developed in 2002. The TMDL set the NH3-N Waste Load Allocations for El Dorado Chemical Company as follows:

	Ammonia, lb/day	
	Summer	Winter
LA* for Outfalls 006 and 007	0.00	5.16

*LA = Load Allocation

Section 4.2.3 of the TMDL stated that the ammonia concentrations were limited by ammonia toxicity. The Department will therefore consider the summer months of the TMDL to be the summer months which are used when calculating the toxicity based limits using criteria in Reg. 2.512. Summer months are April through October and the winter months are November through March. The limits in the above table are both the monthly average and the daily maximum limits.

EXHIBIT 9

4500 NORTH WEST AVE. • P. O. BOX 231 • EL DORADO, AR 71731 • (870) 863-1400

EL DORADO

CHEMICAL COMPANY

July 13, 2011

Mr. Gene Little
Enforcement Administrator
Water Division Enforcement Section
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock AR 72118-5317

Re: El Dorado Chemical Company (EDCC) NPDES Permit AR0000752, CAO LIS 08-067, Quarterly Report

Dear Mr. Little:

Item 2 of the Order and Agreement section of the referenced CAO requires that EDCC submit quarterly status reports on the elimination or re-routing of outfalls 006 and 007. Item 2 also states that this report is to continue until the permit is renewed or December 31, 2009, whichever comes first. Since the December 31, 2009 deadline, EDCC has continued to submit these reports in an effort to keep the Department informed on EDCC's efforts associated with outfalls 006 and 007.

The previous quarterly report submitted to Mr. Mo Shafii on April 7, 2011 stated that EDCC had determined that the relocation of these outfalls was not a cost effective option and would not be altered at this time. The previous quarterly report also states that the primary reason for not altering the referenced outfalls at this time is that EDCC anticipated that the background flow ratios for these outfalls presented in the September 21, 2006 report to ADEQ would be utilized in the renewal of our NPDES permit as based on communication with the NPDES permitting staff. The use of those ratios will significantly change the effluent limits for outfalls 006 and 007 at such time as the permit is renewed.

Based on data submitted to ADEQ in previous quarterly reports as well as the December 31, 2009 deadline discussed in item 2 of the referenced CAO, EDCC would like confirmation from ADEQ that the quarterly reporting requirement associated with the elimination or re-routing of outfalls 006 and 007 can be discontinued.

Should you have any questions concerning this request please feel free to contact Brent Parker at 870-863-1403 or by e-mail at bparker@edc-ark.com .

Sincerely,

Greg Withrow

Greg Withrow
General Manager
El Dorado Chemical Company

EXHIBIT 10

ADEQ

ARKANSAS
Department of Environmental Quality

August 11, 2011

Greg Withrow
Plant Manager
El Dorado Chemical Company
P.O. Box 231
El Dorado, Arkansas 71731

RE: NPDES Permit No. AR0000752, AFIN 70-00040

Dear Mr. Withrow:

The Department has reviewed your quarterly report dated July 13, 2011, regarding Outfalls 006 and 007. The Department has agreed to the use of background flow to effluent flow ratios based on a study submitted in September 21, 2006, when determining the permit limits for these outfalls. These ratios will be used when a renewal permit is issued. Therefore, the Department has no objection to your request to eliminate the need for quarterly reports on Outfalls 006 and 007.

It is important to note that El Dorado Chemical Company must comply with the current permit limits until a renewal permit is issued. If you have any questions, please contact Loretta Reiber, P.E. of the Individual Discharge Permits Section at reiber@adeq.state.ar.us or at (501) 682-0612.

Sincerely,

Mo Shafii
Assistant Chief
Water Division

MS:lr

cc: David Ramsey, Environmental Program Coordinator
Sam Sawyer, Enforcement Coordinator