ADEQ
ARKANSAS
Department of Environmental Quality

September 15, 2016

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

RE: El Dorado Chemical Company Inspection (Union Co)
AFIN: 70-00040 NPDES Permit No.: AR0000752

Dear Mr. Withrow:

On August 24, 2016, I performed a Compliance Evaluation Inspection of the above-referenced facility in accordance with the provisions of the Federal Clean Water Act, the Arkansas Water and Air Pollution Control Act, and the regulations promulgated thereunder. A copy of the inspection report is enclosed for your records.

Please refer to the "Summary of Findings" section of the attached inspection report and provide a written response for each violation that was noted. This response should be mailed to the attention of the Water Division Inspection Branch at the address at the bottom of this letter or e-mailed to Water-Inspection-Report@adeq.state.ar.us. This response should contain documentation describing the course of action taken to correct each item noted. This corrective action should be completed as soon as possible, and the written response with all necessary documentation (i.e., photos) is due by **September 29, 2016**.

If I can be of any assistance, please contact me at youngm@adeq.state.ar.us or (501) 837-2073.

Sincerely,

Michael Young
District 8 Field Inspector
Water Division

ADEQ
ARKANSAS
Department of Environmental Quality

WATER DIVISION INSPECTION REPORT

AFIN: **70-00040** | PERMIT #: **AR0000752** | DATE: **8/24/2016**

COUNTY: **70 Union** | PDS #: **092750** | MEDIA: **WN**

GPS LAT: **33.263857** LONG: **-92.684743** LOCATION: **General Area**

FACILITY INFORMATION

NAME:
El Dorado Chemical Company
LOCATION:
4500 North West Ave
CITY:
El Dorado, AR 71730

RESPONSIBLE OFFICIAL

NAME: / TITLE
Greg Withrow / General Manager
COMPANY:
El Dorado Chemical Company
MAILING ADDRESS:
P.O. Box 231
CITY, STATE, ZIP:
El Dorado AR 71731
PHONE & EXT: / FAX:
870-863-1400 /
EMAIL:

CONTACTED DURING INSPECTION: **Yes**

INSPECTION INFORMATION

FACILITY TYPE: **2 - Industrial**
INSPECTOR ID#: **101531 S - State**
FACILITY EVALUATION RATING: **3 - Satisfactory**
INSPECTION TYPE: **Compliance Evaluation**
DATE(S): **8/24/2016**
ENTRY TIME: **09:00**
EXIT TIME: **17:05**
PERMIT EFFECTIVE DATE: **6/1/2004**
PERMIT EXPIRATION DATE: **6/30/2007**

FAYETTEVILLE SHALE RELATED: **N**

FAYETTEVILLE SHALE VIOLATIONS: **N**

INSPECTION PARTICIPANTS

NAME/TITLE/PHONE/FAX/EMAIL/ETC.:
David Sartain/Environmental Coordinator/870-863-1403
Edward Pearson/Environmental Technician/870-863-1400
Les Morgan/Environmental Technician/870-863-1400
Tobin Fulmer/ADEQ Water Division Inspector

AREA EVALUATIONS

(S=Satisfactory, M=Marginal, U=Unsatisfactory, N=Not Applicable/Evaluated)

S	PERMIT	**S**	FLOW MEASUREMENT	**M**	STORMWATER
S	RECORDS/REPORTS	**S**	LABORATORY	**S**	FACILITY SITE REVIEW
S	OPERATION & MAINTENANCE	**S**	EFFLUENT/RECEIVING WATER	**M**	SELF-MONITORING PROGRAM
S	SAMPLING	**N**	SLUDGE HANDLING/DISPOSAL	**N**	PRETREATMENT
****	OTHER:				

SUMMARY OF FINDINGS

1.) The permittee is discharging from Outfalls 006 and 007 in situations, which are not deemed an 'emergency' and without meeting condition Part III. (6.). This is a violation of permit condition Part III. (2.). (SEE REROUTING COMMENTS)

2.) The facility has not developed a program for demonstrating that the first two inches of rainfall in a 24-hour period are routed to Outfall 010. This is a violation of permit condition Part III. (6.). (SEE REROUTING COMMENTS)

3.) All samples taken at the facility that cannot be sampled using an automatic sampler must be taken at 10 A.M., 12 P.M., 2 P.M., and 4 P.M. and composited according to flow. Due to intermittent discharges at Outfalls 006 and 007, this is not consistently being achieved. This is a violation of permit condition Part III. (9.). (SEE 006/007 SAMPLING COMMENTS)

4.) The last update to the SWPPP available for review was July 2014. There have been numerous effluent violations at the outfalls and a change from construction to new additional buildings and manufacturing processes with no update to the SWPPP to reflect changes made to minimize effluent violations. This is a violation of permit condition Part III. (15.) (G.) (1.) (a.). This is a REPEAT violation. (SEE SWPPP UPDATE COMMENTS)

5.) The SWPPP site map does not include direction of stormwater flow using arrows. This is a violation of permit condition Part III. (15.) (B.) (2.) (a.) (iii.) (a.).

6.) The SWPPP site map does not include all locations and descriptions of non-stormwater discharges,

including but not limited to fire hydrants, steam condensate lines, etc. This is a violation of permit condition Part III. (15.) (B.) (2.) (a.) (iii.) (h.).

7.) The allowable non-stormwater section of the SWPPP does not include the location where allowable non-stormwater discharges will be discharged (i.e., dust suppression using river water is likely to affect Outfalls 006, 007 and 010). This is a violation of permit condition Part III. (15.) (E.) (1.) (b.).

8.) Compliance evaluations completed by the facility need to include an observation of stormwater BMPs to ensure they are operating correctly. This is a violation of permit condition Part III. (15.) (F.) (2.) (a.).

GENERAL COMMENTS

El Dorado Chemical Company produces Ammonia, Nitric Acid, Sulfuric Acid, and Ammonium Nitrate. The facility consists of four permitted outfalls that consistently or intermittently discharge (003, 006, 007, and 010) and two outfalls that do not discharge unless there is an emergency situation (001 and 002). Outfalls 003 and 010 are the only outfalls with treatment. Outfall 003 is domestic wastewater from the facility with Imhoff tanks and tertiary treatment using sand filters. Outfall 010 is primarily process water and contaminated stormwater. Treatment consists of pH adjustment in Lake Lee using caustic and thence to Lake Kildeer, which is a ~50 acre treatment lagoon with aeration. Outfalls 006 and 007 are contaminated stormwater that has no treatment; however, the facility is to use BMPs to eliminate or reduce effluent violations at these outfalls. Effluent violations at Outfalls 006 and 007 are numerous. The facility has a permit that expired in 2007 and has been administratively extended.

REROUTING COMMENTS:

A condition in the permit for the facility states that "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. No proof of this program was submitted for approval from the ADEQ within the 90 days from the effective date of the permit (April 2007). Outfall 010 began discharging in October of 2013, and prior to that date there was no inspection completed of this condition. During my inspection in 2014, I overlooked the condition in the permit. The facility needs to indicate to the ADEQ Water Division Permits Branch if this condition will ever be achieved.

006/007 SAMPLING COMMENTS:

Additionally, Outfalls 006 and 007 are primarily contaminated stormwater with very flashy runoff. The facility is incapable of conducting 24-hour composite samples or meeting the condition of Part III. (9.) in which composite samples are to be taken at 10 A.M., 12 A.M., 2 P.M., and 4 P.M.. Conditional sampling at Outfalls 006 and 007 should be discussed prior to the renewal of the permit. As a response to this inspection, the facility needs to provide a narrative of how a "typical" sampling event takes place at Outfalls 006 and 007.

SWPPP UPDATE COMMENTS:

A reconnaissance inspection performed by EPA Region 6 Inspector David Long on March 9, 2015 identified deficiencies with the facility SWPPP. Inspector Long identified the following areas of concern:

1. **Lack of updated certification pages after each plan update**
2. **Letter of authority for inspection reports signed by the inspector**
3. **Lack of updates in SWPPP regarding metals violations**
4. **Employee training**
5. **No updates following active construction**

Following the inspection by Region 6 EPA representatives, there was no update completed on the SWPPP reviewed during my inspection and the above deficiencies were still in the copy of the SWPPP reviewed. No updates have been made following numerous metals effluent violations and biomonitoring failures. Additionally, no indication was made that active construction had taken place or ceased in this area. There had been improvements made to the BMPs such as regrading and redistributing water at Outfall 007; however, there is no update to the SWPPP narrative to include this information. The site map is current and up-to-date, but needs items from Violations 5-7 added. SWPPP updates are required when there is a "change in design, construction, operation or maintenance which has a significant effect on the discharge." An updated copy of the SWPPP and site map is required as a response to this inspection. This is a REPEAT violation.

INSPECTOR'S SIGNATURE: **Michael Young**	DATE: **9/8/2016**
SUPERVISOR'S SIGNATURE: **Kerri McCabe**	DATE: **9/14/2016**

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
5301 NORTHSHORE DRIVE / NORTH LITTLE ROCK / ARKANSAS 72118-5317 / TELEPHONE 501-682-0744 / FAX 501-682-0880
www.adeq.state.ar.us

SECTION A: PERMIT VERIFICATION	
PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS	☑S ☐M ☐U ☐NA ☐NE
DETAILS:	
1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE:	☑Y ☐N ☐NA ☐NE
2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES:	☐Y ☐N ☑NA ☐NE
3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT:	☑Y ☐N ☐NA ☐NE
4. ALL DISCHARGES ARE PERMITTED:	☑Y ☐N ☐NA ☐NE

SECTION B: RECORDKEEPING AND REPORTING EVALUATION	
RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT	☑S ☐M ☐U ☐NA ☐NE
DETAILS:	
1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRS:	☑Y ☐N ☐NA ☐NE
2. SAMPLING AND ANALYSES DATA ADEQUATE AND INCLUDE:	☑S ☐M ☐U ☐NA ☐NE
a. DATES AND TIME(S) OF SAMPLING:	☑Y ☐N ☐NA ☐NE
b. EXACT LOCATION(S) OF SAMPLING:	☑Y ☐N ☐NA ☐NE
c. NAME OF INDIVIDUAL PERFORMING SAMPLING:	☑Y ☐N ☐NA ☐NE
d. ANALYTICAL METHODS AND TECHNIQUES:	☑Y ☐N ☐NA ☐NE
e. RESULTS OF CALIBRATIONS:	☑Y ☐N ☐NA ☐NE
f. RESULTS OF ANALYSES:	☑Y ☐N ☐NA ☐NE
g. DATES AND TIMES OF ANALYSES:	☑Y ☐N ☐NA ☐NE
h. NAME OF PERSON(S) PERFORMING ANALYSES:	☑Y ☐N ☐NA ☐NE
3. LABORATORY EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS ADEQUATE:	☑S ☐M ☐U ☐NA ☐NE
4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR:	☑S ☐M ☐U ☐NA ☐NE
5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA:	☑Y ☐N ☐NA ☐NE

SECTION C: OPERATIONS AND MAINTENANCE	
TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED	☑S ☐M ☐U ☐NA ☐NE
DETAILS:	
1. TREATMENT UNITS PROPERLY OPERATED:	☑S ☐M ☐U ☐NA ☐NE
2. TREATMENT UNITS PROPERLY MAINTAINED:	☑S ☐M ☐U ☐NA ☐NE
3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED:	☑S ☐M ☐U ☐NA ☐NE
4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE:	☑S ☐M ☐U ☐NA ☐NE
5. ALL NEEDED TREATMENT UNITS IN SERVICE:	☑S ☐M ☐U ☐NA ☐NE
6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED:	☑S ☐M ☐U ☐NA ☐NE
7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED:	☑S ☐M ☐U ☐NA ☐NE
8. OPERATION AND MAINTENANCE MANUAL AVAILABLE:	☑Y ☐N ☐NA ☐NE
9. STANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED:	☑Y ☐N ☐NA ☐NE
10. PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED:	☑Y ☐N ☐NA ☐NE
11. HAVE BYPASSES/OVERFLOWS OCCURRED AT THE PLANT OR IN THE COLLECTION SYSTEM IN THE LAST YEAR:	☐Y ☑N ☐NA ☐NE
12. IF SO, HAS THE REGULATORY AGENCY BEEN NOTIFIED:	☐Y ☐N ☑NA ☐NE
13. HAS CORRECTIVE ACTION BEEN TAKEN TO PREVENT ADDITIONAL BYPASSES/OVERFLOWS:	☐Y ☐N ☑NA ☐NE
14. HAVE ANY HYDRAULIC OVERLOADS OCCURRED AT THE TREATMENT PLANT:	☐Y ☑N ☐NA ☐NE
15. IF SO, DID PERMIT VIOLATIONS OCCUR AS A RESULT:	☐Y ☐N ☑NA ☐NE

SECTION D: SAMPLING	
PERMITTEE SAMPLING MEETS PERMIT REQUIREMENTS	☑S ☐M ☐U ☐NA ☐NE
DETAILS:	
1. SAMPLES TAKEN AT SITE(S) SPECIFIED IN PERMIT:	☑Y ☐N ☐NA ☐NE
2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES:	☑Y ☐N ☐NA ☐NE
3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT:	☑Y ☐N ☐NA ☐NE
4. SAMPLING AND ANALYSES COMPLETED ON PARAMETERS SPECIFIED IN PERMIT:	☑Y ☐N ☐NA ☐NE
5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT:	☑Y ☐N ☐NA ☐NE
6. SAMPLE COLLECTION PROCEDURES ADEQUATE:	☑Y ☐N ☐NA ☐NE
a. SAMPLES REFRIGERATED DURING COMPOSITING:	☑Y ☐N ☐NA ☐NE
b. PROPER PRESERVATION TECHNIQUES USED:	☑Y ☐N ☐NA ☐NE
c. CONTAINERS AND SAMPLE HOLDING TIMES CONFORM TO 40 CFR 136:	☑Y ☐N ☐NA ☐NE
7. IF MONITORING IS PERFORMED MORE OFTEN THAN REQUIRED ARE RESULTS REPORTED ON THE DMR:	☐Y ☐N ☑NA ☐NE
SECTION E1: FLOW MEASUREMENT AT OUTFALL 003	
PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS	☑S ☐M ☐U ☐NA ☐NE
DETAILS:	
1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED:__ TYPE OF DEVICE: **Parshall flume**	☑Y ☐N ☐NA ☐NE
2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED:	☑Y ☐N ☐NA ☐NE
3. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED:	☐Y ☐N ☑NA ☐NE
4. CALIBRATION FREQUENCY ADEQUATE:	☐Y ☐N ☑NA ☐NE
5. RECORDS MAINTAINED OF CALIBRATION PROCEDURES:	☐Y ☐N ☑NA ☐NE
6. CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE:	☐Y ☐N ☑NA ☐NE
7. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE:	☑Y ☐N ☐NA ☐NE
8. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES:	☑Y ☐N ☐NA ☐NE
9. HEAD MEASURED AT PROPER LOCATION:	☑Y ☐N ☐NA ☐NE
SECTION E2: FLOW MEASUREMENT AT OUTFALL 006	
PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS	☑S ☐M ☐U ☐NA ☐NE
DETAILS:	
10. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED:__ TYPE OF DEVICE: **Parshall flume**	☑Y ☐N ☐NA ☐NE
11. FLOW MEASURED AT EACH OUTFALL AS REQUIRED:	☑Y ☐N ☐NA ☐NE
12. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED:	☐Y ☐N ☑NA ☐NE
13. CALIBRATION FREQUENCY ADEQUATE:	☐Y ☐N ☑NA ☐NE
14. RECORDS MAINTAINED OF CALIBRATION PROCEDURES:	☐Y ☐N ☑NA ☐NE
15. CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE:	☐Y ☐N ☑NA ☐NE
16. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE:	☑Y ☐N ☐NA ☐NE
17. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES:	☑Y ☐N ☐NA ☐NE
18. HEAD MEASURED AT PROPER LOCATION:	☑Y ☐N ☐NA ☐NE
SECTION E3: FLOW MEASUREMENT AT OUTFALL 007	
PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS	☑S ☐M ☐U ☐NA ☐NE
DETAILS:	
19. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED:__ TYPE OF DEVICE: **Parshall flume**	☑Y ☐N ☐NA ☐NE
20. FLOW MEASURED AT EACH OUTFALL AS REQUIRED:	☑Y ☐N ☐NA ☐NE
21. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED:	☐Y ☐N ☑NA ☐NE
22. CALIBRATION FREQUENCY ADEQUATE:	☐Y ☐N ☑NA ☐NE
23. RECORDS MAINTAINED OF CALIBRATION PROCEDURES:	☐Y ☐N ☑NA ☐NE
24. CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE:	☐Y ☐N ☑NA ☐NE
25. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE:	☑Y ☐N ☐NA ☐NE
26. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES:	☑Y ☐N ☐NA ☐NE
27. HEAD MEASURED AT PROPER LOCATION:	☑Y ☐N ☐NA ☐NE

SECTION E4: FLOW MEASUREMENT AT OUTFALL 010	
PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS	☑S ☐M ☐U ☐NA ☐NE
DETAILS:	
28. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED:__ TYPE OF DEVICE: **MagFlow Device**	☑Y ☐N ☐NA ☐NE
29. FLOW MEASURED AT EACH OUTFALL AS REQUIRED:	☑Y ☐N ☐NA ☐NE
30. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED: **Totalizer**	☑Y ☐N ☐NA ☐NE
31. CALIBRATION FREQUENCY ADEQUATE:	☑Y ☐N ☐NA ☐NE
32. RECORDS MAINTAINED OF CALIBRATION PROCEDURES:	☑Y ☐N ☐NA ☐NE
33. CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE:	☑Y ☐N ☐NA ☐NE
34. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE: **Closed pipe**	☐Y ☐N ☐NA ☑NE
35. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES:	☑Y ☐N ☐NA ☐NE
36. HEAD MEASURED AT PROPER LOCATION:	☑Y ☐N ☐NA ☐NE
SECTION F: LABORATORY	
PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS	☑S ☐M ☐U ☐NA ☐NE
DETAILS:	
1. EPA APPROVED ANALYTICAL PROCEDURES USED (40 CFR 136.3 FOR LIQUIDS, 503.8(B) FOR SLUDGES) :	☑Y ☐N ☐NA ☐NE
2. IF ALTERNATIVE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED:	☐Y ☐N ☑NA ☐NE
3. SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT:	☑Y ☐N ☐NA ☐NE
4. QUALITY CONTROL PROCEDURES ADEQUATE:	☑Y ☐N ☐NA ☐NE
5. DUPLICATE SAMPLES ARE ANALYZED ≥10% OF THE TIME:	☑Y ☐N ☐NA ☐NE
6. SPIKED SAMPLES ARE ANALYZED ≥10% OF THE TIME:	☑Y ☐N ☐NA ☐NE
7. COMMERCIAL LABORATORY USED:	☑Y ☐N ☐NA ☐NE
a. LAB NAME: **American Interplex / Bio-Analytic (WET)**	
b. LAB ADDRESS: **8600 Kanis Road Little Rock, 72204 / 3240 Spurgin Road Doyline, LA 71023**	
c. PARAMETERS PERFORMED: **All**	
8. BIOMONITORING PROCEDURES ADEQUATE:	☑Y ☐N ☐NA ☐NE
a. PROPER ORGANISMS USED:	☑Y ☐N ☐NA ☐NE
b. PROPER DILUTION SERIES FOLLOWED:	☑Y ☐N ☐NA ☐NE
c. PROPER TEST METHODS AND DURATION:	☑Y ☐N ☐NA ☐NE
d. RETESTS AND/OR TRE PERFORMED AS REQUIRED:	☑Y ☐N ☐NA ☐NE

SECTION G: EFFLUENT/RECEIVING WATERS OBSERVATIONS

BASED ON VISUAL OBSERVATIONS ONLY — ☑S ☐M ☐U ☐NA ☐NE

DETAILS:

OUTFALL #:	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	FLOATING SOLIDS	COLOR	OTHER
001							No Discharge
002							No Discharge
003	N	N	N	N	N	Colorless	
006							No Discharge
007	N	N	N	N	N	Colorless	
010	N	N	N	N	N	Colorless	

SECTION H: SLUDGE DISPOSAL

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS — ☐S ☐M ☐U ☐NA ☑NE

DETAILS: **Sludge is maintained in treatment ponds Lake Lee and Lake Killdeer.**

1. SLUDGE MANAGEMENT ADEQUATE TO MAINTAIN EFFLUENT QUALITY: ☐S ☐M ☐U ☐NA ☑NE
2. SLUDGE RECORDS MAINTAINED AS REQUIRED BY 40 CFR 503: ☐S ☐M ☐U ☐NA ☑NE
3. FOR LAND APPLIED SLUDGE, TYPE OF LAND APPLIED TO: (E.G., FOREST, AGRICULTURAL, PUBLIC CONTACT SITE):

SECTION I: SAMPLING INSPECTION PROCEDURES

SAMPLE RESULTS WITHIN PERMIT REQUIREMENTS — ☐S ☐M ☐U ☑NA ☐NE

DETAILS:

1. SAMPLES OBTAINED THIS INSPECTION: ☐Y ☐N ☑NA ☐NE
2. TYPE OF SAMPLE: ☐GRAB:__ ☐COMPOSITE:__ METHOD:__ FREQUENCY:
3. SAMPLES PRESERVED: ☐Y ☐N ☑NA ☐NE
4. FLOW PROPORTIONED SAMPLES OBTAINED: ☐Y ☐N ☑NA ☐NE
5. SAMPLE OBTAINED FROM FACILITY'S SAMPLING DEVICE: ☐Y ☐N ☑NA ☐NE
6. SAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE: ☐Y ☐N ☑NA ☐NE
7. SAMPLE SPLIT WITH PERMITTEE: ☐Y ☐N ☑NA ☐NE
8. CHAIN-OF-CUSTODY PROCEDURES EMPLOYED: ☐Y ☐N ☑NA ☐NE
9. SAMPLES COLLECTED IN ACCORDANCE WITH PERMIT: ☐Y ☐N ☑NA ☐NE

SECTION J: STORM WATER POLLUTION PREVENTION PLAN

STORM WATER MANAGEMENT MEETS PERMIT REQUIREMENTS — ☐S ☑M ☐U ☐NA ☐NE

DETAILS:

1. SWPPP UPDATED AS NEEDED: **N** DATE OF LAST UPDATE: **July 2014** ☐Y ☑N ☐NA ☐NE
2. SITE MAP INCLUDING ALL DISCHARGES AND SURFACE WATERS: **Site map needs arrows indicating flow of water.** ☐Y ☑N ☐NA ☐NE
3. POLLUTION PREVENTION TEAM IDENTIFIED: ☑Y ☐N ☐NA ☐NE
4. POLLUTION PREVENTION TEAM PROPERLY TRAINED: ☑Y ☐N ☐NA ☐NE
5. LIST OF POTENTIAL POLLUTANT SOURCES: ☑Y ☐N ☐NA ☐NE
6. LIST OF POTENTIAL SOURCES AND PAST SPILLS AND LEAKS: ☑Y ☐N ☐NA ☐NE
7. ALL NON-STORM WATER DISCHARGES ARE AUTHORIZED: ☑Y ☐N ☐NA ☐NE
8. LIST OF STRUCTURAL BMPS: ☑Y ☐N ☐NA ☐NE
9. LIST OF NON-STRUCTURAL BMPS: ☑Y ☐N ☐NA ☐NE
10. BMPS PROPERLY OPERATED AND MAINTAINED: ☑Y ☐N ☐NA ☐NE
11. INSPECTIONS CONDUCTED AS REQUIRED: ☑Y ☐N ☐NA ☐NE

FLOW CALCULATION SHEET

A MAG-FLOW DEVICE IS USED AT OUTFALL 010 AND CANNOT BE CHECKED FOR CALIBRATION. NO SECONDARY DEVICES AT OUTFALLS 003, 006 and 007.

Date: **08/24/2016** Time: **15:26**

Head in Inches: _____ Feet: _____

Type & Size of Primary Flow Measurement Device: Mag-Flow

Name & Model of Secondary Flow Measurement Device: Totalizer

Date of last Calibration of Secondary Flow Device: Annually

Recorded Flow at Date & Time Listed Above: _____ (Facility Flow Meter)

Calculated Flow at Date & Time Listed Above: _____

(Flow is calculated using flow charts in: ISCO Open Channel Flow Measurement Handbook-5th Edition)

$$\% \text{ Error} = \frac{\text{Recorded Value} - \text{Calculated Value}}{\text{Calculated Value}} \times 100$$

$$\% \text{ Error} = \frac{\quad - \quad}{\quad} \times 100$$

$$\% \text{ Error} = \frac{\quad}{\quad} \times 100$$

% Error = _____ X 100

% Error = _____ %

Comments:

DMR Calculation Check

Reporting Period:	**From**	**2015** (Year)	**12** (Month)	**01** (Day)	**To**	**2015** (Year)	**12** (Month)	**31** (Day)

Parameter Checked: **TSS – Outfall 010**

	Loading Mass Mo. Avg. - lbs/day	**Concentration Monthly Mo. Avg. - mg/l**	**Concentration Monthly 7-day Avg. - mg/l**
Reported Value:	**221.69**	**N/A**	**N/A**
Calculated Value:	**221.69**	**N/A**	**N/A**
Permit Value:	**500.4**	**N/A**	**N/A**

If calculated value does not equal reported value, explain:

Equal

DMR Calculation Check

Reporting Period:	**From**	**2016** (Year)	**07** (Month)	**01** (Day)	**To**	**2016** (Year)	**07** (Month)	**31** (Day)

Parameter Checked: **Nitrate Nitrogen as N – Outfall 010**

	Loading	**Concentration**	
	Mass	**Monthly**	
	Mo. Avg. - lbs/day	**Mo. Avg. - mg/l**	**7-day Avg. - mg/l**
Reported Value:	**260.2**	**N/A**	**N/A**
Calculated Value:	**260.2**	**N/A**	**N/A**
Permit Value:	**405.02**	**N/A**	**N/A**

If calculated value does not equal reported value, explain:

Equal

4500 NORTH WEST AVE. • P. O. BOX 231 • EL DORADO, AR 71731 • (870) 863-1400

EL DORADO
CHEMICAL COMPANY

September 29, 2016

Mr. Michael Young
District 8 Field Inspector
Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118

RECEIVED
SEP 29 2016
Ln4-05

RE: El Dorado Chemical Company (EDCC)
NPDES Permit No. AR0000752 - AFIN: 70-00040
Compliance Inspection Response

Dear Mr. Young:

On August 24, 2016, ADEQ conducted a routine compliance evaluation inspection at EDCC. A copy of this compliance inspection report and letter dated September 15, 2016 was received by EDCC on September 21, 2016. This letter and the accompanying attachments are being submitted in response to the findings from the inspection.

ADEQ Finding No. 1:

The permittee is discharging from Outfalls 006 and 007 in situations, which are not deemed an "emergency" and without meeting condition Part III.(6). This is a violation of permit condition Part III.(2).

EDCC Response:

Condition No. 2 of Part III states,

"*The permittee must notify the Department a minimum of 48 hours prior to the first discharge to the joint pipeline. Except as outlined in Condition No. 6 below, the permittee may only discharge to Outfall 001, 006, and 007 in emergency situations once discharge to the pipeline has commenced...*".

EDCC considers the discharge restrictions provided in Conditions No. 2 and 6 of Part III not applicable until such time that discharges from Outfalls 006 and 007 are routed to the Ouachita Pipeline. As explained below, Outfalls 006 and 007 were not routed to the Ouachita Pipeline. Therefore, this discharge of storm water through Outfalls 006 and 007 is not a violation of the cited permit condition.

ADEQ Finding No. 2:

The facility has not developed a program for demonstrating that the first two inches of rainfall in a 24-hour period are routed to Outfall 010. This is a violation of permit condition Part III.(6).

EDCC Response:

The current permit was effective in July 2002 and expired April 1, 2007. Over the last 14 years, EDCC made multiple efforts in regards to permit compliance at Outfalls 006 and 007. This included source reduction, re-rerouting portions of the storm water from Outfalls 006 and 007 drainage basins to Outfall 001 that were identified as significant contributors of contaminants to Outfalls 006 and 007, and performing the background flow study required by the permit for the remaining drainage basins that contributed to Outfalls 006 and 007.

During this timeframe, EDCC determined that re-location of the remaining flow in these outfalls, based on the new flow regime, was no longer necessary or feasible, and instead proposed to pursue the option of utilizing the results of the background flow study to revise the water quality based permit limits for Outfalls 006 and 007, based on the restricted drainage basins for those outfalls. ADEQ agreed, and, in 2008, issued a pre-draft permit incorporating the results of the background flow study into revised water quality based effluent limits for the restricted drainage basins of Outfalls 006 and 007.

Due to events beyond the control of EDCC, such as the restrictions on modifying the permit during the appeal of the pipeline permits, and subsequent events relating to minerals that delayed permit renewals statewide, the 2008 pre-draft permit has still not been issued.

This has been discussed with the ADEQ NDPES permitting section during meetings as well as multiple correspondences and reports over the past eight years. **Attachment 1** provides correspondence from 2011 on this issue. The ADEQ NPDES permitting section is currently working on a draft renewal permit which incorporates the revised water quality based effluent limits for Outfalls 006 and 007 that were initially proposed in 2008.

ADEQ Finding No. 3:

All samples taken at the facility that cannot be sampled using an automatic sampler must be taken at 10 A.M., 12 P.M., 2 P.M., and 4 P.M. and composited according to flow. Due to intermittent discharges at Outfall 006 and 007, this is not consistently achieved. This is a violation of permit condition Part III.(9).

EDCC Response:

Due to the nature of storm events, the facility cannot predict if discharges at Outfalls 006 and 007 will occur during normal business hours. Thus, EDCC ensures sampling requirements in Part 1A are met and samples are collected when a storm events occurs, no matter of the time it occurs. This methodology has been discussed with ADEQ/EPA inspectors for several years, including Mr. Young and his supervisor during their inspection in 2015.

The facility utilizes similar sampling methodology as described in Condition No. 9 of Part III when composite sampling at Outfalls 006 and 007. Grab samples are collected and the flow is recorded every two hours for the duration of the storm event. Samples are composited base on flow collected during the storm event.

It is our understanding from discussions with ADEQ NPDES permitting staff, this condition will be removed from the permit upon renewal. Composite sampling will be performed in accordance with the definitions section of the renewal permit, which matches our current sampling protocol.

ADEQ Finding No. 4:

The last update to the SWPPP available for review was July 2014. There have been numerous effluent violations at the outfalls and a change from construction to new additional buildings and manufacturing processes with no update to the SWPPP to reflect changes made to minimize effluent violations. This is a violation of permit condition Part III.(15.)(G.)(1.)(a.). This is a repeat violation. (See SWPPP UPDATE COMMENTS)

EDCC Response:

EDCC has been undergoing a major plant expansion since 2014. Due to ground disturbing activities related to the expansion, the facility has permit coverage under both the Construction Storm Water General Permit and the industrial storm water requirements in NPDES Permit No. AR0000752. Thus, EDCC has to maintain two separate Storm Water Pollution Prevention Plans, each with different permit requirements (including different BMP and inspection requirements).

During the construction phase, the site map for the industrial SWPPP was updated as new production facilities came online (as noted in the general comments section of the inspection report). At the time of the inspection, major construction was coming to an end and the Industrial SWPPP was being updated as well as changed to meet the requirements of the Industrial Storm Water General Permit since EDCC will be required to obtain coverage under that permit before a renewal permit is issued. However, since a large portion of the expansion has been completed, the appropriate sections of the SWPPP for NPDES Permit No. AR0000752 had been updated in order to satisfy current permit requirements. A copy of the revised SWPPP will be delivered to ADEQ to the attention of Caleb Osborne, Associate Director of the Office of Water Quality, as it cannot be transmitted electronically due to ADEQ file size restrictions.

The general comments section of the inspection report states that this finding is a repeat violation from the deficiencies noted during an EPA inspection performed on March 9, 2015. EDCC did not receive any correspondence from the EPA inspection and thus was not aware of any deficiencies to be addressed as a result of that EPA inspection.

ADEQ Finding No. 5:

The SWPPP site map does not include direction of storm water flow using arrows. This is violation of permit condition Part III.(15.)(B.)(2.)(a.)(iii.)(a.).

EDCC Response:

The direction of flow has been included on the site map. A copy of the site map has been included as **Attachment 2.**

ADEQ Finding No. 6:

The SWPPP site map does not include all locations and descriptions of non-storm water discharges including but not limited to fire hydrants, steam condensate lines, etc. This is violation of permit condition Part III.(15.)(B.)(2.)(a.)(iii.)(h.).

EDCC Response:

As noted in the response to the May 2014 inspection, contaminated storm water and process water from the NPDES Outfall 001 drainage basin drains to the "Day Pond" and then to Lake Killdeer where it receives biological treatment. Outfall 001 is not a storm water only outfall. Thus water related to ancillary operations (i.e. steam and condensate, fire hydrant flushing) is considered part of the process wastewater and not a non-storm water discharge.

The site map does contain a note that states, "Due to the scale of the map and the number of potential non-storm water discharges (i.e. air conditioner condensate), it is not feasible to identify the specific location of all non-storm water discharges."

However, the site map has been updated to include locations of fire hydrants throughout the site as well as a note was added that states, "River water may be used for dust suppression on any roads located within the facility property." A copy of the updated site map may be found in Attachment 2.

ADEQ Finding No. 7:

The allowable non-storm water section of the SWPPP does not include the location where non-storm water discharges will be discharged (i.e. dust suppression using river water is likely to affect Outfalls 006, 007, and 010). This is violation of permit condition Part III.(15.)(E.)(1.)(b.).

EDCC Response:

Contaminated storm water and process water from the NPDES Outfall 001 drainage basin drains to the "Day Pond" and then to Lake Kildeer where it receives biological treatment. Outfalls 001/010 are not storm water only outfalls. Thus water related to ancillary operations (i.e. steam and condensate, fire hydrant flushing) is considered part of the process wastewater and not a non-storm water discharge.

For storm water only outfalls, Section 6.0 of the current industrial SWPPP identifies potential non-storm water discharges for the storm water only outfalls at the facility (including non-process water used for dust suppression on roads). It is possible that any of these "non-storm water discharges" may be present within any of the drainage basins.

With the exception of dust suppression, the potential allowable non-storm water discharges listed in Section 6.0 of the SWPPP are not ordinarily routine discharges and many have not or will not occur for extended periods of time based on facility operations. Section 6.0 of the Industrial SWPPP has been revised to further clarify the potential non-storm water discharges within each drainage basin.

ADEQ Finding No. 8:

Compliance evaluations completed by the facility need to include an observation of storm water BMP's to ensure they are operating correctly. This is violation of permit condition Part III.(15.)(F.)(2.)(a.).

EDCC Response:

The current compliance evaluation under the Industrial SWPPP reviews all measures and controls discussed in the SWPPP. All areas of the drainage basins, discharge structures and outfalls, storage of materials, etc. are reviewed.

As mentioned previously, EDCC has to maintain two separate Storm Water Pollution Prevention Plans, each providing different permit requirements (including different BMP and inspection requirements).

If an activity and associated BMP's are related to the plant expansion, these would be discussed in the Construction SWPPP. The inspector did not review the Construction SWPPP or related activities during the inspection.

It is apparent that there may be some misunderstanding on the interrelated nature of the Industrial and Construction SWPPPs for the facility. We are available to meet with the appropriate ADEQ representatives to discuss this or any other matter.

In the interim, please do not hesitate to contact David Sartain at (870) 863-1400 should you have any questions or need additional information regarding this issue.

Respectfully submitted,
El Dorado Chemical Company

Greg Withrow
General Manager

Attachments

cc: Amanda Gallagher – GBM^{c} & Associates

Attachment 1

EDCC and ADEQ Correspondence
July and August , 2011

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 Shafil 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

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.

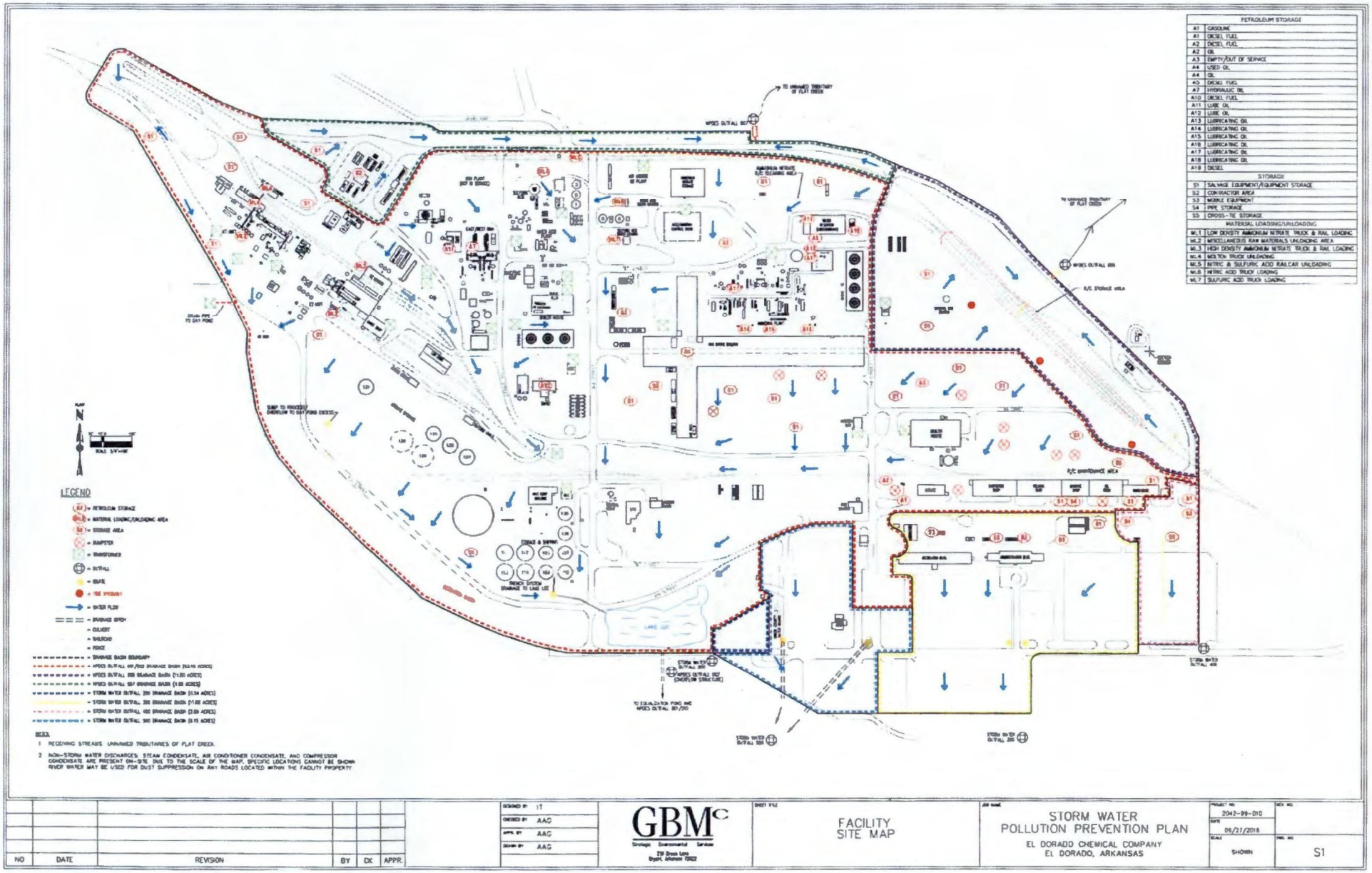
Sincerely,

Mo Shafii
Assistant Chief
Water Division

MS:lr

cc: David Ramsey, Environmental Program Coordinator
Sam Sawyer, Enforcement Coordinator

Attachment 2
SWPP Site Map



NO	DATE	REVISION	BY	CK	APPR.

DESIGNED BY: LT
CHECKED BY: AAG
APPR. BY: AAG
DRAWN BY: AAG

GBMc
Strategic Environmental Services
719 Brookline
Bryant, Arkansas 72022

SHEET TITLE: FACILITY SITE MAP

JOB NAME: STORM WATER POLLUTION PREVENTION PLAN
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

PROJECT NO: 2042-99-010
DATE: 09/27/2018
SCALE: SHOWN
DWG. NO: S1
REV. NO:

GBMc

El Dorado Chemical Company
Storm Water Pollution Prevention Plan

September 27, 2016

GBMc & Associates
Strategic Environmental Services

Storm Water Pollution Prevention Plan

Prepared for:

El Dorado Chemical Company
4500 North West Avenue
P.O. Box 231
El Dorado, AR 71731

Prepared by:

GBM^{c} & Associates
219 Brown Lane
Bryant, AR 72022

September 27, 2016

CONTENTS

CONTENTS (cont)

TABLES

APPENDICES

REVISION RECORD

Date of Changes	Affected Section(s)	Description of Change(s)	Initials
June 2014	All	A new SWPPP was completed to meet the requirements of NPDES permit No. AR0000752 and to reflect current facility configuration.	AAG
June 2015	Site Map and 4.0	Updated to reflect physical changes to facility from on-going construction.	AAG
September 2016	Site Map, 2.0, 4.0, 5.0, 6.0, and Appendix I	SWPPP was updated to reflect physical changes made to the facility from plant expansion and add further clarification based on ADEQ inspection.	AAG

1.0 INTRODUCTION

1.1 Purpose and Scope

40 CFR 122.26(b)(14)(i) – (xi) defines 11 categories of industrial activities that must regulate storm water that comes in contact with those industrial activities. Based on SIC code, the activities at EDCC facility falls within the 11 categories of industrial activities.

This document has been prepared as the Storm Water Pollution Prevention Plan (SWPPP) for the El Dorado Chemical Company facility in El Dorado, Arkansas (EDCC or Plant). The purpose of the SWPPP is to document the management practices and storm water pollution prevention measures that are in place or will be implemented at the Plant to prevent or minimize contamination of storm water discharges by potential pollutant sources at the site. This plan has been prepared pursuant to the requirements and provisions of the National Pollutant Discharge Elimination System (NPDES) Permit Number AR0000752 (Permit) issued by the Arkansas Department of Environmental Quality (ADEQ). A copy of the permit is included in Appendix A.

This SWPPP has been prepared in accordance with good engineering practices and provides for compliance with the conditions of the permit for storm water discharge associated with industrial activity. It identifies potential sources of pollution that may reasonably be expected to affect the quality of storm water associated with industrial activity that discharges at the outfalls covered by the permit. The plan also describes storm water pollution prevention practices implemented to minimize pollutants in the storm water discharged from the facility.

The SWPPP contains the following components:

a) identification of the Storm Water Pollution Prevention Team, which is responsible for maintaining and implementing the SWPPP,
b) description of potential storm water pollution sources,
c) selection and implementation of appropriate management practices and controls, and
d) periodic evaluation of the ability of the SWPPP to achieve its stated purposes and compliance with the terms and conditions of the permit.

1.2 Changes to the Plan

The SWPPP must be amended whenever there is a change in facility design, construction, operation, or maintenance that has a significant effect on the potential for

the discharge of pollutants to surface waters. The SWPPP also must be revised if it proves to be ineffective in eliminating or significantly minimizing pollutants from the sources identified. This determination will be made as a result of the findings of comprehensive site compliance evaluations to be performed in accordance with this SWPPP. Section 3.0 specifies the Pollution Prevention Team's responsibilities for maintaining and updating the SWPPP.

1.3 Permit Information

NPDES Permit No. AR0000752 was issued to EDCC on May 31, 2002 and a modified permit was issued to EDCC on June 1, 2004 and April 1, 2007. The individual NPDES permit contains effluent limitations and monitoring requirements for NPDES Outfalls 001, 002, 003, 006, 007 and 010. The individual NPDES permit also contains the SWPPP requirements for management of storm water runoff, including requirements for implementation of best management practices for areas where industrial materials or activities are exposed to storm water. This permit and authorization to discharge shall expire at midnight, June 30, 2007. The permit has been administratively extended.

2.0 FACILITY INFORMATION

2.1 General Facility Information

Ownership:	LSB Industries
Facility Name:	El Dorado Chemical Company
Physical Address:	4500 North West Avenue El Dorado, Arkansas 71730
Mailing Address:	P.O. Box 231 El Dorado, Arkansas 71730
SIC Code:	2873 and 2819
NAICS Code:	325311 and 325188
Geographical Location: (Front of Main Office)	Latitude: 33° 15' 49.91" Longitude: 92° 41' 5.29"
Facility Contacts:	General Manager Greg Withrow Office: (870) 863-1400 Environmental Department Eddie Pearson Office: (870) 863-1484

2.2 Facility Description

EDCC is a manufacturer of ammonia, nitric acid, sulfuric acid, and ammonium nitrate, utilizing ammonia and elemental sulfur as raw materials. Other raw materials used at the Plant include sodium hydroxide, magnesium oxide, anti-caking agents, hardening agents, and other fertilizer additives (e.g., talc, Galoryl), boiler and cooling tower chemicals, gasoline, diesel fuel, oils, and lubricants.

The EDCC facility is located in El Dorado, Union County, Arkansas. A location map for the facility is provided in Appendix B. The facility is located on a total area of approximately 1,300 acres and the manufacturing area covers approximately 150 acres. Based on the USGS topographic map for El Dorado, Arkansas, the elevation of the site is approximately 190 to 200 feet above mean sea level.

The facility maintains coverage under NPDES Individual Discharge Permit No. AR0000752. Process water, sanitary wastewater, and contaminated storm water are discharged from the facility through Outfalls 001, 002, 003, 006, 007, and 010. Storm water only is discharged through Outfalls 200, 300, 400, and 500. All outfalls except for Outfall 010 flow into various unnamed tributaries of Flat Creek, then to Flat Creek, then to Haynes Creek, then to Smackover Creek, and then to the Ouachita River. Outfall 010 discharges to the Ouachita River via the Ouachita River Joint Pipeline. The Ouachita River is located approximately 10 miles northeast of the site.

A facility site map is located in Appendix B that shows the outfalls and their drainage areas, general topography, and areas where industrial activity are exposed to storm water .

2.3 Site Map

The Permit requires that the SWPPP provide a site map depicting the locations of necessary information associated with the plan. A site map of the facility depicting this information including drainage areas and outfall locations is included in Appendix B.

3.0 STORM WATER POLLUTION PREVENTION TEAM

The members of the Storm Water Pollution Prevention Team (Team) are responsible for performing specific storm water management tasks for SWPPP development, implementation, maintenance, and revision. The Team is responsible for oversight of the facility operations in an effort to achieve compliance with requirements and conditions of the permit. Table 3.1 identifies the Team members and responsibilities of the Team.

Table 3.2 outlines the schedule of events that will be addressed by the Team. This schedule should be followed to comply with requirements of the permit. Any discrepancies with following the schedule, and the reason for not following the scheduled events, should be recorded and made part of this SWPPP. Table 3.2 is not meant to include all requirements of compliance with the permit, but is to be used for guidance by the Team. Additional requirements of the permit are discussed throughout the SWPPP or described in the permit.

Table 3.1. Storm Water Pollution Prevention Team Members and Responsibilities.

Team Member Position	Team Member Responsibilities
General Manager	• Overall implementation of storm water pollution prevention activities • Sets priorities for storm water pollution prevention projects and financial authority for projects • Signatory authority • Participates in annual site compliance evaluation
Environmental Technician	• Assists General Manager in the implementation of storm water pollution prevention activities • Coordinates pollution prevention activities with operations, maintenance, and management personnel • Implements BMPs, evaluates the effectiveness of BMPs and the need for additional BMPs • Monitors process and physical plant modifications, and assesses potential impacts to storm water • Oversees engineering projects relating to storm water pollution prevention • Coordinates spill prevention activities at the facility • Implements spill response procedures and records spill events in the Spill Log • Schedules and conducts quarterly facility inspections • Reviews the SWPPP periodically and updates the SWPPP when necessary • Coordinates storm water sampling • Coordinates employee training • Coordinates recordkeeping and report preparation and submittals • Monitors preventive maintenance and housekeeping programs • Schedules annual site compliance evaluations • Participates in annual site compliance evaluation
Plant Supervisors and Maintenance Personnel	• Assists Environmental Technician with BMP implementation • Implements preventive maintenance programs • Implements housekeeping programs • Participates in annual site compliance evaluation

Table 3.2. Storm Water Pollution Prevention Plan Schedule of Events.

Event	Schedule
Annual Comprehensive Site Compliance Evaluation	a) Annually
NPDES Outfall Sampling	a) Sample as scheduled in NPDES permit (see Appendix A) b) Monitor parameters as specified in the NPDES permit c) Monitoring results must be reported on Discharge Monitoring Report (DMR) forms provided by ADEQ d) Results obtained during the previous calendar month shall be summarized and reported on a DMR form postmarked no later than the 25th day of the month following the completed reporting period e) DMR forms shall be submitted to the following address: NPDES Enforcement Section Water Division Arkansas Department of Environmental Quality 5301 Northshore Drive North Little Rock, AR 72118-5317 f) Records of monitoring information must be retained as specified in the NPDES permit, which is for a period of at least 3 years; or longer if requested by the Director of ADEQ
Employee Training	a) Annually
Facility Inspections	a) Quarterly
SWPPP Update	a) When there is a change in design, construction, operation or maintenance that has a significant effect on the potential for the discharge of pollutants to the waters of the State b) If the SWPPP proves to be ineffective in eliminating or significantly minimizing potential pollutant sources

4.0 DESCRIPTION OF POTENTIAL POLLUTANT SOURCES

Section 4.0 contains an inventory and description of areas, materials, and activities at the site that may have the potential to contribute a significant amount of pollutants to storm water. Section 4.1 contains a description of facility drainage and identification of areas of industrial activity exposed to storm water. The Plant spill history is discussed in Section 4.2. Storm water sampling is covered in Section 4.3 and risk identification of potential pollutant sources is discussed in Section 4.4.

4.1 Facility Drainage

This section contains descriptions of the areas, activities, and materials that may affect storm water runoff at the Plant. Potential storm water pollution sources are divided into the following sections:

a) areas that drain to NPDES Outfall 001,
b) areas that drain to NPDES Outfall 002,
c) areas that drain to NPDES Outfall 003,
d) areas that drain to NPDES Outfall 006,
e) areas that drain to NPDES Outfall 007,
f) areas that drain to NPDES Outfall 010,
g) areas that drain to Storm Water Outfall 200,
h) areas that drain to Storm Water Outfall 300,
i) areas that drain to Storm Water Outfall 400, and
j) areas that drain to Storm Water Outfall 500.

Table 4.1 provides a summary of industrial activity, predicted direction of storm water flow, and the potential pollutants to storm water associated with each drainage basin. The descriptions and lists contained in the following subsections are not intended to be all-inclusive. Rather, they are intended to provide a general understanding of the activities that occur at EDCC and to indicate the materials present in large quantities that would most adversely affect storm water quality. Due to the topography of the site and the location of receiving waters in the vicinity, storm water discharges from production activities and material storage areas at the site represent minor potential to directly impact waters of the state. Refer to the facility site drawing (Appendix B) for a delineation of the drainage basins, location of industrial activities, and as a reference for the location of potential storm water pollution sources. Any future modifications in the areas that affect

storm water drainage patterns should be reviewed and updates to the SWPPP should be made as necessary.

Table 4.1. Predicted Direction of ow for Potential Sources of Storm Water Pollution.

Drainage Area Description	Industrial Activity	Predicted Flow Direction	Potential Pollutants
NPDES Outfall 001, NPDES Outfall 002, and NPDES Outfall 010	Loading/unloading areas for products and raw materials, storage areas (raw materials, final product, gasoline and diesel, various petroleum, and salvage equipment), production areas, neutralization plant, maintenance shop, warehouse, ammonium nitrate railcar cleaning area, contractor areas, welding, painting and sandblasting activities, rail spur, plant access routes, and laboratory	Outfall 001 and 002: South branch of unnamed tributary to Flat Creek, and eventually to Ouachita River Outfall 010: Ouachita River via the Ouachita River Joint Pipeline	metals, pH, oil & grease (O&G), biological oxygen demand (BOD), total suspended solids (TSS), chemical oxygen demand (COD), nutrients, sulfate, chloride, total dissolved solids (TDS), and metals
NPDES Outfall 003	No industrial activity. Sanitary sewer treatment system	South branch of unnamed tributary to Flat Creek, and eventually to Ouachita River	None.
NPDES Outfall 006	Rail spur, railcar storage area, plant access routes, and storage areas (salvage equipment)	North branch of unnamed tributary to Flat Creek, and eventually to Ouachita River	TSS, TDS, nutrients, metals, pH
NPDES Outfall 007	Contractor area, plant access routes, and storage areas	North branch of unnamed tributary to Flat Creek, and eventually to Ouachita River	TSS, TDS, nutrients, metals, pH
Storm Water Outfall 200	Electrical Substation	South branch of unnamed tributary to Flat Creek, and eventually to Ouachita River	No Industrial Activity
Storm Water Outfall 300	Mobile equipment storage, contractor area, equipment storage, plant access routes, administration building, and employee parking	South branch of unnamed tributary to Flat Creek, and eventually to Ouachita River	TSS
Storm Water Outfall 400	Equipment storage, rail spur, plant access routes, equipment storage, pipe storage, and contractor area	South branch of unnamed tributary to Flat Creek, and eventually to Ouachita River	TSS and O&G
Storm Water Outfall 500	Plant access route	South branch of unnamed tributary to Flat Creek, and eventually to Ouachita River	TSS

4.1.1 Areas That Drain to NPDES Outfalls 001/010

Surface drainage and an underground sewer system collect storm water and process water from the production of ammonia, nitric acid, sulfuric acid, and ammonium nitrate from the NPDES Outfall 001 drainage area. The production process requires process water, which is used for cooling tower make-up, hydrostatic testing, pump seal flushing, boiler feed water, and unit wash downs. The storm water and process water are directed through a neutralization treatment system, a one acre pond (Day Pond), and then through a 152 million gallon capacity pond (Equalization Pond) where water is discharged through either NPDES Outfalls 001 or 010, which are both located at the northeast end of the pond.

The majority of storm water runoff for this drainage area is from the central part of the facility, including most of the production area. The drainage area also includes areas of ancillary activities (e.g., boiler house, maintenance shop, etc.). Industrial activity exposed to storm water in the drainage area includes:

a) Production Area

The ammonia production, ammonium nitrate production (E2 Plant and KT Plant), nitric acid production, and sulfuric acid production facilities are located in this drainage area. Most of the ancillary equipment and structures required for the production process, such as cooling towers, compressors, nitric acid and sulfuric acid storage tanks, maintenance shops/break rooms, the gas engine building (used for miscellaneous storage), and contractor areas, are also located in this drainage area.

b) Loading and Unloading Areas

Loading of final product and raw materials takes place at multiple locations within the production area. Sulfuric and nitric acid are loaded into trucks and railcars. The truck loading areas are covered to prevent storm water contact with materials handled in the area. A truck unloading area for molten sulfur is covered to prevent storm water contact with materials handled in the area. Low density (i.e., industrial grade) ammonium nitrate is loaded into trucks or railcars and high density (i.e., fertilizer grade) ammonium nitrate is loaded into trucks or railcars. The loading areas for both low and high density ammonium nitrate are covered to prevent storm water contact with materials handled in the area.

Miscellaneous raw materials (e.g., talc, galoryl, magnesium oxide) are unloaded from trucks to storage vessels or silos. Unloading of water

treatment chemicals for ancillary activities occurs at various locations within the drainage area. Petroleum products (diesel fuel, gasoline, oil) are delivered to the facility by truck or tank truck and are loaded/unloaded at various locations. Ammonium nitrate recovered from empty railcars is stored in the E2 Warehouse. The material is transferred from the railcar cleaning area by front end loader or truck and is unloaded inside the building. The recovered ammonium nitrate is considered substandard and is sold as substandard product.

c) Storage Areas

Miscellaneous equipment and supplies required for plant operations are stored throughout the production area of the facility (e.g., pipe racks, salvage equipment, trash dumpsters, rails, cross ties, etc.). Contractor areas are designated for the storage of supplies and equipment necessary for construction and other contractor activities. When possible, materials with the potential to impact storm water runoff should be stored in covered areas. If materials with the potential to impact storm water runoff must be stored outside, measures should be taken to prevent contact with storm water when practical (e.g., store on pallets, cover with tarps).

Chemicals used in the boiler house are stored in various tanks located adjacent to the boiler house (e.g., Chemtreat BL-110, sulfuric acid, etc.). Each cooling tower at the Plant has a storage area for water treatment chemicals (e.g., sulfuric acid, Chemtreat CL-40, Chemtreat CL-4894, etc.).

Diesel fuel and gasoline are stored in aboveground storage tanks on the west side of the Garage. The Gas Engine Building contains various oil storage areas. A diesel fuel tank, with a capacity of approximately 250 gallons, is located on the south side of the Water Reservoir and has a concrete drip pad. The E2 Warehouse, which is used to store ammonium nitrate, is also located in the drainage area.

d) Water Cooled AC Units

There are two water cooled air conditioning (AC) units located within the NPDES Outfall 001 drainage area that discharge non-contact cooling water to the Day Pond. One is located at the scale house and the other is located north of the recreation building. The combined discharge, estimated by EDCC personnel, is approximately 30 gallons per minute.

e) Neutralization Plant and Laboratory

The neutralization plant and laboratory are located east of the ammonia storage tanks. The neutralization plant is used to treat process water and storm water from the NPDES Outfall 001 drainage area prior to discharge to the Day Pond. An abandoned treatment system (limestone pit) is located east of the neutralization plant. Although the limestone pit has been abandoned as a treatment mechanism, storm water that collects in the pit is pumped out and taken to the Day Pond.

f) Railcar Cleaning

Outfall 001 drainage area contains two areas where railcar cleaning occurs. The Car Barn is used to clean railcar tanks that transport nitric acid and sulfuric acid. Railcar cleaning activities take place inside the Car Barn and are not exposed to storm water. Wash water from the cleaning operation is directed to drains connected to the underground sewer system that leads the Day Pond, and then to the Equalization Pond, which discharges through NPDES Outfall 001.

Railcars used for the transport of ammonium nitrate products are often returned to the Plant after delivery of shipments. The returned railcars usually contain residual ammonium nitrate, which is removed from the railcars through hopper doors on the bottom of the railcar. The ammonium nitrate is loaded into trucks using front-end loaders and transported to the E2 Warehouse, where it is either recycled through the production plant or sold as substandard product.

g) Water Reservoir

A water reservoir, supplied by groundwater, is located within the drainage area. Overflow of water from the reservoir is diverted to an underground drainage structure and eventually drains to Outfall 001. The discharge from the water reservoir is intermittent and the flow varies.

4.1.2 Areas That Drain to NPDES Outfall 002

Normally a discharge through NPDES Outfall 002 (located at the Day Pond overflow structure) does not occur, but could potentially occur during storm events with sufficient intensity to cause the Day Pond to discharge through the overflow structure. Discharges from NPDES Outfall 002 would flow into the south branch of an unnamed tributary of Flat Creek.

Outfalls 001, 002, and 010 cover the same drainage area. Thus, industrial activity exposed to storm water in the drainage area is the same as described above for the NPDES Outfall 001 drainage area.

4.1.3 Areas That Drain to NPDES Outfall 003

NPDES Outfall 003 discharges treated sanitary wastewater, which flows into the south branch of an unnamed tributary of Flat Creek. The treatment system consists of an Imhoff sewage treatment unit followed by sand filters. The system is only used to treat sanitary wastewater and does not receive process water from the Plant or storm water from areas of industrial activity.

4.1.4 Areas That Drain to NPDES Outfall 006

Surface drainage collects storm water from the areas that drain to NPDES Outfall 006. Culverts under the road and railroad direct storm water to the outfall. The majority of storm water runoff for this drainage area is from the railcar storage area. Industrial activities within the drainage area include rail spur, plant access routes, rail car storage, and equipment storage such as new and salvage equipment.

4.1.5 Areas That Drain to NPDES Outfall 007

Surface drainage and underground drainage structures collect storm water from the areas that drain to NPDES Outfall 007. The majority of storm water runoff for this drainage area is from the northern portion of the plant. Industrial activity exposed to storm water in the drainage area include plant access routes, contractor areas, and equipment storage such as new and salvage equipment.

4.1.6 Areas That Drain to Storm Water Outfall 200

Surface drainage collects storm water from the areas that drain to Storm Water Outfall 200. The drainage area is located on the south side of the substation. There is minimal to no industrial activity within this drainage area.

4.1.7 Areas That Drain to Storm Water Outfall 300

Surface drainage and underground drainage structures collect storm water from the areas that drain to Storm Water Outfall 300. The drainage area is located on the southeast side of the facility. The drainage area includes areas between the Administration Building, employee parking lots, mobile equipment parking, and grassy

areas in the vicinity of the Administration Building and Recreation Building. There is minimal to no industrial activity within this drainage area. Industrial activities within the drainage area include mainly equipment storage, mobile equipment parking, and plant access routes.

4.1.8 Areas That Drain to Storm Water Outfall 400

Surface drainage collects storm water from the areas that drain to Storm Water Outfall 400. The drainage area is located on the east side of the facility and includes the area south of the east end of the Maintenance Shops/Warehouse Building, gravel parking areas, and portion of a rail spur that enters on the east property boundary. Industrial activities within the drainage area include mainly equipment storage, plant access routes, pipe storage, and contractor area.

4.1.9 Areas That Drain to Strom Water Outfall 500

Surface drainage and a storm water sewer system collect storm water from the areas that drain to Storm Water Outfall 500. The drainage area also includes portion of the access road, a grassy area east of the guard house and entrance to the production area, area on the south side of the facility between the substation and Guard House, and a portion of the employee parking lot. Industrial activities within the drainage area are minimal and only include plant access routes.

4.2 Significant Spills, Leaks, and Other Environmental Releases

The Environmental Health and Safety Department will maintain a list of significant spills and leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of three years prior to the effective date of the permit. A spill log must be maintained to record significant spills, leaks, or other releases. The spill log will be updated if significant spills or leaks occur in exposed areas of the facility during the time the facility is covered by the permit.

The facility maintains an electronic spill/release tracking system. The system is updated when a spill or release occurs. Appendix C contains a spill release log that may be used if the electronic system is not available. Significant spills and leaks include, but are not limited to releases of oil or hazardous substances in excess of quantities that are reportable under 40 CFR 110, 40 CFR 117, or 40 CFR 302. Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements and releases of materials that are not classified as oil or a hazardous

substance. Releases are defined to include any spilling, leaking, pumping, purging, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment.

This permit does not relieve the Plant of the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR Part 302. Should a release occur in an amount equal to or in excess of a reporting quantity established under either 40 CFR 110, 40 CFR 117, or 40 CFR 302, the facility must notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302 as soon as the facility has knowledge of the discharge. In addition, the SWPPP must be reviewed to identify measures to prevent the recurrence of such releases and the SWPPP must be modified where appropriate. In the event that a spill does occur at the facility.

4.3 Storm Water Monitoring Data

NPDES Outfalls 001, 002, 003, 006, 007, and 010 are monitored in accordance with NPDES Individual Discharge Permit No. AR0000752. Storm Water Outfalls 200, 300, 400, and 500 do not require sampling.

A summary of storm water sampling results is included in Appendix D. Discharge Monitoring Report (DMR) forms for NPDES Outfalls 001 through 010 are on file and available for review.

4.4 Risk Identification and Summary of Potential Pollutant Sources

Potential pollutant sources at the facility are described in Section 4.1 of this SWPPP and Table 4.1 lists the significant potential pollutants of concern at the site. Based on the above assessment and inspection of the facility, the materials exposed to storm water have a minimal potential for adding pollutants to storm water discharges. The best management practices and procedures of the SWPPP will be followed by EDCC personnel to maintain the facility in a manner that prevents or minimizes the discharge of potential pollutants in storm water runoff.

5.0 MEASURES AND CONTROLS

The permit requires that the SWPPP address specific baseline measures and controls, also referred to as Best Management Practices (BMPs) that are or are planned to be implemented at the facility. The following sections of the SWPPP document the BMPs and structural controls identified to be implemented at the Plant to prevent, or

minimize to the greatest extent possible, the discharge of potential pollutants in storm water runoff from the facility. Based on the potential pollutant sources and storm water discharges identified in Section 4.0 of this document, the Plant has selected the following BMPs and structural controls.

5.1 Good Housekeeping

Measures designed to maintain a clean, orderly, and safe work environment contribute to the prevention of potential pollutant sources from coming into contact with and impacting storm water runoff. Good housekeeping reduces the potential for accidental spills caused by mishandling of significant materials and enhances proper operation and maintenance of industrial equipment and machinery. Plant management and personnel are committed to following good housekeeping measures.

General order and cleanliness will be practiced and maintained throughout the facility. Each employee will be responsible for keeping work areas clean and orderly. Debris and waste materials must be properly disposed of in designated waste receptacles for subsequent disposal. Motivating and training employees to use good housekeeping techniques is essential to the effective implementation of each BMP. EDCC encourages employee participation in the utilization of good housekeeping measures through periodic training and communication as outlined in Section 5.4 of this SWPPP.

Elements of the site housekeeping program related to storm water management follow:

a) Materials located outside in equipment storage areas are routinely inspected for evidence of spills or leaks of materials that could contribute to storm water pollution. Where practicable, materials stored on-site for extended periods should be stored off the ground (e.g., on pallets) and covered with tarps when possible to prevent contact with storm water runoff.
b) Secondary containment or adequate spill response equipment should be provided for tanks and drums used to store oils, lubricants, solvents, and other chemicals. Smaller containers (i.e., 55-gallon drums and smaller) should be stored in covered areas to prevent contact with rainfall, especially containers that do not have secondary containment. Spill prevention and response procedures will be followed as outlined in Section 5.3 of this SWPPP.
c) Where practicable, loading/unloading areas are located in covered areas to prevent contact with storm water. Loading/unloading areas are routinely inspected for evidence of spilled product or raw material that could contribute

to storm water pollution. Material is cleaned up as needed and, if necessary, established spill response procedures are implemented.

d) Drainage areas and conveyance structures (e.g., ditches, culverts, etc.) leading to outfalls should be kept clear of debris and trash. Industrial equipment and material stored or used in these areas should include only those items necessary for required plant operations.

5.2 Preventive Maintenance

Facilities authorized for storm water discharges under the permit are required to include a program of preventive maintenance in the SWPPP. Routine facility inspections are part of preventive maintenance and provide a mechanism to document that key elements of the SWPPP are in place and working properly. Although the inspections are not intended to be exhaustive, they will be used by Plant personnel to observe and verify the effectiveness of the selected management practices and structural controls in preventing contamination of storm water runoff from the facility. The areas will be inspected for evidence of any obstruction or damage that may interfere with the designed control and flow of storm water. Items to be inspected within the drainage areas authorized under the permit include, but are not limited to, the following:

a) equipment storage areas,
b) raw material and product storage areas,
c) railcar cleaning areas,
d) dumpsters,
e) used oil storage area,
f) aboveground storage tanks used for petroleum products,
g) loading/unloading areas,
h) areas where erosion control measures have been implemented, and
i) structural conveyances such as culverts, swales, drains, ditches, berms, sumps, and pumps.

Preventive maintenance activities are necessary to correct problems prior to the exposure of a potential pollutant source to storm water runoff. Upon discovering defects or damage in machinery, equipment, or storm water management controls, facility personnel must repair or replace the defect or damage as soon as possible. Leaks or spills identified will be promptly isolated, contained, and cleaned. During routine operations, personnel are responsible for observing conditions in their work areas and reporting leaks, spills, maintenance needs, and housekeeping issues to supervisors.

The General Permit requires an annual site compliance inspection and quarterly visual site inspections. EDCC utilizes these scheduled inspections to incorporate a preventive maintenance program to evaluate facility equipment or storm water drainage control measures which may require attention. Qualified individuals conduct the inspections. Facility inspections are further discussed in Section 9.0.

5.3 Spill Prevention and Response Procedures

The Plant maintains a Spill Prevention Control and Countermeasure (SPCC) Plan and an Emergency Response Plan. The procedures and guidelines of these plans are incorporated into this SWPPP by reference. This SWPPP documents general spill response procedures and responsibilities of personnel responding to a spill. In the event of a spill of material that has the potential to affect the quality of storm water runoff, the employee who first notices the spill should take the following actions:

a) If it is safe to do so, they should stop the flow causing the release.
b) They should notify their immediate supervisor and report the location of the spill, the material released, and the approximate amount released.

The supervisor will notify the appropriate personnel for the spill response and clean up of the spill. Materials spilled/released must be properly contained, recovered, and disposed off-site, as applicable, so as to prevent contamination of storm water. Significant spill incidents requiring notification to regulatory agencies must be responded to in accordance with state and federal regulations. The Pollution Prevention Team will maintain a spill log (electronic format), which will be reviewed periodically to identify areas in need of improved control measures or response procedures.

In addition to appropriate spill response procedures, the facility will plainly label containers (e.g. “Used Oil” etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate proper spill response if spills and leaks do occur.

5.4 Employee Training

Employee training is an integral element in the implementation of the Plant’s SWPPP. Well informed and adequately trained employees will be able to implement the objectives of each component of the plan in an effective manner to maintain the integrity and effluent quality of storm water runoff from the facility.

General spill prevention and response, spill notification procedures, materials management practices and other pollution prevention measures, are reviewed as part of initial orientation for Plant employees that work in areas where industrial materials or activities are exposed to storm water. Details concerning potential spill areas, facility drainage areas, and descriptions of types of materials being stored are reviewed as part of area specific training when an employee is assigned to a work area.

Employees that work in areas where industrial materials or activities are exposed to storm water will receive refresher training annually. Employees responsible for housekeeping and/or preventive maintenance will also receive appropriate pollution prevention training on an annual basis. An example form for documenting training records is included in Appendix E. SWPPP training records will be maintained at EDCC along with other training records at the facility.

5.5 Sedimentation and Erosion Control

Erosion of soils is a common result of storm water runoff on soil disturbed and destabilized by routine industrial activity. Left unattended, affected areas will contribute to elevated levels of solids in storm water runoff and to the overall degradation of topsoil. Areas prone to erosion will be controlled through the use of structural, vegetative, and/or stabilization measures, such as seeding as necessary to improve the stabilization of soils by reestablishing vegetative growth and cover. Surface drainage ditches and conveyances will be kept clear of obstructions and efforts will be made to keep the ditches well vegetated to facilitate the natural filtration of suspended solids in storm water runoff.

5.6 Management of Storm Water Runoff

The management of storm water runoff at the facility is achieved through existing structural controls such as the use of concrete curbing and containment dikes, drainage sumps and pumps, and surface as well as subsurface process storm sewer drainage systems. Drainage swales/ditches, earthen berms, and containment structures for areas where spills or leaks are more likely to occur are used to prevent pollutants from entering storm water runoff. Emphasis is also placed on source control measures and BMPs discussed previously in this Plan.

5.7 Facility Security

Plant personnel are present to monitor the site during hours of plant operations, which is normally 24 hours a day and 7 days a week. Fencing is used around the site and guards are on duty 24 hours a day and 7 days a week to discourage and prevent unauthorized access to the site. Normally, there are two guards to monitor gate access to the site and one guard to monitor the site using an all terrain vehicle (ATV). Outdoor lighting is provided in appropriate areas outside to detect spills and discourage vandalism.

5.8 Additional Drainage Basin Specific BMP's

Additional BMP's may be necessary to address an issue within a specific drainage basin. If BMP's other than described in the above sections are necessary, the site map will be updated as necessary and a description of the additional BMP's will be provided in Appendix I.

6.0 AUTHORIZED NON-STORM WATER DISCHARGES

Outfalls 006, 007, 200, 300, 400, and 500 are the only "Storm water only" outfalls at EDCC. Outfalls 001/010 and 002 contain treated process water and treated domestic wastewater at NPDES Outfall 003. Thus, water related to ancillary operations (i.e. steam and condensate, fire hydrant flushing) is considered part of the process wastewater and not a non-storm water discharge.

The SWPPP must include a certification that discharges have been tested or evaluated for the presence of non-storm water discharges. Sources of authorized non-storm water that are combined with storm water discharges from the industrial activity area must be identified in the SWPPP in order to be authorized under the Permit. Pollution prevention measures are required for allowable non-storm water discharges and are discussed in Section 5.0.

Authorized non-storm water discharges are as follows:

Authorized Non-Storm Water Discharge	Applicable Drainage Basin
Discharges from emergency firefighting activities	All Drainage Basins
Fire hydrant flushings	All Drainage Basins
Potable water sources including water line flushings	All Drainage Basins
Runoff from irrigation using non-process water	All Drainage Basins
Landscape watering provided all pesticides, herbicides, and fertilizers	All Drainage Basins

Authorized Non-Storm Water Discharge	Applicable Drainage Basin
have been applied in accordance with the approved labeling	
Routine external building washdown which does not use detergents	Outfalls 007, 300, 400, and 500
Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used	All Drainage Basins
Air compressor condensate	All Drainage Basins
Steam condensate	All Drainage Basins
Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids (such as the discharge of thawed condensate from the surface of liquid nitrogen tanks stored outdoors)	All Drainage Basins
Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains); uncontaminated groundwater or spring water	None
Foundation/footing drains where flows are not contaminated with process materials such as solvents	All Drainage Basins
Excavation dewatering	All Drainage Basins
Non-process water used for dust suppression on roads	All Drainage Basins

The potential allowable non-storm water discharges listed above are not continuous discharges and usually are a seasonal occurrence (i.e. dust suppression during dry periods or air conditioner condensate during hot months). Many have not or will not occur for extended periods of time based on facility operations. The quantity of water would be variable, and under most circumstances, could only potentially reach the outfall if occurring concurrently with a rainfall event.

This SWPPP contains EDCC's certification that non-storm water discharges, which are not otherwise, identified above, or authorized by an individual NPDES permit, are not present in the storm water discharges (Appendix F). If additional non-storm water discharges are identified, the SWPPP will be updated accordingly.

7.0 303(d) LIST AND TOTAL MAXIMUM DAILY LOADS

EDCC discharges storm water to an unnamed tributary of Flat Creek (ELCC tributary as listed on the 303(d) list) in Segment 2D, Hydrologic Unit Code (HUC) 8040201. The ELCC tributary has an associated TMDL for ammonia, total dissolved solids, sulfates, and chlorides. The ELCC tributary is also on the 303(d) list for copper and zinc from an industrial point source.

The approved TMDL listed a group of point sources and certain non-point sources and an allocation associated with these sources. The specific non-point

sources included storm water outfalls (006 and 007) associated with the EDCC's Individual NPDES Discharge Permit AR0000752. Other storm water only outfalls at EDCC or any associated load allocations were not included in the approved TMDL. Thus, no further action is necessary.

BMPs currently implemented at the facility are considered adequate to prevent exposure to storm water for the pollutants for which the waterbody is impaired and to sufficiently protect water quality.

During the annual comprehensive site compliance evaluation, the facility will evaluate requirements of completed and approved TMDLs for waterbodies that receive discharges from the facility and, if necessary, appropriate revisions will be made to the SWPPP.

8.0 SARA TITLE III SECTION 313 REQUIREMENTS

In addition to other applicable conditions of the general permit, facilities subject to reporting requirements under SARA Title III, Section 313 chemicals are required to conform to additional guidelines described in Part III.C.4.g of the permit. The EDCC facility currently meets the requirements for a facility that must report SARA Title III, Section 313 chemicals. The SARA Title III, Section 313 chemicals that EDCC reported (based on 2013 data) includes ammonia, nitrate compounds, nitric acid, and sulfuric acid mist. The guidelines of Part III.5.I of the permit have been addressed within the previous sections of this SWPPP.

During the annual comprehensive site compliance evaluation the facility will be evaluated for requirements of reporting Section 313 water priority chemicals and, if necessary, appropriate revisions will be made to the SWPPP.

9.0 EVALUATIONS AND INSPECTIONS

The inspections and evaluations required by the Permit are addressed in the following sections.

9.1 Routine Site Inspections

Qualified personnel will conduct routine facility inspections in all areas of the facility where industrial materials or activities are exposed to storm water and all storm water control measures used to comply with the permit. Inspections will be conducted not less than four times a year (quarterly). Each inspection's findings will be

documented using the forms in Appendix G. The inspections will be kept on-site with the SWPPP. The documentation will include the following at a minimum:

a) Date of the inspection,
b) personnel conducting the inspection,
c) major observations, and
d) a summary of the actions that need to be taken as a result of the inspection.

Any deficiencies found during the inspection will be corrected as soon as practicable, but no later than 14 days from the date of the inspection.

9.2 Annual Comprehensive Site Compliance Evaluation

In accordance with the requirements of the Permit, one or more members of the Team will perform an annual comprehensive site compliance evaluation. This can be performed at the same time as a quarterly inspection as long as the requirements of both inspections have been fulfilled. Members of the Team will participate on an as needed basis to implement any physical and procedural changes identified during the inspections. The following areas will be assessed as part of the annual comprehensive evaluation:

a) Areas contributing to storm water discharges will be visually inspected for evidence of, or potential for, pollutants entering the drainage system.
b) Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit and the SWPPP.
c) Determination will be made as to whether or not additional control measures are needed.
d) Structural storm water management measures, sediment and control measures, and other structural pollution prevention measures identified in the SWPPP will be observed in an effort to ensure that they are properly maintained and operated correctly.
e) A visual inspection of equipment needed to implement the spill response will be conducted.

Based on the results of the evaluation, the description of potential pollutant sources and prevention measures identified in the SWPPP will be revised as appropriate within 14 days of the evaluation.

A report summarizing the scope of the inspection, personnel making the inspection, dates of the inspection, and major observations relating to the implementation of the SWPPP and actions taken will be made and retained as part of the SWPPP. This report will be signed and certified as required by the permit.

Table 9.1 summarizes the requirements associated with the annual comprehensive site compliance evaluation and the deadlines for achieving each requirement. A checklist for the annual comprehensive site compliance evaluation is located in Appendix H. The checklist should be modified as appropriate to achieve the goals of this SWPPP and to comply with the permit. Records (completed checklists) of the annual comprehensive site compliance evaluation will be retained by EDCC for a minimum of three (3) years.

Table 9.1. Annual Comprehensive Site Compliance Evaluation Schedule.

Item	Schedule
Review previous year's annual comprehensive site compliance evaluation	Prior to annual inspection
Review facility inspections	Prior to annual inspection
Review storm water monitoring data as appropriate	Prior to annual inspection
Conduct annual comprehensive site compliance evaluation	Performed annually
Plan revisions (if necessary)	Within 14 days of annual inspection
Procedural/physical changes (if necessary)	Within 12 weeks of annual inspection
Plan review/recertification	a) When there is a change in design, construction, operation or maintenance that has a significant effect on the potential for the discharge of pollutants to the waters of the State, or b) If the SWPPP proves to be ineffective in eliminating or significantly minimizing potential pollutant sources

10.0 RECORDKEEPING AND INTERNAL REPORTING PROCEDURES

EDCC will maintain records to demonstrate compliance with this Plan. Table 10.1 lists the records maintained, the storage location, and the length of time for which they must be kept.

Table 10.1. Recordkeeping Requirements.

Item	Recordkeeping Requirement	Storage Location	Minimum Record Retention
Quarterly inspection sheets	Inspection sheets must be made part of the plan or the storage location must be referenced in the plan.	Inspection sheets will be kept in the plan or on file at EDCC.	Retain for a minimum of three years from Permit expiration or termination.
Training meeting sign-in sheets	Training documentation must be made part of the plan or the storage location must be referenced in the plan.	Training records will be kept in the plan or on file at EDCC.	Not specified in Permit; three years recommended.
Storm water sampling results, documentation and DMRs	Sampling results, documentation and DMRs must be made part of the plan.	Storm water sampling results will be kept in the plan or on file at the EDCC.	Retain for a minimum of three years from Permit expiration or termination.
Annual site compliance evaluation results	Annual site compliance evaluation results must be made part of the plan.	Annual site compliance evaluation results will be kept in the plan or on file at EDCC.	Retain for a minimum of three years from Permit expiration or termination.
Records of spills, releases, etc. affecting runoff quality	Records of spills and releases must be made part of the plan.	A spill log will be kept in the plan or on file at EDCC.	Retain for a minimum of three years from Permit expiration or termination.
Pollution Prevention Plan	The pollution prevention plan must be located on-site.	A copy of the pollution prevention plan will be kept on-site.	Retain for a minimum of three years from Permit expiration or termination.

11.0 STORM WATER POLLUTION PREVENTION PLAN CERTIFICATION

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

Print Name Greg Withrow

Signature Greg Withrow

Title General Manager

Date 9/29/16

Appendix A

NPDES Permit No. AR0000752

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]			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. 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.

PART II
STANDARD CONDITIONS

SECTION A – GENERAL CONDITIONS

1. Duty to Comply

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

2. Penalties for Violations of Permit Conditions

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

3. Permit Actions

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

a. Violation of any terms or conditions of this permit; or
b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
c. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
d. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.
e. Failure of the permittee to comply with the provisions of APCEC Regulation No. 9 (Permit fees) as required by condition II A.10 herein.

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

4. Toxic Pollutants

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

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

5. Civil and Criminal Liability

Except as provided in permit conditions on "Bypassing" (Part II.B.4.a.), and "Upsets" (Part II.B.5.b), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state and federal statues or regulations which defeats the regulatory purposes of the permit may be subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

6. Oil and Hazardous Substance Liability

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

7. State Laws

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

8. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any property rights of any sort, or any exclusive privileges, nor does it authorize any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

9. Severability

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

10. Permit Fees

The permittee shall comply with all applicable permit fee requirements for wastewater discharge permits as described in APCEC Regulation No. 9 (Regulation for the Fee System for Environmental Permits). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to terminate this permit under the provisions of 40 CFR 122.64 and 124.5 (d), as adopted in APCEC Regulation No. 6 and the provisions of APCEC Regulation No. 8.

SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

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

2. Need to Halt or Reduce not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for

example, when the primary source of power for the treatment facility is reduced, is lost, or alternate power supply fails.

3. Duty to Mitigate

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

4. Bypass of Treatment Facilities

a. Bypass not exceeding limitation.

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

b. Notice

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

c. Prohibition of bypass

(1) Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless:
  (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
  (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal or preventive maintenance; and
  (c) The permittee submitted notices as required by Part II.B.4.b.
(2) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in Part II.B.4.c(1).

5. **Upset Conditions**

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

b. Conditions necessary for demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
   (1) An upset occurred and that the permittee can identify the specific cause(s) of the upset.
   (2) The permitted facility was at the time being properly operated.
   (3) The permittee submitted notice of the upset as required by Part II.D.6.: and
   (4) The permittee complied with any remedial measures required by Part II.B.3.

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

6. **Removed Substances**

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of waste waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the waters of the State. Written approval must be obtained from the ADEQ for land application only.

7. **Power Failure**

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

SECTION C - MONITORING AND RECORDS

1. **Representative Sampling**

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director. Intermittent discharges shall be monitored.

2. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than +/- 10% from true discharge rates throughout the range of expected discharge volumes and shall be installed at the monitoring point of the discharge.

3. Monitoring Procedures

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

4. Penalties for Tampering

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

5. Reporting of Monitoring Results

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

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

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

6. Additional Monitoring by the Permittee

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

7. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

8. Record Contents

Records and monitoring information shall include:

a. The date, exact place, time and methods of sampling or measurements, and preservatives used, if any;
b. The individuals(s) who performed the sampling or measurements;
c. The date(s) analyses were formed;
d. The individual(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The measurements and results of such analyses.

9. Inspection and Entry

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

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
d. Sample, inspect or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION D – REPORTING REQUIREMENTS

1. Planned Changes

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

For Industrial Dischargers

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR Part122.29(b).
b. The alternation or addition could significantly change the nature or increase the quality of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40CRF Part 122.42 (a)(1).

For POTW Dischargers:

Any change in the facility discharge (including the introduction of any new source or significant discharge or significant changes in the quantity or quality of existing discharges of pollutants) must be reported to the permitting authority. In no case are any new connections, increased flows, or significant changes in influent quality permitted that cause violation of the effluent limitations specified herein.

2. Anticipated Noncompliance

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

3. Transfers

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

4. **Monitoring Reports**

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

5. **Compliance Schedule**

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

6. **Twenty-four Hour Report**

a. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the following information:
   (1) a description of the noncompliance and its cause;
   (2) the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
   (3) steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance.

b. The following shall be included as information which must be reported within 24 hours:
   (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;
   (2) Any upset which exceeds any effluent limitation in the permit and
   (3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part III of the permit to be reported within 24 hours.

c. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

7. **Other Noncompliance**

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

8. **Changes in Discharge of Toxic Substances for Industrial Dischargers**

The permittee shall notify the Director as soon as he/she knows or has reason to believe:

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

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

9. **Duty to Provide Information**

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

10. **Duty to reapply**

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

11. **Signatory Requirements**

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

a. All permit applications shall be signed as follows:

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

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

(ii) The manager of one or more manufacturing, production, or operation facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary

systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or

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

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

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

b. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person.

A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above.

(2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(3) The written authorization is submitted to the Director.

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

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

12. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2 and Regulation 6, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department of Environmental Quality. As required by the Regulations, the name and address of any permit applicant or permittee, permit applications, permits and effluent data shall not be considered confidential.

13. **Penalties for Falsification of Reports**

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained under this permit shall be subject to civil penalties specified in Part II.A.2. and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

PART III
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. Except as outlined in Condition #6 below, the permittee may only discharge to Outfalls 001, 006, and 007 in emergency situations once discharge to pipeline has commenced. The permittee is responsible for submitting documentation that an emergency situation requiring discharge to Outfalls 001, 006, and 007 occurred. This documentation must be submitted within 48 hours of the occurrence of the emergency.

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

Pollutant	EPA Method	MQL (µg/l)
Mercury, Total Recoverable	245.1	0.2
Cadmium, Total Recoverable	213.2	1
Chromium (III), Total Recoverable	200.7	10
Hexavalent Chromium, Dissolved	218.4	10
Copper, Total Recoverable	220.2	10
Lead, Total Recoverable	239.2	5
Nickel, Total Recoverable	200.7	40
Selenium, Total Recoverable	270.2	5
Silver, Total Recoverable	272.2	2
Zinc, Total Recoverable	200.7	20
Cyanide, Total Recoverable	335.2	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.

Metals testing must take place on the same day that the chronic biomonitoring is performed.

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 permittees submit certification that following conditions have been met:

   A. Condition #21 above of Part III; 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 the permit.

   Any rainfall above 2.0 inches in a 24 hour period may be discharged through Outfall 006 and/or Outfall 007.

7. The operator of this wastewater treatment facility shall have an 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 water body, or a Total Maximum Daily Load (TMDL) is established or revised for the water body that were not available at the time of permit issuance that would have justified the application of different permit conditions at the time of permit issuance.

9. 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.

10. Ammonia as N and Nitrate as N discharges from Outfalls 001, 002, and 010 shall not exceed the Ammonia as N and Nitrate as N limits at outfall sum (Page 15 of Part IA).

11. 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.

12. 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 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. This condition does not apply to Outfall 010.

13. The permittee shall perform an evaluation of the background flow of the receiving streams for the storm water outfalls (Outfalls 002, 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.

14. The sampling frequency for dissolved minerals at all outfalls, with the exception of Outfall, 010, 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 then be increased to three times per week.

15. Storm Water Pollution Prevention Plan Requirements

A. General

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

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

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

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

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

B. Contents of Plan

(1) Pollution Prevention Team

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

(2) **Site Description**

(a) Your SWPPP must include the following:

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

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

iii. A legible site map identifying the following:

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

(b) Locations of all existing structural BMPs;

(c) Locations of all surface water bodies;

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

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

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

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

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

(i) Locations of the following activities where such activities are exposed to precipitation: processing

and storage areas; access roads, rail cars and tracks; the location of transfer of substance in bulk; and machinery;

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

(3) **Receiving Waters and Wetlands**

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

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

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

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

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

(5) **Spills and Leaks**

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

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

(6) **Sampling Data**

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

(7) **Storm Water Controls**

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

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

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

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

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

(c) Non-Structural BMPs

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

ii. *Minimizing Exposure:* Where practicable, industrial materials and activities should be protected by a storm

resistant shelter to prevent exposure to rain, snow, snowmelt, or runoff.

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

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

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

vi. *Employee Training:* You must describe the storm water employee training program for the facility. The description should include the topics to be covered, such as spill response, good housekeeping, and material management practices, and must identify periodic dates (e.g., every 6

months during the months of July and January) for such training. You must provide employee training for all employees that work in areas where industrial materials or activities are exposed to storm water, and for employees that are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance people). The employee training should inform them of the components and goals of your SWPPP.

(d) Structural BMPs

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

ii. *Management of Runoff:* You must describe the traditional storm water management practices (permanent structural BMPs other than those which control the generation or source(s) of pollutants) that currently exist or that are planned for your facility. These types of BMPs typically are used to divert, infiltrate, reuse, or otherwise reduce pollutants in storm water discharges from the site. Factors to consider when you are selecting appropriate BMPs should include: 1) the industrial materials and activities that are exposed to storm water, and the associated pollutant potential of those materials and activities; and 2) the beneficial and potential detrimental effects on surface water quality, ground water quality, receiving water base flow (dry weather stream flow), and physical integrity of receiving waters. Structural measures should be placed on upland soils, avoiding wetlands and flood plains, if possible. Structural BMPs may require a separate permit under section 404 of the CWA before installation begins.

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

(e) Other Controls

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

C. Maintenance

(1) All BMPs you identify in your SWPPP must be maintained in effective operating condition. If site inspections required by Section B(7)(c)(v) of this Part identify BMPs that are not operating effectively, maintenance must be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. In the case of non-structural BMPs, the effectiveness of the BMP must be maintained by appropriate means (e.g., spill response supplies available and personnel trained, etc.).

D. Non-Storm Water Discharges

(1) Certification of Non-Storm Water Discharges

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

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

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

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

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

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

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

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

viii. The procedure of any test attempted;

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

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

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

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

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

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

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

(c) Descriptions of appropriate BMPs for each source.

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

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

F. Comprehensive Site Compliance Evaluation

(1) Frequency and Inspectors

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

(2) Scope of the Compliance Evaluation

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

to see whether BMPs are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations must be inspected if possible.

(3) **Follow-up Actions**

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

(4) **Compliance Evaluation Report**

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

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

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

G. **Maintaining Updated SWPPP**

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

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

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

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

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

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

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

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

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

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

16. **WHOLE EFFLUENT TOXICITY TEST REQUIREMENT** (WET Limits, 7 DAY CHRONIC, FRESHWATER)

1. **SCOPE AND METHODOLOGY**

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

APPLICABLE TO OUTFALL(S):	001
REPORTED ON DMR AS OUTFALL:	001
CRITICAL DILUTION:	100%
EFFLUENT DILUTION SERIES:	32%, 45%, 56%, 75%, 100%
TEST SPECIES/METHODS:	**40 CFR Part 136**

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA/600/4-91/002 or the most recent update thereof. This test should be terminated when 60% of the surviving adults in the control produce three broods.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA/600/4-91/002, or the most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

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

failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution.

c. When the testing frequency stated above is less than monthly and the effluent fails the survival endpoint at 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 Effluent 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:

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

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

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

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

v. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or 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 24-hour composite samples from the outfall(s) listed at item 1.a. above. A 24-hour composite sample consists of a minimum of 4 effluent portions collected at equal time intervals representative of a 24-hour operating day and combined proportional to flow or a sample continuously collected proportional to flow over a 24-hour operating day.

ii. The permittee shall collect second and third 24-hour composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the 24-hour 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 24-hour 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 24-hour 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 24-hour composite effluent samples in proportion to the average flow from the outfalls listed in item 1.a. above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.

vi. At the time of sample collection the permittee shall measure the TRC of the effluent. The measured concentration of TRC for each sample shall be included in the lab report submitted by the permittee. The permittee shall not allow the sample to be dechlorinated prior to delivery to the laboratory nor at the laboratory.

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 III.C. of this permit. The permittee shall submit full reports only upon the specific request of the Department.

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.

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 EPA review.

c. The permittee shall submit the results of the valid toxicity test on the DMR for that reporting period. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. **Pimephales promelas** (Fathead Minnow)

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

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

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

D. If the 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 highest (Critical dilution or control) Coefficient of Variation, Parameter No. TQP3B.

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

1. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL:	**010**
CRITICAL DILUTION (%):	**1.6%**
EFFLUENT DILUTION SERIES (%):	0.7%, 0.9%, 1.2%, 1.6%, 2.1%
COMPOSITE SAMPLE TYPE:	Defined at PART I
TEST SPECIES/METHODS:	40 CFR Part 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA/600/4-91/002 or the most recent update thereof. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

Pimephales promelas (fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA/600/4-91/002, or the most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

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

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

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

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

a. Part I Testing Frequency Other Than Monthly

i. The permittee shall conduct a total of two (2) additional tests for any species that demonstrates significant lethal effects at or below the critical dilution. The two additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional tests in lieu of routine toxicity testing. The full report shall be prepared for each test required by this section in accordance with procedures outlined in Item 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 persistent significant sub-lethal effects or 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 persistent significant sub-lethal effects or 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. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.

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

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

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

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

vi. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or nonlethal effects are exhibited for: the young of surviving females

in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the fathead minnow test.

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

b. Statistical Interpretation

i. For the Ceriodaphnia dubia survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA/600/4-91/002 or the most recent update thereof.

ii. For the Ceriodaphnia dubia reproduction test and the fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA/600/4-91/002 or the most recent update thereof.

iii. If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report 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., 7 days);

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

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

d. Samples and Composites

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

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 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.

vi. The permittee shall not allow the sample to be dechlorinated at the laboratory. At the time of sample collection the permittee shall measure the TRC of the effluent. The measured concentration of TRC for each sample shall be included in the lab report submitted by the permittee.

4. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA/600/4-91/002, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART II.C.7 of this permit. The permittee shall submit full reports upon the specific request of the Department. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for review.

b. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. Only ONE set of biomonitoring data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST survival results for each species during the reporting period. All invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for ADEQ review.

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

i. Pimephales promelas (fathead minnow)

(A) If the 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) 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.

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

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

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

ii. Ceriodaphnia dubia

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

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

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

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

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

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) and "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA-600/6-91/005F), or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and

Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081), as appropriate.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (800) 553-6847, or by writing:

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

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

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

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

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

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

c. The permittee shall submit a quarterly TRE Activities Report, with the Discharge Monitoring Report in the months of January, April, July and

October, containing information on toxicity reduction evaluation activities including:

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

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

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

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

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

18. 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, 006, 007

CRITICAL DILUTION (%): 100%

EFFLUENT DILUTION SERIES (%): 32%, 45%, 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 at and below which lethality that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Acute lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution.

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

d. Test failure is defined as a demonstration of statistically significant 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 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.

5. 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 without a major modification. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the fathead minnow) and not less than twice per year for the more sensitive test species (usually the 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.

6. 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).

PART IV
DEFINITIONS

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

1. **"Act"** means the Clean Water Act, Public Law 95-217 (33.U.S.C. 1251 et seq.) as amended.
2. **"Administrator"** means the Administrator of the U.S. Environmental Protection Agency.
3. **"Applicable effluent standards and limitations"** means all State and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards of performance, toxic effluent standards and prohibitions, and pretreatment standards.
4. **"Applicable water quality standards"** means all water quality standards to which a discharge is subject under the federal Clean Water Act and which has been (a) approved or permitted to remain in effect by the Administrator following submission to the Administrator pursuant to Section 303 (a) of the Act, or (b) promulgated by the Director pursuant to Section 303(b) or 303(c) of the Act, and standards promulgated under regulation No. 2, as amended, (regulation establishing water quality standards for surface waters of the State of Arkansas.)
5. **"Bypass"** means the intentional diversion of waste streams from any portion of a treatment facility.
6. **"Daily Discharge"** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.
Mass Calculations: For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of pollutant discharged over the sampling day.
Concentration Calculations: For pollutants with limitations expressed in other units of measurement, determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during that sampling day by using the following formula: where C= daily concentration, F=daily flow and n=number of daily samples; daily average discharge

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

7. **Monthly average**: means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. For Fecal Coliform Bacteria (FCB) report the monthly average see 30-day average below.
8. **"Daily Maximum"** discharge limitation means the highest allowable "daily discharge" during the calendar month. The 7-day average for fecal coliform bacteria is the geometric mean of the values of all effluent samples collected during the calendar week in colonies/100 ml.

9. **"Department"** means the Arkansas Department of Environmental Quality (**ADEQ**).
10. **"Director"** means the Administrator of the U.S. Environmental Protection Agency and/or the Director of the Arkansas Department of Environmental Quality.
11. **"Grab sample"** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
12. **"Industrial User"** means a nondomestic discharger, as identified in 40 CFR 403, introducing pollutants to a publicly-owned treatment works.
13. **"National Pollutant Discharge Elimination System"** means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318 and 405 of the Clean Water Act.
14. **"POTW"** means a Publicly Owned Treatment Works.
15. **"Severe property damage"** means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in products.
16. **"APCEC"** means the Arkansas Pollution Control and Ecology Commission.
17. **"Sewage sludge"** means the solids, residues, and precipitate separated from or created in sewage by the unit processes a publicly-owned treatment works. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and storm water runoff that are discharged to or otherwise enter a publicly-owned treatment works.
18. **"7-day average"** discharge limitation, other than for fecal coliform bacteria, is the highest allowable arithmetic means of the values for all effluent samples collected during the calendar week. The 7-day average for fecal coliform bacteria is the geometric mean of the values of all effluent samples collected during the calendar week in colonies/100 ml. The DMR should report the highest 7-day average obtained during the calendar month. For reporting purposes, the 7-day average values should be reported as occurring in the month in which the Saturday of the calendar week falls in.
19. **"30-day average"**, other than for fecal coliform bacteria, is the arithmetic mean of the daily values for all effluent samples collected during a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. The 30-day average for fecal coliform bacteria is the geometric mean of the values for all effluent samples collected during a calendar month.
For Fecal Coliform Bacteria (FCB) report the monthly average as a 30-day geometric mean in colonies per 100 ml.
20. **"24-hour composite sample"** consists of a minimum of 12 effluent portions collected at equal time intervals over the 24-hour period and combined proportional to flow or a sample collected at frequent intervals proportional to flow over the 24-hour period.
21. **"12-hour composite sample"** consists of 12 effluent portions, collected no closer together than one hour and composited according to flow. The daily sampling intervals shall include the highest flow periods.

22. **"6-hour composite sample"** consists of six effluent portions collected no closer together than one hour(with the first portion collected no earlier than 10:00 a.m.) and composited according to flow.
23. **"3-hour composite sample"** consists of three effluent portions collected no closer together than one hour(with the first portion collected no earlier than 10:00 a.m.) and composited according to flow.
24. **"Treatment works"** means any devices and systems used in storage, treatment, recycling, and reclamation of municipal sewage and industrial wastes, of a liquid nature to implement section 201 of the Act, or necessary to recycle reuse water at the most economic cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities, and any works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment.
25. **"Upset"** means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. Any upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack or preventive maintenance, or careless of improper operations.
26. **"For Fecal Coliform Bacteria"**, a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For Fecal Coliform Bacteria (FCB) report the monthly average as a 30-day geometric mean in colonies per 100 ml.
27. **"Dissolved oxygen limit"**, shall be defined as follows:
a. When limited in the permit as a monthly average minimum, shall mean the lowest acceptable monthly average value, determined by averaging all samples taken during the calendar month;
b. When limited in the permit as an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
28. **The term "MGD"** shall mean million gallons per day.
29. **The term "mg/l** "shall mean milligrams per liter or parts million (ppm).
30. **The term "µg/l"** shall mean micrograms per liter or parts per billion (ppb).
31. **The term "cfs"** shall mean cubic feet per second.
32. **The term "ppm"** shall mean part per million.
33. **The term "s.u."** shall mean standard units.
34. **Monitoring and Reporting:**
When a permit becomes effective, monitoring requirements are of the immediate period of the permit effective date. Where the monitoring requirement for an effluent characteristic is Monthly or more frequently, the Discharge Monitoring Report shall be submitted by the 25th of the month following the sampling. Where the monitoring requirement for an effluent characteristic is Quarterly, Semi-Annual, Annual, or Yearly, the Discharge Monitoring report shall be submitted by the 25th of the month following the monitoring period end date.

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

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

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

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

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 71731-0231

3. **PREPARED BY.**

The permit was prepared by:

Loretta Reiber, P.E.
NPDES Branch, Water Division

4. **DATE PREPARED.**

The final permit was prepared on 02/21/2007.

5. **PREVIOUS PERMIT ACTIVITY.**

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

The permittee has submitted a permit application on 10/07/2004 to modify their current NPDES permit. Information assisting in the development of permit conditions was received by 10/06/2005. This permit is being modified to include revisions to Outfall 010 which will discharge to the joint pipeline going to the Ouachita River. Outfall 010 will consist of the waste water normally discharged through Outfall 001 and the first 2.0 inches of rainfall in a 24 hour period which would otherwise be discharged through Outfalls 004, 006, and 007. It is proposed that the current NPDES permit be reissued for

the remainder of the 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

The 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"

The receiving waters named:

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

Outfall 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 receiving stream is a Water of the State classified for primary contact recreation, raw water source for public, industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

7. 303d List and Endangered Species Considerations

A. 303d List

The receiving stream for Outfalls 001, 002, 003, 006, and 007 is listed on the 303(d) list for minerals and ammonia. The current minerals limits at Outfalls 001 are more stringent than the TMDL limits contained in the Water Quality Management Plan. The mineral limits will therefore remain unchanged in the permit. WET limits are included in the permit in lieu of the TMDL NH3-N limits.

The receiving stream for Outfall 010 (the Ouachita River) is listed on the 303d list for mercury and zinc. The mercury levels in the effluent will be required to be less than the MQL of 0.2 µg/l. Mass limitations for zinc have been included in

the permit. The calculations for the zinc limitations are contained in #12.C of this Fact Sheet.

B. **Endangered Species**:

ADEQ has concluded that issuance of this NPDES permit will have no effect on any endangered or candidate species or the critical habitat. A complete copy of the application has been sent to USF&WS for review. No written comments were received from the U.S. Fish and Wildlife Service (USF&WS). Therefore no permit action is needed. The drafted permit and Fact Sheet were sent to the USF&WS for their review.

8. OUTFALL AND TREATMENT PROCESS DESCRIPTION.

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

Outfall 001: 1.845 MGD, based on the highest monthly average flow during the last two years; Outfall 002: variable MGD; Outfall 003:0.017 MGD(Design); Outfalls 006,007: Variable

Outfall 010: Permitted Flow: 2 MGD.

Type of treatment: **Outfalls 001 and 002**- pH neutralization, aeration pond, and equalization pond; **Outfall 003** - Imhoff tank; and **Oufalls 006 and 007** – none; **Outfall 010** - Although there is no treatment specifically associated with this outfall, the permittee is required to treat the effluent to be discharged at this outfall using the treatment in place for those outfalls (Outfalls 001, 004, 006, and 007) which will be routed through Outfall 010.

Discharge Description:

Outfall 001: treated process and contaminated storm water and domestic wastewater
Outfall 002: overflow pond (process water and storm water)
Outfall 003: treated domestic waste water
Outfall 006: contaminated storm water
Outfall 007: contaminated storm water
Outfall 010: combined outfall of 001 and first 2.0 inches of rainfall per 24 hour period that would otherwise be discharged through Outfalls 004, 006, and/or 007

9. APPLICANT ACTIVITY.

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

10. SEWAGE SLUDGE PRACTICES.

Sludge is accumulating on the bottom of the ponds.

11. PERMIT CONDITIONS.

The Arkansas Department of Environmental Quality has made a 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 Limitations**

Outfall 001 – process water and contaminated storm water and domestic 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, in MGD	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						
(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	Report	Report	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Selenium	Report	Report	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Zinc	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, Inst. 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)	Daily Average Minimum not < 100%		7-day Minimum not < 100%		once/month	24-hr composite

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. No visible sheen (Sheen means an iridescent appearance on the surface of the water).

b. **Final Effluent Limitations**

Outfall 001 – process water and contaminated storm water and domestic 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, in MGD	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						
(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	0.19	0.38	12.2 µg/l	24.48 µg/l	once/month	24-hr composite
Total Recoverable Selenium	0.09	0.17	5.58 µg/l	11.2 µg/l	once/month	24-hr composite
Total Recoverable Zinc	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, Inst. 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)	Daily Average Minimum not < 100%		7-day Minimum not < 100%		once/month	24-hr composite

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. No visible sheen (Sheen means an iridescent appearance on the surface of the water).

c. **Interim Effluent Limitations**

Outfall 002 – overflow pond (process water and storm water)

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, in MGD	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	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Lead	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Selenium	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Zinc	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.	continuous	grab
Acute Biomonitoring	N/A		See #14 below.		once/month	24-hr composite

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. No visible sheen (Sheen means an iridescent appearance on the surface of the water).

d. **Final Effluent Limitations**

Outfall 002 – overflow pond (process water and storm water)

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, in MGD	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	N/A	N/A	12.2 µg/l	24.48 µg/l	once/month	24-hr composite
Total Recoverable Lead	N/A	N/A	3.8 µg/l	7.62 µg/l	once/month	24-hr composite
Total Recoverable Selenium	N/A	N/A	5.58 µg/l	11.2 µg/l	once/month	24-hr composite
Total Recoverable Zinc	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.	continuous	grab
Acute Biomonitoring	N/A		See #14 below.		once/month	24-hr composite

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. No visible sheen (Sheen means an iridescent appearance on the surface of the water).

e. **Interim Effluent Limitations**

Outfall 003 – treated domestic waste water

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, in MGD	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

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. No visible sheen (Sheen means an iridescent appearance on the surface of the water).

f. **Final Effluent Limitations**

Outfall 003 – treated domestic waste water

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, in MGD	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

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)						
(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

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. No visible sheen (Sheen means an iridescent appearance on the surface of the water).

g. **Interim Effluent Limitations**

Outfalls 006 and 007 – process water and contaminated storm water

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, in MGD	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*	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Lead	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Zinc	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.	continuous	grab
Acute Biomonitoring	N/A		See #14 below.		once/month	24-hr composite

* Applies only to Outfall 006.

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. No visible sheen (Sheen means an iridescent appearance on the surface of the water).

h. **Final Effluent Limitations**

Outfalls 006 and 007 – process water and contaminated storm water

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, in MGD	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*	N/A	N/A	2.03 µg/l	4.08 µg/l	once/month	24-hr composite
Total Recoverable Lead	N/A	N/A	3.8 µg/l	7.62 µg/l	once/month	24-hr composite
Total Recoverable Zinc	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.	continuous	grab
Acute Biomonitoring	N/A		See #14 below.		once/month	24-hr composite

* Applies only to Outfall 006.

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. No visible sheen (Sheen means an iridescent appearance on the surface of the water).

i. **Final Effluent Limitations**

Outfall 010 – combined outfall of 001, 006, and 007. (first 2.0 inches of rainfall per 24 hour period from Outfalls 006, and 007)

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, in MGD	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	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	N/A	N/A	once/day	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)	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 Phosphorus	N/A	N/A	Report	Report	once/day	24-hr composite
Fecal Coliform Bacteria			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/day	grab
Chronic Biomonitoring	N/A		See Item #14 below.		once/quarter	24-hr composite

j. **Final Effluent Limitations**

SUM of Outfalls 001, 002, and 010

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, in MGD	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

12. **BASIS FOR PERMIT CONDITIONS.**

THIS IS A MODIFIED PERMIT. ONLY THOSE PORTIONS OF THE PERMIT WHICH HAVE BEEN MODIFIED ARE OPEN FOR COMMENTS.

The following is an explanation of the derivation of the conditions of the permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons suggesting the decisions as required under 40 CFR 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 permit limits are based on either technology-based effluent limits pursuant to 40 CFR Part 122.44 (a) or on State water quality standards and requirements pursuant to 40 CFR Part 122.44 (d), whichever are more stringent.

A. **Technology-Based Effluent Limitations and/or Conditions**

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**

Any technology based limitations for **Outfalls 001, 002, 003, 006, and 007** are not changing with this permit modification.

Outfall 010

Several of the outfalls (in the individual permits) which will now be routed to the pipeline have been shown to contain minerals in levels which required numerical limits to be placed in the individual permit. Available data on mineral levels in the effluent have not demonstrated reasonable potential to exceed water quality standards in the Ouachita River. Based on the judgment of the Water Division staff, monitoring and reporting requirements for sulfates, chlorides, and total dissolved solids have been included in the permit.

Dissolved oxygen monitoring and reporting requirements have been included based on the location of the discharge point of the joint pipeline at the Ouachita River.

Based on information submitted to the Department, total phosphorus monitoring and reporting requirements have been included in the permit.

Monitoring and reporting requirements for Fecal Coliform Bacteria have been included based on the judgment of the Water Division.

Total Suspended Solids (TSS) is a factor contributing to physical and aesthetic degradation of water quality. TSS is physically related to other pollutants, particularly nutrients and metals which may be carried on the surface of suspended sediments. In accordance with 40 CFR 122.44(d)(1), limitations must control all pollutants or pollutant parameters (either conventional, non-conventional, or toxic pollutants) which the Director determines are being discharged, or may be discharged at a level which will cause, or have reasonable potential to cause or contribute to an excursion above any State water quality standard, including state narrative criteria. In accordance with Regulation No. 2, Section 2.408, "The receiving waters shall have no distinctly visible solids, scum or foam of a persistent nature..." Note that TSS is a primary factor affecting turbidity. ADEQ acknowledges that there are no Water Quality Standards for TSS; however, there are Water Quality Standards for turbidity based on Regulation No. 2, Section 2.503. Regulation 2 lists a turbidity value of 21 NTU for the Ouachita River (Typical Gulf Coast). As stated above, TSS is a good indicator of other pollutants, particularly nutrients such as phosphorus. The current permit contains concentration limits of 30 mg/l on a monthly average and 45 mg/l on a daily maximum.

The TSS mass limitations were calculated using the permitted maximum flow of 2 MGD, and current concentrations of 30 mg/l for a monthly average and 45 mg/l for a daily maximum, and the formula found in

Section B below. Concentration limits will not be included in the permit for TSS since there are flow and mass limits.

Nitrates

El Dorado Chemical Company's current permit contains technology based effluent limits for Nitrates as Nitrogen at Outfall 001. Most of the water to be discharged from Outfall 010 will be coming from Outfall 001. Therefore the current nitrates limit at Outfall 001 will also be in place for Outfall 010. No changes are being made to the process at this time which would necessitate the need for recalculation of the nitrates limits.

The concentration limits will be removed since there will be a flow rate limit at Outfall 010.

(2) **Stormwater runoff**

Effluent limitations guidelines have not been promulgated for discharges of this sort. Therefore under the authority of Section 402 (a) (1) of the Clean Water Act and State laws, the State has developed a permit on a case-by-case basis. Stormwater pollution prevention plan requirements are included.

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

The only water quality based limitation changing for **Outfalls 001, 002, 003, 006, and 007** is pH. This limitation is changing is from 6 – 9 s.u. to 6.0 – 9.0 s.u. to ensure the required accuracy in reporting.

Outfall 010

The CBOD5 mass limits were calculated using the permitted flow of 2 MGD, effluent concentrations obtained from a model performed by the permittee and approved by the Department and the US EPA and the formula below. These limits will be included in the updated Water Quality Management Plan (WQMP).

pH and Oil and Grease limitations are based on Chapter 5, Sections 2.504 and 2.510 of Regulation No. 2 as amended, respectively. The O & G mass limitations were calculated using the permitted maximum flow of 2 MGD, concentrations of 10 mg/l for a monthly average and 15 mg/l for a daily maximum, and the following formula:

Mass (lb/day) = Flow (MGD) * Concentration (mg/l) * 8.34

The daily maximum limits for CBOD5 and Oil & Grease at Outfall 010 are 1.5 times the monthly average limit.

Ammonia

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

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

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

Where:

Cd = effluent limit concentration (mg/l)
IWC = Ammonia toxicity standard for Ecoregion
Qd = permitted flow = 3 MGD = 4.635 cfs
The 7Q10 of 750 cfs is based on "Identification and Classification of Perennial Stream of Arkansas", Arkansas Geological Commission Map
Qb = Critical flow of the receiving stream = 187.5 cfs. This flow is **25** percent of the 7-day, 10-year low-flow (7Q10) for the receiving stream.
Cb = background concentration = 0.04 mg/l (ADEQ data from Monitoring Stations OUA0008B – Ouachita River @ Felsenthal Lock & Dam and OUA0037 – Ouachita River downstream of Camden, AR)

By request of the City of El Dorado and El Dorado Chemical Company, the ammonia daily maximum value will be reduced by 86 pounds per day for the City's North Plant and 121 pounds per day for the City's South Plant. The EDCC ammonia daily maximum value will be increased by 207 pounds per day.

The temperatures and pH values used to determine the toxicity criteria for the time frames of April – October and November – March are as follows:

Months	Temperature, °C	pH, s.u.
April - October	32	6.7
November - March	14	6.7

Permit limits, based on maintaining Dissolved Oxygen, are as follows:

Month	Monthly Avg	Daily Max
January - December	265.2 lb/day	605 lb/day

The permittee is potentially subject to ammonia effluent guideline limitations for the processes which now discharge through Outfall 001 and will be discharging to the pipeline through Outfall 010. The mass limits calculated under the effluent guidelines to 265.7 lbs/day with a flow rate of 1.845 MGD. The proposed water quality based mass limit is 265.2 lbs/day at a flow rate of 2 MGD which will result in a lower concentration. Therefore, the water quality based rate is more stringent and will be placed in the permit.

C. Toxics Pollutants-Priority Pollutant Scan (PPS)

(1) General Comments

The permittee will be required to submit a PPS for Outfall 010 within 90 days of the first discharge to the joint pipeline.

Mercury limitations have been included in the permit because the receiving stream (the Ouachita River) is on the 303d list for mercury. The final mercury limit has been set at <0.2 µg/l because that is the required MQL and the joint pipeline's limits are below that level.

In lieu of monthly biomonitoring at Outfall 010, the permittee has agreed to inclusion of the metals limits and quarterly biomonitoring.

The following information details how the metals limits were determined.

The other metals limits were determined by multiplying the mass limits for the joint pipeline by the percentage of permitted flow (10%) allowed to be contributed by the permittee.

(2) Permit Limit Determination

The instream waste load allocation (WLA), which is the level of effluent concentration that would comply with the water quality standard (WQS) of the receiving stream, is calculated for both chronic and acute WLA using the following equations:

$$WLA_c = (WQS \times (Q_d + Q_b) - Q_b \times C_b))/Q_d$$

Where:

WLA_c = chronic waste load allocation (μg/l)
Q_d = discharge flow (cfs)
Q_b = 0.25 X 7Q10 (cfs)
C_b = background concentration (μg/l)
WQS = chronic aquatic toxicity standards (μg/l)

and;

$$WLA_a = (WQS \times (Q_d + Q_b) - Q_b \times C_b))/Q_d$$

Where:

WLA_a = acute waste load allocation (μg/l)
Q_d = discharge flow (cfs)
Q_b = 0.13 X 7Q10 (cfs)
C_b = background concentration (μg/l)
WQS = acute aquatic toxicity standards (μg/l)

The long term average (LTA) effluent concentration is then calculated based on the chronic and acute WLA as follows:

$LTA_c = 0.72 \times WLA_c$
$LTA_a = 0.57 \times WLA_a$

The lowest of these two (2) values is selected as being the limiting LTA. The limiting LTA is then used to calculate the monthly average (AML) and daily maximum (DML) for the final limits. AML and DML are calculated as follows:

AML = 1.55 X Limiting LTA
DML = 3.11 X Limiting LTA

The mass limits were then calculated using the following formulas:

mg/l = (μg/l) / 1000

Joint Pipeline Mass (lb/day) = 20 MGD * Concentration (mg/l) * 8.34

Qe as % of Total Pipeline Flow (TPF) = Permitted Flow / 20 MGD

Individual Mass (lb/day) = Qe as % of TPF * Joint Pipeline Mass

The mass limits are as follows:

Arkansas Numerical Aquatic Toxicity Limits		
Parameter	AML*, lb/day	DML*, lb/day
Cadmium, Total Recoverable	0.22	0.45
Hexavalent Chromium, Dissolved	0.96	1.93
Copper, Total Recoverable	0.82	1.65
Lead, Total Recoverable	0.40	0.80
Nickel, Total Recoverable	14.23	28.55
Selenium, Total Recoverable	0.66	1.32
Silver, Total Recoverable	0.08	0.16
Zinc, Total Recoverable	7.35	14.75
Chromium (III), Total Recoverable	39.52	79.29
Cyanide, Total Recoverable	0.68	1.37
*See **Attachments 2 and 3** for calculations		

13. 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		Previous NPDES Permit		Final Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
OUTFALL 001								
TSS	N/A	N/A	30	45	30	45	30	45
NH3-N	12	18	17.3	52.8	12	18	12	18
NO3-N	N/A	N/A	26.3	74.9	26.3	74.9	26.3	74.9
Dissolved Oxygen								
(May – October)	4.0, inst. min.		N/A	N/A	4.0, inst. min.		4.0, inst. min.	

Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Final Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
(November – April)	5.0, inst. min.		N/A	N/A	5.0, inst. min.		5.0, inst. min.	
Copper (ug/l)	12.2	24.48	N/A	N/A	12.2	24.48	12.2	24.48
Selenium (ug/l)	5.58	11.2	N/A	N/A	5.58	11.2	5.58	11.2
Zinc (ug/l)	115.62	231.99	N/A	N/A	115.62	231.99	115.62	231.99
SO4	81	122	N/A	250	81	122	81	122
Cl	38	57	N/A	250	38	57	38	57
TDS	237	356	N/A	500	237	356	237	356
Temperature	86°F, inst. max.		N/A	N/A	86°F, inst. max.		86°F, inst. max.	
FCB, col/100 ml								
(April – September)	200	400	N/A	N/A	N/A	N/A	200	400
(October – March)	1000	2000	N/A	N/A	N/A	N/A	1000	2000
WET Limit	not <100%	not <100%	not <100%	not <100%	not <100%	not <100%	not <100%	not <100%
pH	6.0 – 9.0 s.u.		N/A		6 – 9 s.u.		6.0 – 9.0 s.u.	
OUTFALL 002								
TSS	N/A	N/A	Report	Report	Report	Report	Report	Report
NH3-N	12	18	17.3	52.8	12	18	12	18
NO3-N	N/A	N/A	26.3	74.9	26.3	74.9	26.3	74.9
O & G	10	15	N/A	N/A	10	15	10	15
Copper (ug/l)	12.2	24.48	N/A	N/A	12.2	24.48	12.2	24.48
Lead (ug/l)	3.8	7.62	N/A	N/A	3.8	7.62	3.8	7.62
Selenium (ug/l)	5.58	11.2	N/A	N/A	5.58	11.2	5.58	11.2
Zinc (ug/l)	115.62	231.99	N/A	N/A	115.62	231.99	115.62	231.99
SO4	N/A	N/A	250	375	250	375	250	375
TDS	751	1127	500	750	500	750	500	750

Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Final Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
pH	6.0 – 9.0 s.u.		N/A		6 – 9 s.u.		6.0 – 9.0 s.u.	
OUTFALL 003								
CBOD5	10	15	N/A	N/A	10	15	10	15
TSS	15	23	N/A	N/A	15	23	15	23
NH3-N								
(May – October)	5	7.5	N/A	N/A	5	7.5	5	7.5
(November – April)	10	15	N/A	N/A	10	15	10	15
FCB (col/100 ml)	1000	2000	N/A	N/A	1000	2000	1000	2000
pH	6.0 – 9.0 s.u.		N/A		6 – 9 s.u.		6.0 – 9.0 s.u.	
OUTFALLS 006 and 007								
TSS	N/A	N/A	Report	Report	Report	Report	Report	Report
NH3-N	N/A	N/A	Report	Report	Report	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	2.03	4.08	2.03	4.08
Lead (ug/l)	3.8	7.62	N/A	N/A	3.8	7.62	3.8	7.62
Zinc (ug/l)	115.62	231.99	N/A	N/A	115.62	231.99	115.62	231.99
TDS	291	436.5	500	750	291	436.5	291	436.5
pH	6.0 – 9.0 s.u.		N/A		6 – 9 s.u.		6.0 – 9.0 s.u.	
OUTFALL 010								
Flow, MGD	N/A	2	N/A	N/A	N/A	N/A	N/A	2
CBOD5 (lb/day)								
(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
(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	45	500.4 lb/day	750.6 lb/day

Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Final Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
NH3-N (lb/day)	265.2 lb/day	605 lb/day	N/A	N/A	265.7 lb/day	811.84 lb/day	265.2 lb/day	605 lb/day
Nitrate Nitrogen as N	N/A	N/A	405.02 lb/day	1153.73 lb/day	405.02 lb/day	1153.73 lb/day	405.02 lb/day	1153.73 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	N/A	N/A	Report, minimum		N/A	N/A	Report, minimum	
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	N/A	< 0.2 µg/l	N/A	N/A	N/A	N/A	N/A	< 0.2 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
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 Phosphorus	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

Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Final Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
pH	6.0 – 9.0 s.u.		N/A		6-9 s.u.		6.0 – 9.0 s.u.	

*Applies only to Outfall 006.

14. BIOMONITORING

Biomonitoring requirements at Outfalls 001, 002, 006, and 007 are continued from the current permit.

Outfall 010

Chronic biomonitoring requirements have replaced the WET limits for this outfall due to a correction in the critical dilution and the other facilities discharging to the Ouachita River via the joint pipeline.

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
Chronic Biomonitoring	once/quarter

At Outfall 010, although the 7Q10 is greater than 100 cfs (ft^3/sec), the dilution ratio is less than 100:1, chronic biomonitoring requirements will be included in the permit.

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

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

OUTFALL 010

Qd = Permitted flow = 2 MGD = 3.09 cfs
7Q10 = 750 cfs
Qb = Background flow = (0.25) X 7Q10 = 187.5 cfs
CD = (3.09) / (3.09 + 187.5) X 100 = 1.6%

Toxicity tests shall be performed in accordance with protocols described in "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", EPA/600/4-91/002, July 1994. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations for Outfall 010 – 0.7%, 0.9%, 1.2%, 1.6%, and 2.1% (See **Attachment I** of CPP). The low-flow effluent concentration (critical dilution) is defined as 1.6% effluent at Outfall 010. The requirement for chronic biomonitoring tests is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species, *Ceriodaphnia dubia* and the Fathead Minnow (*Pimephales promelas*) are indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen conductivity, and alkalinity shall be reported according to EPA/600/4-91/002, July 1994 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

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

Administrative Records

No administrative records exist since there will be no discharge from Outfall 010 until after the issuance of this modified permit.

15. SAMPLE TYPE AND SAMPLING FREQUENCY

Regulations promulgated at 40 CFR 122.44(i) (1) require the permit to establish monitoring requirements which assure compliance with permit limitations.

Requirements for sample type and sampling frequency for Outfall 010 were based on recommended frequencies for self-monitoring of discharges for flows greater than 10 MGD and the judgment of the Water Division. .

Requirements for sample type and sampling frequency have been based on the current NPDES permit for Outfalls 001, 002, 003, 006, and 007.

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.

16. CHANGES FROM THE PREVIOUSLY ISSUED PERMIT

1. The description of the physical location of the facility has been modified.
2. Outfall 011 has been removed.
3. Outfall 010 has been modified.
4. Parts II, III, and IV of the permit have been modified.
5. The schedule of compliance has been modified to include the revised Outfall 010.
6. All monitoring frequencies listed as "daily" or "weekly" have been changed to once/day or once/week for consistency purposes.
7. The pH limits have been changed to 6.0 – 9.0 s.u. to ensure the required accuracy in reporting.
8. Outfall 010 has been added to the SUM of Outfalls 001 and 002.

17. 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 (June 1, 2004) 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 004, 006, and

007. This program shall be submitted for approval to ADEQ within 90 days of the effective date of the permit.

18. MONITORING AND REPORTING.

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

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.

19. SOURCES.

The following sources were used to draft the permit:

A. NPDES application No. AR0000752 received 10/07/2004.
B. Arkansas Water Quality Management Plan (WQMP).
C. Regulation No. 2.
D. Regulation No. 6.
E. 40 CFRs 122, 125.
F. NPDES permit file AR0000752.
G. Discharge Monitoring Reports (DMRs).
H. "Arkansas Water Quality Inventory Report 2000 (305B)", ADEQ.
I. "Identification and Classification of Perennial Streams of Arkansas", Arkansas Geological Commission.
J. Continuing Planning Process (CPP).
K. Technical Support Document For Water Quality-based Toxic Control.
L. Region 6 Implementation Guidance for Arkansas Water Quality Standards promulgated at 40 CFR 131.36.
M. Fax from EPA to ADEQ dated July 22, 2005.
N. Letter from Arkansas Game and Fish Commission to ADEQ dated March 22, 2005.
O. Letter from Arkansas Department of Health to ADEQ dated January 8, 2005.
P. Letter from Clyde Temple to ADEQ dated January 27, 2005.
Q. Letter from Francis Thompson to ADEQ dated March 7, 2005.
R. Letter from Joseph Stockel to ADEQ dated March 15, 2005.
S. Letter from Richard Mays to ADEQ dated Feb 23, 2005.
T. Letter from GBMC to ADEQ dated July 6, 2005.
U. Letter from Louisiana Department of Environmental Quality to ADEQ dated June 16, 2005 and August 3, 2005.
V. Letter from GBMC to ADEQ dated August 3, 2005.
W. Letter from ADEQ to GBMC dated September 30, 2005.
X. Letter from GBMC to ADEQ dated October 6, 2005.

Y. Letter from US EPA Region VI to ADEQ dated February 3, 2006.
Z. E-mail from Donnie Bryant to Doug Szenher dated 06/21/2006.
AA. Letter from Robert J. Bridges to Doug Szenher dated 06/21/2006.
BB. E-mail from Amanda Whiteside to Doug Szenher dated 06/21/2006.
CC. E-mail from Fred Robinson to Doug Szenher dated 06/21/2006.
DD. Letter from Zena Mae Pesnell to Doug Szenher dated 05/23/2006.
EE. E-mail from Chris Sinclair to Doug Szenher dated 05/30/2006.
FF. E-mail from Ashley Sinclair to Doug Szenher dated 05/30/2006.
GG. E-mail from William R. Howard to Doug Szenher dated 06/19/2006.
HH. E-mail from James Waterhouse to Doug Szenher dated 06/19/2006.
II. E-mail from Terry Graves to Doug Szenher dated 06/17/2006.
JJ. E-mail from Nicki Miller to Doug Szenher dated 05/24/2006.
KK. E-mail from Jimmy Sledge to Doug Szenher dated 06/14/2006.
LL. Letter from Kent Stegall to Doug Szenher dated 06/21/2006.
MM. Letter from Dale Wheelington to Doug Szenher dated 06/08/2006.
NN. E-mail from Brenda Burns to Doug Szenher dated 06/06/2006.
OO. E-mail from Mary Joe Wisener to Doug Szenher dated 06/05/2006.
PP. E-mail from Carl Heffner to Doug Szenher dated 04/18/2006.
QQ. E-mail from Carl Heffner to Doug Szenher dated 05/05/2006.
RR. Letter from Carl Heffner to Doug Szenher dated 05/24/2006.
SS. E-mail from Carl Heffner to Doug Szenher dated 06/16/2006.
TT. Letter from Marylee M. Orr to Loretta Reiber, P.E., dated 06/19/2006.
UU. Letter from Cara Guinn and Danny White to Doug Szenher – not dated.
VV. Letter from Julie Nolan to Doug Szenher – not dated.
WW. Letter from Jewel Murphy to ADEQ – not dated.
XX. Letter from Chris Horton to Doug Szenher dated 06/20/2006.
YY. Letter from Sam Russell and Elsie Barron dated 06/17/2006.
ZZ. Letter from Michael Caire, M.D. to Doug Szenher dated 06/07/2006.
AAA. Letter from Roy Reynolds to Doug Szenher dated 06/19/2006.
BBB. Letter from Pam Hulse to Doug Szenher dated 06/06/2006.
CCC. Letter from Jerry C. Langley to Doug Szenher dated 06/20/2006.
DDD. Letter from Gary R. Burbank to Doug Szenher dated 06/19/2006.
EEE. Letter from Jim W. Byrd to Doug Szenher – not dated.
FFF. Letter from Curtis Blankenship, Jr. to Doug Szenher – not dated.
GGG. Letter from Mitchell Stegall to Doug Szenher – not dated.
HHH. Letter from Patsy Thornton to Doug Szenher – not dated.
III. Letter from Jerry Ethridge to Doug Szenher – not dated.
JJJ. Letter from Lara Weathers to Doug Szenher – not dated
KKK. Letter from Summer Doss to Doug Szenher – not dated.
LLL. Letter from Mary L. Thompson to Doug Szenher – not dated.
MMM. Letter from R. Ray Rhymes, D.D.S. to Doug Szenher – not dated.
NNN. Letter from Jerod L. Cross to Doug Szenher – not dated.
OOO. Letter from Carmen M. Cross to Doug Szenher – not dated.
PPP. Letter from Carol Rhymes to Doug Szenher – not dated.

QQQ. Letter from Doyle W. Smith to Doug Szenher – not dated.
RRR. Letter from Tracye Johnson to Doug Szenher – not dated.
SSS. Letter from Christy Kersh to Doug Szenher – not dated.
TTT. Letter from Pamela Brooks to Doug Szenher – not dated.
UUU. Letter from John Tranger to Doug Szenher – not dated.
VVV. Letter from Michael E. Hearnsberger to Doug Szenher – not dated.
WWW. Letter from Jennifer Mann to Doug Szenher – not dated.
XXX. Letter from Catherine Karnes to Doug Szenher – not dated.
YYY. Letter from Joe Towery to Doug Szenher – not dated.
ZZZ. Letter from Sheila Towery to Doug Szenher – not dated.
AAAA. Letter from Frank Wimberley to Doug Szenher – not dated.
BBBB. Letter from Gary Thornton to Doug Szenher – not dated.
CCCC. 2,771 letters submitted on behalf of residents of Arkansas & Louisiana by Kent Stegall – not dated.
DDDD. 24 letters submitted on behalf of residents of Southern Arkansas by Sam Russell – not dated.
EEEE. 7 letters submitted on behalf of residents of Southern Arkansas by Simmons First Bank of South Arkansas – not dated.
FFFF. 17 letters submitted on behalf of residents of Louisiana by the Louisiana Environmental Action Network – not dated.
GGGG. 54 letters submitted on behalf of residents of Southern Arkansas by Melody Spears – not dated.
HHHH. Letter from "Save the Ouachita" to ADEQ dated 06/19/2006.
IIII. Letter from Clyde Temple to ADEQ dated 06/15/2006.
JJJJ. Letter from Arkansas Game and Fish Commission (AGFC) to Doug Szenher dated 06/12/2006.
KKKK. Letter from the State of Louisiana's Department of Wildlife and Fisheries to Doug Szenher dated 05/22/2006.
LLLL. Letter from the State of Louisiana's Department of Culture, Recreation & Tourism to Doug Szenher dated 05/22/2006.
MMMM. Letter from the Louisiana Department of Environmental Quality (LDEQ) to Doug Szenher dated 06/20/2006.
NNNN. Letter from the United States Department of the Interior – Fish and Wildlife Service (USF&WS) to Martin Maner dated 06/20/2006.
OOOO. Letter from GBMc & Associates to Martin Maner dated 06/20/2006.
PPPP. Letter from GBMc & Associates to Martin Maner dated 06/21/2006.
QQQQ. Letter from GBMc & Associates to Martin Maner dated 06/20/2006.
RRRR. Letter from Lion Oil Company – El Dorado Refinery to Martin Maner dated 06/20/2006.
SSSS. Letter from Great Lakes Chemical Company – Central Plant to Martin Maner dated 06/21/2006.
TTTT. Letter from El Dorado Water Utilities to Martin Maner dated 06/13/2006.
UUUU. Letter from El Dorado Chemical Company to Martin Maner dated 06/19/2006.

VVVV. Final Nutrient Modeling Study.

WWWW. Comments concerning the Final Nutrient Modeling Study submitted by EPA on 06/01/2006.

XXXX. Comments concerning the Final Nutrient Modeling Study submitted by LDEQ dated 07/10/2006 and 08/01/2006.

YYYY. Revised Nutrient Modeling Study submitted 02/13/2007.

ZZZZ. Letter from El Dorado Chemical Company to ADEQ dated 10/13/2006 requesting removal of Outfalls 004 and 005.

AAAAA. Letter from ADEQ to El Dorado Chemical Company dated 01/05/2007 removing Outfalls 004 and 005.

20. NPDES POINT OF CONTACT.

For additional information, contact:

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

ATTACHMENT 1

Priority Pollutant Scan Calculation

Permittee	El Dorado Joint Pipeline		
Receiving Stream	Ouachita River		
Permit number	AR0050296		Qe for:
Flow (Qe)	20.00	MGD	Municipalities = Design Flow
Flow (Qe)	30.90	CFS	Industrial Discharges = Highest monthly average flow of the last two years
7Q10 =	750.00	CFS	
Long Term Average =	750.00	CFS	TSS for:
Using Diffusers	yes	Yes/No	Gulf Coastal 5.5 mg/l Ouach Mount = 2 mg/l
pH =	6.85	S.U.	Ark River Valley = 3 mg/l Ozark Highands = 2.5 mg/l
Total Hardness	28.00	mg/l	Boston Mount = 1.3 mg/l Delta = 8 mg/l
TSS	5.5	mg/l	
(% of 7Q10 for Chronic)	0.25		Total Hardness for:
(% of 7Q10 for Acute)	0.13		Arkansas River = 125 mg/l Red River = 211 mg/l
			Ouachita River = 28 mg/l St. Francis River = 103 mg/l

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

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

Upstream Flow (Qb) = 187.50 (Chronic) 97.50 (Acute)
Pollutant Concentration Upstream (Cb) = 0 ug/l
Water Effect Ratio(WER) 1.00
Cancer Risk Level: 1.00E-05 (STATE); 1.00e-6 (EPA)

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

	Reported Value (Ce) (ug/l)	Ce*2.13 (ug/l)	EPA Acute (ug/l)	STATE Acute (ug/l)	IWC Acute (ug/l)	EPA Chronic (ug/l)	STATE Chronic (ug/l)	IWC Chronic (ug/l)	EPA Bioacc. (ug/l)	STATE Bioacc. (ug/l)	IWC Bioacc. (ug/l)	Violation of Acute	Chr	Bio
METALS and CYANIDE														
1. Antimony Total	0.00	0.00	9000	**********	0.00	1600	**********	0.00	4300	**********	0.00	NO	NO	NO
2. Arsenic Total	0.00	0.00	633.81	**********	0.00	334.51	**********	0.00	1.40	**********	0.00	NO	NO	NO
3. Beryllium Total	0.00	0.00	130.00	**********	0.00	5.30	**********	0.00	**********	0.076	0.00	NO	NO	NO
4. Cadmium Total*	0.00	0.00	**********	3.91	0.00	**********	1.69	0.00	**********	**********	0.00	NO	NO	NO
6. Chromium (Tri)*	0.00	0.00	**********	925.86	0.00	**********	300.34	0.00	**********	**********	0.00	NO	NO	NO
7. Chromium (hex)	0.00	0.00	**********	15.71	0.00	**********	10.58	0.00	**********	**********	0.00	NO	NO	NO
8. Copper Total*	0.00	0.00	**********	13.44	0.00	**********	10.02	0.00	**********	**********	0.00	NO	NO	NO
9. Lead Total*	0.00	0.00	**********	77.87	0.00	**********	3.03	0.00	**********	**********	0.00	NO	NO	NO
10. Mercury Total*	0.00	0.00	**********	6.70	0.00	**********	0.0120	0.00	0.15	**********	0.00	NO	NO	NO
12. Nickel Total*	0.00	0.00	**********	973.88	0.00	**********	108.16	0.00	4600	**********	0.00	NO	NO	NO
13. Selenium Total	0.00	0.00	**********	20.00	0.00	**********	5.00	0.00	**********	**********	0.00	NO	NO	NO
14. Silver Total*	0.00	0.00	**********	1.2672	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
15. Thallium Total	0.00	0.00	1400	**********	0.00	40.00	**********	0.00	6.30	**********	0.00	NO	NO	NO
16. Zinc Total*	0.00	0.00	**********	120.05	0.00	**********	109.63	0.00	**********	**********	0.00	NO	NO	NO
129. Phenols, Total	0.00	0.00	**********	**********	**********	**********	**********	**********	**********	**********	0.00			NO
17. Cyanide Total	0.00	0.00	**********	22.36	0.00	**********	5.20	0.00	220000	**********	0.00	NO	NO	NO

* See linear partition coefficient (Page 6)

	Reported	Ce*2.13	EPA	STATE	IWC	EPA	STATE	IWC	EPA	STATE	IWC	Violation of

	Value (Ce) (ug/l)	(ug/l)	Acute (ug/l)	Acute (ug/l)	Acute (ug/l)	Chronic (ug/l)	Chronic (ug/l)	Chronic (ug/l)	Bioacc. (ug/l)	Bioacc. (ug/l)	Bioacc. (ug/l)	Acute	Chr	Bio
DIOXIN														
18 2-3-7-8-TCDD	0.00	0 00	0.01	**********	0.00	**********	**********	0.00	1.40E-07	1.00E-09	0.00	NO	NO	NO
VOLATILE COMPOUNDS														
19. Acrolein	0.00	0.00	68.00	**********	0.00	21.00	**********	0 00	780.00	**********	0.00	NO	NO	NO
20. Acrylonitrile	0.00	0.00	7550	**********	0.00	2600	**********	0.00	6.60	**********	0.00	NO	NO	NO
21. Benzene	0.00	0.00	5300	**********	0.00	**********	**********	0.00	710.00	**********	0.00	NO	NO	NO
22. Bromoform	0.00	0.00	**********	**********	0.00	**********	**********	0.00	3600.00	**********	0.00	NO	NO	NO
23. Carbon TTet	0 00	0.00	35200	**********	0 00	**********	**********	0.00	44.00	**********	0.00	NO	NO	NO
24. Chlorobenzene	0 00	0.00	250.00	**********	0 00	50.00	**********	0.00	2.10E+04	**********	0.00	NO	NO	NO
25. Chlorodibromomethane	0 00	0 00	**********	**********	0.00	**********	**********	0.00	340.00	**********	0.00	NO	NO	NO
26 Chloroethane	0.00	0.00	**********	**********	0 00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
27. 2-Chloroethylvinyl ether	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
28. Chloroform	0.00	0.00	28900	**********	0.00	1240	**********	0 00	4700.00	**********	0 00	NO	NO	NO
29. Dichlorobromomethane	0.00	0.00	**********	**********	0.00	**********	**********	0.00	220.00	**********	0.00	NO	NO	NO
30. 1-1-Dichlorethane	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
31. 1-2-Dichloroethane	0 00	0.00	118000	**********	0.00	20000	**********	0.00	990.00	**********	0.00	NO	NO	NO
32 1-1-Dichlorethylene	0.00	0 00	11600	**********	0 00	**********	**********	0.00	32.00	**********	0.00	NO	NO	NO
33. 1,2 Dichloropropane	0.00	0.00	23000	**********	0.00	5700	**********	0.00	**********	**********	0.00	NO	NO	NO
34. 1,3 Dichloropropylene	0.00	0.00	6060	**********	0.00	244.00	**********	0.00	1700.00	**********	0 00	NO	NO	NO
35 Ethylbenzene	0.00	0.00	32000	**********	0.00	**********	**********	0.00	29000.00	**********	0.00	NO	NO	NO
37. Methyl Chloride	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
36. Methyl bromide	0.00	0.00	**********	**********	0.00	**********	**********	0 00	4000.00	**********	0.00	NO	NO	NO
38. Methylene chloride	0.00	0.00	**********	**********	0.00	**********	**********	0.00	16000.00	**********	0.00	NO	NO	NO
39. 1-1-2-2-Tetrachloroethane	0.00	0.00	9320	**********	0.00	2400	**********	0.00	110.00	**********	0.00	NO	NO	NO
40 Tetrachloroethylene	0.00	0.00	5280	**********	0.00	840	**********	0.00	88.50	**********	0.00	NO	NO	NO
41. Toluene	0.00	0.00	17500	**********	0.00	**********	**********	0.00	2.0E+05	**********	0.00	NO	NO	NO
42. 1,2-trans-dichloroethylene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
44. 1-1-2-Trichloroethane	0.00	0.00	18000	**********	0.00	9400	**********	0.00	420.00	**********	0.00	NO	NO	NO
43. 1-1-1-Trichloroethane	0 00	0.00	18000	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
45. Trichloroethylene	0.00	0 00	45000	**********	0.00	21900	**********	0.00	810.00	**********	0.00	NO	NO	NO
46. Vinyl Chloride	0 00	0.00	**********	**********	0.00	**********	**********	0.00	5250.00	**********	0.00	NO	NO	NO

	Reported Value (Ce) (ug/l)	Ce*2.13 (ug/l)	EPA Acute (ug/l)	STATE Acute (ug/l)	IWC Acute (ug/l)	EPA Chronic (ug/l)	STATE Chronic (ug/l)	IWC Chronic (ug/l)	EPA Bioacc. (ug/l)	STATE Bioacc. (ug/l)	IWC Bioacc. (ug/l)	Violation of Acute	Chr	Bio
ACID COMPOUNDS														
47. 2-Chlorophenol	0.00	0.00	4380	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
48. 2-4-Dichlorphenol	0.00	0.00	2020	**********	0.00	365	**********	0.00	**********	**********	0.00	NO	NO	NO
49. 2-4 Dimethylphenol	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
50. 4,6-Dinitro-o-Cresol	0.00	0.00	**********	**********	0.00	**********	**********	0.00	765.00	**********	0.00	NO	NO	NO
51. 2,4-Dinitrophenol	0.00	0.00	**********	**********	0.00	**********	**********	0.00	14000	**********	0.00	NO	NO	NO
52.-53. Nitrophenols	0.00	0.00	230	**********	0.00	150	**********	0.00	**********	**********	0.00	NO	NO	NO
54. 4 Chloro-3-methylphenol	0.00	0.00	30.00	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
55. Pentachlorophenol	0.00	0.00	2.48	7.80	0.00	4.92	4.92	0.00	82.00	**********	0.00	NO	NO	NO
56. Phenol	0.00	0.00	10200	**********	0.00	2560	**********	0.00	4600000	**********	0.00	NO	NO	NO
57. 2-4-6-Trichlorophenol	0.00	0.00	**********	**********	0.00	**********	**********	0.00	65.00	**********	0.00	NO	NO	NO
BASE/NEUTRAL COMPOUNDS														
58. Acenaphthene	0.00	0.00	1700	**********	0.00	520	**********	0.00	**********	**********	0.00	NO	NO	NO
59. Acenapthylene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
60. Anthracene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	110000.00	**********	0.00	NO	NO	NO
61. Benzidine	0.00	0.00	2500	**********	0.00	**********	**********	0.00	5.4E-03	**********	0.00	NO	NO	NO
62. Benzo(a) anthracene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	0.310	**********	0.00	NO	NO	NO
63. Benzo(a) pyrene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	0.310	**********	0.00	NO	NO	NO
64. 3,4-benzofluoranthene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	0.310	**********	0.00	NO	NO	NO
65. Benzo(g,h,i)perylene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
66. Benzo(k) fluoranthene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	0.310	**********	0.00	NO	NO	NO
67. Bis(2-chloroethoxy)methane	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
68. Bis(2-cloroethly) Ether	0.00	0.00	**********	**********	0.00	**********	**********	0.00	14.00	**********	0.00	NO	NO	NO
69. Bis(2-Chloroisopropyl) eth	0.00	0.00	**********	**********	0.00	**********	**********	0.00	1.7E+05	**********	0.00	NO	NO	NO
70. Bis(2-ethylhexyl)phthalate	0.00	0.00	**********	**********	0.00	**********	**********	0.00	59.00	**********	0.00	NO	NO	NO
71. 4-Bromophenyl phenyl ether	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
72. Butylbenzy phthalate	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
73. 2-chloronapthalene	0.00	0.00	1600	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
74. 4-chlorophenyl phenyl ether	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
75. Chrysene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	0.310	**********	0.00	NO	NO	NO
76. Dibenzo(a,h)anthracene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	0.310	**********	0.00	NO	NO	NO
77-79. Dichlorobenzene(1,2-1,3-1,4)	0.00	0.00	1120	**********	0.00	763	**********	0.00	2600.0	**********	0.00	NO	NO	NO
80. 3,3' Dichlorobenzidine	0.00	0.00	**********	**********	0.00	**********	**********	0.00	0.770	**********	0.00	NO	NO	NO
81. Diethyl Phthalate	0.00	0.00	**********	**********	0.00	**********	**********	0.00	1.2E+05	**********	0.00	NO	NO	NO
82. Dimethyl phthalate	0.00	0.00	**********	**********	0.00	**********	**********	0.00	2.9E+06	**********	0.00	NO	NO	NO
83. Di-n-Butyl phthalate	0.00	0.00	**********	**********	0.00	**********	**********	0.00	1.2E+04	**********	0.00	NO	NO	NO
84. 2-4-Dinitrotoluene	0.00	0.00	330	**********	0.00	230	**********	0.00	91.00	**********	0.00	NO	NO	NO
85. 2-6-Dinitrotoluene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
86. Di-n-octyl phthalate	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
87. 1,2-diphenylhydrazine	0.00	0.00	270	**********	0.00	**********	**********	0.00	5.400	**********	0.00	NO	NO	NO
88. Fluoranthene	0.00	0.00	3980	**********	0.00	**********	**********	0.00	370.00	**********	0.00	NO	NO	NO
89. Fluorene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	14000.000	**********	0.00	NO	NO	NO
90. Hexachlorobenzene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	0.00770	**********	0.00	NO	NO	NO
91. Hexachlorobutadiene	0.00	0.00	90.00	**********	0.00	9.30	**********	0.00	500.000	**********	0.00	NO	NO	NO
92. Hexachlorocyclopentadiene	0.00	0.00	7.00	**********	0.00	5.20	**********	0.00	1.70E+04	**********	0.00	NO	NO	NO
93. Hexachloroethane	0.00	0.00	980	**********	0.00	540	**********	0.00	89.00	**********	0.00	NO	NO	NO
Hexachlorocyclohexane	0.00	0.00	2.00	2.00	0.00	0.08	0.08	0.00	**********	**********	0.00	NO	NO	NO
94. Indeno(1,2,3-cd)pyrene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	0.31000	**********	0.00	NO	NO	NO
95. Isophorone	0.00	0.00	117000	**********	0.00	**********	**********	0.00	6000	**********	0.00	NO	NO	NO
96. Naphthalene	0.00	0.00	2300	**********	0.00	620	**********	0.00	**********	**********	0.00	NO	NO	NO
97. Nitrobenzene	0.00	0.00	27000	**********	0.00	**********	**********	0.00	1900.00	**********	0.00	NO	NO	NO
98. N-nitrosodimethylamine	0.00	0.00	**********	**********	0.00	**********	**********	0.00	81.00	**********	0.00	NO	NO	NO
99. N-nitrosodi-n-propylamine	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
100. N-nitrosodiphenylamine	0.00	0.00	**********	**********	0.00	**********	**********	0.00	160.00	**********	0.00	NO	NO	NO
101. Phenanthrene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO
103. 1,2,4-trichlorobenzene	0.00	0.00	**********	**********	0.00	**********	**********	0.00	**********	**********	0.00	NO	NO	NO

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

	Reported Value (Ce) (ug/l)	Ce*2.13 (ug/l)	STATE Acute (ug/l)	IWC Acute (ug/l)	STATE Chronic (ug/l)	IWC Chronic (ug/l)	STATE Bioacc. (ug/l)	IWC Bioacc. (ug/l)	Violation of Acute	Chr	Bio
AWQ, Reg. No 2											
Alpha-BHC	0.00	0.00	2.00	0.00	0.08	0.00	0.0373	0.00	NO	NO	NO
Beta-BHC	0.00	0.00	2.00	0.00	0.08	0.00			NO	NO	
Gamma-BHC	0.00	0.00	2.00	0.00	0.08	0.00			NO	NO	
Delta-BHC	0.00	0.00	2.00	0.00	0.08	0.00			NO	NO	
Pentachlorophenol	0.00	0.00	7.80	0.00	4.92	0.00			NO	NO	
Aldrin	0.00	0.00	3.00	0.00					NO		
Chlordane	0.00	0.00	2.40	0.00	0.0043	0.00	0.005	0.00	NO	NO	NO
4,4'-DDT	0.00	0.00	1.10	0.00	0.0010	0.00			NO	NO	
4,4'-DDE	0.00	0.00	1.10	0.00	0.0010	0.00			NO	NO	
4,4'-DDD	0.00	0.00	1.10	0.00	0.0010	0.00			NO	NO	
Dieldrin	0.00	0.00	2.50	0.00	0.0019	0.00	0.0012	0.00	NO	NO	NO
Alpha-endosulfan	0.00	0.00	0.22	0.00	0.0560	0.00			NO	NO	
Beta-endosulfan	0.00	0.00	0.22	0.00	0.0560	0.00			NO	NO	
Endosulfan sulfate	0.00	0.00	0.22	0.00	0.0560	0.00			NO	NO	
Endrin	0.00	0.00	0.18	0.00	0.0023	0.00			NO	NO	
Endrin aldehyde	0.00	0.00	0.18	0.00	0.0023	0.00			NO	NO	
Heptachlor	0.00	0.00	0.52	0.00	0.0038	0.00			NO	NO	
Heptachlor epoxide	0.00	0.00	0.52	0.00	0.0038	0.00			NO	NO	
Toxaphene	0.00	0.00	0.73	0.00	0.0002	0.00	0.0063	0.00	NO	NO	NO
Chlorpyrifos	0.00	0.00	0.083	0.00	0.0410	0.00			NO	NO	
Cadmium Total*	0.00	0.00	3.91	0.00	1.69	0.00			NO	NO	
Chromium (hex)	0.00	0.00	15.71	0.00	10.58	0.00			NO	NO	
Copper Total*	0.00	0.00	13.44	0.00	10.02	0.00			NO	NO	
Lead Total*	0.00	0.00	77.87	0.00	3.03	0.00			NO	NO	
Mercury Total*	0.00	0.00	6.70	0.00	0.0120	0.00			NO	NO	
Nickel Total*	0.00	0.00	973.88	0.00	108.16	0.00			NO	NO	
Selenium Total	0.00	0.00	20.00	0.00	5.00	0.00			NO	NO	
Silver Total*	0.00	0.00	1.2672	0.00					NO		
Zinc Total*	0.00	0.00	120.05	0.00	109.63	0.00			NO	NO	
Chromium (Tri)*	0.00	0.00	925.86	0.00	300.34	0.00			NO	NO	
Cyanide Total	0.00	0.00	22.36	0.00	5.20	0.00			NO	NO	
Beryllium Total	0.00	0.00					0.076	0.00			NO
PCB-1242	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
PCB-1254	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
PCB-1221	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
PCB-1232	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
PCB-1248	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
PCB-1260	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
PCB-1016	0.00	0.00			0.0140	0.00	4.00E-04	0.00		NO	NO
2-3-7-8-TCDD	0.00	0.00					1E-06	0.00			NO

* See Linear Partition Coefficient (Page 6)

Linear Partition Coefficients

Metals	Streams Kpo	a
Arsenic	**********	-0.73
Cadmium	**********	-1.13
Chromium(3)	**********	-0.93
Copper	**********	-0.74
Lead	**********	-0.80
Mercury	**********	-1.14
Nickel	**********	-0 57
Zinc	**********	-0 70
Silver	**********	-1.03

Kp = Kpo X TSS^a

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

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

C / Ct = Fraction of Metal Dissolved

Metals	Streams Kp	C / Ct
Arsenic	138285	0.5680
Cadmium	582707	0 2378
Chromium (3)	688338	0.2089
Copper	294554	0 3817
Lead	715926	0 2025
Mercury	415322	0.3045
Nickel	185434	0.4951
Zinc	379015	0.3242
Silver	414608	0.3048

Total Metal = Dissolved Metal / (C/Ct)

AQUATIC LIFE CRITERIA (DISSOLVED ACUTE VALUES)

Pollutant	Dissolved(ug/l)	Formula
Cadmium	0.93	WER X Conversion Factor* X e[1.128ln(hardness)]-3.828
Chromium(III	193.46	WER X 0.316 X e[0.819ln(hardness)]+3.688
Chromium(V	15.71	WER X 0.982 X 16
Copper	5.13	WER X 0.96 X e[0.9422ln(hardness)]-1.464
Lead	15.77	WER X Conversion Factor** X e[1.273ln(hardness)]-1 460
Mercury	2.04	WER X 0.85 X 2.4
Nickel	482.14	WER X 0.998 X e[0.8460ln(hardness)]+3.3612
Silver	0.3863	WER X 0.85 X e[1.72ln(hardness)]-6.52
Zinc	38.92	WER X 0.978 X e[0.8473ln(hardness)]+0.8604

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

AQUATIC LIFE CRITERIA (DISSOLVED CHRONIC VALUES)

Pollutant	Dissolved(ug/l)	Formula
Cadmium	0.40	WER X Conversion Factor* X e[0.7852ln(hardness)]-3.490
Chromium(III	62.76	WER X 0.86 X e[0.819ln(hardness)]+1.561
Chromium(V	10.58	WER X 10
Copper	3.82	WER X 0.96 X e[0.8545ln(hardness)]-1.465
Lead	0.61	WER X Conversion Factor** X e[1.273ln(hardness)]-4.705
Nickel	53.60	WER X 0.997 X e[0.8460ln(hardness)]+1.1645
Zinc	35.54	WER X 0.986 X e[0.8473ln(hardness)]+0.7614

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

ATTACHMENT 2

Permittee	El Dorado Joint Pipeline			
Receiving Stream	Ouachita River			
Permit number	AR0050296			
Flow (Qe)	20.00	MGD		
Flow (Qe)	30.90	CFS		
7Q10 =	750.00	CFS		
Long Term Average =	750.00	CFS		
Using Diffusers	yes	Yes/No		
pH =	6.85	S.U		
Total Hardness	28.00	mg/l		
TSS	5.50	mg/l		
(% of 7Q10 for Chroni	0.25		Qb	187.50
(% of 7Q10 for Acute)	0.13		Qb	97.50
Cb	0.00	ug/l		
AML factor	1.55			
DML/AML	3.11			

	WQSa	WLAa	LTAa	WQSc	WLAc	LTAc	LTAa/LTAc	AML, ug/l	DML, ug/l	WQSb	WLAb	AML, ug/l	DML, ug/l
Cadmium Total*	3.91	16.26	9.27	1.6891	11.94	8.60	8.60	13.32	26.73				
Chromium (hex)	15.71	65.29	37.21	10.5820	74.79	53.85	37.21	57.68	115.74				
Copper Total*	13.44	55.83	31.82	10.0216	70.83	51.00	31.82	49.33	98.98				
Lead Total*	77.87	323.56	184.43	3.0343	21.45	15.44	15.44	23.93	48.02				
Mercury Total*	6.70	27.84	15.87	0.0120	0.08	0.06	0.06	0.09	0.19				
Nickel Total*	973.88	4046.79	2306.67	**********	764.45	550.40	550.40	853.12	1711.75				
Selenium Total	20.00	83.11	47.37	5.0000	35.34	25.44	25.44	39.44	79.13				
Silver Total*	1.27	5.27	3.00	**********	**********	**********	3.00	4.65	9.33				
Zinc Total*	120.05	498.87	284.35	**********	774.85	557.89	284.35	440.75	884.34				
Chromium (Tri)*	925.86	3847.28	2192.95	**********	2122.80	1528.42	1528.42	2369.04	4753.37				
Cyanide Total	22.36	92.91	52.96	5.2000	36.75	26.46	26.46	41.02	82.30				

* See Linear Partition Coefficient (Page 6)

	AML, lb/d	DML, lb/d
Cadmium Total	2.22	4.46
Chromium (hex)	9.62	19.30
Copper Total	8.23	16.51
Lead Total	3.99	8.01
Nickel Total	142.30	285.52
Selenium Total	6.58	13.20
Silver Total	0.78	1.56
Zinc Total	73.52	147.51
Chromium (Tri)	395.16	792.86
Cyanide Total	6.84	13.73

ATTACHMENT 3

	Joint Pipeline		El Dorado Chemical Company	
Flow, MGD	20		2	2
Parameter	AML, lb/day	DML, lbday	AML, lb/day	DML, lbday
Cadmium Total	2.22	4.46	0.22	0.45
Chromium (hex)	9.62	19.3	0.96	1.93
Copper Total	8.23	16.51	0.82	1.65
Lead Total	3.99	8.01	0.40	0.80
Nickel Total	142.3	285.52	14.23	28.55
Selenium Total	6.58	13.2	0.66	1.32
Silver Total	0.78	1.56	0.08	0.16
Zinc Total	73.52	147.51	7.35	14.75
Chromium (Tri)	395.16	792.86	39.52	79.29
Cyanide Total	6.84	13.73	0.68	1.37

ADEQ

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

RESPONSE TO COMMENTS
FINAL PERMIT DECISION

Response to comments received on the subject draft permit in accordance with regulations promulgated at 40 CFR Part 124.17 are as follows:

Permit Number AR0050296:	El Dorado Water Utilities (operator), Great Lakes Chemical Company – Central Plant, Lion Oil Company – El Dorado Refinery, and El Dorado Chemical Company
Permit Number AR0000647:	Lion Oil Company – El Dorado Refinery
Permit Number AR0000752:	El Dorado Chemical Company
Permit Number AR0001171:	Great Lakes Chemical Company – Central Plant
Permit Number AR0049743:	El Dorado Water Utilities
State Construction Permit Number AR0049743C:	El Dorado Water Utilities
Prepared by:	Loretta Reiber, P.E.
Public Notice Date:	The draft permits were publicly noticed on March 22, 2006.
Date Prepared:	February 26, 2007

ADEQ has made a decision to issue the NPDES Permit No. AR0050296 for the Joint Pipeline to El Dorado Water Utilities (operator), Great Lakes Chemical Company – Central Plant, Lion Oil Company – El Dorado Refinery, and El Dorado Chemical Company, State Construction Permit No. AR0049743C to El Dorado Water Utilities, and to modify the individual NPDES permits for each of the entities discharging to the joint pipeline. The draft permits were sent to public notice on March 22, 2006. At the same time, due to public interest, ADEQ scheduled a public meeting and a public hearing on the draft permits on May 18, 2006, to receive public comment on the permits. The deadline for submittal of comments on the draft permits was extended to June 21, 2006.

The following significant changes have been made to the permit(s) and/or fact sheets after review of the comments:

1. The Total Phosphorous concentration limits for the months of July – October in NPDES Permit No. AR0050296 have been changed to 0.7 mg/l on a monthly average and 1.4 mg/l on a daily maximum. The mass limits have been changed accordingly.

2. Total Phosphorous sample types are now required to be 24-hr composite. The permittee will have the opportunity to change the sample type to grab after the first 365 consecutive days of discharge if it can be shown that the grab sample will adequately represent the phosphorous levels in the effluent.

3. The facility coordinates for Great Lakes Chemical Central Plant, El Dorado Water Utilities North Plant, El Dorado Water Utilities South Plant, and El Dorado Chemical Company have been corrected.
4. The monitoring outfall coordinates contained in NPDES Permit No. AR0050296 have been corrected. The coordinates at which Outfall 010R enters the Ouachita River have been corrected.
5. Zinc has been added to the 303(d) Sections of the various Fact Sheets.

The following comments have been received on the draft permit:

E-mail from Donnie Bryant to Doug Szenher dated 06/21/2006.
Letter from Robert J. Bridges to Doug Szenher dated 06/21/2006.
E-mail from Amanda Whiteside to Doug Szenher dated 06/21/2006.
E-mail from Fred Robinson to Doug Szenher dated 06/21/2006.
Letter from Zena Mae Pesnell to Doug Szenher dated 05/23/2006.
E-mail from Chris Sinclair to Doug Szenher dated 05/30/2006.
E-mail from Ashley Sinclair to Doug Szenher dated 05/30/2006.
E-mail from William R. Howard to Doug Szenher dated 06/19/2006.
E-mail from James Waterhouse to Doug Szenher dated 06/19/2006.
E-mail from Terry Graves to Doug Szenher dated 06/17/2006.
E-mail from Nicki Miller to Doug Szenher dated 05/24/2006.
E-mail from Jimmy Sledge to Doug Szenher dated 06/14/2006.
Letter from Kent Stegall to Doug Szenher dated 06/21/2006.
Letter from Dale Wheelington to Doug Szenher dated 06/08/2006.
E-mail from Brenda Burns to Doug Szenher dated 06/06/2006.
E-mail from Mary Joe Wisener to Doug Szenher dated 06/05/2006.
E-mail from Carl Heffner to Doug Szenher dated 04/18/2006.
E-mail from Carl Heffner to Doug Szenher dated 05/05/2006.
Letter from Carl Heffner to Doug Szenher dated 05/24/2006.
E-mail from Carl Heffner to Doug Szenher dated 06/16/2006.
Letter from Marylee M. Orr to Loretta Reiber, P.E., dated 06/19/2006.
Letter from Cara Guinn and Danny White to Doug Szenher – not dated.
Letter from Julie Nolan to Doug Szenher – not dated.
Letter from Jewel Murphy to ADEQ – not dated.
Letter from Chris Horton to Doug Szenher dated 06/20/2006.
Letter from Sam Russell and Elsie Barron dated 06/17/2006.
Letter from Michael Caire, M.D. to Doug Szenher dated 06/07/2006.
Letter from Roy Reynolds to Doug Szenher dated 06/19/2006.
Letter from Pam Hulse to Doug Szenher dated 06/06/2006.
Letter from Jerry C. Langley to Doug Szenher dated 06/20/2006.
Letter from Gary R. Burbank to Doug Szenher dated 06/19/2006.
Letter from Jim W. Byrd to Doug Szenher – not dated.
Letter from Curtis Blankenship, Jr. to Doug Szenher – not dated.
Letter from Michelle Stegall to Doug Szenher – not dated.
Letter from Patsy Thornton to Doug Szenher – not dated.
Letter from Jerry Ethridge to Doug Szenher – not dated.
Letter from Lara Weathers to Doug Szenher – not dated.
Letter from Summer Doss to Doug Szenher – not dated.
Letter from Mary L. Thompson to Doug Szenher – not dated.
Letter from R. Ray Rhymes, D.D.S. to Doug Szenher – not dated.
Letter from Jerod L. Cross to Doug Szenher – not dated.
Letter from Carmen M. Cross to Doug Szenher – not dated.

Letter from Carol Rhymes to Doug Szenher – not dated.
Letter from Doyle W. Smith to Doug Szenher – not dated.
Letter from Tracye Johnson to Doug Szenher – not dated.
Letter from Christy Kersh to Doug Szenher – not dated.
Letter from Pamela Brooks to Doug Szenher – not dated.
Letter from John Tranger to Doug Szenher – not dated.
Letter from Michael E. Hearnsberger to Doug Szenher – not dated.
Letter from Jennifer Mann to Doug Szenher – not dated.
Letter from Catherine Karnes to Doug Szenher – not dated.
Letter from Joe Towery to Doug Szenher – not dated.
Letter from Sheila Towery to Doug Szenher – not dated.
Letter from Frank Wimberley to Doug Szenher – not dated.
Letter from Gary Thornton to Doug Szenher – not dated.
2,771 letters submitted on behalf of residents of Arkansas & Louisiana by Kent Stegall – not dated.
24 letters submitted on behalf of residents of Southern Arkansas by Sam Russell – not dated.
7 letters submitted on behalf of residents of Southern Arkansas by Simmons First Bank of South Arkansas – not dated.
17 letters submitted on behalf of residents of Louisiana by the Louisiana Environmental Action Network – not dated.
54 letters submitted on behalf of residents of Southern Arkansas by Melody Spears – not dated.
Letter from "Save the Ouachita" to ADEQ dated 06/19/2006.
Letter from Clyde Temple to ADEQ dated 06/15/2006.
Letter from Arkansas Game and Fish Commission (AGFC) to Doug Szenher dated 06/12/2006.
Letter from the State of Louisiana's Department of Wildlife and Fisheries to Doug Szenher dated 05/22/2006.
Letter from the State of Louisiana's Department of Culture, Recreation & Tourism to Doug Szenher dated 05/22/2006.
Letter from the Louisiana Department of Environmental Quality (LDEQ) to Doug Szenher dated 06/20/2006.
Letter from the United States Department of the Interior – Fish and Wildlife Service (USF&WS) to Martin Maner dated 06/20/2006.
Letter from GBMc & Associates to Martin Maner dated 06/20/2006.
Letter from GBMc & Associates to Martin Maner dated 06/21/2006.
Letter from GBMc & Associates to Martin Maner dated 06/20/2006.
Letter from Lion Oil Company – El Dorado Refinery to Martin Maner dated 06/20/2006.
Letter from Great Lakes Chemical Company – Central Plant to Martin Maner dated 06/21/2006.
Letter from El Dorado Water Utilities to Martin Maner dated 06/13/2006.
Letter from El Dorado Chemical Company to Martin Maner dated 06/19/2006.
Comments on the Final Nutrient Model Study submitted by EPA dated 06/01/2006.
Comments on the Final Nutrient Model Study submitted by LDEQ dated 07/10/2006 and 08/01/2006.

The summary of the comments is as follows:

ISSUE #1

Donnie Bryant, Amanda Whiteside, Fred Robinson, Zena Mae Pesnell, Ashley Sinclair, Chris Sinclair, William R. Howard, James Waterhouse, Brenda Burns, Mary Jo Wisener, Cara Guinn, Danny White, Julie Nolan, and Jewel Murphy

The commenters stated that they were against the pipeline because it could harm the Ouachita River and would therefore be less enjoyable.

RESPONSE #1

All permits are issued in accordance with Federal and State Regulations. The terms and conditions of the permits are protective of the Water Quality of the State of Arkansas. Part III, Condition #7 of the permit contains a reopener clause which will allow ADEQ to reopen the permit should additional information become available which would have required more stringent permit limits if it had been available at the time of permit issuance.

ISSUE #2

Robert J. Bridges

a. Can the City of El Dorado legally exercise the power of eminent domain in acquiring right-of-ways on or across private property for which the proposed pipeline will be constructed? If so, how is fair market value determined including the monetary (and environmental) impact on private landowners?
b. Has the EPA formally reviewed the draft permits? If so, what is their official position? These two questions also apply to the USF&WS and the AGFC.
c. What are the specific parameters for "low flow/no flow" of the Ouachita River that must be met for issuance of the subject permit? Have these parameters been appropriately documented and hydrologically assessed in view of recent low flow conditions of the river?
d. What will be ADEQ's role and responsibility for ensuring strict compliance including specific details of the protocol to be used by ADEQ to ensure compliance?
e. Oral comments made during the public hearing: Thank you gentleman. I am a retired some say retarded fifties manager of Felsenthal and just for the record the last two managers are in a battle with who has the lightest hair. I do thank the ADEQ, Mr. Devine, and his staff for being so accommodating not only for the public meeting but helping provide some data to me personally in preparation for this public hearing. I do have some serious concerns about the Joint Pipeline project both ecologically, recreationally, and even economically. However, in order to preserve my legal standing, I will submit my formal comments by letter within the described written period. Thank you.

RESPONSE #2

a. This comment is outside the scope of the NPDES permit. In accordance with 40 CFR Part 124.17(a)(2), the ADEQ must respond only to comments which are within the scope of the NPDES permit. Thus, no change to the permit is necessary.
b. The draft permits were reviewed by EPA Region VI prior to the notice published on March 22, 2006, in the El Dorado newspaper. EPA Region VI issued letters of "No Objection" on March 16, 2006, for the Joint Pipeline Permit, El Dorado Chemical Company, and El Dorado Water Utilities. "No Objection" letters were issued on February 3, 2006, for Great Lakes Chemical Company – Central Plant and Lion Oil Company – El Dorado Refinery. The AGFC and the USF&WS have both submitted comments on the draft permits (See Issues #20 and #22, respectively).
c. The 7Q10 flow (i.e., the background flow) used to calculate permit limits is defined in Section 2.106 of Arkansas Pollution Control and Ecology Commission (APCEC) Regulation No. 2 as "A flow volume equal to or less than the lowest mean discharge during 7 consecutive days of a year which, on average, occurs once every 10 years." This takes into account any low flow periods which may occur on the river. The 7Q10 of 750 cfs was based on data from the time period of 1982 – 2001 which was obtained in a letter from the USGS dated September 18, 2005. The 7Q10

of 750 cfs was used in the D.O. model to calculate the BOD5 and the NH3-N limits. The 7Q10 was also used to calculate the metals limits. See Response #44.f.

d. ADEQ will require that each entity as well as the joint pipeline submit Discharge Monitoring Reports on a monthly basis. Inspections will occur at least once per year. Any data submitted by the facilities involved in the pipeline may be reviewed by the public and requested from ADEQ's Records Section through the Freedom of Information Act (FOIA).

e. The ADEQ acknowledges this comment.

ISSUE #3

Terry Graves

The commenter is against the pipeline because he does not believe enough studies and testing have been done to get the true results of the combination of effluents. If an accident were to occur, there is no way to shut down the pipeline. Although testing for certain parameters is required, cleaners, detergents, and other items may go into the pipeline unknowingly.

RESPONSE #3

GBMc & Associates conducted a nutrient model study. Part III, Condition #7 of the permit contains a reopener clause which will allow ADEQ to reopen the permit should additional information become available which would have required more stringent permit limits if it had been available at the time of permit issuance. Additionally, the permit contains language in Part II requiring notification of upset conditions, instances of non-compliance, etc. There will not be any way for cleaners, detergents, and other municipal wastes to be put in the pipeline without first having gone through the City of El Dorado's treatment system.

ISSUE #4

Nicki Miller

Other cities have to create their own WWTP. What would the City of El Dorado do if they did not have a river in close proximity? The chemicals will eventually spill over the legal requirements and cause harm to the environment.

RESPONSE #4

The City of El Dorado currently has two WWTP similar to other municipalities. The City will be required to continue to operate these plants. There is no documentation to support the statement that the effluent will eventually spill over the legal requirements and cause harm to the environment.

ISSUE #5

Jimmy Sledge

The commenter is concerned that many of the studies concerning this project are incomplete. He did not understand why flow rates of the river were only done upstream from the proposed outfall location. He found it hard to believe that there is enough flow year round from H.K. Thatcher Lock and Dam and the Felsenthal Dam to carry the deposited particles away. The Game and Fish Commission could not determine the effects of some of the chemicals would have on fish and vegetation downstream. The pipeline should not be allowed just to save somebody money.

RESPONSE #5

See Responses #1, #2.a, and #2.c.

ISSUE #6

Kent Stegall

a. It is his opinion that this project is purely an economic move by the City of El Dorado and the three plants involved. There is no concern for potential damage to the river downstream from the discharge.
b. The non-compliance record of El Dorado Chemical Company alone should be enough to keep these permits from being issued.
c. Mr. Stegall is concerned about the value of his property on the river if the pipeline is constructed.
d. An environmental impact study should be done.
e. Mr. Stegall personally adopted the comments of the following agencies and citizens:
    1. AGFC;
    2. U.S. Fish and Wildlife Service;
    3. Dr. Clifford Randall, PhD.; and
    4. Mr. Clyde Temple.
f. Mr. Stegall requested a detailed response to all of his concerns on this issue.

RESPONSE #6

a. The first comment is outside the scope of the NPDES permit. In accordance with 40 CFR Part 124.17(a)(2), the ADEQ must respond only to comments which are related to the NPDES permit. Therefore, this issue is outside the scope of ADEQ's permitting authority. Thus, no change to the permit is necessary. In regards to the second comment, there is no data to support the commenter's statement that "There is no concern for potential damage to the river downstream from the discharge." The Final Nutrient Study conducted on behalf of the permittees shows no potential damage to the Ouachita River.
b. The permittees have the right to choose their discharge point. A review of the recent effluent data from El Dorado Chemical Company has shown that the facility has made significant strides in achieving compliance. There is no reason to believe that El Dorado Chemical Company will not continue to improve. Also, this is a new discharge point. All of the entities involved will be responsible for the discharge.
c. See Response #2.a.
d. An Environmental Impact Study is only required for federal projects.
e. The ADEQ acknowledges this comment.
f. The ADEQ concurs. All commenters will receive a copy of the final permitting decision with a response to comments

ISSUE #7

Dale Wheelington for the Smackover Bass Club

The club is opposed to any project that threatens the health and well-being of natural resources. They would like to see the applicants examine all other alternatives before constructing this pipeline that could have negative impacts on this fishery for generations to come. Therefore, until it is shown that this

pipeline is the only viable alternative and that there will be no impact to the fishery at the Felsenthal Reservoir, the Smackover Bass Club opposes the issuance of this permit.

RESPONSE #7

A final nutrient study was submitted to ADEQ prior to the end of the public comment period. LDEQ, AGFC, USF&WS, and EPA reviewed this study and had the opportunity to submit comments. All comments regarding the study have been reviewed. A revised study was submitted on February 13, 2007, in response to the comments on the final study. The revised study showed little to no variation in key parameters (chlorophyll-a, nitrogen, phosphorous, dissolved oxygen, etc.) from the final study. Part III, Condition #7 contains a reopener clause which will allow the ADEQ to reopen the permit should additional information become available.

ISSUE #8

Carl Heffner

a. Why is an Environmental Impact Study not required since the Ouachita River is on the 303(d) list?
b. Why, with the classification of the Ouachita River on the 303(d) list, is the ADEQ contemplating a violation of the Clean Water Act?
c. It is his intention to file a class action lawsuit to stop this project.
d. ADEQ should enforce the letter of the law with the entities involved in the pipeline. If the enforcement of the effluent limits had been done in the past, the three industries could safely discharge into the City of El Dorado's WWTPs and be further processed.
e. Mr. Heffner believes that it is up to the individual industries to treat their own effluents up to and hopefully exceeding current EPA/ADEQ standards.
f. Although not a member, Mr. Heffner fully supports the views and activities of Save the Ouachita.

RESPONSE #8

a. An Environmental Impact Study is only required for federal projects.
b. The Ouachita River is on the 303(d) for mercury in Category 4a (i.e., a TMDL has been developed) and for zinc in Category 5d (i.e., waters which need data verification to confirm use impairment before a TMDL is scheduled). Issuing a permit which allows a facility to discharge to a stream which is on the 303(d) list is not a violation of the Clean Water Act if the permit addresses the parameters for which the receiving water body is on the 303(d) list. The permit contains numerical limits for both mercury and zinc. EPA Region VI has approved these permits.
c. The ADEQ acknowledges this comment.
d. See Response #2.a.
e. See Response #2.a.
f. The ADEQ acknowledges this comment.

ISSUE #9

Louisiana Environmental Action Network (L.E.A.N.)

a. Outfall 004 from Great Lakes Chemical will not be diverted to the pipeline and will continue to discharge to an unnamed tributary of Bayou de Loutre. The AGFC stated in Section 3.C of the Fact Sheet for AR0050296 that they were concerned about the reduction in flow to Bayou de Loutre. The percentage of flow which will still be going to Bayou de Loutre will should be calculated.

b. There should be provisions in the PPC plan to notify interested public members of any instances of non-compliance with the permit terms and limits. The notification should also be required when any of the individual facilities exceed any permit limits and terms before their discharge of wastewater enters the pipeline. Appropriate corrective action and implementation actions should also be required to be reported to the public. The monthly non-compliance reports and information demonstrating that the terms of the Plan have been followed need to be provided to the interested public.

c. Sampling should be required in the Ouachita River at the edge of the mixing zone to determine the impact of the discharge on water quality in the river.

d. Non-compliance reports for the individual facilities should be compiled and used to determine if the current discharges from the individual facilities are in compliance with their current permit conditions. These permit conditions will still be required to be met. If the permit limits are not currently being met, there will be nothing but problems with the discharge from the pipeline meeting the terms and conditions of the permit.

e. The EPA has construed the Act as requiring that EPA-issued permits comply with the requirements for a permit issued under an approved state plan and with 401(a) of the Act, which appears to prohibit the issuance of a federal permit over the objection of an affected state unless compliance with the affected State's water quality requirements can be insured.

f. Based on the information which this organization has seen, their position is that the proposed project would result in noticeable and detectable deterioration in the water quality of two of Louisiana's Natural and Scenic Waterways. They are skeptical that, once all of the modeling results for the proposed plan have been reviewed, EPA will determine that the effluent discharged from the pipeline will only have a *de minimus* impact. They believe that the pipeline will have undue impacts on the waters of Louisiana. As such, they formally requested that the prospective permittees submit a detailed environmental impact assessment and statement to establish that their combined discharge will not result in further degradation of the downstream conditions in Louisiana's Ouachita and Bayou de Loutre waterways. What are the cumulative impacts to the receiving waterway and how will these impacts be quantified, mitigated, and reported to the public?

g. **Mr. R. David Brown** made the following oral comments during the public hearing:

I am a Staff Attorney with the Louisiana Environmental Action Network. We are headquartered in Baton Rouge.

1. One of the main reason why I am here tonight is because our organization has twenty years of experience working with environmental issues in the state of Louisiana and we have seen permit applications like this before, we hear a lot of information on both sides and just want to caution everybody to be very careful when you hear state agencies and federal agencies tell you that there's not enough information, there is a posity of information to make a determination, then that should put everyone on alert. The agencies don't often come out and make statements like that publicly unless there really is "too little" information to make statements such as that, the water quality of the Ouachita River would actually be improved by twenty million gallons per day of

increased effluent to it. Those are statements that everybody needs to be really careful about. You see, ads like this in the newspaper are paid for by industry know the facts. Those aren't necessarily facts just because they are printed in the newspaper and I just caution everyone to be careful when a lot of money is being spent to initiate a project like this.

2. Based on the available information that our organization has seen, it's our position that the proposed project will result in noticeable and detectable deterioration in the water quality of two of Louisiana's natural and scenic water ways. Further, we are skeptical that once all of the modeling results of the proposed plan have been reviewed, the EPA will determine that the effluent discharge from the El Dorado Pipeline will have only a de minimis impact. From information made available to our organization the Louisiana Environmental Action Network we believe that the proposed El Dorado Pipeline project will have undo impact on the waters of our state and as such we hereby formally request that the prospective permittees submit a detail environmental impact assessment and statement to establish that their combined discharge will not result in further degradation of the downstream conditions in Louisiana's Ouachita and Bayou de Loutre water ways.

3. The Clean Water Act authorizes the EPA Administrator to block the issuance of any state issued permit under the NPDES permitting regime. The EPA also sets effluent limitations on the substances discharged from point sources like the proposed pipeline. Congress provides a downstream state with an opportunity for a hearing before the source state permitting agency and by requiring the latter to explain its failure to accept any recommendations offered by the downstream state and by authorizing the EPA to veto source states issuance of any permit that the waters of another state may be affected. In ADEQ's own NPDES permit is required to satisfy a percentage.....(Time Mr. Brown) Louisiana is only mentioned once in the permit application, we are concerned about the effects to our state and that's why we are here tonight. I would like to submit these two photographs that are satellite pictures of the state line between Arkansas and Louisiana and how it's clear that the waters of Ouachita River turn black at the state line, do a good job taking care of the Ouachita within the waters of Arkansas, but not so much once it hits the Louisiana line.

h. **Ms. Cheryl Slavant** made the following oral comments at the public hearing:

I am the President of the Board of Louisiana Environmental Action Network and I live in the Monroe/West Monroe Area. Before I read our comments, let me say that the Louisiana Environmental Action Network and I believe LDEQ, which is present, will tell you that our organization and our over one hundred member group are working aggressively in Louisiana to clean or water and our air. I have just a few comments:

1. Reduction in flow to Bayou de Loutre, Great Lakes Chemicals have effluent 004 which is not listed as being diverted to the joint line. On page three of the fact sheet for the joint pipeline permit, #7.C, other agencies AGFC spoke of concern of the waters being diverted from Bayou de Loutre to the Ouachita River. Outfall 004 from Great Lake Chemicals facility will not be diverted to the pipeline and will continue to discharge to an unnamed tributary of Bayou de Loutre. It would be a benefit to determine the current discharge flows that are now permitted and discharged into the Bayou de Loutre and the flows that will continue from outfall 004 of Great Lakes Chemicals and any other outfall that will continue to be discharged to the Bayou de Loutre. You can then calculate a percentage reduction in flow to bayou de Loutre as a result to the proposed joint pipeline.

2. Plan and public notification—The CCC Plan should be required to contain provisions to notify interested public members of non-compliance of anyone that returns with a permit

occurs. The notification procedure should also be required when any of the individual facilities exceed any limits or terms of their individual permits before their discharge of wastewater enters the joint pipeline. The appropriate corrective action and implementation action should also be required to be reported to the interested public. The monthly non-compliance report to on any non-compliance with any limits and terms of the permit and information demonstrating that the terms of the plan had been followed need to be provided to the interested public.

3. Sampling in the Ouachita River—Outfall 010R monitoring will occur along the pipeline nine miles prior to where the pipeline discharge into the Ouachita River. Monitoring will also be required to be performed for a limited period of time one hundred feet in the Ouachita River outfall in order to determine if there are changes in the effluent between the monitoring outfall location nine miles from the river and the Ouachita River. In addition, you should request that sampling be required to be performed in the Ouachita River at the edge of the mixing zone and the river itself in order to determine the water quality in the Ouachita River due to the discharge. This can help in assessing that the water quality standards are being met in the Ouachita River.
4. Non-compliance to the existing permit—Information of non-compliance to the individual permits from the facilities that will discharge into the joint pipeline should be compiled and used to demonstrate whether the current discharges from the individual facilities are in compliance with their current permit conditions. These permit conditions will still be required to be met. If the permit limits are not currently being met there will be nothing but problems with the joint pipeline wastewater meeting the permit the condition and terms.
5. Thank you very much. May I add that should this be for any other city down the river, the Louisiana Environmental Action Network would be there objecting to that also. Thank you.

RESPONSE #9

a. Draft permit No. AR0001171 for Great Lakes Chemical Company's Central Plant specifically states that Outfall 004 will be diverted to the pipeline. See Response #18.l.
b. This information will be available for public review by filing a FOIA request with the ADEQ's Records Management Section.
c. The nutrient modeling studies have shown that there will not be any impact downstream of the outfall. Therefore sampling at the edge of the mixing zone is not necessary at this time.
d. The permittees will be required to file non-compliance reports, DMRs, etc. under their individual permits for all of the outfalls listed in their permits. ADEQ will continue to require compliance for all of the outfalls. The permittees involved in the joint pipeline are currently in compliance with their permits.
e. See Response #1. LDEQ only requested additional time for review of the Modeling Study.
f. EPA Region VI did not have any comments regarding the final nutrient model study. A Revised Nutrient Modeling Study was submitted on February 13, 2007, in response to the comments from LDEQ and ADEQ. Revisions to the model focused on the resegmenting of reaches 2 and 6, and on adjustments to reach channel geometry to provide more variation and to mimic the dimensions provided in the US Army Corps of Engineers HEC-RAS model. Detailed information concerning the revised channel geometry was provided in the report. Results of the revised modeling indicate that the dissolved oxygen standard is maintained under all modeled scenarios. See Responses # 1 and #6.d
g. 1. See Response #1.
   2. See Response #9.d.

3. EPA and LDEQ were sent copies of these permits for their review. EPA sent letters of "No Objection" to the Department prior to the start of the public comment period. LDEQ only requested additional time for review of the Nutrient Modeling Study. See Response #9.f. Additionally, all conditions of 40 CFR 122.4 required for issuance are met in regards to these permits.

No objections to the issuance of this permit were received from either agency.

h. Ms. Slavant's oral comments are the same as those which L.E.A.N. submitted to the ADEQ during the public comment period. See Responses #9.a – f. ADEQ acknowledges that L.E.A.N. would be taking these same actions for any other city down the river.

ISSUE #10

BASS Conservation

a. The results of the nutrient modeling were not released in sufficient time to allow for public review prior to the end of the comment period. The AGFC and LDEQ had serious concerns with the modeled parameters and supporting data. No changes were made to the model prior to issuance of the final report. Furthermore, no changes have been made to the draft permit that might address any of these concerns.

b. El Dorado Chemical Company has multiple citations for both water and air quality violations. Rather than forcing El Dorado Chemical Company to clean up their discharges, ADEQ's approval of this joint pipeline would encourage the facility to continue or even increase their pollution practices while remaining with arbitrary limits or discharging to a larger stream.

c. The Ouachita River is currently on the EPA's 303(d) list for zinc. However, this permit fails to address the measures needed to prevent further impacts of zinc discharges in the Ouachita River through the pipeline. This permit will allow El Dorado Chemical Company to discharge up to 14.15 pounds per day of zinc directly into the Ouachita River, an apparent increase from their current individual NPDES permit and a flagrant disregard for the Clean Water Act.

d. BASS strongly opposes the approval of this permit. The proposed pipeline simply provides a means for the entities to avoid non-compliance penalties at the expense of the natural resources of Arkansas and Louisiana.

RESPONSE #10

a. The deadline for submittal of comments on the final nutrient modeling report was extended to July 21, 2006, at the request of the LDEQ. LDEQ has not submitted any comments other than those to request additional time for review of the study or copies of information submitted to ADEQ. Part III, Condition #7 contains a reopener clause which will allow ADEQ to reopen the permit if new information becomes available. A Revised Nutrient Modeling Study was submitted on February 13, 2007, in response to the comments from LDEQ and ADEQ. Revisions to the model focused on the resegmenting of reaches 2 and 6, and on adjustment to reach channel geometry to provide more variation and to mimic the dimensions provided in the US Army Corps of Engineers HEC-RAS model. Detailed information concerning the revised channel geometry was provided in the report. Results of the revised modeling indicate that the dissolved oxygen standard is maintained under all modeled scenarios.

b. See Response #1. El Dorado Chemical Company's compliance record has been steadily improving over the past year. There is no information to indicate that this would not continue under their modified permit and the joint pipeline permit.

c. A Total Maximum Daily Load (TMDL) has not yet been established for zinc in the Ouachita River. Therefore, the water-quality based limit will be used until a TMDL has been established. Although the concentration limit for zinc in El Dorado Chemical Company's modified permit is

increasing, such an increase does not constitute a violation of the Clean Water Act because the receiving stream is changing (See 40 CFR Part 122.44(l)(2)(i)(B)(1).). The ADEQ has the right to reopen the permit if a TMDL is developed during the term of the permit which would require more stringent permit limits.

d. See Response #1.

ISSUE #11

Sam Russell and Elsie Barron

a. Mr. Maner stated at the public hearing that there will be an odor created by the discharge from the pipeline. This is a direct violation of Regulation 2. Can anything be done to stop the smell? If not, will we be compensated for this or will we be stuck with it?

b. Will swimming in the river increase our chances of cancer, rash, infection, and disease? Will it be safe to continue swimming in the river? Is it a fact that El Dorado has the largest percentage of cancer per capita in the state?

c. There are already fish consumption advisories due to mercury in the area. Won't additional mercury add to this problem?

d. The commenters are concerned that the D.O. levels in the river will drop below safe levels for fish. At what point in relation to the pipeline discharge will this occur?

e. What will happen when the levels of chlorides, ammonia, nitrates, and minerals are discharged into the river?

f. The commenters expressed concern over the impacts that the proposed pipeline might have on their property values. They would like to know if the City of El Dorado will assume full responsibility for any accident or incidents involving the pipeline. Will they be bonded or insured to pay all damages caused by such incidents to include depreciation of property values and the cost of cleanup after any problems are created by the pipeline?

g. The commenters expressed concern over El Dorado Chemical Company's impact on their current receiving streams.

h. **Mr. Sam Russell** made the following oral comments during the public hearing:.

Mr. Maner, thank you and ADEQ very much. I live on the river. I am about five or six miles below the pipeline. One of the concerns that I have is the thing that Cathy brought up a while ago about this belt of the river. Being that we live on the river and you yourself I believe made a comment that there would be a smell, why should we have to put up with that from the City of El Dorado and is there not something different they can do to take care of that problem? When the river, when this thing is ruined, because it's going to happen, what's going to happen to the property value of my home? I live on the river because I have spent every dime that I own to live there. I would just like to know, I know they don't have to be bonded, but who's going to pay the difference when I lose because I live there on the river? I am not used to this kind of stuff. My first comment was how you can do the construction of the pipeline, because if you don't know what the building material is going to be, how can you let construction on something begin? You can't build a house if you don't know what the foundation has to be under it or what kind of timber has to be put in it. Well, that's just the concerns that I have. I am against this pipeline totally! Thank you very much.

RESPONSE #11

a. The outfall will discharge below the surface of the water. Any odors from the discharge will therefore be minimal and not interfere with the recreational value of the Ouachita River. Therefore this will not be a violation of APCEC Regulation No. 2.

b. See Response #1. The limits contained in the permit are protective of water quality. The Arkansas Department of Health and Human Services (ADHHS) reviewed the draft permits. ADHHS did not submit any comments to ADEQ on the draft permits. There are numerical FCB limits in the individual permit for El Dorado Water Utilities and monitoring and reporting requirements for FCB in the other individual permits as well as the joint pipeline permit. There is no documentation at this time showing that swimming in the river would cause cancer, rash, infection, and/or disease.

c. The mercury limits contained in the draft permit require mercury to be below the minimum detection level of 0.2 µg/l using EPA approved testing methods. The permit limits for mercury are based upon Section 2.508 of APCEC Regulation No. 2.

d. The limits contained in the permit are protective of water quality. The D.O. levels will not drop below safe levels for fish as a result of this discharge as long as compliance with the permit limits is demonstrated. The final and the revised nutrient studies showed that the D.O. levels would not be adversely affected as a result of the joint pipeline.

e. The limits contained in the permit are protective of water quality. No effects from the discharge of chlorides, ammonia, nitrates, and minerals should be observed as long as the permittees comply with the permit limitations.

f. See Response #2.a in regards to the comments on property values. Although not required, the ADEQ has required the entities involved to draft and sign an operating agreement detailing each entity's responsibility in regards to the pipeline. This agreement will be finalized after issuance of the permits.

g. El Dorado Chemical Company's effect on their current receiving streams is not within the scope of their permit modification or the joint pipeline permit. See Response #2.a.

h. See Response #2.a in regards to the comments on property values. The construction permit application did contain information on the type of pipe that the permittee intends to use. Any change in materials will require the permittees to notify ADEQ. The ADEQ acknowledges that the commenter is against the pipeline.

ISSUE #12

Michael J. Caire, M.D.

a. In the public hearing, Michael J. Caire, M.D. made the following statements.

I am from West Monroe, Louisiana. I have a brief comment. I read an ad in Sunday's paper from El Dorado in which they said that the only opposition to this project was coming down from Monroe, LA. I feel that there are a lot more people here from the El Dorado and Ouachita area than there are from Monroe, but that's not necessarily the concern about Arkansas DEQ, but it was signed by all the permittees, and I think they used deceitful information on a public ad and I think that they may be using a lot more deceitful in other sources. Number two: I would like to publicly state you do have the ability to require bonding of the permittee and to fail to do that is a disservice to the public, though the concept that everybody will be watching everybody else is true, it is also true that one, two, or three of the chemical plants go bankrupt and leave the taxpayers of El Dorado will be held totally responsible for the liability if the other ones go belly up. Now, I think that the bondage would definitely be a requirement of this permit application. Thank you.

b. One of the dominant assumptions is that the co-mingling of multiple discharges that are now occurring into tributaries of the Ouachita River into a single discharge point a few miles above the Felsenthal Pool is not a further degradation of the water quality of the region. Dr. Caire listed several reasons in support of his statement.

RESPONSE #12

a. See Responses #2.a and #11.f.
b. See Response #1. The permit limits were based on the commingling of the discharges to be discharged at a set point in the Ouachita River.

ISSUE #13

Roy Reynolds

a. The Ouachita River should be tested at several points along with fish and wildlife before the discharge is allowed. Pre-pipeline measurements are necessary in order to know the actual effects of the pipeline at a later date.
b. The quality of fish and wildlife taken from below the proposed discharge point should be monitored if the pipeline is allowed to go forward. The draft permit does not require testing of any fish or wildlife. There need to be provisions to know if this food supply is compromised.
c. The effect of other joint pipelines should be studied before this permit is issued. Is there any other place in the country where an oil refinery, an ammonia/nitrate plant, a bromine plant, and municipality combine their effluent prior to discharging to a river?
d. The permit should require the reporting of the component effluents of each entity's monitoring outfalls before the joint pipeline in order to know if one facility's clean effluent is diluting another's effluent.
e. The public should be informed on the differences in the permit limits between the entities' current permits and the levels allowed under the joint pipeline permit.
f. The permit limits should be recalculated. The current limits are based on the river's flow at Camden. The flow of the river at Camden has no bearing on the flow at the outfall point and at Moro Bay. This area of the river ceases to flow for two to three months every summer. ADEQ or another environmental entity must do river flow studies at the outfall point and at Moro Bay in order to determine realistic permit levels for the listed parameters.
g. The permit values look outrageous and absolutely toxic for the river. Mr. Reynolds listed the pounds per year for several of the metals. The permit should list all of the discharge limitations on an annual basis so that it is clear to the public just how much of each pollutant will be allowed to be discharged to the river.
h. ADEQ should require the monitoring point to be near the outfall point. The draft permit indicates that ADEQ is allowing a monitoring point approximately 9 miles from the outfall because the permittees claim that there is no electricity near the outfall. There is a power line in the vicinity and the Corps of Engineers has lights there too. ADEQ should investigate the availability of electricity near the outfall site. If it is determined to be a false statement by the applicants, they should be subject to the penalties outline in part II, section D.13.
i. Even if it is determined that there is no electricity exactly at the point of the outfall, it would not be a great hardship to have electric lines run to a point within 100 feet downstream of the outfall point. It would be much better for the permittees to have this additional expense than to allow them to monitor the effluent only 3000 feet after the pipeline joins.
j. Since ADEQ is only required to test the pipeline discharge once per year and ADEQ might not have adequate staffing to test more often, the commenter requested that ADEQ require in the permit that any citizen, civic group, or other government agency willing to pay for testing be allowed to do independent testing of the effluent.
k. The permit should clearly state that none of the permittees may bring waste from locations not already named in the draft permit to their Union County sites to be treated and disposed of in the pipeline.

RESPONSE #13

a. A nutrient study was conducted which measured several points along the Ouachita River and in the Felsenthal NWR. A copy of the study is available on the ADEQ web site or through a Freedom of Information Act request.

b. See Responses #1 and #2.a.

c. See Responses #1 and #2.a. There is a joint pipeline permit in Oklahoma which is held by a municipality along with industry.

d. The individual entities are required to monitor and report their discharges to the pipeline under their individual permits. Part III, Condition #1 of each of the permits requires concurrent sampling for those parameters which are not monitored on a daily basis with a 24-hour composite sample. It is important to note that Outfall 010 in each of the individual permits contains all of the parameters set forth for Outfall 010R in the joint permit.

e. The public may refer to the current permits and the joint permit to obtain this information. These permits are available on the ADEQ web site or through a Freedom of Information Act request.

f. The permit limits must be based on the upstream flow as that is the best way to approximate the amount of water in the receiving stream when the effluent is discharged. Downstream flows are not necessarily indicative of the flow at the point of discharge. The 7Q10 (i.e., the background flow) of 750 cfs was based on data from the time period of 1982 – 2001 which was obtained in a letter from the USGS dated September 18, 2005.

g. The metals limits are based on the water quality standards contained in APCEC Regulation No. 2. 40 CFR Part 122.45(d)(2) states that for continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works.

h. The permit requires the entities to test near the outfall at the Ouachita River and at a point approximately 3000 feet after all branches of the pipeline meet. ADEQ has required the permittee to test near the outfall at the Ouachita River for a total of six months – 3 months during the critical season and 3 months during the primary season. If the levels of any of the parameters are significantly different at the two points, the permittee will be required to continue sampling at the location near the outfall at the river.

i. See Response #13.h.

j. ADEQ does not have the authority to require the facilities to allow private citizens or other government agencies on their property for the purpose of testing the effluent. Private citizens would be required to obtain permission from the appropriate facility to test their effluent.

k. The permittees will only be allowed to discharge those wastewaters which are contained in the effluent descriptions. Any change in the wastewaters to be discharged will require approval of ADEQ prior to being made.

ISSUE #14

Pam Hulse

a. This permit should not be issued until the permittees can demonstrate that the joint effluent will not undergo significant changes between the monitoring outfall location and the actual outfall at the Ouachita River. The draft permit states that monitoring outfall location will be 3000 feet from where the individual lines join and approximately 9 miles from the river. The draft permit requires monitoring to be done at the monitoring outfall and within 100 feet of the actual outfall at the river for 3 months during November – April and 3 months during May – October. Significant biochemical reactions may be taking place during those nine miles but the operator will have up to a year to demonstrate that there are not significant changes. That is one year in which toxic and dangerous materials may be discharged into the river with no consequences to the permittees.

b. An environmental impact study should be undertaken before a permit is issued. Also, the effect of the reduced flow to Bayou de Loutre should be ascertained.

c. The permit should not be granted until the final results of the nutrient study are made public and the public has ample opportunity to comment.

d. The permit should not be granted until a study is made to determine the long-term and short term effects of solids falling out from the effluent to the river bottom and banks.

e. In regards to case-by-case waiver of written 24-hour reports, written reports should always be required otherwise there will be no reliable source documentation for the monthly DMR. A noncompliance that is reported orally and not followed up in writing may accidentally or on purpose be omitted from the DMR and not caught by ADEQ staff.

f. The permit should not be issued without provisions, in the case of noncompliance, too quickly, within 24 hours, and effectively notify those who live and use the river downstream of the discharge point. Those who use the river for recreational purposes should be made aware of possible hazards. Advanced notice should also be given to the public of any anticipated noncompliance.

g. It was stated in the public meeting that the 7Q10 was based on the flow of the river at Camden. In the summer, the flow of the river at Lock 8 down to Moro Bay can be practically nonexistent. All computations using the 7Q10 should be recalculated using the flow of the river below the discharge point. If these statistics are not available, the permit should not be issued until the relevant data can be collected.

h. The permit allows for levels of certain pollutants to be reported as zero if any of the analytical tests results are less than the minimum quantification level. The permit should require that all results be reported as actual. In the future it could be determined that the permitted MQL is too high and will harm the river. If accurate and actual results have not been kept, it will be impossible to determine just how much harm there will be.

i. The permit allows for the use of a site specific method detection limit in lieu of actual tests. Conditions change over time and an MDL calculated today may not be valid in the future. All pollutants that are required to be monitored should actually be monitored – tested and analyzed – not calculated.

j. The permit allows 90 days for an action plan and schedule to be submitted to ADEQ when there is confirming lethality in the retests. An additional 30 days are allowed for implementing the plan. Finally, the permittees have 28 months to submit a final report on the TRE. According to the permit, the report does not even have to say that the situation has been corrected. The permittees will be allowed to continue to discharge into the river as long as they have a plan to correct the situation. This is unacceptable. As soon as retests confirm lethality in the effluent, the discharge to the river should be shut down until the permittees correct the situation at their treatment plants.

k. There should be specific language in the permit detailing under what conditions penalties will be imposed and under what conditions the permittees will have to shut down the pipeline for noncompliance. Also there should be specific language detailing how long the permittees will be allowed to remain in a non-compliant situation before penalties and/or shutdown are imposed.

l. Mr. Maner stated that ADEQ will test the effluent a minimum of once per year. He did state that ADEQ could test more often. It is the commenter's understanding that the inspector assigned to Union County covers a total of eight counties and would be hard pressed to test much more often than once per year.

m. All of the entities involved have demonstrated by requesting this permit that they are more concerned with the short term lower cost of a wastewater pipeline than the possible long term (and at this point immeasurable) cost of polluting the Ouachita River. There will be times when the entities will deem it cheaper to not comply with the permit.

RESPONSE #14

a. The levels in the effluent at the point of discharge on the Ouachita River will be required to be no more than the permitted levels. Toxicity tests which have combined effluent in the appropriate proportions have been performed at the critical dilution (14%) in the joint permit. These tests did not show any toxicity at the critical dilution. The permittee is required to test at both locations for six months of the first year of operation. The ADEQ will be able to reopen the permit to move the permanent monitoring location to near the Ouachita River if the test results warrant doing so. See Responses #1 and #13.h.

b. See Responses #6.d and #18.l.

c. The final nutrient study was submitted before the end of the public comment period. The comment period for the study was extended until July 21, 2006. A Revised Nutrient Modeling Study was submitted on February 13, 2007, in response to the comments from LDEQ and ADEQ. Revisions to the model focused on the resegmenting of reaches 2 and 6, and on adjustment to reach channel geometry to provide more variation and to mimic the dimensions provided in the US Army Corps of Engineers HEC-RAS model. Detailed information concerning the revised channel geometry was provided in the report. Results of the revised modeling indicate that the dissolved oxygen standard is maintained under all modeled scenarios. Part III, Condition #7 contains a reopener clause that will allow the ADEQ to reopen the permit to require a such a study if new information becomes available.

d. See Response #14.c. There is no evidence available justify such a request. Part III, Condition #7 contains a reopener clause that will allow the ADEQ to reopen the permit to require a such a study if new information becomes available.

e. Part II, Section D.6 and 40 CFR 122.42(l)(6)(iii) allow for the Director to waive the written report requirement. The ADEQ does not make changes to Part II of the permit (which is largely based on 40 CFR 122.41) on a case-by-case basis.

f. The ADEQ does not have the authority to require such notifications. Any non-compliance reports may be obtained through a FOIA request submitted to the ADEQ's Public Outreach and Assistance Division.

g. See Response #13.f.

h. The minimum quantification level (MQL) is the lowest required level at which a parameter can be determined to be detected in the effluent. If a parameter is not detected in the effluent, the permittee is allowed to report the level as "0." The MQLs are reviewed at the time of permit renewal to determine if advances in effluent testing have determined a lower MQL for the parameter in question.

i. In 40 CFR Part 136, the method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix

containing the analyte. The permittee may then use this MDL to calculate a new MQL. The permittee must still test for the permitted parameters at the required frequency.

j. The Director of the Department has the authority under APCEC Regulation No. 8, Sec. 2.4.2 to issue an emergency order if an emergency or a situation of eminent hazard exists. Additionally, during the 28 months the facility is required to follow the actions outlined in the approved TRE plan. Also the permittee is required to submit quarterly reports in January, April, July and October containing information of ongoing activities. These reports are reviewed by the Department to ensure progress in identifying the source(s) of toxicity in the discharge. The toxicity of an effluent is monitored throughout the TRE period as well as additional testing related to characterization of the effluent to identify possible toxicants.

k. Part II, Section A.2 of the permit lists the possible penalties for non-compliance.

l. The ADEQ acknowledges this comment.

m. The ADEQ acknowledges this comment.

ISSUE #15

Jerry C. Langley

a. Much of the information provided to ADEQ is only the applicants' loose estimate of volumes and percentages of contaminants and cannot be supported by hard data. Before any permit is issued, the applicants should be required to invest the due diligence to support their data by scientific standards. The applicants should also be required to provide information analyzing any possible changes in the percentages of contaminants due to increased or decreased volumes released by each of the applicants through the proposed pipeline and the effect of any such changes on the information and assumptions contained in their application. Furthermore, a one, three, and five-year environmental solid fallout study should be required prior to any approval of the proposed permit. This study has not been made or even considered.

b. Dr. Clifford Randall of Virginia Polytechnic Institute and State University evaluated the plans for this pipeline. He concluded that while there are potential benefits to the city and affected industries, the currently proposed pipeline project presents a threat to the aquatic environment of the Ouachita River. Mr. Langley attached a copy of the summary evaluation and adopted Dr. Randall's comments as his own.

c. The proposed pipeline is likely to cross several wetlands areas. There should be an environmental assessment of this project with respect to those wetlands and a plan incorporated into the conditions of the permit to mitigate any harm that this pipeline could have on those areas. The pipeline may also cross sites of Native American and historical significance. These archeological and historic preservation issues should be carefully considered and the appropriate agencies consulted to ensure that no part of South Arkansas' rich historic heritage is lost.

d. It is Mr. Langley's understanding that the U.S. Corps of Engineers is opposed to the pipeline. The objections of the Corps should be given the utmost consideration.

e. The alleged economic benefit of the pipeline should be scrutinized. Alternatives may be more cost effective than the pipeline. The applicants should be submit a report demonstrating that the pipeline is the most economically feasible option.

f. Mr. Langley adopted the comments made by "Save the Ouachita" as his own.

g. Mr. Langley asked that the currently proposed permit be denied. If this project is to go forward, it should only be allowed to do so with all of the necessary and proper measures in place to safeguard the Ouachita River as a valuable natural resource for all of the citizens of South Arkansas.

RESPONSE #15

a. The final nutrient modeling study was submitted prior to the close of the public comment period. A revised nutrient modeling study was submitted on 02/13/2007 in response to comments by ADEQ and LDEQ. See Responses #6.d and #14.d.
b. The ADEQ acknowledges this comment. See Response #1.
c. The permittee will be required by the Corps of Engineers to obtain a 404 permit if necessary. Additionally, copies of the draft permits were sent to the Arkansas Department of Heritage for their review. ADEQ did not receive any comments from the Arkansas Department of Heritage.
d. ADEQ did not receive any written comments from the Corps of Engineers concerning this project. The Corps of Engineers was sent draft copies of all of the permits.
e. See Response #2.a.
f. The ADEQ acknowledges this comment.
g. See Response #1.

ISSUE #16

Gary R. Burbank, Attorney at Law

a. A group of local river advocates obtained an analysis of the pipeline by Dr. Clifford Randall. Local authorities pushing the pipeline have trivialized and ignored this report. There has been no attempt to counter his conclusions that the river environment is placed at risk by the proposed pipeline. The river is going to be sacrificed which is being justified in light of the economic benefit to the industries and the city.
b. From comments made at the public meetings, Mr. Burbank senses that the water experts at ADEQ do not support the pipeline project. When one of the experts confirmed that there would be a "musty smell" along the river where the pipeline discharges, there was a chill of realization that the river would be polluted and they would all be expected to accept that for the sake of industry and economy.
c. Mr. Burbank stated that he could not believe that a proposal to intentionally pollute the Ouachita River was being considered. The river belongs to the citizens just as much as it belongs to the industries and the City of El Dorado. If this issue were put to a vote, the pipeline would fail by record percentages.
d. Every means to explore and evaluate the environmental impact of the pipeline should be employed. The public should not be asked to bear this harm to the river without a detailed justification from the government supported by a comprehensive environmental impact study.
e. The citizens opposing the pipeline are not radical environmentalists. They come from every economic and political category and constitute a vast majority of the people who are affected by the Ouachita River. Mr. Burbank stated that they deserve the attention of ADEQ and their objections to the pipeline should be seriously considered.

RESPONSE #16

a. See Response #1.
b. See Response #1 and #11.a.
c. See Responses #1 and #2.a.
d. See Response #6.d.
e. The ADEQ acknowledges this comment.

ISSUE #17

Jim W. Boyd, Frank Wimberley, Sheila Towery, Joe Towery, Catherine Karnes, Michelle Stegall, Pamela Brooks, Christy Kersh, Tracye Johnson, Karen Scott, Doyle W. Smith, Carol Rhymes, Carmen Cross, Jerod Cross, R. Ray Rhymes, DDS, Mary Thompson, Summer Doss, Lara Weathers, Jerry Ethridge, Patsy Thornton, Curtis Blankinship, Jr., Gary Thornton, Jennifer Mann, Michael Hearnsberger, John Trainger, approximately 2,700 letters submitted on behalf of residents of Arkansas and Louisiana by Kent Stegall, 24 letters submitted on behalf of residents of Southern Arkansas by Sam Russell, 7 letters submitted on behalf of residents of Southern Arkansas by Simmons First Bank of South Arkansas, 17 letters submitted on behalf of residents of Louisiana by the Louisiana Environmental Action Network, and 54 letters submitted on behalf of residents of Southern Arkansas by Melody Spears.

a. The commenters consist of concerned citizens of Louisiana and Arkansas. All stated that they were against the pipeline discharging to the Ouachita River and intentionally polluting the river. Also, concerns were raised about additional nutrients in the Felsenthal National Wildlife Refuge by some of the commenters.
b. Some of the commenters state that they were concerned about what the pipeline would do to their property values.
c. Some of the commenters requested that ADEQ explain precisely how they have determined the level of risk to the environment posed by this pipeline and how that risk is justified given the state and federal mandates against public waters. Also, other commenters asked for a more detailed explanation of how ADEQ has concluded that the federal and state laws intended to prohibit pollution of public waters are being complied with in connection with the discharge from the proposed pipeline.

RESPONSE #17

a. See Response #1.
b. See Response #2.a.
c. See Response #1.

ISSUE #18

Save the Ouachita and Dr. Clifford Randall, PhD.

a. Save the Ouachita adopts the comments of the USF&WS and the AGFC. They also adopted and incorporated by reference the comments of Dr. Clifford Randall, particularly, and not by way of limitation, daily composite samples for total phosphorous and nitrogen should be required. The permit should have specific levels for FCB to insure the health of those downstream.
b. The standard for water quality in the Ouachita River is too low. Impacts to human health are prohibited, but the standard allows for destruction of streams from a fisheries standpoint provided it can still maintain human health. The limits for all parameters should be at levels which will allow fish and aquatic life to prosper.
c. There have not been sufficient studies of the impacts the pipeline will have on the Ouachita River. For example, and not by way of limitation, the impacts of TSS, FCB, and D.O. depletion have not been evaluated.
d. An environmental impact study should be required for the reasons in item 18.C and also that the Ouachita River is on the 303(d) list for methyl mercury. The discharge could result in an increase in the production of methyl mercury causing the fish that could survive the depleted oxygen status of the river to be inedible.

e. Lower oxygen and higher carbon dioxide levels in the river caused by decaying aquatics in late summer and early fall result in fish dieoffs in many refuge lakes annually. Many fish and other aquatic life forms are indicators of the overall health of the stream and ecosystem which in turn affects human health. People will eat the fish from the stream regardless of government warnings. Recreational value is also lost due to the fish dieoffs.

f. The discharge of nitrates and nitrites proposed by this joint pipeline would violate Regulation 2.106. The lower Ouachita currently has problems with excessive plant life in the river during the summer months due to nuisance plants. Discharge of nitrates and nitrites will only worsen this problem. The discharge of nutrients is also restricted by Section 2.509 of Regulation 2. Section 2.509 may very well not be in compliance with Arkansas' obligations to neighboring states, i.e., the Illinois River lawsuit with Oklahoma. Save the Ouachita submits that the draft permit violates ADEQ's own regulations and very likely will subject the State of Arkansas to lawsuits from various interests in Louisiana including the State of Louisiana.

g. The cost of treating the effluent at the point source would be more economical. It would also be the socially responsible thing to do. There will be negative impacts on tourist and recreational income as well as to human health. A harmed citizen will be hard pressed to determine which company caused the harm and the responsible party will not be made to compensate for the damage.

h. ADEQ has a statutory obligation to remedy the chronic violations by El Dorado Chemical Company. While ADEQ is assessing minimal fines to El Dorado Chemical Company, it appears that the fines are only a cost of doing business and not a deterrent to future violations. ADEQ should have proven compliance from El Dorado Chemical Company prior to issuing a new permit. Failure to do so could result in legal action against ADEQ by a party with standing for failure to properly enforce A.C.A. Section 8-5-702.

i. Property values will be negatively impacted by the pipeline. This cost must be included in the cost analysis to determine if it is cheaper to upgrade treatment facilities or to pursue the joint pipeline.

j. Over time, the cost of treatment at the source will be substantially less than the cost of monitoring and remediation, both the natural environment and to humans. The permittee should be required to do a cost analysis prior to the issuance of this permit. This analysis should include an analysis of health impacts brought about in a real world scenario, i.e., with El Dorado Chemical Company's compliance record factored in, and not a scenario based on speculation.

k. The joint pipeline is corporate welfare. The three corporations discharging to the Ouachita River do not have to bear the costs for treating their waste water to an appropriate level with existing technology. These entities could pay for upgrading their treatment systems by passing the costs along to their customers. It is appropriate economics that the costs of the products produced by the applicants reflect the true cost of production and that cost of production not be subsidized by the citizens of El Dorado.

l. Removing flow from Bayou de Loutre will have a negative impact on that stream. Bayou de Loutre receives almost 6 MGD of water from Lion Oil Company and Great Lakes Chemical Company. Shortly after entering Bayou de Loutre, the bayou's wetlands have filtered the water to the point where aquatic life flourishes. Save the Ouachita supports using the natural wetland as it currently is operating to provide a filter for current discharges from Lion Oil Company and Great Lakes Chemical Company.

m. Lands through which the effluent will travel are mitigation lands set aside by the Corps of Engineers for the damage done to the Ouachita by the Ouachita River Navigation project. To now discharge the constituents listed in the permit, as well as those not listed, into this protected area would be in derogation of the purposes of Felsenthal and the promises made to the public.

n. The manner and process which is being used in this case is unique and precedent setting. ADEQ should not allow this as it allows those who want to disguise what they discharge to mix it in with what others in the permit are discharging. This results in a situation where responsibility cannot

be determined and an aggrieved party having no recourse. This is against public policy and the purposes of ADEQ. Each discharger should be held to the highest standard. Technology exists to clean up water we foul. However, the companies will not want to pay for it if they don't have to do so. El Dorado Chemical Company will pursue this permit with vigor to avoid having to expend the funds to improve and update its treatment facilities. However, they will not do so unless they are forced. It is a proper function of government, when public waters are impacted, to insure effluent that has been tainted or fouled is cleaned to the highest standard possible before being released into a public stream. The proposed permit does not accomplish this function.

o. There is no assurance in the permit that a violation will result in any remediation. If there is a violation, will it cause all four to have to cease discharge until the problem is fixed? For example, if one facility discharges a violating component into the pipeline, will the entire pipeline be shut off or will it continue to discharge and allow the illegal waste to go into the river? If the pipe is shut off, where will the discharge go? Sufficient study has not been done to determine these impacts.

p. The pipeline is only a temporary solution. This pipeline will not meet the demands of growth at the current permit levels. Given that the cost of upgrading the WWTP for the City of El Dorado has been reported as being close to the cost of the pipeline, it would be better to upgrade the WWTP in order to allow for future growth rather than relying on a short term fix.

q. The process is not sufficiently transparent. The four entities that propose to discharge to the Ouachita River have not revealed important aspects of this project. ADEQ should make the process as transparent as possible so that the public can make informed decisions. The public is being impacted since the pipeline will discharge to a public waterway and public funds from the City of El Dorado will be used for part of the pipeline.

r. ADEQ holds the public trust to insure those who are discharging into Waters of the State do not negatively impact those water bodies. ADEQ should set the standard for water quality so that the citizens of Arkansas can enjoy and use the waters as intended, not sewers. The proposed permit is strongly based on the concept of the solution to pollution is dilution. This concept was abandoned with the advent of the Clean Water Act and the environmental movements in the 1960's and 1970's. This proposed permit is a digression and is not in keeping with society's mandates of today. ADEQ holds a responsibility to raise the standards and require industry to comply. Do not allow them to seek the cheapest route (for industry) to a problem when that route is paid for by others.

s. Requested changes to sampling type and frequency changes:

1. Total phosphorous should be once/day and a 24-hr composite sample to avoid manipulation of the sampling time, etc. to meet the effluent limit;
2. Oil and Grease sample type should be 24-hr composite;
3. D.O. and pH concentrations should be continuously monitored;
4. Total Nitrogen should be included in the final permit at once/day, 24-hr composite sample; (see Item #18.t below)
5. FCB limits should be included rather than reporting; and
6. Dr. Randall stated that the CBOD5, TSS, and NH3-N sample types and frequencies should remain unchanged.

t. With respect to Total Nitrogen, it should be noted that each summer there is a very large hypoxic (low D.O.) area in the Gulf of Mexico off the coast of Louisiana resulting from nutrient loads brought to the Gulf by the Mississippi and Atchaflaya Rivers. Nitrogen is considered to be the primary nutrient of concern. Therefore, monitoring of nutrient discharges to tributaries of the two rivers should be implemented so that nutrient pollution concerns can be more knowledgeably addressed in the near future.

u. The metals as well as the chronic biomonitoring sampling and analysis should remain unchanged in the permit.

v. Save the Ouachita states that there is no question that restrictions contained in the proposed permit would be ignored, or at the very least, chronic violations would continue. El Dorado Chemical Company's plant is antiquated and in need of upgrade to meet the most liberal effluent limitations. Given that they are a chronic violator, it is clear that the company has no intention of treating their waste to a reasonable standard and seeks to pass their problem along to the Ouachita River. To award a permit to a chronic violator on the premise that there will be compliance strains credulity. The track record of El Dorado Chemical Company alone is sufficient grounds to deny the permit and the permit should be denied on these grounds.

w. Representatives from the City of El Dorado have said this issue is purely an economic one. They spoke of jobs and economic activity associated with the expansion of El Dorado occasioned by the pipeline and the ability of the current employers to remain in business. However, they did not speak about the negative economic impacts such as loss tourism and recreation dollars. It is not appropriate for ADEQ to place economic considerations above environmental ones. The proponents assertion that this is an economic issue clearly illustrates their lack of concern for the environment. It is the responsibility of ADEQ to insure that those impacts are removed before issuing a permit otherwise there are no safeguards for those affected by the effluent once it enters the river. If ADEQ feels it should engage itself in some economic process, it should make a full economic study part of the permit. If ADEQ finds that economics are not a factor to be considered, it should deny the permit as this was the sole basis relied upon by the proponents other than the admission by El Dorado Chemical Company that is was a chronic violator.

x. This unprecedented scenario presents more questions than answers. For example, if entity A increases the amount it discharges because of the dilution factor of the common pipe, and the pipe is shut off for a violation, will entity A be allowed to discharge a higher amount into its former stream? What if entity A cannot reduce its discharge to meet the old standard? If there is a violation and fines are imposed, will those fines be increased by a factor of 4 or will the 4 be treated as one? This is important because of the chronic violations of El Dorado Chemical Company. It may be cheaper for it to continue violating the permit because its financial exposure is now reduced. Save the Ouachita submits that any fines or other monetary assessments for violations should be sufficient in size to deter violations. To allow "splitting" the liability such that one entity actually reduces its financial exposure would be arbitrary and capricious.

y. Save the Ouachita has previously discussed the economic issue. In the long run it is cheaper to do the right thing than to have to fix problems. It will be cheaper and the entities will be more competitive in the long run if they increase their capacity to treat wastewater. When the statement is made that they will pass along their foul water to those downstream, it says that the community cannot compete.

z. This type of permit is unprecedented. Other communities have had to meet more stringent permits and limits. The Equal Protection Clause mandates that ADEQ require the proponents to meet the same standards as other similarly situated entities. It this is not done, ADEQ invites lawsuits from other Arkansas entities which it regulates, both prospective and retroactive, seeking a relaxation of the standard to that which is set forth in the permit.

RESPONSE #18

a. The ADEQ acknowledges this comment. The monitoring and reporting requirements for FCB have been included in the permit in lieu of numerical limits because El Dorado Water Utilities is the only entity involved in the pipeline which will discharge treated sanitary waste water. El Dorado Water Utilities does have numerical FCB limits in their individual permit. The ADEQ will reopen the permit if the FCB levels in the combined effluent warrant it. The sample type for Total Phosphorous has been changed to 24-hour composite. The permittee will have the opportunity to change the sample type to grab after the first 365 consecutive days of discharge if

it can be shown that the grab sample will adequately represent the phosphorous levels in the effluent. The sampling frequency for Total Phosphorous is once per day.

b. See Response #1.

c. The water quality based limits such as CBOD5 and D.O. were based on the D.O. model. Numerical FCB limits are contained in the individual permit for El Dorado Water Utilities. Monitoring and reporting requirements for FCB have been included in the other permits because those facilities will not be discharging sanitary wastewater to the joint pipeline. The FCB limits for El Dorado Water Utilities are based on Section 2.507 of APCEC Regulation No.2. The Ouachita River is not an Extraordinary Resource Water nor is it on the 303(d) list due to levels of FCB. Therefore the FCB requirements in the permits will be protective of water quality. ADEQ includes TSS limits in POTW permits based on 40 CFR Part 133. In accordance with 40 CFR 122.44(d)(1)(i), limitations must control all pollutants or pollutant parameters which the director determines are being discharged, or may be discharged, at a level which will cause or have the reasonable potential to cause or contribute to an excursion above any State water quality criteria, either numerical or narrative. Section 2.408 of APCEC Regulation No. 2 states "The receiving waters shall have no distinctly visible solids, scum or foam of a persistent nature..." TSS is a primary factor affecting turbidity. ADEQ acknowledges that APCEC Regulation does not contain any numerical water quality criteria for TSS. However, the TSS limitations were included in the permit in lieu of turbidity limits.

d. In regards to the request for an Environmental Impact Study, see Response #6.d. The joint pipeline permit does contain numerical mercury limits.

e. See Response #1. A Revised Nutrient Modeling Study was submitted on February 13, 2007, in response to the comments from LDEQ and ADEQ. Revisions to the model focused on the resegmenting of reaches 2 and 6, and on adjustment to reach channel geometry to provide more variation and to mimic the dimensions provided in the US Army Corps of Engineers HEC-RAS model. Detailed information concerning the revised channel geometry was provided in the report. Results of the revised modeling indicate that the dissolved oxygen standard is maintained under all modeled scenarios.

f. Section 2.106 of APCEC Regulation No. 2 contains the applicable definitions for Regulation 2. The final nutrient model report was submitted just prior to the end of the public comment period. (Please note that the comment period for the nutrient study was extended to July 21.) ADEQ is in compliance with Section 2.509 of APCEC Regulation No. 2. The State of Louisiana did not object to the Total Phosphorous limits. Whether or not the draft permit will be the subject of lawsuits from various groups in Louisiana and the State of Louisiana itself is not within the scope of the NPDES permit. Therefore, see Responses #1 and #2.a.

Page 20 of the Revised Nutrient Modeling Study estimates the downstream chlorophyll-a concentration for three critical (July – October) scenarios – (1) current condition with no discharge from the pipeline, (2) pipeline discharging maximum flow of 20 MGD where Total Phosphorous = 1 mg/l, and (3) pipeline discharging anticipated flow of 13.5 MGD where Total Phosphorous = 1 mg/l. The model predicts no net increase of chlorophyll-a concentration for the anticipated flow of 13.5 MGD. However, at the maximum flow of 20 MGD, the model does predict an increase in chlorophyll-a concentration. The Total Phosphorous concentration limits for the months of July – October have been reduced by the ratio of the flows (13.5:20 = 0.7) so there will be no net increase of chlorophyll-a concentrations. The Total Phosphorous concentrations for the months of July – October will be 0.7 mg/l on a monthly average and 1.4 mg/l on a daily maximum. The mass limitations have been changed accordingly.

g. See Response #2.a.

h. A review of the recent effluent data from El Dorado Chemical Company has shown that the facility has made significant strides in obtaining compliance. There is no reason to believe that El

Dorado Chemical Company will not continue to improve. Also, this is a new discharge point. All of the entities involved will be responsible for the discharge.

i. See Response #2.a.

j. See Response #2.a.

k. See Response #2.a.

l. The ADEQ cannot force a facility to continue discharging to a specific stream. Even if the ADEQ could deny a permit to discharge to a different receiving stream, the facility could decide then to haul the water off site for disposal at a different municipality's WWTP.

m. See Response #1. The Corps of Engineers was sent copies of the draft permits. They did not submit any comments.

n. Each of the entities involved in the joint pipeline will have to comply with the limits set forth in their individual permits. There will be sufficient data to determine the cause of an exceedance of permit limits in the joint permit.

o. Condition #4 of Part III of the joint pipeline permit requires the formation of a plan for notification and correction of any non-compliance with the terms and conditions of the permit. The pipeline will not necessarily be shut down because of an instance of non-compliance by one or more of the entities involved. Any instance of non-compliance will be studied on a case-by-case basis to determine the appropriate action to be taken by the ADEQ. If the pipeline is shut off, all entities, with the exception of El Dorado Water Utilities, will then discharge under their current outfalls at the levels permitted for those outfalls.

p. See Response #2.a.

q. ADEQ has made any information submitted regarding the pipeline available to the public as required under the Freedom of Information Act and will continue to do so.

r. See Response #1.

s. 1. Total Phosphorous sampling frequency is already set at and will remain once per day. The sample type will be changed to 24-hour composite. The permittee will have the opportunity to change the sample type to grab after the first 365 consecutive days of discharge if it can be shown that the grab sample will adequately represent the phosphorous levels in the effluent.

2. 40 CFR 122.21(g)(7)(i) requires that grab samples, not composite samples, be taken for Oil and Grease. The sample type for Oil and Grease will therefore remain "grab."

3. The D.O. and the pH concentrations will not be required to be continuously monitored. There is no justification for such a requirement at this time. The ADEQ will have the right to reopen the permit to require continuous monitoring of D.O. and pH should new information become available.

4. The individual permit for El Dorado Chemical Company contains numerical limits for Nitrate Nitrogen as N. El Dorado Chemical Company is the only entity involved in the pipeline expected to discharge this parameter in measurable amounts. Therefore a numerical limit in the joint permit is not necessary.

5. See Response #18.a in regards to the request for numerical FCB limits in the joint permit.

6. The CBOD5, TSS, and NH3-N sample types and frequencies will remain unchanged.

t. The joint permit contains numerical limitations for Ammonia-Nitrogen and Total Phosphorous in accordance with Section 2.509 of APCEC Regulation No. 2. In regards to total nitrogen, please see Response #18.s.4.

u. The CBOD5, TSS, and NH3-N sample types and frequencies will remain unchanged.

v. See Response #1.

w. See Response #2.a.

x. Great Lakes Chemical Company – Central Plant, Lion Oil Company – El Dorado Refinery, and El Dorado Chemical Company will retain their current outfalls in their individual permits. El Dorado Water Utilities will be allowed to discharge through the pipeline even if the other three entities' permission to do so is revoked. The limits in the permits for those outfalls are not

changing at this time. Enforcement action may be taken against any facility which is required to go back to using their old outfalls but cannot meet the permit limits. The method for assessing monetary penalties will be determined on a case-by-case basis. Any economic benefit which may have been gained by not complying with the permit will be used in helping to calculate the amount of the penalty.

y. See Response #2.a.

z. See Response #1.

ISSUE #19

Clyde Temple

a. Mr. Temple believes that the future of the Ouachita River is gravely threatened and that the threat is due to the proposed pipeline. If enacted, the pipeline will set a dangerous precedent in the State of Arkansas and possibly nationwide. He stated that the only reason for the pipeline was that it is the cheapest option available to the participating entities.

b. The problems that the pipeline is supposed to resolve have been created by the City of El Dorado and El Dorado Chemical Company. The City of El Dorado has frequently violated their permit, especially in the winter months. In addition, ADEQ has actually assisted Great Lakes Chemical Company [sic] by issuing them a permit to discharge to the river before the pipeline has been constructed. El Dorado Chemical Company has a long history of permit violations as outlined in two Consent Administrative Orders (CAOs). The actions by ADEQ allow the company to continue to operate with impunity and actually extend their period to come into compliance with its permit limitations.

c. The actions described in Issue #19.b are very serious in nature and should be investigated by the EPA or other government agency. Additionally, some of the ADEQ staff and officials from the City of El Dorado met at ADEQ to discuss what actions would be necessary to come into compliance. This was a closed to the public meeting and a clear violation of the Freedom of Information Act. It is Mr. Temple's opinion that the authority afforded to the Director under APCEC Regulation No. 8 has been abused.

d. The APCEC is equally irresponsible in approving the actions of the director and approving regulations that fail to adequately protect the air and water all in the name of "economic development" at all costs. These economic development committees often fail to recognize the long term effects of their industrial recruitment and support for industries. The El Dorado pipeline is a prime example of this fallacy. Mr. Temple wrote a letter to the editor of the El Dorado paper which he requested be made part of his comments for the record (See Issue #19.m). As the City of El Dorado adopts rules and ordinances expecting its citizens to obey or be fined, why should they feel that they are exempt from the rules or laws from state and federal agencies?

e. On January 27, 2005, a letter was written to Loretta Reiber, P.E. asking several questions about the proposed pipeline project. Thus far, only an e-mail dated April 13, 2006, has been received. Mr. Temple requested that these letters be made part of the official response (See Issue #19.n).

f. The pipeline will require a 404 permit from the Corps of Engineers. In three different conversations with the Vicksburg office of the Corps of Engineers, Mr. Temple was told that they had never heard of the project and no application for a 404 permit had been received.

g. Mr. Temple stated that he was told that ADEQ does not require that the route of the pipeline be given or any particulars on the construction materials. Who is responsible for the safety of the pipeline and who is responsible for possible spills from various causes? If the pipeline crosses similar terrain to the intake from the Ouachita River, the project should require a 404 permit and justifies that an Environmental Impact Study be performed.

h. It would seem that common sense dictates that the City of El Dorado does not have the power of eminent domain of condemnation power over the right of way for the pipeline. It should be noted

that news reports continue to say that the exact route has not been determined and no land has been bought.

i. An underground pipeline containing both chemicals and municipal waste water poses a potential hazard to people, domestic animals, wildlife, and possible contamination of the land, probably resulting in costly lawsuits and interruptions of service to users of the pipeline. Another primary objection to the pipeline is the location of the discharge point on the bottom of the river. This can result in costly engineering designs and construction costs associated with the stabilization of the line during periods of high flow and backup of effluent within the line caused by pressure from high flows.

j. The applicants should reconsider if the pipeline is indeed the most economically method of disposing of their wastewater. The permits with reopener clauses seem to be a "trial and error" approach, not supported by studies by water biologists with nor relationship to ADEQ. Dr. Clifford Randall has prepared memorandums which were paid for by Save the Ouachita. It has been reported that the USF&WS as well as the AGFC have "serious concerns" about the project and its impact on the Felsenthal National Wildlife Refuge and its ecosystems.

k. Public opinion against the pipeline has literally snowballed since the public hearing in El Dorado produced more questions than answers. The City of El Dorado can ill afford to make a mistake on this issue. The city is embarking on an aggressive economic program that counts the Ouachita River as one of its positives as "quality of life" and a plus for industrial development. The potential harm to the Felsenthal National Refuge can cause the loss of millions of dollars in tourist revenues along with expenditures on hunting, fishing, and water recreation equipment.

l. Due to the nature of its primary industries, the City of El Dorado has a less than enviable reputation as a city with an excellent quality of life. This perception is long standing in nature as exemplified in the Environmental Quality Index published by the Arkansas Wildlife Federation in 1988.

m. Mr. Temple's letter to the editor of the El Dorado News-Times raised the same economic issues he raised in other comments to ADEQ as well as complaints about the enforcement from ADEQ and EPA.

n. The questions in the January 27, 2005, letter are as follows:

1. Where will the pipeline be located and does the city have right of way clearance in all instances? If not, what properties remain to be bought or condemned?
2. Are there any endangered species affected by the project, both in the pipeline right of way or in the river?
3. Are there any wetlands located in the pipeline right of way? If so, does the city have a drain and fill permit from the Corps of Engineers?
4. What safeguards are built into the pipeline design to protect it from natural disasters? Are there contingency plans to cope with accidents that may breach the pipeline such as accidental damages caused by other construction or utilities?
5. Will the pipeline cross over or under similar structures belonging to other entities such as rural water associations, and oil and gas pipelines?
6. Were the flows for the effluent limits for the permits determined before or after withdrawals from the "Panda" were calculated? These withdrawals will affect flows, especially during the summer months when the river is at low flow. While Mr. Temple realizes the water quality standards factor in these flows, was the "Panda" factor entered into the equation when the limits were determined?
7. When, where, and by whom were the toxicity tests currently being used performed?

RESPONSE #19

a. See Response #1.
b. See Response #1. A review of the recent effluent data from El Dorado Chemical Company has shown that the facility has made significant strides in obtaining compliance. There is no reason to believe that El Dorado Chemical Company will not continue to improve. Also, this is a new discharge point. All of the entities involved will be responsible for the discharge.
c. Any information concerning meetings that the ADEQ has had with any permittee is available through the Freedom of Information Act. The ADEQ has not refused any requests for documents that the public may obtain under the Freedom of Information Act.
d. See Responses #1 and #2.a.
e. The e-mail sent to Mr. Temple on April 13, 2006, was in response to a phone call Mr. Temple had made to Loretta Reiber asking for the layout of the proposed pipeline. This e-mail was not in response to any of the letters which Mr. Temple had submitted to the ADEQ.
f. See Response #2.a.
g. El Dorado Water Utilities is the owner and operator of the pipeline. In regards to the reference an Environmental Impact Study, see Responses #6.d. The permittee is aware of the need to contact the Corps of Engineers to determine if additional permits are necessary.
h. See Response #2.a.
i. See Response #2.a. The ADEQ does not require that all necessary permits from the Corps of Engineers be obtained prior to issuance of a final NPDES permit.
j. See Response #2.a. The ADEQ acknowledges the sentence concerning the AGFC and the USF&WS.
k. The ADEQ acknowledges this comment.
l. See Response #2.a.
m. See Response #2.a.
n.
    1. See Response #2.a.
    2. No comments regarding endangered species have been received.
    3. The route of the pipeline has not yet been finalized. Therefore, no information concerning wetlands which may be crossed is available. The permittee is aware of the need to contact the Corps of Engineers to determine if additional permits are necessary.
    4. Natural disasters which normally occur in Arkansas should not affect the pipeline. If the pipeline is damaged by other construction or utilities, the facilities would then need to revert to the outfalls which are currently in use.
    5. See Response #2.a.
    6. The ADEQ has based the 7Q10 of 750 cfs on data from the time period of 1982 – 2001. This data was obtained in a letter from the USGS dated September 18, 2005.
    7. The toxicity tests are performed using a composite sample composed of effluent collected at each of the individual facilities. The samples were collected and tested using a laboratory which has been certified by the ADEQ.

ISSUE #20

Arkansas Game and Fish Commission (AGFC)

a. The AGFC strongly supports the monitoring requirements included in the draft permit and would like to ensure that these requirements remain in the permit. However, they would like to see the permit require that D.O. and pH be continuously monitored with instrumentation rather than grab samples. Also, total phosphorous levels should be monitored using 24-hr composite samples rather than grab samples.

b. The 7Q10 flow rate of 750 cfs that was used to calculate the discharge limitations in the draft permit is incorrect. The correct 7Q10 for this section of the Ouachita River is 648 cfs as determined from USGS stream flow gauging station 0736200 during the regulated period of record from 1970 – 2004. Also, flow rates for NPDES permits on regulated rivers are determined on a case-by-case basis. The Corps of Engineers design plans state that the "minimum design flow" for the H.K. Thatcher Lock and Dam is 600 cfs during low flow periods. AGFC suggested that the flow rate of 600 cfs be used in determining the permit limits.

c. The breakdown of discharge limitations for CBOD5 and NH3-N do not reflect typical seasonal flow variation on the Ouachita River. The seasons should be June – November and December – May so that November is included in the low flow period. Historical data shows that November is typically a month with low flow conditions and that approximately 80% of the flow occurs from December – May. Consideration should also be given to correlating proposed effluent discharge quantity directly to river flows at any given point in time as opposed to the draft permit's approach of seasonal high and low flow discharge limitations since historical data shows that low flow conditions can occur even in mid-winter when the draft permit would authorize high effluent discharge quantities.

d. The Ouachita River is on the 303(d) list for Zinc. Flat Creek, the current receiving stream for El Dorado Chemical, is also on the 303(d) list for Zinc contamination from industrial point sources. A section similar to the one for mercury discharge limitations should be included in the joint permit to address the Zinc discharges.

e. AGFC strongly supports numerical criteria, especially concentration limits, on nutrients in NPDES permits. They would like to ensure that these standards remain in the permit. They are concerned, however, that the limits given in the draft permit are too high to be meaningful as they will allow the discharge of almost 61,000 pounds of total phosphorous per year based on the monthly averages. On what data were the concentration limits based? Are there EPA nutrient eco-region background concentration data for the Ouachita River that were used in developing these limits? With a discharge of 20 MGD and given the economic, ecological, and socio-cultural value of the Felsenthal Reservoir, this proposed pipeline project meets all three major criteria listed in Regulation 2 for the reduction of the phosphorous concentrations below 1.0 mg/l. AGFC recommends a phosphorous concentration of less than 1 mg/l be placed in the permit.

f. AGFC commends ADEQ for including concentration limitations for NH3-N and would like to ensure that those limits and the accompanying mass limits remain in the permit. AGFC is concerned about the current limits because it would allow almost 832,000 pounds per year of ammonia to be discharged to the Ouachita River. This seems excessive and could have adverse impacts on the Felsenthal Reservoir such as expansion of macrophyte coverage and increase BOD5 demand in backwater areas.

g. The draft permit does not contain limits for nitrates. AGFC is concerned about the historically severe water quality problems caused, in part, by nitrates, that El Dorado Chemical Company and the City of El Dorado. Nitrates, along with phosphorous and ammonia, may contribute to the eutrophication of the Ouachita River and potentially lead to adverse effects on the Felsenthal Reservoir. The joint pipeline discharge permit should include appropriate monitoring for nitrates as well as mass and concentration limits for nitrates.

h. Approximately 75% of the 15,000 acre permanent pool of the Felsenthal NWR is completely covered by aquatic vegetation by mid-summer. This vegetation consists primarily of fanwort and various species of duckweed. Both of these species derive the nutrients needed for growth and expansion from the water column. GBMc and Associates contends that water borne nutrients do not contribute to plant growth. This assertion is incorrect. The aquatic plant species used in the modeling simulations was Myriophyllum, which obtains its nutrients from the sediment and the water column. However, myriophyllum is not one of the common species present in the Felsenthal Reservoir. Given that fanwort obtains its nutrients from the water column, the net addition of 60,882 lbs/yr of phosphorous and 831,962.75 lbs/yr of ammonia-nitrogen is likely to

increase the coverage of aquatic vegetation in the Felsenthal. AGFC sampling data show that the areas covered in aquatic vegetation are almost devoid of sport-fish species. Therefore, any increase in coverage of aquatic vegetation resulting from this pipeline would not only inhibit access for sportsmen who use this resource, but would also be considered habitat degradation and a direct violation of multiple sections of APCEC Regulation No. 2, including, but not limited to, Sections 2.102, 2.402, and 2.509. The AGFC suggests that the AQUATOX modeling study conducted by GBMc and Associates is inadequate and will not accurately assess the potential for macrophyte expansion in the Felsenthal Reservoir due to the absence of the appropriate macrophyte species in the model and the small number of samples on which the model calibrations were based. The AGFC opposes any action that may inhibit access to fisheries resources and degrade fish habitat. Sufficient evidence proving that these negative effects will not occur as a result of this pipeline has not been presented.

i. Currently, fish die-offs occur every summer due to low levels of D.O. in the backwater areas of the Felsenthal Reservoir. Low D.O. levels are a result of the eutrophic condition of this reservoir where large algal blooms and high densities of decaying aquatic plants create a huge BOD demand. The addition of more nutrients at the levels listed in the draft permit are likely to increase the algal densities and aquatic plant growth. This could lead to additional severe and widespread D.O. depletion and result in population level impacts to a number of sport fish species.

j. Modeling studies by GBMc have been both insufficient and inadequate in determining what potential impacts that this pipeline project could have on aquatic life both in the Ouachita River near the discharge point and in the Felsenthal Reservoir. The model used to assess potential effects on macrophytes, AQUATOX, does not include the appropriate species for analysis. The QUAL2K model that was used to assess the potential water quality effects of the proposed pipeline on the Ouachita River does not adequately represent temporal variability in total phosphorous levels and therefore has limited use in assessing the potential for eutrophication in the Ouachita River below the proposed pipeline outfall. An insufficient quantity of data has been collected to accurately calibrate any of the models that have been run by GBMc. The interim report contained model calibrations that were not truly representative of the system. Further, no baseline water quality data exists for this stretch of the Ouachita River. Without this data, it is impossible to predict potential impacts. LDEQ has stated that their modeling suggests that there is little reserve capacity for the assimilation of nutrients in the Louisiana stretch of the river. There is no evidence to suggest that this is not the case in the reach of the river downstream of the proposed outfall. Much more extensive data collection and modeling are needed before any potential impacts from this pipeline can be determined and thus before this permit should be issued.

k. The lower Ouachita River is one of the most popular and ecologically and socio-culturally significant aquatic resources in Arkansas. Due to these factors, AGFC requests that an Environmental Impact Study (EIS) be required for the permit applicants before a permit is issued. This is warranted under the National Environmental Policy Act (NEPA) because of the federal actions involved in this project. The review of the draft permits by the US EPA should require NEPA action and the additional threat to federal trust resources provided to the public as mitigation for the Ouachita-Black Rivers Navigation Project further substantiate the need for a formal EIS by the permit applicants before this permit is issued. There is precedence in EPA Region VI for an EIS to be required for a NPDES permit (Federal Register ER-FRL-6651-5 2004).

l. AGFC questioned if this was the most economically feasible alternative. Comments by the City of El Dorado make it seem as though there would be other more cost effective alternatives. Also, El Dorado Chemical Company has stated that they are making improvements at their facility. If so, they should have no problem meeting the NPDES requirements for continued discharge to the

unnamed tributary of Flat Creek and have shown evidence themselves that there are other economically feasible alternatives to the proposed pipeline.

RESPONSE #20

a. See Responses #18.s.1 and #18.s.3.

b. The 7Q10 of 750 cfs used in the draft permit for the Joint Pipeline discharge and in the nutrient modeling study is accurate for the period of record utilized (climatic data years 1982-2001), and is the same flow utilized by ADEQ in their desktop model completed for this project in its early stages. The actual 7Q10 calculated for the Camden gauge (No. 07362000) was 745 cfs and it was rounded up to 750 cfs to account for additional inflows between the Camden gauge and the Thatcher Lock and Dam (GBMc Memorandum dated March 16, 2005).

The 1982-2001 period of record was chosen as it reflected the most current 20 years of USGS approved flow data (no preliminary data was used) available from the Camden gauge at the time the original dissolved oxygen model was run for the project in late 2002. In addition, the 1982 beginning data year approximated the time that the Thatcher Lock and Dam and the Felsenthal Lock and Dam were constructed, so the time period selected more accurately reflects current operational conditions in the river reach of concern. Both the Thatcher and Felsenthal lock and dams currently operating in the lower Ouachita River were not completed until 1984 (personal communication with USACE Vicksburg District personnel).

Lastly, the 7Q10 of 750 cfs at the Camden gauge is consistent with the 7Q10 calculated at the state line (802 cfs) and used in the Ouachita River TMDL completed by LDEQ (LDEQ, 2002, 2006). The 7Q10 flow of 648 cfs proposed by the AGFC and the USF&WS in their comments on the draft permit was calculated by the USGS using a different period of record to that calculated by GBMc. The USGS 7Q10 was based on data dating back to 1970 and extending to 2004. That time frame predates the construction of the Thatcher and Felsenthal lock and dams as they exist today.
Based on this documentation, the 750 cfs is an appropriate 7Q10 flow for the reach of the Ouachita River of concern and should continue to be utilized.

c. The primary and the critical seasons were based upon their definitions in Section 2.106 of APCEC Regulation No. 2. The permit limits were based on the 7Q10 of the Ouachita River upstream of the discharge point and an instantaneous maximum effluent flow of 20 MGD. Therefore since the permit limits are already based on the low flow of the river and the maximum effluent flow, it is not necessary to place a ratio of effluent flow to the river flow in the permit.

d. A section for Total Recoverable Zinc will be added to Item #7.a of the Fact Sheet.

e. Based on information submitted to the ADEQ by AGFC and USF&WS, total phosphorus mass limits and concentration limits have been included in the permit. These mass limits were calculated using a flow of 20 MGD and concentrations of 1 mg/l for a monthly average and 2 mg/l for a daily maximum for the months of November – June. The concentrations for the months of July – October have been set at 0.7 mg/l for a monthly average and 1.4 mg/l for a daily maximum. The limitations for the months of July – October have been based on the Revised Nutritent Modeling Study, pages 13 and 20. See #12.C of the Fact Sheet for the formula used to calculate the mass limitations. There were no EPA nutrient eco-region background concentrations used in developing the permit limits for Total Phosphorous. The portion of Section 2.509 to which the commenter is referring is applicable only to those streams which are listed on the 303(d) list with phosphorous as the major cause. The Ouachita River is not on the 303(d) because of phosphorous levels.

Page 20 of the Revised Nutrient Modeling Study estimates the downstream chlorophyll-a concentration for three critical (July – October) scenarios – (1) current condition with no discharge from the pipeline, (2) pipeline discharging maximum flow of 20 MGD where Total Phosphorous = 1 mg/l, and (3) pipeline discharging anticipated flow of 13.5 MGD where Total Phosphorous = 1 mg/l. The model predicts no net increase of chlorophyll-a concentration for the anticipated flow of 13.5 MGD. However, at the maximum flow of 20 MGD, the model does predict an increase in chlorophyll-a concentration. The Total Phosphorous concentration limits for the months of July – October have been reduced by the ratio of the flows (13.5:20 = 0.7) so there will be no net increase of chlorophyll-a concentrations. The Total Phosphorous concentrations for the months of July – October will be 0.7 mg/l on a monthly average and 1.4 mg/l on a daily maximum. The mass limitations have been changed accordingly.

f. The NH3-N concentration and mass limits will remain in the permit. The NH3-N limits were based on the D.O. model. The toxicity criteria contained in Section 2.512 of APCEC Regulation No. 2 was examined. However, the NH3-N limits obtained from this section of Regulation No. 2 were determined to be less stringent than those obtained from the water quality model. Therefore the results from the water quality model were used as the permit limits. Average monthly and daily maximum mass limitations have been included based on 40 CFR 122.45(d)(1).

g. See Response #18.s.4.

h. The Final Report on the Ouachita River and Felsenthal Nutrient Modeling Study (GBMc & Associates, June 1, 2006), hereafter referred to as the Nutrient Study, includes a detailed discussion of Macrophyte Ecology (Sec. 5.0) according to the current scientific literature. This discussion contends that submerged aquatic vegetation (SAV), including Cabomba are "...opportunistic..." and can obtain their nutrients from the most readily available source, be it from the sediments or the water column. Results of the literature review indicate that sediments in shallow lakes generally provide a more consistent source of biologically available forms of the nutrients needed by SAV. These biologically available nutrients occur overwhelmingly as dissolved inorganic phosphorus (DIP) and dissolved inorganic nitrogen DIN (ammonium and nitrate). Water column dissolved nutrient levels are typically very low in shallow lakes, including Felsenthal (see Table 4.3 in the Nutrient Study) as any releases of biologically available nutrients to the water column from the sediments or from tributary inflows are quickly utilized by phytoplankton and epiphytic algae which have the advantage in utilization of water column nutrients. However, DIP and DIN are routinely released to the pore water spaces in lake sediments, as a result of reducing conditions, and provide ample biologically available forms of nutrients for SAV root uptake and use for growth. These sediment nutrients are continually recycled by the annual death and deposition of the aquatic plant material to the lake bottom which release the nutrients back to the water and sediments during decay.

Eutrophication modeling of the Crooked-S Slough area of Felsenthal was completed using the conservative assumption that the nature of the nutrients exiting the pipeline did not change appreciably during the multi-day time of travel into the backwaters of Felsenthal (Sec. 6.2.1.4). This means that for DIP, nitrate and ammonia[1] the model assumed no "...assimilation, settling or conversions to other chemical forms that may occur during the multi-day transport down the river". According to the results of the Critical Conditions QUAL2K modeling (Figure 1) nearly all of the DIP and ammonia (which is the preferred form of nitrogen to plants) from the pipeline discharge has been assimilated (either as phytoplankton biomass or in conversion to other nutrient forms) by the time the effluent in the river reaches the Highway 82 bridge (OUA-2). This being the case, very little, if any inorganic phosphorus or ammonia[1] (ammonium) would be expected to enter the backwaters of Felsenthal during low flow conditions to be available for either phytoplankton or SAV.

[1] Ammonia concentration/load was assumed to decrease by one half prior to entering the Crooked-S Slough.

Considering that there are ample nutrients in the backwater sediments in Felsenthal to sustain the SAV communities and that little to no DIP and ammonia are expected to reach the backwater lakes of concern it is unlikely that additional SAV growth will occur as a result of the Joint Pipeline discharge. In reality it is more likely that the factor limiting SAV proliferation is not nutrient availability but light penetration to favorable substrates. Thus, where the backwaters are shallow and clear enough to allow SAV growth they are already full of SAV.

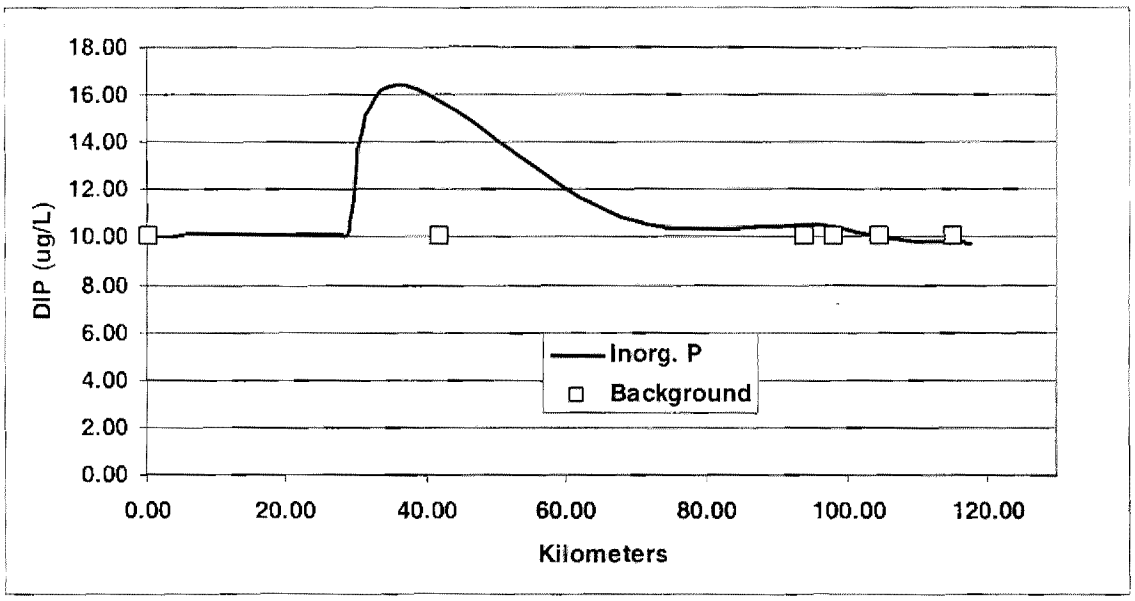


Figure 1. Inorganic phosphorus in Ouachita River. OUA-2 is at kilometer point 98.

In regards to the concerns over the use of Myriophyllum as a surrogate for Cabomba; apart from Hydrilla which was also modeled in the Nutrient Study using AQUATOX, Myriophyllum is the only other SAV available in the AQUATOX plant library. It is unfortunate that AQUATOX does not specifically support Cabomba or that another growth model specific to Cabomba is not currently available. However, the use of AQUATOX was verbally agreed upon during the June 2005 meeting at ADEQ as there was no better option for modeling SAV growth.

Recall that the study Workplan (GBMc & Associates, June 29, 2005) called for only two summer sample events for SAV biomass, one early in the study and one late in the study to represent peak macrophyte growth in Felsenthal. The Workplan was reviewed and approved by ADEQ, AGFC, and USF&WS prior to its implementation. However, the pipeline group, at the request of GBMc, agreed to fund an additional winter/spring sampling trip to improve model calibration. Data collected during this field trip was presented in the AQUATOX and WASP model calibrations in the Interim Report and the final Nutrient Study. A revised modeling study was submitted to ADEQ on February 13, 2007, in response to comments from ADEQ and LDEQ.

i. An increase in aquatic plant biomass should not be expected to result from the pipeline discharge according to the modeling and the macrophyte ecology review. Increases in phytoplankton biomass are possible according to the WASP modeling. However, the modeling indicates that the predicted phytoplankton biomass increase will have no negative impacts on the dissolved oxygen in the backwater areas. In fact, the additional phytoplankton biomass generally appear to provide a net increase in oxygen (though insignificant) to the system according to the WASP modeling.

j. The purpose of the nutrient study, as described in the approved workplan, was to determine effects of the joint pipeline discharge on water quality in the Ouachita River and Felsenthal

NWR. The study shows that the discharge from the joint pipeline meets all current water quality criteria, including those established to protect aquatic life. The QUAL2K model is a steady state model which cannot mimic water quality temporal variability. The QUAL2K model can however accurately simulate worst case conditions in the Ouachita River which are expected to occur during the hot summer dry period when the Joint Pipeline is discharging at full capacity. This scenario was examined in detail as part of the Nutrient Study (Scenario 1, Sec. 6.3). To calibrate the QUAL2K model data was collected from several Ouachita River stations on four separate occasions spread over a six week period during the summer of 2005. This amount of sampling is in excess of that typically completed for such regulatory studies and sufficient to depict normal summer nutrient variability that exists in the river under similar flow conditions. The EPA guidance for such studies recommends that an intensive survey include two to four days of sampling and in-situ measurements from each station (EPA, 1986 and EPA, 1997).

In reference to the comment that the "...Interim Report (April 13, 2006) contained model calibrations that were not truly representative of the system", the following excerpt from the response to comments on the Interim Report (June 16, 2006) is provided.

Model calibration is an approximation of actual or real data. The calibration for chlorophyll-a follows the basic shape of the observed data curve. At some points it under predicts and at some points it over predicts. The same is true for dissolved oxygen. The WASP model predicts average daily water quality for each constituent; it is not intended to predict the lowest value possible or the highest value possible in a given day. In the case of dissolved oxygen many factors influence the predictions from the model over the course of the annual cycle including temperature, inflow rate from the river, sediment oxygen demand, photosynthesis, respiration, CBOD decay, etc. However, the models ability to predict changes in water quality from potential constituent loading increases, as was the focus of this study, remains robust. Detailed dissolved oxygen data is provided in the final report which will help to answer many of the concerns over oxygen levels in Felsenthal.

The AQUATOX model is one of the few models available that is capable of modeling macrophyte growth. It is based on the most current science available and is the only model supported by EPA that will predict macrophyte growth. It was calibrated to a limited data set so its ability to perfectly mimic annual growth cycles may be limited. The AQUATOX model's ability to predict differences in biomass caused by changing variables (water quality, temperature, light, etc.) should not be compromised by the limited field data set.

To address the concerns over the perceived elevated dissolved oxygen levels predicted by the calibrated WASP model, another calibration was completed by which sediment oxygen demand was increased and depth decreased such that the model predicts summertime average dissolved oxygen levels below 2.0 mg/L. When the joint Pipeline discharge is added to this model run the oxygen levels react in the same manner they did for the previous calibrated model (appearing in the Nutrient Study final report) displaying no negative impacts to the dissolved oxygen levels (Figure 2.)

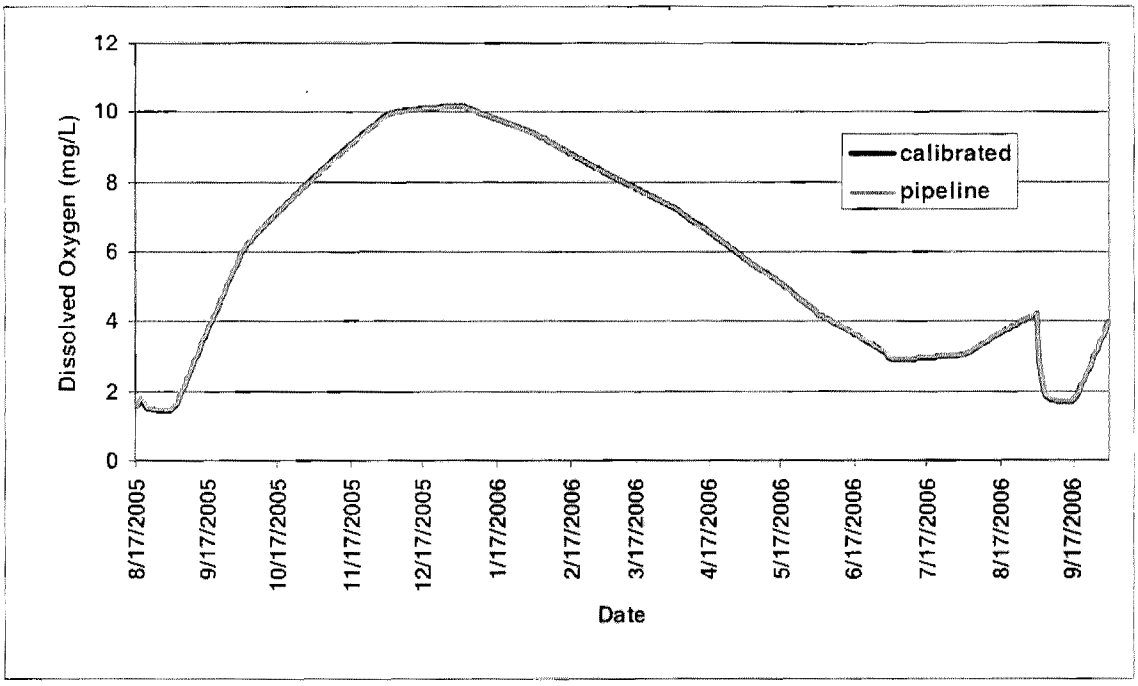


Figure 2. WASP model predictions for dissolved oxygen reflecting adjusted water depths and Sediment Oxygen Demand (SOD) to intentionally depress dissolved oxygen levels.

k. See Response #6.d.
l. See Response #2.a.

ISSUE #21

State of Louisiana

a. In a letter dated June 20, 2006, the LDEQ requested that the draft pipeline permit not be issued in order to allow adequate time for all interested parties to review and comment on the final nutrient modeling report. LDEQ anticipates that the modeling report will provide information that will enable a more accurate determination of the discharge on the Felsenthal Reservoir and the lower Ouachita River. Alternatively, LDEQ requested that ADEQ extend the comment period at least 30 days past the date that the final modeling report becomes available for review.

b. In a letter dated May 22, 2006, the Louisiana Department of Culture, Recreation, & Tourism requested that ADEQ extend the public comment period for 30 days after the final modeling report is submitted. No meaningful interpretation of the impacts of the proposed discharge can be made until the final report is complete and has been reviewed by numerous qualified parties.

c. In a letter dated May 22, 2006, the Louisiana Department of Wildlife and Fisheries (LDWF) stated that the upper Ouachita River in Louisiana is a designated Natural and Scenic River which has prompted their concern regarding the proposed pipeline. LDWF must determine if the proposed activity poses a potential for significant ecological degradation to a system river. Given their statutory responsibility and the nature and extent of this proposed project, LDWF sees no alternative but to object this proposal having been provided only limited information and an interim report. LDWF respectfully requests that they be provided with a final and complete modeling report and ample time to review and comment on such report.

d. **Ms. Emily Comier** made the following oral comments during the public hearing:

I am representing the Louisiana Department of Environmental Quality. I have a written letter to submit to you. We just want to enter into the record, that first of all that we appreciate the opportunity to comment on this proposed permit and we appreciate your consideration of our concerns thus far. We are concerned about the potential impact with the nutrient loading in the Ouachita River in Louisiana. At this point and time we feel like we have inadequate information upon which to make detailed comments. Therefore, we are asking for an extension of the comment period. We will reserve our judgment until we see the final modeling report. We appreciate the opportunity again and we look forward to reviewing that report. Thank you.

RESPONSE #21

a. ADEQ agreed with this request and extended the deadline for comments on the final nutrient modeling. A Revised Nutrient Modeling Study was submitted on February 13, 2007, in response to the comments from LDEQ and ADEQ. Revisions to the model focused on the resegmenting of reaches 2 and 6, and on adjustment to reach channel geometry to provide more variation and to mimic the dimensions provided in the US Army Corps of Engineers HEC-RAS model. Detailed information concerning the revised channel geometry was provided in the report. Results of the revised modeling indicate that the dissolved oxygen standard is maintained under all modeled scenarios.
b. See Response #21.a.
c. See Response #21.a.
d. See Response #21.a.

ISSUE #22

United States Department of the Interior, Fish and Wildlife Service

a. The Felsenthal NWR receives high public use with visitation of over 500,000 reported in 2005. The high level of public use of the Felsenthal NWR provides a substantial economic value to the area.
b. The permittees currently discharge into multiple tributaries of the Ouachita River. Directing current discharges to multiple receiving streams and combining the discharge directly into the river could affect the assimilation capacity of pollutants that would normally be reduced before discharging into the main stem of the river. Concerns from the USF&WS are based on multiple uncertainties regarding the permit and its potential effects to fish and wildlife downstream of the discharge. Due to those concerns, the USF&WS requests that ADEQ deny the permit at this time so that a comprehensive Environmental Impact Study and Cost/Benefit Analysis can be completed and reviewed by all stakeholders.
c. The USF&WS strongly supports the monitoring requirements for each permittee as well as the requirements for the joint pipeline. Due to the diverse nature of the discharges that occur from each permittee and the historical exceedances of multiple criteria from some of the individual permittees, it is essential to require individual and joint discharge monitoring.
d. The reported 7Q10 of 750 cfs differs from the value of 648 cfs provided by the USGS from their stream flow gauging station (0736200) on the Ouachita River at Camden. The reported 7Q10 value in the permit needs to be addressed in context to the USGS data since use of the lower value would affect discharge limitations in the permits.
e. The USF&WS expressed concern that the mercury limitations in the joint pipeline permit were above the criteria listed in Regulation 2. They also stated that the MQL listed in Part III is above both the criteria listed in Regulation 2 and the permit limitations. Mercury is persistent and will

bioaccumulate into an aquatic system where all life forms can be adversely impacted. Although the permittees do not appear to have previously exceeded any mercury criteria, it is not known whether the quantification limits were based on criteria that were protective of chronic aquatic life standards. A review of the NPDES permits during the development of the TMDL for the lower Ouachita River indicate that clean sampling procedures and ultra trace analysis were not used historically for any facility which would indicate an inability to detect mercury at the chronic aquatic life criteria. In addition, since the lower Ouachita River and the Felsenthal National Wildlife Refuge are already listed as impaired for mercury and impacts to fish and wildlife are already occurring, this would suggest that no allocation should be allowed for a persistent and bioaccumulative contaminant.

f. The ammonia limits may not be protective of aquatic resources. The 7Q10 of 750 cfs should actually be 648 cfs as discussed in Issue #33.d. The values for ammonia based on the criteria in Regulation 2 should then be 2.37 mg/l and 5.86 mg/l when early fish life stages are present and not present, respectively.

g. The calculation of water quality criteria does not currently take into consideration the sensitivity of freshwater mussel species. Multiple publications have demonstrated that freshwater mussels are several times more sensitive to ammonia than standardized test organisms used to derive aquatic life criteria. Based on mussel data collected from the Ouachita and Saline Rivers and the Felsenthal National Wildlife Refuge, the refuge has the largest population of mussels with approximately 1.6 million individuals. On the refuge, there were 23 genera of mussels representing 35 species with six of the species considered to be vulnerable in their population distribution in Arkansas and/or globally. While the Service recognizes that the current re-evaluation of ammonia is not finalized, ADEQ should consider freshwater mussels in the context of setting ammonia standards that will not jeopardize the large and diverse mussel populations present in the lower Ouachita River and the Felsenthal National Wildlife Refuge.

h. APCEC Regulation No. 2 states that total phosphorous limits shall not exceed 1 mg/l for facilities discharging between 3 and 15 MGD. Dischargers greater than 15 MGD will be evaluated on a case-by-case basis. The pipeline will be permitted to discharge 20 MGD and have total phosphorous limits of 1 mg/l on a monthly average and 2 mg/l on a daily maximum. The current allocation would appear to be inconsistent with the language contained in Section 2.509 of APCEC Regulation No. 2 which states that limits may need to be reduced under 1.0 mg/l where there are downstream water bodies such as lakes/reservoirs which is currently the case below the proposed discharge point. The current discharge limit should also be reevaluated due to the monitoring data that suggests possible impairment is already occurring due to elevated phosphorous concentrations.

The increase in nutrient loading from the proposed pipeline has also raised concerns regarding the potential to impact aquatic macrophyte growth downstream and especially on the Felsenthal NWR. Extensive fanwort growth on the refuge, and subsequent die off each year, results in a decrease of dissolved oxygen levels that lead to the occurrence of multiple fish kills on the refuge. This condition is primarily due to the creation of the Felsenthal Lock and Dam but is exacerbated by surface and pore water nutrients. While turbidity and water depth are key parameters that determine macrophyte growth, other factors can influence production. Another major factor controlling macrophyte growth is the availability of nutrients. Many aquatic macrophytes obtain nutrient requirements from sediment nutrient levels, however this observation varies widely based on the macrophyte species and physical/chemical characteristics of the sediments. The most common aquatic macrophyte species on the refuge is the grey fanwort which is pervasive throughout the refuge, and is sensitive to nutrient levels in surface water rather than sediments and pore water. Fanwort and other macrophyte production is affecting fish populations. Any spatial or temporal increases in plant growth could result in larger areas being affected by macrophytes earlier in the growing season. The result would be impacts to fish

communities over a greater area and earlier in the growing season. Although computer modeling has been undertaken by the permittees to better understand the impacts of the pipeline discharge on aquatic macrophyte biomass, the results of the report are not final. In a review of the interim report, there was uncertainty about the appropriateness of using *Myriophyllum* as a surrogate for fanwort since *Myriophyllum* is sensitive to nutrient sediment levels which is not the case for fanwort. Additionally, there is some uncertainty regarding temporal differences in observed versus modeling results for some of the parameters that are linked to macrophyte growth. Uncertainty may be related to limitations of the model to account for the complex interactions that affect macrophyte growth and/or the limited amount of field data that was used in the model calibration exercise.

RESPONSE #22

a. The ADEQ acknowledges this comment.

b. The ADEQ acknowledges the concerns of the USF&WS. The D.O. model was approved by both ADEQ and EPA Region VI. See Response #6.d.

c. ADEQ acknowledges this comment. ADEQ will continue to require individual monitoring for those entities discharging to the joint pipeline as well as the monitoring required in the joint pipeline permit.

d. ADEQ acknowledges that the USGS stream flow gauging station 0736200 had a 7Q10 of 648 cfs for the time frame of 1970 – 2004. However, the permit modification applications were submitted in the fall of 2004. The ADEQ has based the 7Q10 of 750 cfs on data from the time period of 1982 – 2001. This datum was obtained in a letter from the USGS dated September 18, 2005.

e. Permittees are required to use EPA approved test methods contained in 40 CFR Part 136 when testing for various parameters in their effluent. The MQL for mercury using the EPA Test Method 245.1 is 0.2 µg/l. The ADEQ recognizes that this level is above the water quality standards. ADEQ reserves the right to reopen the permit to require a lower MQL and/or test method.

f. In regards to the 7Q10, see Response #20.b. It would appear that the suggested numbers for ammonia were not calculated properly. The ammonia toxicity criteria contained in APCEC Regulation No. 2 are the Instream Waste Concentrations (IWCs) allowed at the edge of the mixing zone. At the 7Q10 of 750 cfs the average monthly ammonia limits, based on the toxicity criteria in Regulation No. 2, would be 27.25 mg/l (April), 14.60 mg/l (May – October), and 47.11 mg/l (November – March). At a flow of 648 cfs, the ammonia limits, based on the toxicity criteria in Regulation No. 2, would be 24.07 mg/l (April), 12.90 mg/l (May – October), and 41.62 mg/l (November – March). These numbers are still higher than those obtained from the dissolved oxygen based model.

g. The Department is aware of recent studies which suggest current US EPA ammonia criteria may not be protective of freshwater mussels, particularly the early lifestages. At this time the Department uses the EPA approved toxicity based temperature and pH-dependent values of the criteria continuous concentration for fish early life stages absent/present and pH-dependent values of the criteria maximum concentration (CMC) to protect the aquatic life designated uses in the waters of Arkansas. The suggested literature CMC_{FM} s of 1.75 and 2.5 mg/L of total ammonia as N at pH 8 s.u. is considerably less than the US EPA CMC of 5.62 mg/L of total ammonia as N at pH 8.0. The suggested literature estimates for the criteria continuous concentration (CCC_{FM}) of 0.3 and 1.0 mg/L are also less than US EPA CCC of 1.24 mg/L total ammonia as N at pH 8 and 25°C. At this time the Department has adopted the US EPA recommended aquatic life criteria for ammonia as N. If, through further consultation with the USF&WS, EPA revises the ammonia criteria, the Department will consider changes to Regulation No. 2 at that time.

h. The Total Phosphorous limits were determined on a case-by-case basis for these permittees. The Total Phosphorous limits for the months of July – October are 0.7 mg/l on a monthly average and 1.4 mg/l on a daily maximum. The Total Phosphorous limits for the months of November – June are 1 mg/l on a monthly average and 2 mg/l on a daily maximum. See also Responses #20.e and #20.h.

ISSUE #23

GBMc & Associates' comments on AR0049743C

a. Item 5. Facility Locations

The Latitude and Longitude for the Great Lakes Central Plant should be amended to read Latitude 33° 11' 07" and Longitude 92° 42' 21".

The Latitude and Longitude for the El Dorado Water Utilities North Plant should be amended to read Latitude 33° 14' 54" and Longitude 92° 38' 43".

The Latitude and Longitude for the El Dorado Water Utilities South Plant should be amended to read Latitude 33° 10' 28" and Longitude 92° 39' 43".

The Latitude and Longitude for the El Dorado Chemical Company should be amended to read Latitude 33° 15' 55" and Longitude 92° 41' 15".

b. Item 6. The descriptor should be amended to reflect an Outfall Number of 010R located at Latitude 33° 17' 30" and Longitude 92° 28' 12".

c. Item 7. Pipeline Description - The total combined length of the pipeline is more accurately described as 125,000 feet rather than 116,691 feet.

RESPONSE #23

a. ADEQ has confirmed the facility coordinates in GBMc & Associates' letter. The coordinates will be changed as requested.
b. ADEQ has reviewed the coordinates requested in the commenter's letter. The outfall location given is only 0.04 miles from the outfall location in the permit. Therefore the change will be made as requested.
c. ADEQ will make the change as requested in order to allow for obstacles which may require a greater length of pipe.

ISSUE #24

GBMc & Associates' comments on the WQMP

The commenter attached a copy of the Water Quality Management Plan (WQMP) Update Summary Sheet provided to GBMc & Associates by ADEQ staff in January 2005.

Based upon this document, the commenter requested that the WQMP be updated utilizing the mass loadings as developed by the MULTISMP MODEL listed in the summary. As you will notice upon review, no concentration limits for CBOD5 or NH3-N were sent out for public comment.

RESPONSE #24

Staff disagrees. EPA Region VI required that the permits include concentration limits for CBOD5, NH3-N, and D.O. in a letter dated February 3, 2006. The summary sheet was not approved by EPA Region VI.

ISSUE #25

GBMc & Associates comments on AR0050296

a. Authorization Pages 2 and 3 – Outfall Coordinates

We request that the non-pipeline related outfall coordinates for Lion Oil Company, Great Lakes Chemical Corporation, and El Dorado Chemical Company be removed from the final permit. We cannot ascertain a regulatory basis for the listing of those outfalls on the Joint Permit as those outfalls are authorized under the individual permits for each of the facilities.

As such, we request that the paragraph above the individual permit outfall listings be amended to read as follows:

"The co-permittees retain the rights to discharge under their individual NPDES Permits from outfalls which would normally be routed to the joint pipeline (in addition to the outfalls which are not routed to the joint pipeline).

b. Authorization Page 2 – Pipeline Latitude and Longitude

The Latitude and Longitude for the Joint Pipeline Outfall 010R should be amended to read Latitude 33° 17' 30" and Longitude 92° 28' 12".

c. Part I Permit Requirements – 20 mgd flow cap

We request that the flow effluent cap of 20 mgd be instituted as a monthly average rather than as a daily maximum. As you are aware, under the NPDES permitting protocols, for the purpose of determining the potential to exceed and the derivation of permit limits (when appropriate) effluent volumes are characterized on the basis of monthly average flows. It is appropriate for consistency purposes to define the flow cap as a monthly average to parallel the process under which the proposed permit limits were developed.

d. Part I Permit Requirements – Concentration Limits for CBOD5 and NH3-N

The imposition of concentration limits for CBOD5 and NH3-N is inappropriate. As you are aware, the Water Quality Management Plan Update issued for public notice by ADEQ did not propose concentration limits for those parameters. In addition, through the imposition of a flow cap, the proposed permit has, in effect, developed concentration limits and the imposition of additional concentration limits does not serve any regulatory nor environmental purpose. As such, we respectfully request removal of the concentration limits for these parameters from the final permit.

e. Part I Permit Requirements – Selected Metals and Cyanide Limits

The imposition of limits for cadmium, hexavalent chromium, copper, lead, nickel, selenium, silver, zinc, trivalent chromium, and cyanide is not in accordance with the NPDES limit

development process of the ADEQ. Based on the anticipated concentrations of the combined effluent, there is no potential for those parameters to exceed water quality criteria and the imposition of limits is overly restrictive and serves no environmental purpose. As such, we respectfully request the removal of the concentration limits for these parameters from the final permit.

f. Part I Permit Requirements – Mercury Limitations

The fact sheet accompanying the permit did not provide documentation to determine the process by which the proposed limits were derived. The proposed mass limitations for mercury appear to be based on the dissolved fraction only and not total mercury. We request that the mercury limitations be derived pursuant to standard protocols as required by Regulation No. 2 and the Continuing Planning Process.

g. Part I Permit Requirements – Total Phosphorus Limitations

The imposition of phosphorus limitations is inappropriate. As you are aware, the entities involved in the pipeline have initiated and completed a nutrient study of the Ouachita River and Felsenthal Wildlife Refuge. The final study report has been submitted to the ADEQ is available for review during the timeframe for finalization of the permit. That report documents that there is no technical basis for the imposition of nutrient limitations and we request that they be removed from the final permit. In addition to the lack of a technical basis for the inclusion of phosphorus limitations there are statutory and regulatory constraints against the imposition of phosphorus limitations in the final permit as presented in the following paragraphs.

Congress enacted the Clean Water Act (CWA) in 1972 which included a broad goal of attaining acceptable water quality. CWA §101(a), 33 U.S.C. §1251(a). The CWA uses distinctly different methods to control pollution released from point sources and those that are traceable to non-point sources. The Act directly mandates technological controls to limit the pollution point sources may discharge into a body of water. The CWA delegates the primary responsibility for water quality planning to the states.

Section 303 is central to the CWA's approach to attaining acceptable water quality by establishing statutory requirements for water quality standards: "Water quality standards" specify a water body's "designated uses" and "water quality criteria," 303(c)(2). The states are required to set water quality standards for *all* waters within their boundaries regardless of the sources of the pollution entering the waters.

Section 303(d)(1)(A) of the CWA requires each state to identify as "areas with insufficient controls" "those waters within its boundaries for which the effluent limitations required by section 301(b)(1)(A) and section 301(b)(1)(B) are not stringent enough to implement any water quality standard applicable to such waters." *Id.* The CWA defines "effluent limitations" as restrictions on pollutants "discharged from point sources. "CWA §502(11), 33 U.S.C. §1362(11).

For waters identified pursuant to §303(d)(1)(A) (the §303(d)(1) list), the states must establish the "total maximum daily load" ("TMDL"), which defines the specified maximum amount of a pollutant which can be discharged or 'loaded' into the waters at issue from all combined sources." The TMDL "shall be established at a level necessary to implement the applicable water quality standards ...." §303(d)(1)(C). Section 303(d)(2), in turn, requires each state to submit its §303(d)(1) list and TMDLs to the EPA for its approval or disapproval. Once EPA approves the list and TMDLs, the state must incorporate the list and TMDLs into its continuing planning

process, the requirements for which are set forth in §303(e). §303(d)(2).

The EPA in regulations has made more concrete the statutory requirements. Those regulations, in summary, define "water quality limited segment[s]" — those waters that must be included on the §303(d)(1) list — as "[a]ny segment where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards, even after the application of the technology-based effluent limitations required by sections 301(b) and §306 [33 U.S.C. §1316]." 40 C.F.R. §130.2(j) (2000). The regulations then divide TMDLs into two types: "load allocations," for non-point source pollution, and "waste load allocations," for point source pollution. §130.2(g)-(i); *see also* pp. 7919, *infra*. Under the regulations, states must identify those waters on the §303(d)(1) lists as "still requiring TMDLs" if any required effluent limitation or other pollution control requirement (including those for non-point source pollution) will not bring the water into compliance with water quality standards. §130.7(b) (2000).

The final pertinent section of §303, §303(e), requires each state to have a continuing planning process (CPP), approved by EPA.

Through this intricate scheme the CWA leaves to the states the responsibility of developing plans to achieve water quality standards if the statutorily-mandated point source controls will not alone suffice.

Arkansas has specified designated uses for all water bodies in the state and has adopted water quality criteria through Regulation No. 2. No water quality criteria have been adopted for phosphorus or other nutrients. Arkansas has adopted, and EPA has approved, the 303(d) list of impaired water bodies, and the segment of the Ouachita River at issue in this permit is not listed. Arkansas is currently investigating the issue of nutrient criteria, and gathering information for consideration. While this investigation is ongoing, Arkansas has identified its permitting strategy for regulating nutrients in NPDES Permits for major facilities (such as the joint pipeline) through the EPA approved CPP, which states that:

The state will begin to develop data concerning nutrient levels in waters of the state. The existing statewide, ambient, water quality monitoring network has an abundance of in-stream nutrient concentration data. Loading data, however, is somewhat less dependable due to the lack of more frequent flow determinations at most stations. In contrast, concentration and loading data from point source discharges is very limited. In order to establish a data base of point source loadings of nutrients to waters of the state, NPDES permit requirements will include nutrient monitoring as follows:

Parameters - nitrite + nitrate - nitrogen (630)
total phosphorus (665)
soluble reactive phosphorus (70507)
Frequency - same as BOD

Continuing Planning Process, Appendix D, page D-12.

Arkansas has repeatedly and consistently stated in response to efforts by the State of Oklahoma to impose numerical NPDES limits on Northwest Arkansas municipalities that the Arkansas water quality standards do not authorize phosphorus limits in NPDES permits. See, Response to Comments, Response No. 2, City of Springdale Permit No. AR0022063 (February 29, 2004); Response to Comments, Response No. 1, City of Rogers Permit No. AR0043397 (January 31,

2006). It has been the consistent practice of ADEQ that in the absence of numerical criteria in the water quality standards, ADEQ has no authority to impose numerical phosphorus limits in NPDES permits. Arkansas even recognized the need for, and adopted a specific regulation, Section 6.401(D)(1) of Regulation No. 6, which authorizes a numerical phosphorus limit in the POTW permits for Fayetteville, Springdale, Rogers, and Siloam Springs. Section 6.401(D)(1) of Regulation No. 6 even includes a 2012 compliance schedule, and it is that regulation which serves as the basis for numerical limits in NPDES permits for four specific municipalities in Northwest Arkansas as those permits are renewed.

Independent of the technical issues presented in this section, under the authority of the NPDES program, there is no authority to impose a numerical phosphorus limit in the joint pipeline permit.

h. Part I Permit Requirements – Monitoring Frequencies

The proposed monitoring frequencies are excessive based upon the retention times and consistency of effluent from the facilities. As such, we request that the frequency of sampling for CBOD5, TSS, NH3-N, fecal coliform, and Total Phosphorus be revised to twice per week. In addition, we request that the frequency for Oil and Grease, TDS, Sulfate, and Chloride be revised to twice per month.

As you may be aware, EPA guidance and quantitative statistical approaches support lower sampling frequencies than daily, even for compounds which show potential aquatic toxicity. According to EPA's Technical Support Document (TSD) and the NPDES Permit Writers Manual there are several factors that should be considered when determining sample frequency including:

i. Design capacity/retention time
ii. Compliance history
iii. Monitoring costs
iv. Discharge frequency

The wastewater retention time available in the treatments systems at the El Dorado Water Utilities' North and South Plants, EDCC and the anticipated storm water retention facilities at GLCC will be greater than ten days. These facilities represent 85% of the design flow to the pipeline. Therefore, effluent variability will continue to be minimized and a daily sampling requirement would be extremely costly, repetitive and obtrusive.

Each of the dischargers has shown an ability to be in compliance with their permit limits over the past year indicating that a daily sampling requirement is not necessary.

Guidance in the EPA TSD indicates that 10 samples per month is generally sufficient to ensure that the monthly average closely resembles the actual (or "true") long term average (LTA). In addition, this guidance is intended for toxics where more monitoring is generally required to ensure that acute and chronic toxicity is avoided. For compounds such as phosphorus (a non-toxic), the guidance supports a sampling frequency that is even less than 10 per month.

Using commonly used statistical protocols (used by EPA in various programs), phosphorus data from the El Dorado Water Utilities' North and South Plants were utilized independently to determine the appropriate number of samples necessary to ensure that the "true" LTA was approximated within ±1 standard deviation. At a 99% level of confidence the two statistical methods resulted in sample number requirements of 10 and 7 for both the North Plant and the South Plant. This equates to a sampling frequency of two to three times per week. Note that the

phosphorus data used in the calculations were from both the summer and winter seasons so variability represented in the calculations should be somewhat higher than would generally occur in a given month. In addition, variability of the South Plant would be expected to exceed the other facilities and should therefore be representative of worst case. Therefore, we recommend twice per week sampling for phosphorus (and other parameters) at each facility

i. Part I Permit Requirements – Outfall 010R Sampling Location

We request that the sampling location for Outfall 010R at the bottom of Page 2 of Part IA be revised to Latitude 33° 13' 17", Longitude 92° 35' 02".

j. Part I Permit Requirements – TSS Limitations

We request that the mass limits for TSS be increased to accommodate an increase in permitted TSS for the El Dorado Water Utilities' outfalls to the Joint Pipeline under the equivalent to secondary treatment limits regulations. Consequently, we request an increase in the Outfall 010R TSS limits to 11,009 lbs monthly average and 16, 513 lbs daily maximum.

k. Part III Other Conditions. No.1 – Concurrent Sampling Definition

The definition of concurrent sampling being limited to two hours is impracticable due to distances between the facilities and the logistics involved in sample collection by the El Dorado Water Utilities. We request that this permit condition be amended to allow for the submittal of an effluent sampling plan to ADEQ for approval prior to the initiation of discharges to the pipeline. In this way, the coordination of sampling at the facilities can be detailed in a manner which best characterizes the sources of the combined effluent and can be conducted in a cost efficient manner.

l. Part III Other Conditions – No. 5 Concurrent Sampling 100 feet from the Ouachita River

We request that this requirement be removed from the permit for the following reasons:

a) The travel time from the Outfall 010R sampling location to the diffuser in the Ouachita River is approximately 2 hours (at design flow), and there will be no significant change in effluent quality in that short a timeframe.
b) There is no practicable way to supply power and get access to a site 100 feet from the Ouachita River in a manner which provides security to the sampling equipment required for 24-hour composite samples to parallel Outfall 010R.
c) Construction in close proximity to the Ouachita River would require extensive earthwork to attain elevation above the floodplain. This construction would result in a loss of wetland habitat which the permittees cannot support.

m. Part III Other Conditions – No. 6. Permit Modification or Termination Language.

The purpose of this section is unclear and it contains language which is prohibitive to the construction and operation of the Joint Pipeline. Condition No. 6 could cause the permit to be terminated, or subject the participants to unknown modifications based solely on the entities that participate. The Joint Pipeline will be publicly financed, which will require a projection of a source of revenues to repay the bonded indebtedness. The source of funding will be City rates and user fees to be paid by the pipeline participants for the use of the pipeline. If the permit can be terminated based on the status of one of the four participating entities, the source of funds

cannot be adequately projected for financing purposes Additionally, the various entities participating in the pipeline will have invested substantial capital in the construction of the pipeline, and will depend upon the availability of the pipeline for future operations. The return on the capital investments, and the ability of each entity to operate in the future cannot be contingent upon the status of another entity who may choose to cease discharges into the pipeline. It is important to keep in mind that the flow into the pipeline will be inherently variable, due to the design flow (which is approximately 92% higher than the current average flows) and the extensive holding capacities and operational practices of the City and EDCC. Permit Condition No. 6 will not add any consistency to the makeup of the wastewater that is introduced into the pipeline.

Specifically we request that this section be modified by:

1) the deletion of the following sentences from the first paragraph:
"All entities covered under this permit must comply with the terms and conditions of this permit as well as those of their existing individual permits. This permit must be terminated or modified in the event that, excluding El Dorado Water Utilities, one or more of the entities involved cease discharging to the pipeline."; and,

2) Deletion of the second paragraph in its entirety.

RESPONSE #25

a. Staff disagrees. It was never the intention of the ADEQ to allow for discharging to the pipeline and through the other outfalls at the same time nor to allow the facilities to switch their discharge from one outfall to another as they wish.
b. ADEQ has reviewed the coordinates requested in the commenter's letter. The outfall location given is only 0.04 miles from the outfall location in the permit. Therefore the change will be made as requested.
c. In a letter dated September 23. 2005, from Martin Maner. P.E. to Vince Blubaugh (representative of the entities involved), the ADEQ stated in response to a letter dated August 30. 2005, from GBMc to ADEQ that there would be an instantaneous maximum flow limit of 20 MGD. In a response to the ADEQ, the representative did not express any opposition to the flow limit.
d. See Response #24.
e. The metals and cyanide limitations in the permit are based on the water quality standards found in APCEC Regulation No. 2. After much discussion with the co-permittees, it was decided to place metals limitations in the permits in lieu of monthly biomonitoring requirements. (See letter from ADEQ to GBMc dated 09/23/2005 and letter from GBMc to ADEQ dated 10/06/2005.)
f. The proposed mercury limitations are based on total recoverable and not the dissolved fraction. For clarification purposes, all of the calculations used to determine the water quality standards for the metals as outlined in Section 2.508 of APCEC Regulation No. 2 have been included as an attachment to the permit.
g. The Total Phosphorous limits of 1 mg/l on a monthly average and 2 mg/l for a daily maximum will remain in the permit for the months of November – June. Based upon the Revised Nutrient Modeling Study, pages 13 and 20, the Total Phosphorous limits for the months of July – October will be revised to 0.7 mg/l on a monthly average and 1.4 mg/l for a daily maximum. The mass limits for the months of July – October will be revised accordingly.

1. Following regulations promulgated at 40 CFR 122.44(l)(2)(ii), the permit limits are based on either technology-based effluent limits pursuant to 40 CFR 122.44(a) or on State Water Quality Standards and requirements pursuant to 40 CFR 122.44(d), whichever are

more stringent. In this case, based on concerns of the AGFC and the USF&WS, the phosphorous limit is deemed necessary at this time to protect downstream waters from further nutrient impacts.

2. During several meetings with the ADEQ prior to issuance of the draft permits, GBMc representatives stated that phosphorous values of 0.2 mg/l were consistently recorded through monitoring events. This point was emphasized several times. ADEQ feels that the phosphorous limitations provide for an ample margin of compliance given the statements made.
3. There will be a reopener clause in the permit which will allow for the permit to be modified and the phosphorous limit revised based on additional scientific information which meets ADEQ approval. In accordance with 40 CFR 122.62(a)(2), the permit may be modified if new information is received that was not available at the time of permit issuance that would have justified the application of different permit conditions.
4. Page 20 of the Revised Nutrient Modeling Study estimates the downstream chlorophyll-a concentration for three critical (July – October) scenarios – (1) current condition with no discharge from the pipeline, (2) pipeline discharging maximum flow of 20 MGD where Total Phosphorous = 1 mg/l, and (3) pipeline discharging anticipated flow of 13.5 MGD where Total Phosphorous = 1 mg/l. The model predicts no net increase of chlorophyll-a concentration for the anticipated flow of 13.5 MGD. However, at the maximum flow of 20 MGD, the model does predict an increase in chlorophyll-a concentration. The Total Phosphorous concentration limits for the months of July – October have been reduced by the ratio of the flows (13.5:20 = 0.7) so there will be no net increase of chlorophyll-a concentrations. The Total Phosphorous concentrations for the months of July – October will be 0.7 mg/l on a monthly average and 1.4 mg/l on a daily maximum. The mass limitations have been changed accordingly.

h. Monitoring frequency guidance indicates that facilities which discharge 20 MGD should be subject to daily monitoring. Also, due to the compliance history of some of the facilities involved in the pipeline and that there is no compliance history for the joint pipeline itself, the ADEQ feels that daily monitoring at this point is also needed to ensure that those entities continue to achieve the compliance achieved within the past year. The facilities will have the opportunity to reduce the monitoring frequency with 100% compliance after the first 365 consecutive days of compliance with the permit limits. ADEQ recognizes that the monitoring will cost money. However, the economic costs of monitoring are not within the scope of the NPDES permit.

i. The new coordinates are approximately 0.26 miles from the coordinates listed in the permit application and the permit. The change will be made as requested.

j. The TSS limitations for El Dorado Water Utilities will be remaining at 30 mg/l on a monthly average and 45 mg/l for a 7-day average. Therefore there will be no changes to the TSS mass limitations contained in the joint pipeline permit.

k. The concurrent sampling definition will not be changed. The ADEQ understands that there is some distance between the facilities. However, it is also the ADEQ's understanding that each of the individual facilities will collect their own samples so distance between facilities should not be a problem.

l. No information has been submitted to support the statements by the commenter.

m. The ADEQ will not remove the statement that the entities must comply with their individual permits as well as the terms and conditions of the joint permit nor will the condition be changed in any manner. The concerns expressed by the commenter should be addressed in the agreement required to be signed by all of the entities involved in the pipeline.

ISSUE #26

Lion Oil Company's comments on AR0000647

a. The Latitude and Longitude for the Joint Pipeline Outfall 010R should be amended to read Latitude 33° 17' 30" and Longitude 92° 28' 12".

b. The language in Part IA of the permit should be changed to reflect that the discharge authorization for Outfall 010 is immediate and not three years after the effective date of the permit.

c. Lion Oil requested that the effluent flow cap of 3 MGD be removed from the final permit. Such a flow cap will limit their ability to manage flows directed to the Joint Pipeline and there is no need for it as mass limits are sufficient to ensure maintenance of the water quality standards of the Ouachita River.

d. Part I Permit Requirements – Selected Metals and Cyanide Limits
The imposition of limits for cadmium, hexavalent chromium, copper, lead, nickel, selenium, silver, zinc, trivalent chromium, and cyanide is not in accordance with the NPDES limit development process of the ADEQ. Based on the anticipated concentrations of the combined effluent, there is no potential for those parameters to exceed water quality criteria and the imposition of limits is overly restrictive and serves no environmental purpose. As such, we respectfully request the removal of the concentration limits for these parameters from the final permit.

e. Part I Permit Requirements – Mercury Limitations
The fact sheet accompanying the permit did not provide documentation to determine the process by which the proposed limits were derived. The proposed mass limitations for mercury appear to be based on the dissolved fraction only and not total mercury. We request that the mercury limitations be derived pursuant to standard protocols as required by Regulation No. 2 and the Continuing Planning Process.

f. The proposed monitoring frequencies are excessive based upon the retention times and the consistency of the effluent. As such, the facility requested that the frequency of sampling for CBOD5, TSS, NH3-N, FCB, and Total Phosphorous be revised to twice per week. In addition, they requested that the frequency for Oil and Grease, TDS, Sulfates, and Chlorides be reduced to twice per week.

g. The draft permit requires that the first two inches of rainfall in any 24-hr period be routed to Outfall 010. It also requires that any additional rainfall with the 24 hours are to be discharged through Outfall 006 and Outfall 007. Lion Oil requests that this provision be removed from the permit as it is overly prescriptive as worded and provides no flexibility in the management of rainfall at the facility.

h. Part III Other Conditions. No.1 – Concurrent Sampling Definition
The definition of concurrent sampling being limited to two hours is impracticable due to distances between the facilities and the logistics involved in sample collection by the El Dorado Water Utilities. We request that this permit condition be amended to allow for the submittal of an effluent sampling plan to ADEQ for approval prior to the initiation of discharges to the pipeline. In this way, the coordination of sampling at the facilities can be detailed in a manner which best characterizes the sources of the combined effluent and can be conducted in a cost efficient manner.

i. Part III, Condition #2 covers emergency discharges. Lion Oil requests that all but the first sentence of his condition be deleted. The other provisions regarding the use of Outfalls 001, 002, 003, and 004 only under emergency conditions are too subjective and will not provide the needed operational flexibility.

j. Lion Oil requested that Condition #4 of Part III be revised to allow a monitoring reduction request after the first year of discharge through Outfall 010 rather than a specified number of

consecutive data points. In addition, they requested that the second sentence of this section be amended to not specify the reduced monitoring frequencies. In this manner flexibility can be retained to allow sampling frequencies of less than three times per week should the analytical results support such a reduction.

k. For clarification purposes, the type of treatment at Outfalls 005, 006, and 007 should be listed as Primary Oil and Water/Solids separation.

RESPONSE #26

a. The permit and the fact sheet will be revised to reflect the new coordinates at which the effluent from the pipeline will enter the Ouachita River.

b. The change will be made as requested.

c. The flow limit will remain in the permit. The permit does contain mass limits but no concentration limits (with the exception of Total Recoverable Mercury). Based on several meetings with representatives of the permittee and the September 23, 2005, letter from Martin Maner to Vince Blubaugh, the maximum flow limits were placed in the permit in lieu of concentration limits.

d. See Response #25.e.

e. See Response #25.f.

f. See Response #25.g.

g. The requirement will be removed from the permit. The change is not considered to be a modification of the permit because the permit will now be more stringent. It will be more stringent because the permittee will now not be allowed to use Outfalls 006 and 007 unless there is an emergency as defined in Part III, Condition #2. It must be noted that the permittee will not be allowed to decide from day to day whether the waste water will be discharged through Outfalls 001, 006, 007, and/or 010.

h. See Response #25.k.

i. The permittee is not allowed to decide from day to day what outfalls will be used to dispose of the effluent. The condition will be revised to state that an emergency, for the purposes of this permit only, is defined as follows:

   1. The joint pipeline is shut down for any reason; or
   2. Rainfall greater than a 10-year, 24-hour storm event has occurred.

j. The representatives of the permittee stated in a letter dated October 6, 2005, that the approach for monitoring frequency reduction addressed the concerns about costs. The 365 consecutive days of discharge to the pipeline will remain in the permit. As stated earlier, the permittee will not be allowed to decide from day to day what outfalls will be used to dispose of the effluent. The possible reduction to three times per week will also remain in the permit. Based upon the *NPDES Performance Based Reduction Worksheet*, the actual average concentrations would need to be less than 25% of the permitted limit in order for a reduction to less than three times per week to be granted. The actual average concentrations are not expected to be this low based on past data.

k. The change will be made as requested.

ISSUE #27

Great Lakes Chemical Company's comments on AR0001171

a. The facility coordinates are 33° 11' 07" and Longitude 92° 42' 21" and the coordinates for Outfall 010 are 33° 17' 30" and Longitude 92° 28' 12".

b. The description of sources for Outfall 002 should remain unchanged from the current NPDES permit. This draft permit transforms this outfall to authorize only a discharge from Outfall 002 at

the South Plant. That is not physically possible and the current sources of discharge at Outfall 002 will continue until such time as routed to the joint pipeline through Outfall 010.

c. The description of the sources for Outfall 010 should include Outfalls 001 and 002 from the South Plant.

d. Great Lakes Chemical Company requested that the effluent flow cap of 3 MGD be removed from the final permit. Such a flow cap will limit their ability to manage flows directed to the Joint Pipeline and there is no need for it as mass limits are sufficient to ensure maintenance of the water quality standards of the Ouachita River.

e. Part I Permit Requirements – Selected Metals and Cyanide Limits
The imposition of limits for cadmium, hexavalent chromium, copper, lead, nickel, selenium, silver, zinc, trivalent chromium, and cyanide is not in accordance with the NPDES limit development process of the ADEQ. Based on the anticipated concentrations of the combined effluent, there is no potential for those parameters to exceed water quality criteria and the imposition of limits is overly restrictive and serves no environmental purpose. As such, we respectfully request the removal of the concentration limits for these parameters from the final permit.

f. Part I Permit Requirements – Mercury Limitations
The fact sheet accompanying the permit did not provide documentation to determine the process by which the proposed limits were derived. The proposed mass limitations for mercury appear to be based on the dissolved fraction only and not total mercury. We request that the mercury limitations be derived pursuant to standard protocols as required by Regulation No. 2 and the Continuing Planning Process.

g. The proposed monitoring frequencies are excessive based upon the retention times and the consistency of the effluent. As such, the facility requested that the frequency of sampling for CBOD5, TSS, NH3-N, FCB, and Total Phosphorous be revised to twice per week. In addition, they requested that the frequency for Oil and Grease, TDS, Sulfates, and Chlorides be reduced to twice per week.

h. Part III Other Conditions. No.1 – Concurrent Sampling Definition
The definition of concurrent sampling being limited to two hours is impracticable due to distances between the facilities and the logistics involved in sample collection by the El Dorado Water Utilities. We request that this permit condition be amended to allow for the submittal of an effluent sampling plan to ADEQ for approval prior to the initiation of discharges to the pipeline. In this way, the coordination of sampling at the facilities can be detailed in a manner which best characterizes the sources of the combined effluent and can be conducted in a cost efficient manner.

i. The permittee requested that all but the first sentence of Condition #2 of Part III be deleted. The other provisions regarding the use of Outfalls 001, 004, 006, and 007 only under emergency conditions are too subjective and will not provide the needed operational flexibility.

j. Great Lakes Chemical Company requested that Condition #4 of Part III be revised to allow a monitoring reduction request after the first year of discharge through Outfall 010 rather than a specified number of consecutive data points. In addition, they requested that the second sentence of this section be amended to not specify the reduced monitoring frequencies. In this manner flexibility can be retained to allow sampling frequencies of less than three times per week should the analytical results support such a reduction.

RESPONSE #27

a. The facility coordinates will be changed as requested. The permit and the fact sheet will be revised to reflect the new coordinates at which the effluent from the pipeline will enter the Ouachita River.

b. The current permit states that the facility may discharge stormwater through Outfall 002. The facility has also stated that they will be routing discharges from Outfalls 001 and 002 at the South Plant to Outfall 002 at the Central Plant which will in turn discharge to the joint pipeline at a future date.
The draft permit lists the allowable sources for Outfall 002 as stormwater runoff **and** waste waters from Outfall 002 at Great Lakes Chemical Company's South Plant (NPDES Permit AR0000680). The draft permit will be amended to include Outfall 001 from the South Plant at Outfall 002 for the Central Plant. It does not say that only the wastewater from the South Plant could be discharged through this outfall. If the waters from the South Plant are removed as allowable effluent and the permittee were to discharge through this outfall after wastewaters from the South Plant were piped over to the Central Plant, the facility would be in violation of its permit.
The permit was written this way because of information submitted to the ADEQ on behalf of the permittee in e-mails dated January 25, 2005, through January 28, 2005.

c. Outfalls 001 and 002 from the South Plant cannot be included in the description of the effluent for Outfall 010 because they are first being routed to the pond associated with Outfall 002 at the Central Plant. Therefore, the proper place for those outfalls is in the description for Outfall 002 at the Central Plant.

d. See Response #26.c.

e. See Response #25.e.

f. See Response #25.f.

g. See Response #25.g.

h. See Response #25.k.

i. See Response #26.i.

j. See Response #26.j.

ISSUE #28

El Dorado Water Utilities' comments on AR0049743

a. The North Plant coordinates are 33° 14' 54" and Longitude 92° 38' 43" and the coordinates for the South Plant are 33° 10' 28" and Longitude 92° 39' 43".

b. El Dorado Water Utilities requested that the effluent flow caps of 5 MGD for Outfall 010N and 7 MGD for Outfall 010S be removed from the final permit. Such a flow cap will limit their ability to manage flows directed to the Joint Pipeline and there is no need for it as mass limits are sufficient to ensure maintenance of the water quality standards of the Ouachita River.

c. Part I Permit Requirements – Selected Metals and Cyanide Limits
The imposition of limits for cadmium, hexavalent chromium, copper, lead, nickel, selenium, silver, zinc, trivalent chromium, and cyanide is not in accordance with the NPDES limit development process of the ADEQ. Based on the anticipated concentrations of the combined effluent, there is no potential for those parameters to exceed water quality criteria and the imposition of limits is overly restrictive and serves no environmental purpose. As such, we respectfully request the removal of the concentration limits for these parameters from the final permit.

d. Part I Permit Requirements – Mercury Limitations
The fact sheet accompanying the permit did not provide documentation to determine the process by which the proposed limits were derived. The proposed mass limitations for mercury appear to be based on the dissolved fraction only and not total mercury. We request that the mercury limitations be derived pursuant to standard protocols as required by Regulation No. 2 and the Continuing Planning Process.

e. The proposed monitoring frequencies are excessive based upon the retention times and the consistency of the effluent. As such, the facility requested that the frequency of sampling for CBOD5, TSS, NH3-N, FCB, and Total Phosphorous be revised to twice per week. In addition, they requested that the frequency for Oil and Grease, TDS, Sulfates, and Chlorides be reduced to twice per week.

f. The permittee requested that both the mass and the concentration limits for TSS in this permit be increased under the equivalent to secondary treatment limit regulations. Consequently, the permittee requested an increase in the Outfall 010N and Outfall 010S concentration limits for TSS to 90 mg/l on a monthly average and a daily maximum of 135 mg/l.

g. Part III Other Conditions. No.1 – Concurrent Sampling Definition
The definition of concurrent sampling being limited to two hours is impracticable due to distances between the facilities and the logistics involved in sample collection by the El Dorado Water Utilities. We request that this permit condition be amended to allow for the submittal of an effluent sampling plan to ADEQ for approval prior to the initiation of discharges to the pipeline. In this way, the coordination of sampling at the facilities can be detailed in a manner which best characterizes the sources of the combined effluent and can be conducted in a cost efficient manner.

h. El Dorado Water Utilities requested that Condition #4 of Part III be revised to allow a monitoring reduction request after the first year of discharge through Outfall 010 rather than a specified number of consecutive data points. In addition, they requested that the second sentence of this section be amended to not specify the reduced monitoring frequencies. In this manner flexibility can be retained to allow sampling frequencies of less than three times per week should the analytical results support such a reduction.

i. El Dorado Water Utilities requested that the condition requiring the cancellation of their two existing individual permits be deleted from this draft permit. This requirement removes the possibility of using the existing discharge locations on an emergency basis should such an occasion arise after the pipeline usage is initiated. The permittee sees no basis to require such cancellations as a permit requirement.

RESPONSE #28

a. The facility coordinates will be change as requested. The permit and the fact sheet will also be revised to reflect the new coordinates at which the effluent from the pipeline will enter the Ouachita River.

b. See Response #26.c.

c. See Response #25.e.

d. See Response #25.f.

e. See Response #25.g.

f. See Response #25.j.

g. See Response #25.k.

h. See Response #26.i.

i. The condition will be revised to state that the permittee must cancel their two individual permits within 1 year of the first discharge to the pipeline.

ISSUE #29

El Dorado Chemical Company's comments on AR0000752.

a. El Dorado Chemical Company requested that the effluent flow cap of 2 MGD be removed from the final permit. Such a flow cap will limit their ability to manage flows directed to the Joint Pipeline and there is no need for it as mass limits are sufficient to ensure maintenance of the water quality standards of the Ouachita River.

b. Part I Permit Requirements – Selected Metals and Cyanide Limits
The imposition of limits for cadmium, hexavalent chromium, copper, lead, nickel, selenium, silver, zinc, trivalent chromium, and cyanide is not in accordance with the NPDES limit development process of the ADEQ. Based on the anticipated concentrations of the combined effluent, there is no potential for those parameters to exceed water quality criteria and the imposition of limits is overly restrictive and serves no environmental purpose. As such, we respectfully request the removal of the concentration limits for these parameters from the final permit.

c. Part I Permit Requirements – Mercury Limitations
The fact sheet accompanying the permit did not provide documentation to determine the process by which the proposed limits were derived. The proposed mass limitations for mercury appear to be based on the dissolved fraction only and not total mercury. We request that the mercury limitations be derived pursuant to standard protocols as required by Regulation No. 2 and the Continuing Planning Process.

d. The proposed monitoring frequencies are excessive based upon the retention times and the consistency of the effluent. As such, the facility requested that the frequency of sampling for CBOD5, TSS, NH3-N, FCB, and Total Phosphorous be revised to twice per week. In addition, they requested that the frequency for Oil and Grease, TDS, Sulfates, and Chlorides be reduced to twice per week.

e. Part III Other Conditions, No.1 – Concurrent Sampling Definition
The definition of concurrent sampling being limited to two hours is impracticable due to distances between the facilities and the logistics involved in sample collection by the El Dorado Water Utilities. We request that this permit condition be amended to allow for the submittal of an effluent sampling plan to ADEQ for approval prior to the initiation of discharges to the pipeline. In this way, the coordination of sampling at the facilities can be detailed in a manner which best characterizes the sources of the combined effluent and can be conducted in a cost efficient manner.

f. The permittee requested that all but the first sentence of Condition #2 of Part III be deleted. The other provisions regarding the use of Outfalls 001, 004, 006, and 007 only under emergency conditions are too subjective and will not provide the needed operational flexibility.

g. El Dorado Chemical Company requested that Condition #4 of Part III be revised to allow a monitoring reduction request after the first year of discharge through Outfall 010 rather than a specified number of consecutive data points. In addition, they requested that the second sentence of this section be amended to not specify the reduced monitoring frequencies. In this manner flexibility can be retained to allow sampling frequencies of less than three times per week should the analytical results support such a reduction.

h. The permittee requested a permit modification in October 2004. The knowledge of the permittee this request has not been acted upon and they requested that it be considered during the finalization of the revised permit. The permittee requested that the sampling type for metals and acute biomonitoring be changed to "Grab." The permittee also requested that, at Outfalls 002, 004, 005, 006, and 007, the biomonitoring frequency be changed to once/quarter and all other sampling frequencies be changed to once/month.

i. The permittee has completed the temperature study that was required by the current NPDES permit. Based on the fulfillment of the temperature study requirement (which was removed in the draft permit), the permittee requested that the temperature limitation for Outfall 001 be removed.

j. In order to optimize the removal of nitrate from the wastewater treatment system, the permittee requested that domestic waste water be added as a source to Outfall 001. This source of carbon should improve biomass growth as well as provide a carbon-based food source to support denitrification.

k. The permittee requested that Outfall 004 be removed from the permit. It has been physically eliminated from the site.

RESPONSE #29

The facility coordinates have been changed. The permit and the fact sheet will be revised to reflect the new coordinates at which the effluent from the pipeline will enter the Ouachita River. These changes are being made in accordance with Response #23.a and #23.b

a. See Response #26.c.
b. See Response #25.e.
c. See Response #25.f.
d. See Response #25.h.
e. See Response #25.k.
f. See Response #26.i.
g. See Response #26.j.
h. Monitoring frequency reductions may only be made at the time of permit renewal unless otherwise stated in the permit. The permittee has been conducting the 24-hour composite sampling without difficulty for several years. Therefore, at this time, the sample type will not be changing. These requests will be reviewed at the time of permit renewal. Please note that the biomonitoring language contained in the permit makes provisions in the event that the discharges ceases during collection of the 24-hr composite sample and also for sample type. Requests for reductions in biomonitoring during the term of the permit should be directed to the Water Quality Planning Section. These changes may be allowed under the terms of the permit but are not reflected in the permit itself.
i. The ADEQ has received and reviewed the temperature study submitted by the permittee. The study has been approved by ADEQ. However, in accordance with the language in the current permit, the temperature limit cannot be revised via a letter from ADEQ. The permittee must submit an application for modification of the permit to remove the temperature limit or wait until the time of permit renewal.
j. As discussed in previous conversations, the ADEQ agrees with this approach. Due to the addition of domestic waste water, FCB limits will be added to the permit at Outfall 001.
k. Outfall 004 and Outfall 005 have been removed from the permit based on upon a letter received 10/13/2006 from the permittee and approved through a letter from ADEQ dated 01/05/2007. This change is allowed to take place without notice because it is making the permit more stringent.

ISSUE #30

Mr. David Carruth made the following oral comments at the public hearing:

Good evening. I am an attorney from Clarendon. I represent the Save the Ouachita Group. We want it on record we are opposed to the permit and that we want it to be denied. First, thank you ADEQ for having this hearing you are not required to do it. We appreciate you taking the effort, time, and cost to do so. Our comments are that we disagree with your statements in the question and answer period that

ADEQ doesn't have the authority to regulate. Clearly you do have the authority to regulate while sometimes that's troublesome. We feel that ADEQ holds the public trust to ensure the streams, lakes, and waters of the state remain healthy for the public to use recreationally, industrially, agriculturally or otherwise. It is troublesome that a permit would be considered for issuance when that permit is based on compliance when one of the applicants is a proven noncompliance entity. We would submit that El Dorado Chemical should establish a track record of compliance before the permit is issued. Prospective compliance isn't good enough for one who is chronically not in compliance. We have other written comments which have been submitted and anticipate we will update those and amend those. Lastly, the cost exists regardless of who bares the cost. There is a cost of sewage treatment. There is a cost either in treating the discharged water that is indeed cleaned in the form of a mechanical plant that engineers get to design or a cost to the public for having to bear dirty water. There is either a health cost or treatments of illness to children swimming in it or in this case to the public land or the users of that refuge. Those are the only four comments. Again we do have written comments. I think y'all have those; we will amend these. Thank you.

RESPONSE #30

See Response #1.

ISSUE #31

Mr. Vernon Rowe made the following oral comments during the public hearing:

I am the Corporate Environmental Manager for Pilgrim's Pride Corporation. We operate a large poultry plant in El Dorado that employees over eighteen hundred people. Over one hundred contract growers grow broilers for our plant. We have just recently invested over 2.6 million dollars building a new wastewater pre-treatment system that discharges to the city. We are committed to doing our part to protect the environment in the area. Our current water sewer rates are extremely high at this plant compared to many of our other plants. We understand more stringent effluents are inevitable to the City of El Dorado and other dischargers in the area. We are prepared to pay our fair share of meeting those increased limits. In order for us to be competitive in our industry it is of utmost importance to us to have the most cost effective technology available to the City of El Dorado. Toward that end we support the implementation and issuing of the permit for the pipeline project because we think that it is important that all options remain open to the city to meet the requirements that will be imposed by the state. So we highly recommend that the ADEQ issue the permit. Thank you.

RESPONSE #31

The ADEQ acknowledges this comment.

ISSUE #32

Mr. Robert Reynolds made the following oral comments during the public hearing:

I want to thank you on behalf of the people that are here tonight. I think you all are doing a good job with this. I also want to thank people who have made a effort to solve this problem especially those who have done so on a voluntarily basis - there are a number of them in the room, members of the El Dorado Water Utilities Commission and members of the El Dorado City Council. They've worked hard with no pay, and I thank them.

RESPONSE #32

The ADEQ acknowledges this comment.

ISSUE #33

Mr. Jim Johnson made the following oral comments during the public hearing:

I will read you a brief prepared statement. I am the Refuge Manager for the South Arkansas National Wildlife Refuges Complex. Our Headquarters are in Crossett. The refuge that I administer is the Felsenthal National Wildlife Refuge whose north end lies approximately 25 river miles from the discharge point into the river itself. The US Fish and Wildlife is very concerned with this draft permit and the potential short and long term impact of federal trust resources of the Felsenthal National Wildlife Refuge and to its public resources of the Ouachita River and its flood plain. A large degree of uncertainty exists regarding the extent of the possible impacts to these resources which justifies the need to thoroughly evaluate all possible alternatives. Given the scope and the importance of the resources at risk. it is essential that all environmental and economic considerations be addressed, the transparent process. such as, environmental impact statement with full consideration given to all alternatives. This is especially true to the Ouachita River aquatic systems of the Refuge which ADEQ further recognizes as having impaired water quality. The addition of a large foreign source of effluent discharge as proposed by this draft permit will possibly further degrade water quality and could result in long term irrevocable environmental and economic impacts. This statement is not intended to address our concerns, just simply a matter of bringing the statement into the record. This service is currently developing written technical comments that will be provided to ADEQ during the comment period. Thank you, sir.

RESPONSE #33

See Responses #1 and #6.d.

ISSUE #34

Mr. Keith Cascia made the following oral comments at the public hearing:

I am Scenic Rivers Coordinator for Louisiana Department of Wildlife and Fisheries. The Northstar River from the Arkansas/Louisiana state line down to Bayou Bartholomew in Louisiana is designated as a Natural and Scenic River. My interest concerns about special impact to sediment stream. the stream as a whole obviously, but certainly to that one. The Department of Wildlife and Fisheries does intend to comment on this project and other things that we are going to ask for additional time. The reason that we want additional time, however, is because it is very difficult for us to comment on a project based on an interim study for an interim report. We would like to have the opportunity to review the final reports and then come up with comments or decide at that point whether to address the needs and requirements of our laws. I don't have any questions or looking for any answers. I just wanted it to be on record for requesting that. Thank you.

RESPONSE #34

The ADEQ acknowledges this comment. Please note that ADEQ extended the deadline for submittal of comments on the final nutrient modeling report until July 21, 2006.

ISSUE #35

Mr. Jack Reynolds made the following oral comments during the public hearing:

I am Chairman of the El Dorado Water and Sewer Commission. I want to thank you for coming tonight and putting on the public hearing. We have been addressing this problem for a number of years. Two years ago when Mr. Shafii came to El Dorado and we had a public hearing we had a comment from the EPA, they didn't understand why we weren't at the river already. Mo said that night that we needed to get there as fast as we could. It's been towards that end that we've been working. I guess you can say that we've jumped the river hoop that we been asked to jump through so far. The nutrient study has been completed. You have the results of that. We are ready to move on with the project; cost and money are going away from us. In fact, we have looked at other alternatives to be aligned by ourselves to treatment plant modifications to completely starting over as the expert from the Save the Ouachita organization recommended that we do. All of those put us at a competitive economic disadvantage to keep our industries here. The minimum that we could look at is a forty percent increase for any alternative other than the river line and even that cost has gone up substantially since we initially looked at it. We need to move on with the project or go another direction. The other directions that we've explored are uneconomical at this time. Thank you

RESPONSE #35

The ADEQ acknowledges this comment.

ISSUE #36

Todd Graves made the following oral comments during the public hearing:

Mr. Maner, I would like to personally thank you. I have come to a lot of these meetings, a lot of political meetings, and you are the first person that have been asked a question directly, personally how you felt and answered it and didn't say, "You were not at liberty to discuss that on a personal business or personal way at a public meeting," and I appreciate you doing that. To talk about what Mr. Reynolds just said about Mo said it needed to go to the river. Well, you yourself said it would better for a treatment plant at the end of the river with all the entities doing it together at one location. So there are two different opinions of what can be done as my opinion of Mr. Reynolds opinion is totally different. So that's, he trying to make it look like ya'll say this is what needs to done and that's not necessarily what's happening. I also want to go on record that I do object to the permit, which you probably understand that by now, anyway. I think it need to be more studies done on the solid fallout, the amount of solid it's going to collect on the river over a period of time. There is no study done on that and there needs to be a total environmental impact study, a long term one, before there are any permits issued that can initially be the end of the Ouachita River as we know today. Thank you

RESPONSE #36

The ADEQ acknowledges this comments. See also Response #14.d.

ISSUE #37

The Honorable Bobby Beard made the following oral comments during the public hearing:

I am the Mayor of El Dorado and a citizen of El Dorado. The City of El Dorado has looked at all its options and has continuously been looking for options. We have been doing that for over three years that I know of, that I've been involved with this project. El Dorado has had a successful and long term, very good record with working with industries to solve problems and create a good environmental record and have a good economic record. We have to keep doing that. Our city council approved this project and helped fund this project even though we don't have enough money for it. I am here tonight to recommend that we move ahead with this permit. If El Dorado can stay within the permitting requirements of ADEQ, we need to move ahead with this project as quickly as possible. I appreciate you being here tonight. Thank you.

RESPONSE #37

The ADEQ acknowledges this comment.

ISSUE #38

Mr. Pete Parks made the following oral comments at the public hearing:

I am the Vice Chairman of the El Dorado Water and Sewer Commission. I thank you for being here and thank you for all the comments from all the audience associated with the project. As we mentioned earlier it is only through comments that you can create the best project possible. We believe that you and ADEQ have done that in terms in setting up the permit associated with all these comments that will allow us to do everything that we are suppose to do, which is to maintain the integrity of the Ouachita River and to ensure that we can treat El Dorado's wastewater and other wastewater in such a way that we can do it the most economical way and in a way that everybody is comfortable that we're protecting the river. This is a volunteer position and I believe I can state without too many people arguing with me that I have spent more time on this project than anyone in the City of El Dorado. It's all been volunteer hours. My job and my responsibility, my capacity as Commissioner is to ensure that we prove the best service to the rate payers of El Dorado Water and Sewer at the most economical price. I am there to protect the widow, the single mother, all on fixed income trying to make it and we have to do it in a way that a rate increase does not impact them too negatively. We've already had a twenty- five percent rate increase recently with twenty percent associated with this project. As the Mayor mentioned, we may need more. Cost is a very important factor when dealing with these concerns. I mentioned earlier tonight we have an estimate of thirty-three million dollars for the City of El Dorado to upgrade its treatment plants to be able to be guidelines for the future, as opposed to approximately ten million dollars for this pipeline. I would ask that you continue with the permitting process and address all the concerns of all the parties that are here tonight and that we are allowed to move forward with this project. Thank you.

RESPONSE #38

The ADEQ acknowledges this comment.

ISSUE #39

Mr. Gregory Withrowe made the following oral comments at the public hearing:

I am the Site Manager at El Dorado Chemical. I just want it to go into public record that all the comments that have been made about El Dorado Chemical for the past are true. It's public record that they happened at the current facility. I have been at the facility now for one year. I have worked in El Dorado for over twenty years. My exposure to El Dorado Chemical is what I've heard through the streets and in the newspapers. When I interviewed in Oklahoma City, with the CEO, the top priority that I was given was the environmental safety in our facility, to make sure that we were good community environmental stewards. We have until June of 2007 to meet those new permit regulations, the ones that everybody brought up. We are at that point or very close to that today. The team at the plant has been working on that heavily for the last year and a half since I've gotten there. We've spent over three million dollars. The focus is on the future of the site and to do what we have to in order to be able to be a reliable citizen to the community that we live in. One of the things that we continually forget here when we talk about the river is that the four industries in question have over fifteen hundred people working for them in this community in a county of over fifty thousand. We take that out to the grandparents and family, we all use the river. It's all of ours and to think that we as industries do not care about that is wrong. My kids swim in the river. A lot of the people that work at El Dorado Chemical that are behind me live on the river just like everybody else. They are concerned about the future. My commitment is: it's a glass house. If I can't have you come in and look at what I'm doing then I don't deserve to be there. I will gladly have you come to my office anytime and sit down talk facts and data, not emotions but facts and data. I know there is no way for you to believe me right now because there is no trust. The only way El Dorado Chemical can regain trust is by its actions. The hole that the El Dorado Chemical Company dug is real. It's a challenge, the team is committed, the site is committed, and if we don't make it in 2007, we'll be out of business and that's another two hundred people out on the street. We are working and are committed to that future. Thank you.

RESPONSE #39

The ADEQ acknowledges this comment and appreciates El Dorado Chemical Company's commitment towards achieving compliance.

ISSUE #40

Mr. Scott Allen made the following oral comments during the public hearing:

Thank you for being here, and thank you for hearing our comments. Like Mr. Bob Bridges, I am one of the eight County Representatives that served on the Ouachita River Commission. I am also a City Council Member. I am one of the eight City Council members who represent the rate payers of the City of El Dorado. I would like for you to continue with the permitting process and I appreciate all the honest and forthcoming comments made by all the many participants: Kent Stegall, Pete Parks, Clyde Temple, Bob Bridges, Jack Reynolds, there's on and on and on. I'll save my comments for written disclosure later as your extension allows. I would like to thank ADEQ for holding the city's feet to the fire, so to speak on our own violations. We paid several fines as you are well aware of and we are working on ways to improve those and we plan to comply in the future as best we can. I would like to thank all the local industries; El Dorado Chemical, Chemtura, Lion Oil, and everybody involved that have made tremendous strides in the last twenty, thirty, fifty years. My grandfather worked for Monsanto. I have had several relatives heavily involved in Save the Ouachita, David Allen, and Terry Allen, etc. I would like to thank everybody for being so civil with their comments even those opposed. Todd Graves and Kent Stegall as I mentioned earlier, they've been very civil, very informative, very accurate, and very honest with their

comments. I appreciate that very much and I would like for you to take that into consideration. Thank you, sir.

RESPONSE #40

The ADEQ acknowledges this comment.

ISSUE #41

Mr. Chuck Campbell made the following oral comments during the public hearing:

I do want to thank you Mr. Maner and Director Devine and the ADEQ representative here. We know the hard work that has gone into the drafting of this NPDES permit, the construction permit, and all the activities associated with the proposed joint pipeline. We recognize that is one of the most stringent permits that has ever been issued by the State of Arkansas, certainly in this area. We just want you to know we do thank you in your efforts and continue to support you in that endeavor. There are a couple of issues that I did want to bring up with regard to some of the concerns with the citizens of Louisiana. I think we should all be concerned about the quality of the water in the Ouachita River but there are a couple of facts with regard to some recent studies that were prepared by the Louisiana Department of Environmental Quality. I am actually going to refer to this, and it is available on their website for those interested parties, so this is not something that I have made up. The title of the report is "The Ouachita TMDL: The Biochemical Oxygen Demanding Substances and Nutrients," Sub-segment 080101. The date on the report is July 31, 2002. Basically, this a report of a study that was done by LDEQ on the upper segments of the Ouachita River from the state line down to the Columbia Lock and Dam. What they have found is that there are periods during critical flows in the summer time where they cannot attain the water quality standards that they have established. They are taking corrective measures to address those issues with the discharges in Louisiana. However, I am going to read this directly from page 17, what they have said is: "Additional model runs were conducted to evaluate the impact of nutrients on Ouachita River is all oxygen at August critical conditions these model runs did not indicate that the dissolved oxygen is significantly impacted by increased nutrient discharges or by increased nutrient levels in the Ouachita River. This work does not therefore suggest that a TMDL for nutrients is needed." I just wanted to enter that into public record, it is already out there. Another point in regards to our friends below the border, we share the concerns for the Ouachita River, and we would encourage them to approach their local officials and the people in Baton Rouge and have them revise the permits that are currently for the municipalities and industries in this segment of the river because by and large they do not contain nitrogen or phosphorous limits. So, we do thank you for efforts and your appearance. That's all. Thank you.

RESPONSE #41

The ADEQ acknowledges this comment.

ISSUE #42

Mr. Frank Hash made the following oral comments during the public hearing:

Sir, I was born here. I'll be sixty-two in December. I have done recreation on Bayou de Loutre for all my life. It's a tremendous area down there and chosen by tens of thousands of people. Everything from frog gigging to duck hunting and fishing, it's just a teaming asset to the hunters and fishers of this area. I am just concerned that the new cutoff at five, eight, two million gallons per day year round, what the impact is going to be on that environment down there. I fear some adverse impact on the environment and also

the economy here. In this area we promote clean fishing as a future asset, not only an asset now, but a future asset to take the place of some other things we've lost. I think it's a grave mistake not to do an environmental study on the Bayou de Loutre and the loss of water that is eventually going to be cutoff. Thank you.

RESPONSE #42

Please see Responses #1, #2.a, and #18.l.

ISSUE #43

Ms. Lisa Vance made the following oral comments during the public hearing:

I live at 100 Summer Lane, in a county in Arkansas on the Ouachita River. I also own a home that is below the point of entry for the pipeline. I speak for myself and the home where my son will live and hopefully raise my grandchildren. I have a lot of concerns. I have not had a chance to put them down on paper and I intend to and mail them to you within the time period. In the past week to two weeks with all the fluctuation in rain, I see the river rise and fall. I am very concerned that you have not studied the impact of that and the chemicals that will be left lying on the sand barge. A lot of people use the river to fish maybe three, four, or five times a summer. I live there and I try to be in it three, four, or five times a week. If at all possible, my children are there with me. This scares me. I think that we are relying on something that can be messed up by human error or electricity going out. What will happen then? If there is going to be something to contain this or stop this? I am very concerned about the amounts of inspectors that the state has to follow through with this, as far as keeping an eye on the program. In months and years to come that it's not going to be one water inspector for ten counties, because these plants do operate twenty-four hours a day. In the past I ran into a situation where there was one inspector for situation and one of the plants involved was not necessarily operating the way that they should have been by the state and it was causing problems. It looks to me that we are trying to save a penny here and not necessarily considering what it could cost in the long run. I am very worried that the state is trying to push this through so that they don't necessarily have to deal with the pollution problem that is already existing. I really don't want to see this be the solution. I don't know what to suggest, maybe someone in this town can get Cheryl Johnson to try to get grants and things and push this through like we did for the Fresh Water Program. I think that it is important that we look at other options, like a state of the art treatment plant. Thank you.

RESPONSE #43

All of the entities involved are required to have the appropriate licensed operators employed at their facilities.

Part II, Section B, Condition #7 of each of the permits states that "The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failure either by means of alternate power sources, standby generators, or retention of inadequately treated effluent."

The facilities involved in the joint pipeline project will be inspected a minimum of once per year as is required per the ADEQ's agreement with EPA Region VI.

See Response #1.

ISSUE #44

The following comments on the Final Nutrient Model Study were submitted by **Barbara Romanosky of LDEQ**.

a: The study of the main stem of the Ouachita River utilized data from four collection events conducted between August 17 and September 22, 2005. The Ouachita was sampled at 6 sites and the Saline River at one site. Samples and in-situ measurements were taken at a depth of 1 foot. Calibration Ouachita River flow was reported as 1200 cfs. No full depth in-situ profiles were taken to see if the river was fully mixed top to bottom. We suspect that the dissolved oxygen measurements do not represent the average DO of the water column.

b. The version of QUAL2K used (there is no version number – it is probably the original version made available for general use) allows the waterbody to be divided into reaches of any length, and a steady state flow balance is calculated for each reach. In other words, each reach is simulated as a completely back-mixed portion of the waterbody. The model consists of 12 reaches ranging from 0.16 to 52.3 kilometers in length. Seven of these reaches are more than 10 times longer than their top width. One reach is 574 times longer than its width. This is an unacceptable modeling practice. Version 2.04 of QUAL2K allows the division of each reach into any number of completely back-mixed elements. We request that the Ouachita River be remodeled in version 2.04 or, if available in time, 2.05.

c. Because of the excessive length of some of the reaches, model numerical dispersion is unacceptably large, greatly exceeding longitudinal dispersion. This can be checked against the output because when the numerical dispersion exceeds the longitudinal dispersion, the bulk dispersion coefficient, E', is calculated solely from the numerical dispersion. Longitudinal dispersion is calculated from bottom trapezoidal width and trapezoidal depth. Although they are not shown in the model output, we have determined that the calculated values of longitudinal and numerical dispersion and E' for each reach are:

Longitudinal dispersion (m^2/s)	Numerical dispersion (m^2/s)	Model input longitudinal dispersion (m^2/s)	Bulk dispersion coefficient E' (m^3/s)
1.88	8.49	0.00	17.00
1.88	8.49	0.00	0.20
1.87	1,436.51	0.00	33.19
2.96	42.44	0.00	13.15
2.96	67.84	0.00	3.21
2.96	653.24	0.00	6.55
2.96	2,757.17	0.00	31.73
7.43	210.66	0.00	13.48
7.43	337.07	0.00	13.35
7.43	547.78	0.00	32.55
7.43	42.15	0.00	17.54
7.43	42.10	0.00	17.51
7.43	42.15	0.00	17.53

d. GBM^C & Associates reports that the model was calibrated to phytoplankton, dissolved oxygen, total nitrogen, and total phosphorus. It appears that an attempt was also made to calibrate organic nitrogen and ammonium. However organic phosphorus, inorganic phosphorus, nitrates, and fast CBOD were apparently not calibrated. LDEQ requests that the model be completely, and not just partially, calibrated. If unfiltered CBOD was run, UCBOD should also be calibrated. There is, of course, no point in recalibrating in the version of QUAL2K that was used.

e. In addition to the concerns of Item d, there was no calibration site below the Felsenthal Dam and although nutrients and BOD may be assumed to be unaffected by the dam the same is not true of phytoplankton. Lacking calibration below the dam, we think that even though LDEQ insists that the modeling effort extend below the dam, this model cannot reasonably do that.

f. The 7Q10 numbers used in the model are higher than the available information from USGS. We do think, however , that some adjustment for the drainage area between the USGS gage sites and the point of application is appropriate. We propose the following:

Ouachita River at Camden: 7Q10 = 648 cfs Drainage area = 5357 sq mi
Ouachita River below the mouth of
Smackover Creek: Drainage area = 6367 sq mi
Smackover Creek at mouth: Drainage area = 541 sq mi
Ouachita River above Smackover Creek: Drainage area = 6367-541 = 5826 sq mi
Ouachita River above Smackover Creek: 7Q10 ≈ 648*5826/5357 = 705 cfs

Saline river at Rye: 7Q10 = 12.0 cfs Drainage area = 2102 sq mi
Saline River at mouth: Drainage area = 3250 sq mi
Saline river at mouth: 7Q10 ≈ 12.0*3250/2102 = 18.6 cfs

The 7Q10 flows at the Camden and Rye gages are from the U.S. Geological Survey office in Little Rock. The 7Q10s are based on a climatic year (April through March) with a period of record of 1970 through 2004. The adjustment for intervening drainage area is by LDEQ.

g. We will not know what effect these problems have had on the projections until the model is recalibrated and reprojected. We have not yet checked the U.S. Army Corps of Engineers model of the Ouachita for a confirmation of geometry and surface slope, but plan to do so.

h. Questions to facilitate further review/calibration/projection

i. I did not find in the report any mention that the BODs were filtered as recommended in the manual. Were they filtered?
ii. Were unfiltered BODs run? If so would you please forward the results.
iii. Please confirm the statement in the report that the Ouachita River samples and in-situ measurements were taken at a depth of 1 foot.
iv. Were any full depth profiles of the river taken to see if the river was well mixed top to bottom at the calibration depth?
v. In calculating the 7Q10s, was the drainage area between the gages and the point of application taken into account?

i. Page 1 – The possibility of the El Dorado pipeline discharge increasing the phosphorus load downstream of the Felsenthal dam is mentioned as a concern that has been expressed. The ratio of TN to TP for the Ouachita has varied from 4.8 to 7.4 depending on the site and the data year,

indicating that nitrogen may be a limiting nutrient. Louisiana is therefore also concerned with nitrogen loading.

j. Page 7 – The anticipated load used in the projections is identified in Appendix D as associated with a combined pipeline discharge of 13.5 mgd. The Arkansas permit AR0050296 for the discharge from the pipeline includes a summer season monthly average load limitation for CBOD5 of 2,923.2 lb/d and a monthly average concentration limitation of 17.5 mg/l. This is consistent with a monthly or long term average discharge of 20 mgd. Louisiana standard steady state modeling protocol requires projections to be made at critical conditions of stream flow and temperature, and anthropogenic point sources to be modeled at long term average discharge rate and permitted pollutant concentrations. We can think of no justification for using a projection model discharge of less than the monthly average in this case, and therefore insist that the model projections be made at monthly average flow and concentration. This condition is identified by GBM^C & Associates as the full permitted discharge load.

In addition, the Louisiana DEQ makes all water quality projections using a 20% margin of safety for point sources at the insistence of EPA Region 6. Thus the pipeline discharge should be modeled at the monthly average loading limitation of 2,923.2 lb/d * 1.25 = 3,665.25 lb/d for the summer months.

k. Page 8 – Concerning critical conditions for projection, the U.S. Fish and Wildlife Service has commented that the Ouachita River critical (7Q10) flow at Camden, Arkansas should be 648 cfs rather than the 750 cfs reported in the permit and used by the model. The Louisiana DEQ generally makes water quality model projections at the annual 7Q10 flow and the summer season 90 percentile temperature. We have not checked the critical flows for the Ouachita and Saline Rivers or the critical temperature for the Ouachita used by GBM^C. If USF&W is correct, however, the model should be reprojected at an upstream Ouachita River flow of 648 cfs (18.35 cms).

l. Pages 83 to 92 – Figure 6.26, the total nitrogen predictions at critical stream conditions and full permitted discharge load (with a 750 cfs Ouachita River critical flow and without a MOS for the pipeline point source), show about an 85% increase in TN below the Felsenthal Dam for the projection with the pipeline discharge compared to the projection without the pipeline. As mentioned above, it is quite possible that nitrogen is a limiting nutrient for the Ouachita in Louisiana. Additional nitrogen loading is therefore of concern, and an 85% increase can reasonably be expected to increase phytoplankton growth and the corresponding trophic index of the Ouachita River in Louisiana.

Figure 6.18, the total phosphorus predictions at critical stream conditions and full permitted discharge load, show a 17% increase in TP below the Felsenthal Dam for the projection with the pipeline discharge compared to the projection without the pipeline. Considering the existing ratio of TN to TP in the Ouachita River in Louisiana, this additional phosphorus may not be a problem.

Figure 6.22, the chlorophyll a predictions at critical stream conditions, show about a 62% increase in chlorophyll a below the Felsenthal Dam for the projection with the pipeline discharge compared to the projection without the pipeline. The concentration of phytoplankton is apparently reacting to the increased nutrient load.

Figure 6.14, the dissolved oxygen predictions at critical stream conditions, show no change in dissolved oxygen below the Felsenthal Dam for the projection with the pipeline discharge compared to the projection without the pipeline. We will need additional time to investigate the simulation of dissolved oxygen before commenting on the dissolved oxygen projections.

RESPONSE #44

a. Dissolved oxygen depth profiles were measured at three locations (OUA-B, OUA-0.5 and OUA-3) in the river on August 17, 2006. The river dissolved oxygen levels were found to vary insignificantly (less than 1.0 mg/L) at depths up to approximately 15 feet, which is deeper than the overall average river depth. Only near the river bottom in its deepest reaches (20 ft- 25 ft) did the dissolved oxygen variation exceed the 1.0 mg/L level. Based on this information and on the desired focus of the model, which was eutrophication, the shallower routinely measured values were determined to be an adequate representation of the system.

b. There is no stated limit to the acceptable reach length in the QUAL2K model. The new QUAL2K version 2.04 does divide each reach into multiple computational elements and allows for more reach specific coefficient inputs, but it was not available when the workplan was written and approved and when the modeling process was began in late 2005 early 2006. Use of QUAL2K version 2.04 is unnecessary to provide accurate water quality predictions. The existing QUAL2K input data files cannot be used directly in QUAL2K version 2.04 without major new data entry and calibration. The time required to set-up version 2.04, recalibrate the model, and report results would greatly hinder the permitting process and provide little to no new information. In addition, LDEQ had an opportunity to comment on the study workplan which included the models intended for use and at that time LDEQ agreed that QUAL2K was "...appropriate to the task."

c. Dispersion was calculated internally by the QUAL2K model. Model numerical dispersion does exceed longitudinal dispersion in some cases and the model then assigns a zero for dispersion. As noted in the QUAL2K guidance manual the effect this discrepancy has on concentration gradients is "...negligible." Reach lengths, specifically Reaches 2 and 6, were decreased to less than 10 miles at the request of ADEQ.

d. The focus of the model calibration was chlorophyll-a, dissolved oxygen, total phosphorus and total nitrogen. In addition to these an effort to calibrate the model to inorganic phosphorus, dissolved organic phosphorus, ammonium, dissolved organic nitrogen and CBODu (at the request of LDEQ in their comments on the workplan) was also completed satisfactorily.

e. Data collection in the Ouachita River was restricted to reaches above the Felsenthal dam. There was no calibration point in the river below the dam. However, the model was set-up to allow predictions below the dam for a distance of 1 mile. Predictions were restricted to only one mile below the dam as the oxygen demand had already been exerted by this point and so as not to complicate the model with inflows from Coffee Creek.

f. The 7Q10 of 750 cfs used in the draft permit for the Joint Pipeline discharge and in the nutrient modeling study is accurate for the period of record utilized (climatic data years 1982-2001), and is the same flow utilized by ADEQ in their desktop model completed for this project in its early stages. The actual 7Q10 calculated for the Camden gauge (No. 07362000) was 745 cfs and it was rounded up to 750 cfs to account for additional inflows between the Camden gauge and the Thatcher Lock and Dam (GBMc Memorandum dated March 16, 2005).

The 1982-2001 period of record was chosen as it reflected the most current 20 years of USGS approved flow data (no preliminary data was used) available from the Camden gauge at the time the original dissolved oxygen model was run for the project in late 2002. In addition, the 1982 beginning data year approximated the time that the Thatcher Lock and Dam and the Felsenthal Lock and Dam were constructed, so the time period selected more accurately reflects current

operational conditions in the river reach of concern. Both the Thatcher and Felsenthal lock and dams currently operating in the lower Ouachita River were not completed until 1984 (personal communication with USACE Vicksburg District personnel).

Lastly, the 7Q10 of 750 cfs at the Camden gauge is consistent with the 7Q10 calculated at the state line (802 cfs) and used in the Ouachita River TMDL completed by LDEQ (LDEQ, 2002, 2006). The 7Q10 flow of 648 cfs proposed by the AGFC and the USF&WS in their comments on the draft permit was calculated by the USGS using a different period of record to that calculated by GBMc. The USGS 7Q10 was based on data dating back to 1970 and extending to 2004. That time frame predates the construction of the Thatcher and Felsenthal lock and dams as they exist today.

Based on this documentation, the 750 cfs is an appropriate 7Q10 flow for the reach of the Ouachita River of concern and should continue to be utilized.

g. ADEQ acknowledges this comment.

h. i. Analytical analysis of CBODu was completed using SM5210C as requested by LDEQ in their workplan comments. All CBOD5 samples were analyzed according to SM5210B.

ii. See Response #44.h.i.

iii. Samples collected during the field study were collected from approximately 1 foot below the water surface as stated in the workplan. Collectors generally took samples at an elbows depth which is typically about 1 foot deep, but could be as much as 1.5 feet in depth.

iv. See Response #44.a.

v. See Response #44.f.

i. Data collected in the lower half of the Ouachita River (Stations OUA-2, OUA-2.5 and OUA-3) during the field study (August-September 2005) revealed TN:TP ratios ranging from 5 to 32. The results are inconclusive as to the limiting nutrient in the Ouachita.

j. In regards to the request that the discharge be modeled at long term average discharge rate and permitted concentration; modeling Scenario 2 (critical stream conditions using anticipated loads) meets this criteria for all constituents except total phosphorus. The more conservative Scenario 1 (critical stream conditions using permitted flow of 20 mgd) model run was completed at 7Q10 river flow (750 cfs) and at design pipeline flow of 20 mgd as is required by the ADEQ.

There is a sizable margin of safety for dissolved oxygen in the model. The remaining assimilative capacity under the Scenario 1 predictions is approximately 25% for oxygen demanding wastes (ammonia and CBOD). In addition, several conservative assumptions are built into the model which provides an additional margin of safety.

k. See Response #44.f.

l. The 85% increase in TN, the 18% increase in TP and the 62% increase in chlorophyll-a calculated by LDEQ is consistent with the model predictions. However, the limiting nutrient in the Ouachita River is uncertain (See first response above). We agree that dissolved oxygen levels predicted by the model under critical conditions, below the Felsenthal Dam, show little to no difference with the pipeline discharge as compared to without the pipeline discharge.

Page 20 of the Revised Nutrient Modeling Study estimates the downstream chlorophyll-a concentration for three critical (July – October) scenarios – (1) current condition with no discharge from the pipeline, (2) pipeline discharging maximum flow of 20 MGD where Total Phosphorous = 1 mg/l, and (3) pipeline discharging anticipated flow of 13.5 MGD where Total Phosphorous = 1 mg/l. The model predicts no net increase of chlorophyll-a concentration for the anticipated flow of 13.5 MGD. However, at the maximum flow of 20 MGD, the model does predict an increase in chlorophyll-a concentration. The Total Phosphorous concentration limits for the months of July – October have been reduced by the ratio of the flows (13.5:20 = 0.7) so

there will be no net increase of chlorophyll-a concentrations. The Total Phosphorous concentrations for the months of July – October will be 0.7 mg/l on a monthly average and 1.4 mg/l on a daily maximum. The mass limitations have been changed accordingly.

ISSUE #45

Comments on the "Final Report Ouachita River Joint Pipeline Group Nutrient Modeling Study" dated June 1, 2006, from U.S. EPA.

a. Page 4, under "Discussion of Findings Current Conditions". The first sentence states the current load of the Ouachita, is this at the Felsenthal Dam at the bottom of the study area? Clarify the sentence. The current load of the Ouachita includes the load of several of the dischargers to the pipeline. The pipeline is not an entirely new load to the Ouachita River. It needs to be clear that the nutrient mass balance at the point that Bayou de Loutre enters the Ouachita River in Louisiana is approximately the same before and after the pipeline excluding flow increases for dischargers. The pipeline project is applying the nutrients at different points of the stream network. The concentrations at certain points are different, but at the point that Bayou de Loutre enters the Ouachita River in Louisiana the post-pipeline condition and the pre-pipeline condition would be the same. The second sentence states the full capacity of the pipeline. The net pipeline increase should also be stated. There should also be a statement of the percentages from the current condition, which includes some of the dischargers.

b. Page 5, under "Discussion of Findings Current Conditions". Paragraph 2. The fact that 10,000 acres of the shallow low pool lake were created as a result of installing the dam was not stated. The lake was not intended to be a conventional deep lake. It was created to be a green tree reservoir. When the pool elevation is raised for duck season (flooding an additional 21,000 acres), it is the only time much of Felsenthal Lake is deep enough to be a lake. The design and operation of the green tree reservoir controls the conditions in Felsenthal Lake, not the nutrient concentrations in the Ouachita River.

c. Page 5, under "Discussion of Findings, Current Conditions, Water Quality". Paragraph 1. The first sentence ends with, "compared to baseline levels." Does this mean the current condition used for calibration that includes some of the pipeline dischargers or a calculated baseline with none of the pipeline dischargers? This is a common question anytime a baseline option is provided in any of the models.

d. Page 9, under "Ouachita River" Figure V. The lower text box misspells critical. The value plotted needs to be displayed on the bar chart. This is for all bar charts. The plot depicts what point on the river? The predicted range on the baseline indicates that is the range for the entire length of the river or some confidence interval. please explain. The pipeline bar does not have a predicted range, please explain.

e. Page 55, Section 6.1, Figure 6.1 The narrative states that the model is 12 reaches, the schematic in figure 6.1 specifies 11 reaches. Please place the river mile numbers for the identified points on the schematic. The schematic now only has two river mile notations out of 12 points. This will increase the understanding of the river model. Also add notations and river miles for Moro Creek and the Saline River.

f. Page 63, Section 6.1.5, Table 6.4 The row for "Inorganic P" does not specify a unit of measurement.

g. Page 75, Section 6.2.1.5, Table 6.11. The "Variable" column does not specify the units of each variable. The "Oxygen Value" and "Difference" columns also do not specify the units.

h. Page 75, Section 6.2.1.5, Table 6.12 The "Variable" column does not specify the units of each variable. The "Chl-a Value" and "Difference" columns also do not specify the units.

i. Page 93, Section 6.3.1, Trophic State Indices, Table 6.17. The "Model Scenario" for row one and row 5 have the same text but have different numbers in the 4 columns, does the description need

to be changed on one or both of the rows? The same is true for rows 3 and 7. Verify this table has the proper descriptions and the proper data.

j. Page 105, Section 7.0, Conclusions. The first sentence could be read two different ways, it needs clarification. It could mean that from a Trophic State Index of 50 (eutrophic) to a Trophic State Index of 70 (hypereutrophic) there is an allocation of 1334 lb/day. It could mean that from a Trophic State Index of 50 (eutrophic) the worst case baseline in summer conditions to a Trophic State Index of 70 (hypereutrophic) there is an allocation of 1334 lb/day. Please rework the sentence.

k. Appendix D, Table 5. The stated adjustments to the loads from Smackover Creek when using pipeline inputs seems odd. The nitrate load from Smackover Creek is the same for the calibration and Baseline/Anticipated loads. How can the anticipated and full permit be the same load in the two columns? If the baseline is with two dischargers in Smackover Creek, and the full permitted load has those two dischargers now in the pipeline, how can Smackover Creek have the same load? The same for flow, how can Smackover Creek have the same flow at calibration, and anticipated load with the pipeline. Are there adjustments to the values with and without the pipeline? It would be clearer with multiple tables showing the different values for each scenario, then it would be obvious the changes to Smackover Creek with and without the pipeline. When developing the tables it may show that the nitrate and phosphorus for El Dorado –North and El Dorado Chemical were included twice.

RESPONSE #45

EPA provided several editorial comments and recommendations for clarification of report content that would improve the reader's ability to follow concepts and better comprehend the technical results. Those comments, which have not been included in Issue #45, will be taken into consideration should a revision to the final report be required.

a. We agree that at the point that Bayou de Loutre enters the Ouachita River the phosphorus load, in the river, would be essentially the same prior to the pipeline as would be with the pipeline. However, nitrogen loads would likely be lower at the point the bayou enters the river prior to the pipeline, as some nitrogen is lost to the atmosphere and or permanently assimilated in the water as it moves down Bayou de Loutre.

b. We agree that the water level management practices ("...design and operation of the green tree reservoir...") in Felsenthal NWR control the conditions in the lake rather than the nutrient concentrations in the Ouachita River. It has been our contention from the beginning that the shallow backwater areas created by the current reservoir management practices are what has incited the massive aquatic vegetation growth. The majority of the Felsenthal system, while at permanent pool level, is considerably less than 6 feet deep and is not a "lake" but rather a wetland system.

c. The usage of the word "baseline" refers to conditions in the river as they would be if the pipeline was not built. That is, with two of the pipeline dischargers going to Smackover Creek.

d. Trophic State values resulting from the modeling predictions presented in the Executive Summary and in Section 7.0 are at Station OUA-3 unless otherwise stated. The range bars displayed on some charts in the report depict the output range (minimum to maximum) predicted by the modeling, unless otherwise noted.

e. Figure 6.1 displays only 11 model reaches while there were actually 12. Reach 11 on Figure 6.1, below the Felsenthal Lock and Dam, should be divided into two equally spaced reaches. The first half mile was used to accommodate dam reaeration while the final half mile reach was used to extend the model to its endpoint.

f. In table 6.4 "Inorganic P" should be labeled with units of ug/L.

g. The units for dissolved oxygen in Table 6.11 are in mg/L.

h. The units for Chlor-a in Table 6.12 are in µg/L.

i. Baseline conditions depicted in Table 6.17 reflect loads based either on full pipeline discharge capacity or anticipated discharge levels. To ensure comparisons between baseline and pipeline runs were on even ground some adjustments had to be made to existing loads in Smackover Creek to resemble what they would be currently under each scenario. That is, under a scenario where the pipeline is in place and discharging at full capacity the dischargers would also be discharging larger loads to Smackover Creek in the absence of the pipeline, and the same being true of the lower loads under the anticipated discharge scenario. Adjustments were made mostly to phosphorus levels and flow levels to account for these scenarios, as nitrogen and CBOD experience more decay and or atmospheric losses in their trip down Smackover Creek.

j. The first sentence in Section 7 under the "Conclusions" subheading refers to the phosphorus load required to increase the trophic status of the river at OUA-3 under critical model conditions (TSI of about 55) to hypereutrophic (70). This was accomplished by increasing the Scenario 1 (Section 6.3) point source phosphorus load from the pipeline to a level where the overall trophic status calculated from the model predictions of nitrogen, phosphorus and chlor-a at OUA-3 in the river reached the hypereutrophic threshold.

k. As discussed previously there are some nitrogen losses during the travel time down Smackover Creek. Therefore, rather than attempt to calculate nitrogen decay in Smackover Creek, nitrogen concentrations were determined by model calibration and used throughout the study. We agree that in some discharge scenarios this may cause nitrogen to be double counted, but we believe only slightly, and it allows the predictions to remain conservative.

ADEQ COMMENT #1

A Revised Nutrient Modeling Study was submitted on February 13, 2007, in response to the comments from LDEQ and ADEQ. Revisions to the model focused on the resegmenting of reaches 2 and 6, and on adjustment to reach channel geometry to provide more variation and to mimic the dimensions provided in the US Army Corps of Engineers HEC-RAS model. Detailed information concerning the revised channel geometry was provided in the report. Results of the revised modeling indicate that the dissolved oxygen standard is maintained under all modeled scenarios.

Page 20 of the Revised Nutrient Modeling Study estimates the downstream chlorophyll-a concentration for three critical (July – October) scenarios – (1) current condition with no discharge from the pipeline, (2) pipeline discharging maximum flow of 20 MGD where Total Phosphorous = 1 mg/l, and (3) pipeline discharging anticipated flow of 13.5 MGD where Total Phosphorous = 1 mg/l. The model predicts no net increase of chlorophyll-a concentration for the anticipated flow of 13.5 MGD. However, at the maximum flow of 20 MGD, the model does predict an increase in chlorophyll-a concentration. This increase is from 8.25 µg/l to 12.57 µg/l.

Therefore, the Total Phosphorous concentration limits for the months of July through October have been reduced by the ratio of the flows (13.5:20 = 0.7) to address the predicted net increase of chlorophyll-a concentrations. The Total Phosphorous concentrations for the months of July through October will be 0.7 mg/l on a monthly average and 1.4 mg/l on a daily maximum. The mass limitations have been changed accordingly.

ADEQ COMMENT #2

The interim limits have been removed from Lion Oil Company – El Dorado Refinery's permit (AR0000647). These interim limits expired on February 28, 2007.

ADEQ COMMENT #3

The following condition has been added to State Construction Permit No. AR0049743C:

"The permittee must submit the final route of the pipeline to the Department for its review prior to the beginning of construction."

ADEQ

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

February 28, 2007

CERTIFIED MAIL RETURN RECEIPT REQUESTED: (7005 1160 0000 3848 0187)

W. Glenn Holmes
El Dorado Water Utilities
P.O. Box 1587
El Dorado, AR 71731

RE: NPDES Permit Number AR0049743C

Dear Mr. Holmes:

This letter constitutes notice of the Department's final permit decision and a copy of the final permit is enclosed. The attached response to comments describes any substantial changes from the draft permit.

The applicant, and any other person submitting written comments during the comment period, and any other person entitled to do so, may request an adjudicatory hearing and Commission review on whether the decision of the Department should be revised or modified. Such a request shall be in the form and manner required by Department Regulation No. 8.

CERTIFICATE OF SERVICE

I, Martin Maner, hereby certify that a copy of this permit has been mailed by first class mail to W. Glenn Holmes at P.O. Box 1587, El Dorado, AR 71731 on February 28, 2007.

Martin Maner, P.E.
Chief, Water Division

CONSTRUCTION PERMIT
Permit Number: AR0049743C

TO:

El Dorado Water Utilities
P.O. Box 1587
El Dorado, AR 71731

Consulting Engineer:

GBMc & Associates
219 Brown Lane
Bryant, Arkansas 72022

This permit is your authority to construct or modify the wastewater treatment system in accordance with the permit application and plans and specifications (P&S) which were received on 11/16/2004. This permit is issued subject to the provisions of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Stats., § 8-4-101 et seq.), and the following terms and conditions:

1. This permit shall automatically terminate unless construction of this project has been commenced within one year from the effective date and completed with all reasonable diligence. The permittee shall **notify** the Department when construction **begins**. The pipeline shall be constructed or modified in accordance with the final plans and specifications as approved by the Arkansas Department of Environmental Quality. In case any statement or representation in the aforementioned documents is found to be incorrect, this Approval may be revoked.

2. Within **thirty (30)** days of completion of construction, the Professional Engineer (PE) registered in Arkansas shall submit written certification to the Department (Enforcement Section of Water Division) that the pipeline has been constructed or modified in accordance with the approved plans and specifications.

3. This permit is issued in reliance upon the statements and representations made in the application and the plans and specifications and the Department has no responsibility for adequacy or proper functioning of the disposal system. Approval of the plans and specifications by the Department does not constitute assurance that the disposal system will achieve the effluent limitations required by the final NPDES permit, or that the NPDES discharge permit will be issued.

4. If the construction site will disturb in excess of one (1) acre, the permittee must comply with the terms of ARR150000 prior to the start of construction.

5. The facilities to be served by this pipeline are located as follows:

   Lion Oil Company is located at 1000 McHenry Street, in the southwest section of El Dorado, located between Highway15 and Highway 82 bypass, in Section 32, Township 17 South, Range 15 West in Union County, Arkansas; Latitude: 33° 11' 56"; Longitude: 92° 40' 33".

   Great Lakes Chemical Corporation – Central Plant is located on the west side of Hwy. 15, approximately 2 miles south of U.S. Hwy. 82 at 2226 Haynesville Highway (Hwy. 15 South), in Section 1, Township 18 South, Range 16 West in Union County, Arkansas; Latitude: 33° 11' 07"; Longitude: 92° 42' 21".

   El Dorado Water Utilities' North Plant is 2300 feet south and 800 feet east of the intersection of Hwys. 167 and 167B at 1119 Victor Dumas Drive in Section 15, Township 17 South, Range 15 West in Union County, Arkansas; Latitude: 33° 14' 54"; Longitude: 92° 38' 43". **El Dorado Water Utilities' South Plant** is 8000 feet west and 4900 feet south of the intersection of Hwy. 167 and the Hwy. 82

bypass at 325 Quail Crossing in Section 9, Township 18 South, Ranges 15 West in Union County, Arkansas; Latitude: 33° 10' 28"; Longitude: 92° 39' 43".

El Dorado Chemical Company is 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".

6. The receiving waters named: 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 outfall is located at the following coordinates: Outfall 001: Latitude: 33° 17' 30"; Longitude: 92° 28'12"

7. This permit is for the construction of an approximately 125,000 ft. pipeline (total combined length of all sections of the pipeline) which will carry the treated waste waters of Lion Oil Company, Great Lakes Chemical Company – Central Plant, El Dorado Water Utilities' North and South Plants, and El Dorado Chemical Company. This permit is being issued only to the El Dorado Water Utilities because the City of El Dorado is the entity responsible for the construction and maintenance of the pipeline.

8. The permittee must submit the final route of the pipeline to the Department for its review prior to the beginning of construction.

Issue Date: February 28, 2007

Effective Date: April 1, 2007

Martin Maner, P.E.
Chief, Water Division

FINAL STATEMENT OF BASIS

for issuance of a Construction Permit Number AR0049743C.

The issuing office is:

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

The applicant is:

El Dorado Water Utilities
P.O. Box 1587
El Dorado, AR 71731

1. CONSTRUCTION PERMITTING AUTHORITY

This permit is your authority to construct or modify the wastewater treatment system in accordance with the permit application and plans and specifications (P&S) which were received on 11/16/2004 . This permit is issued subject to the provisions of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Stats., § 8-4-101 et seq.), Section 6.202 of Arkansas Regulation No. 6, and Recommended Standards for Wastewater Facilities(10 States Standards).

2. DISCLAIMER

This permit is issued in reliance upon the statements and representations made in the application and the plans and specifications. The Department has no responsibility for adequacy or proper functioning of the disposal system. Approval of the plans and specifications by the Department does not constitute assurance that the disposal system will achieve the effluent limitations required by the final NPDES permit, or that the discharge permit will be issued.

3. CONSTRUCTION PROPOSED IN APPLICATION

This permit is for the construction of an approximately 116,691 ft. pipeline which will carry the treated waste waters of Lion Oil Company, Great Lakes Chemical Company – Central Plant, El Dorado Water Utilities' North and South Plants, and El Dorado Chemical Company.

This permit is being issued only to the El Dorado Water Utilities because the City of El Dorado is the entity responsible for the construction and maintenance of the pipeline.

4. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

The receiving waters named: 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 monitoring outfall is located at the following coordinates: Outfall 001: Latitude: 33° 17' 30"; Longitude: 92° 28'12".

5. CONTACT PERSON

For additional information, contact:

Loretta Reiber, P.E.
Arkansas Department of Environmental Quality
8001 National Drive
Post Office Box 8913
Little Rock, Arkansas 72219-8913
Telephone: (501) 682-0622

Appendix B

Site Maps and Drawings

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
SMACKOVER QUADRANGLE
ARKANSAS
7.5 MINUTE SERIES (TOPOGRAPHIC)
Smackover
Norphlet
Sandy Land
Kenova
Joyce City
Standard Umpstead
Holmes
Creek
SMACKOVER OIL AND GAS FIELD
CHEMICAL PLANT
TANK FARM
Substation
Picnic Area
EL DORADO CHEMICAL COMPANY
Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography by photogrammetric methods from aerial photographs taken 1962. Field checked 1962
Polyconic projection. 1927 North American datum
10,000-foot grid based on Arkansas coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 15, shown in blue
Fine red dashed lines indicate selected fence and field lines visible on aerial photography. This information is unchecked
To place on the predicted North American Datum 1983, move the projection lines 10 meters south and 15 meters east as shown by dashed corner ticks
Revisions shown in purple compiled from aerial photographs taken 1984 and other sources. This information not field checked. Map edited 1985
SCALE 1:24 000
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
AND ARKANSAS GEOLOGICAL COMMISSION, LITTLE ROCK, ARKANSAS 72204
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
ROAD CLASSIFICATION
Heavy-duty
Medium-duty
Light-duty
Unimproved dirt
U.S. Route
State Route
SMACKOVER, ARK.
SW/4 SMACKOVER 15' QUADRANGLE
33097-C6-TF-024
1962
PHOTOREVISED 1985
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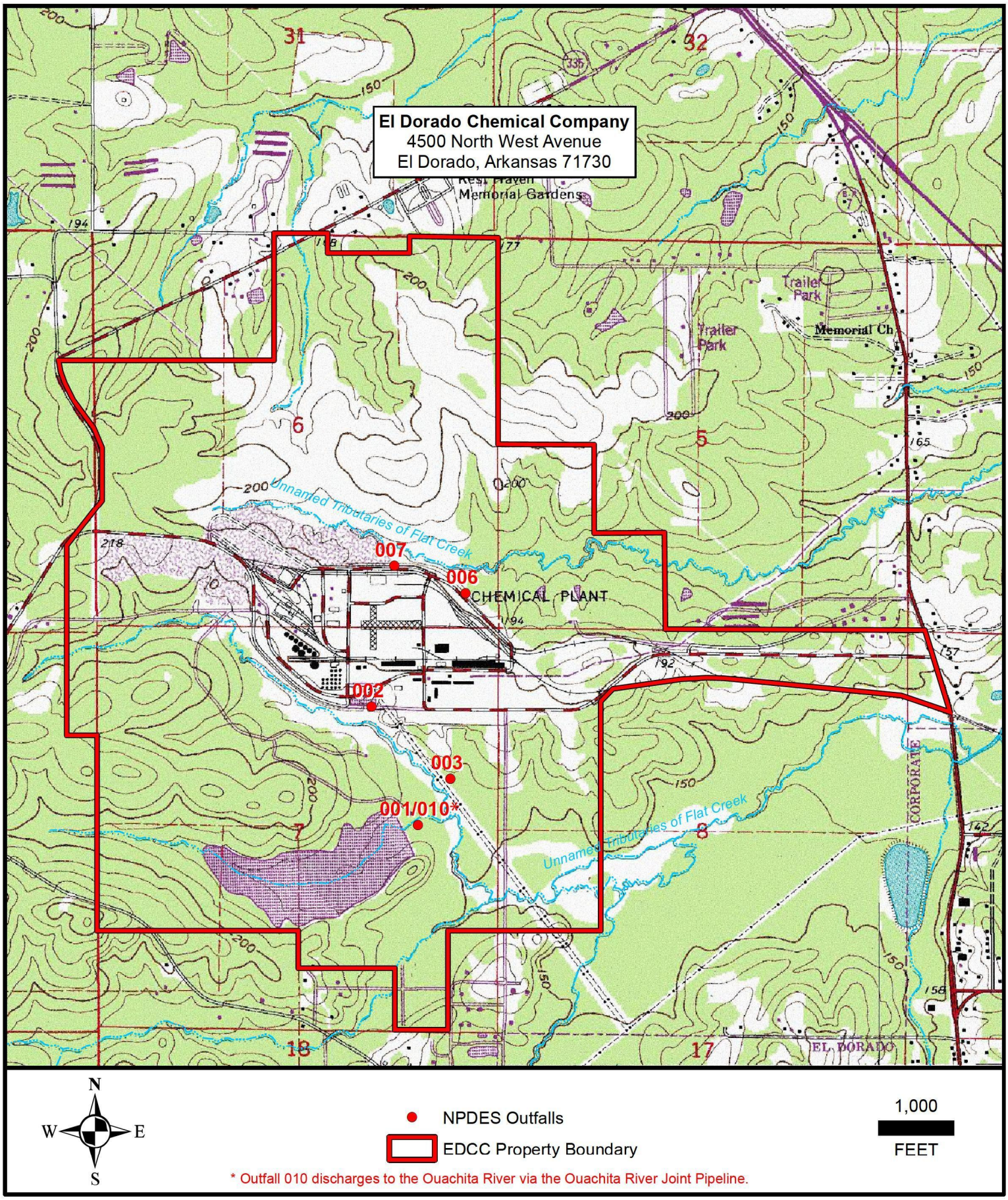
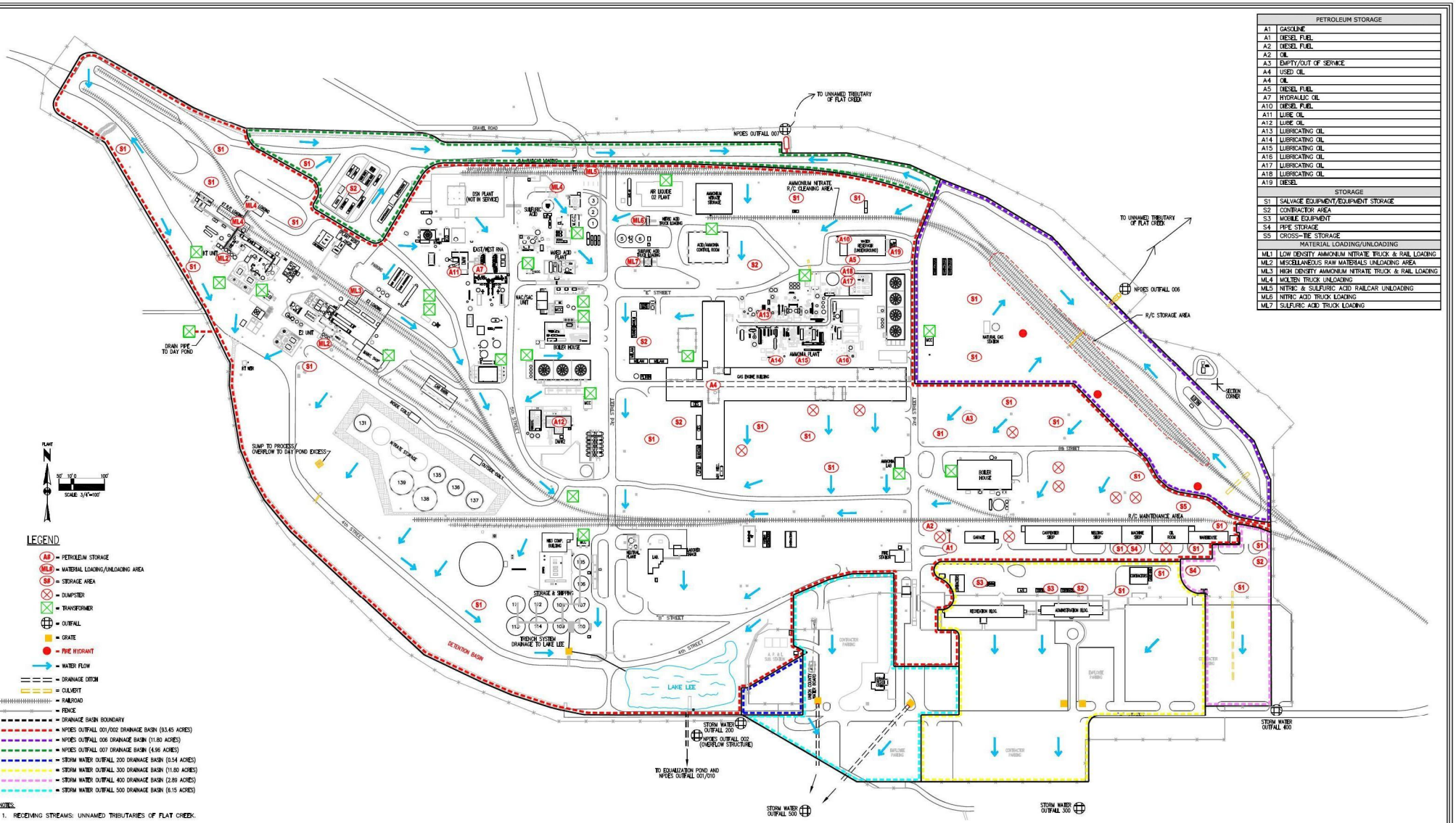


El Dorado Chemical Company property boundary and outfall locations.



PETROLEUM STORAGE	
A1	GASOLINE
A1	DIESEL FUEL
A2	DIESEL FUEL
A2	OIL
A3	EMPTY/OUT OF SERVICE
A4	USED OIL
A4	OIL
A5	DIESEL FUEL
A7	HYDRAULIC OIL
A10	DIESEL FUEL
A11	LUBE OIL
A12	LUBE OIL
A13	LUBRICATING OIL
A14	LUBRICATING OIL
A15	LUBRICATING OIL
A16	LUBRICATING OIL
A17	LUBRICATING OIL
A18	LUBRICATING OIL
A19	DIESEL
STORAGE	
S1	SALVAGE EQUIPMENT/EQUIPMENT STORAGE
S2	CONTRACTOR AREA
S3	MOBILE EQUIPMENT
S4	PIPE STORAGE
S5	CROSS-TIE STORAGE
MATERIAL LOADING/UNLOADING	
ML1	LOW DENSITY AMMONIUM NITRATE TRUCK & RAIL LOADING
ML2	MISCELLANEOUS RAW MATERIALS UNLOADING AREA
ML3	HIGH DENSITY AMMONIUM NITRATE TRUCK & RAIL LOADING
ML4	MOLTEN TRUCK UNLOADING
ML5	NITRIC & SULFURIC ACID RAILCAR UNLOADING
ML6	NITRIC ACID TRUCK LOADING
ML7	SULFURIC ACID TRUCK LOADING

LEGEND

- A# = PETROLEUM STORAGE
- ML# = MATERIAL LOADING/UNLOADING AREA
- S# = STORAGE AREA
- = DUMPSTER
- = TRANSFORMER
- = OUTFALL
- = GRATE
- = FIRE HYDRANT
- = WATER FLOW
- = DRAINAGE DITCH
- = CULVERT
- = RAILROAD
- = FENCE
- = DRAINAGE BASIN BOUNDARY
- = NPDES OUTFALL 001/002 DRAINAGE BASIN (93.45 ACRES)
- = NPDES OUTFALL 006 DRAINAGE BASIN (11.80 ACRES)
- = NPDES OUTFALL 007 DRAINAGE BASIN (4.96 ACRES)
- = STORM WATER OUTFALL 200 DRAINAGE BASIN (0.54 ACRES)
- = STORM WATER OUTFALL 300 DRAINAGE BASIN (11.80 ACRES)
- = STORM WATER OUTFALL 400 DRAINAGE BASIN (2.89 ACRES)
- = STORM WATER OUTFALL 500 DRAINAGE BASIN (6.15 ACRES)

NOTES:

1. RECEIVING STREAMS: UNNAMED TRIBUTARIES OF FLAT CREEK.
2. NON-STORM WATER DISCHARGES: STEAM CONDENSATE, AIR CONDITIONER CONDENSATE, AND COMPRESSOR CONDENSATE ARE PRESENT ON-SITE. DUE TO THE SCALE OF THE MAP, SPECIFIC LOCATIONS CANNOT BE SHOWN. RIVER WATER MAY BE USED FOR DUST SUPPRESSION ON ANY ROADS LOCATED WITHIN THE FACILITY PROPERTY.

NO	DATE	REVISION	BY	CK.	APPR.

DESIGNED BY IT
CHECKED BY AAG
APPR. BY AAG
DRAWN BY AAG

GBMc
Strategic Environmental Services
219 Brown Lane
Bryant, Arkansas 72022

SHEET TITLE: FACILITY SITE MAP

JOB NAME: STORM WATER POLLUTION PREVENTION PLAN
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

PROJECT NO. 2042-99-010
DATE 09/27/2016
SCALE SHOWN
REV. NO.
DWG. NO. S1

Appendix C

Spill Log

The facility maintains an electronic spill/release tracking system. The spill log contained in this appendix may be used if the electronic system is not available.

El Dorado Chemical Company
El DORADO, ARKANSAS
List of Significant Spills and Leaks & Spill Log

Directions: Record below all significant spills and leaks of toxic or hazardous pollutants that have occurred at the facility since the date three years prior to the effective date of the permit.

Definitions: Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of reportable quantities

1st year prior to the effective date of the Permit:

Date (month/day/year)	Spill or Leak	Log Completed By	Location (as indicated on site map)	Description				Response Procedure		Preventive Measures Taken
				Type of Material	Quantity	Source, If Known	Reason	Amount of Material Recovered	Material still Exposed to Storm Water (Yes/No)	
NONE										

2nd year prior to the effective date of the Permit:

Date (month/day/year)	Spill or Leak	Log Completed By	Location (as indicated on site map)	Description				Response Procedure		Preventive Measures Taken
				Type of Material	Quantity	Source, If Known	Reason	Amount of Material Recovered	Material still Exposed to Storm Water (Yes/No)	
NONE										

3rd year prior to the effective date of the Permit:

Date (month/day/year)	Spill or Leak	Log Completed By	Location (as indicated on site map)	Description				Response Procedure		Preventive Measures Taken
				Type of Material	Quantity	Source, If Known	Reason	Amount of Material Recovered	Material still Exposed to Storm Water (Yes/No)	
NONE										

El Dorado Chemical Company
El DORADO, ARKANSAS
List of Significant Spills and Leaks & Spill Log

Directions: Record below all significant spills and significant leaks of toxic or hazardous pollutants that have occurred at the facility since the effective date of the permit.

Definitions: Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of reportable quantities

Since the effective date of the permit:

Date (month/day/year)	Spill or Leak	Log Completed By	Location (as indicated on site map)	Description				Response Procedure		Preventive Measures Taken
				Type of Material	Quantity	Source, If Known	Reason	Amount of Material Recovered	Material still Exposed to Storm Water (Yes/No)	

Appendix D

Summary of NPDES Outfall Monitoring Data

The facility maintains a summary of sample results in electronic format.

Appendix E

Training Form

EL DORADO CHEMICAL COMPANY
SWPPP EMPLOYEE TRAINING RECORD

Page _____ of _____

Date of Training:	Instructor's Name:
Scope of Training (Topics Covered):	
Class Roster	
Print Name	**Signature**

_____ _____
Instructor's Signature Date

Appendix F

Non-Storm Water Certification

EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS
NON-STORM WATER CERTIFICATION

I, Greg Withrow, certify that (1) the outfalls and drainage areas covered by Permit No. ARR000000 have been evaluated for the presence of non-storm water discharges, (2) that non-storm water discharges from these outfalls, and drainage areas if applicable, are identified in the SWPPP, and (3) that no non-storm water discharges are made via the outfalls covered by the permit other than those non-storm water discharges authorized and identified in the SWPPP.

Date of evaluation: 07-12-2016

Description of the evaluation criteria or testing method used: No Flow Visual

List of the outfalls that were directly observed during the evaluation: Outfall 200, 300, 400, 500, 006 & 007

A. Name and Official Title (type or print)	B. Area Code and Telephone No.
Greg Withrow Site Manager	870-863-1400
C. Signature	D. Date Signed
Greg Withrow	07/13/16

Appendix G

Facility Inspection Forms

EL DORADO CHEMICAL COMPANY
STORM WATER POLLUTION PREVENTION PLAN
RECORD OF INSPECTION

This form serves to document the inspections of areas and equipment that have the potential to contribute pollutants to storm water. The following areas will be inspected for, if applicable, corroded or damaged drums or drums without covers; corroded or damaged tanks and/or tank valves; leaking pumps and/or hose connections; leaking valves and/or valve fittings; evidence of leaks or spills; improperly stored materials; condition of secondary containment; obstruction to any storm water conveyances; material/area compatibility; and maintenance and/or repairs needed.

Area	Inspection Items	Response
Equipment Storage Areas	Equipment stored properly? Other:	
Raw Material and Product Storage Areas	Evidence of spills or leaks? Other:	
Railcar Cleaning Areas	Evidence of spills or leaks? Other:	
Dumpsters	Debris or trash in area? Other:	
Used Oil Tank Area	Evidence of spills or leaks? Other:	
Petroleum Product ASTs	Evidence of spills or leaks? Other:	
Loading/Unloading Areas	Debris or trash in area? Evidence of spills or leaks? Other:	
Erosion Control	Evidence of erosion? Other:	
Other:		
List Maintenance or Housekeeping Needs:		
Date:	**Name:**	

Appendix H

Annual Comprehensive Site Compliance Evaluation

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION	
Complete this report as thoroughly as possible. Each item below must be addressed in order to fulfill the requirements for the annual comprehensive site compliance evaluation.	
I. BMP Inspection and Review	
Review the current Storm Water Pollution Prevention Plan (SWPPP) and related documentation and respond to the following:	
Procedure	**Response**
Was employee training conducted as described in Section 5.4?	___Yes ___No Evaluate the effectiveness of the training conducted to minimize potential storm water pollution. Are there any changes that should be made to the SWPPP at this time?
Were records maintained as described in Section 10.0?	___Yes ___No Evaluate the effectiveness of the record keeping practices. Are there any changes that should be made to the SWPPP at this time?
If there were any spills this year, were they responded to appropriately and was the proper documentation completed as outlined in Sections 4.2 and 5.3? (If no spills occurred, check "Not Applicable")	___Yes ___No ___Not Applicable Evaluate the response to the spill(s). Are there any changes that need to be made in the spill prevention and response measures outlined in Section 5.3?
Were the facility inspections carried out as defined in Section 9.1 and were corrective follow up actions prompt and effective?	___Yes ___No Evaluate the effectiveness of the current measures. Are there any changes that should be made to the SWPPP at this time?
Were the plan revisions and subsequent implementations from last year's comprehensive site compliance evaluation completed as required in Section 9.2. (If no revisions were required check "Not Applicable")	___Yes ___No ___Not Applicable If plan revisions and implementations were not completed as required, evaluate the reasons why. Should the revisions and BMPs that were not implemented still be pursued?

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION	
I. BMP Inspection and Review (continued)	
Review plant operations for the past year and respond to each of the following as it applies to the areas covered by the storm water permit:	
Procedure	**Response**
Describe any new construction or process changes made during the past year that may potentially affect storm water runoff.	
Describe any new process materials or products being stored in areas exposed to storm water and where they are located.	
For the materials discussed above, how is storm water runoff managed and what BMPs are implemented for the stored material?	
Conduct and attach a Facility Inspection checklist.	

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION	
II. Evaluation of the Current SWPPP	
Review each of the following sections of the SWPPP and determine what changes, if any, should be made based upon the information available:	
Procedure	**Response**
Are changes needed for the Pollution Prevention Team? (Section 3.0)	___Yes ___No If yes, what names or responsibilities should be added, deleted, or changed?
Are changes needed for the description of drainage areas? (Section 4.1)	___Yes ___No If yes, note the changes should be made to the drainage description.
Does the inventory of exposed material need to be modified or updated? (Section 4.1)	___Yes ___No If yes, list the substances or materials that should be added/deleted, including storage location.
Are changes needed for the risk identification and summary of potential pollutant sources? (Section 4.4)	___Yes ___No If yes, list information needed to update Section 4.5.
Are changes needed to insure good housekeeping practices? (Section 5.1)	___Yes ___No If yes, then list the changes.

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION	
II. Evaluation of the Current SWPPP (continued)	
Review each of the following sections of the SWPPP and determine what changes, if any, should be made based upon the information available:	
Procedure	**Response**
Are changes needed for the preventive maintenance procedures? (Section 5.2)	___Yes ___No If yes, what inspection areas or parameters should be added/deleted?
Are changes needed for the spill prevention and response procedures? (Section 5.3)	___Yes ___No If yes, what additional measures should be included in the SWPPP.
Are changes needed to improve employee training and communication? (Section 5.4)	___Yes ___No If yes, what additional topics or measures should be included in the SWPPP.
Are changes needed for sediment and erosion control? (Section 5.5)	___Yes ___No If yes, what additional descriptions or measures should be included in the SWPPP.
Are changes needed for the management of storm water runoff? (Section 5.7)	___Yes ___No If yes, what additional descriptions or measures should be included in the SWPPP.
Are changes needed for the SARA Title III Section 313 requirements of the SWPPP? (Section 8.0)	___Yes ___No If yes, what changes should be included in the SWPPP.

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION	
III. Evaluation of Plan Compliance	
Upon completion of Parts I and II of each Annual Comprehensive Site Compliance Evaluation, a report must be prepared that summarizes the inspection/evaluation. A response is required in the right hand column for each of the items listed below in the procedure column. This provides a summary of the inspection/evaluation.	
Procedure	**Response**
Scope of the inspection/evaluation? (e.g., review SWPPP, site inspection, employee interviews, etc.)	
Personnel conducting and date(s) of the inspection/evaluation?	
Major observations relating to implementation of the SWPPP?	
Actions taken, or to be taken, to revise the SWPPP and to implement the associated changes?	
Describe the provision in place to ensure the summary report will be retained as part of the SWPPP, and will be retained for at least three years from the date permit coverage expires or is terminated.	

CERTIFICATION OF DOCUMENT

I, _____ (responsible corporate official), certify under penalty of law that this document and all attachments were prepared under my supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information provided herein. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information provided herein is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting, providing, presenting, and/or certifying false information, including the possibility of fine and imprisonment for knowing violations.

Appendix I

Drainage Basin Specific BMP's

DRAINAGE BASIN SPECIFIC BMP'S

Outfall Number	Date of Implementation	Description of Best Management Practice	Reason for Implementation
007	2006	Application of lime within drainage basin.	Control pH.
All drainage basins.	August 2013	Major plant expansion started August 2013. The facility maintains coverage under the Construction Storm Water General Permit ARR150000. Additional sediment and erosion control were implemented throughout the site based on the Construction SWPPP. For details and locations of these controls, see the Construction SWPPP.	Control sediment.

DRAINAGE BASIN SPECIFIC BMP'S

Outfall Number	Date of Implementation	Description of Best Management Practice	Reason for Implementation

ADEQ

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

November 15, 2016

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

RE: Response to Inspection (Union Co)
AFIN: 70-00040 NPDES Permit No. AR0000752

Dear Mr. Withrow:

I have reviewed the response pertaining to my August 24, 2016 inspection of El Dorado Chemical Company (EDCC). Please note the following comments below:

Findings #1 and #2 included an attachment that does not preclude the facility from meeting Part III, Condition 2 and Part III, Condition 6 of the permit. However, it has been brought to my attention that EDCC has been in discussion with the Permits Branch of the Office of Water Quality to resolve this issue and should continue to work towards a resolution prior to the renewal of this permit. No further response is needed by Compliance Branch.

Finding #4 was noted as a repeat violation due to the inspection that the Compliance Branch attended with EPA inspectors David Long and Damon McElroy. A closing meeting was held and the deficiencies were outlined to all parties in attendance. ADEQ was unaware that a copy of the report was not received by the facility. No further response is required by the Compliance Branch. A copy of the EPA inspection report is available at:

https://www.epa.gov/tx/compliance-assurance-and-enforcement-documents-texas

Finding #8 was noted as a violation of Part III, Condition 15.F.2.a because comprehensive site compliance evaluations of Best Management Practices (BMPs) at Outfalls 006 and 007 did not include information related to "Stormwater BMPs identified in your SWPPP must be observed to ensure they are operating correctly." Due to the continued excessive effluent violations at these outfalls, BMPs need to be observed to be "operating correctly," and no information was provided in the comprehensive site evaluation to the effect that these BMPs are being observed. No further response is required by the Compliance Branch.

At this time, the Department has no further comment concerning this particular inspection. Acceptance of this response by the Department does not preclude any future enforcement action deemed necessary at this site or any other site.

If we need further information concerning this matter, we will contact you. Thank you for your attention to this matter. Should you have any questions, feel free to contact me at (501) 837-2073 or you may e-mail me at youngm@adeq.state.ar.us.

Sincerely,

Michael Young
District 8 Inspector
Office of Water Quality

cc: Bryan Leamons, Engineer Supervisor, Permits Branch
Carrie McWilliams, Engineer Supervisor, Permits Branch
Richard Healey, Branch Manager, Enforcement Branch