

DRAFT

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° 09' 55"; Longitude: 92° 24' 40"

to 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.

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' 31"; Longitude: 92° 28' 14" 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 004: Latitude: 33° 15' 42"; Longitude: 92° 41' 27"

Outfall 005: Latitude: 33° 15' 42"; Longitude: 92° 41' 17"

Outfall 006: Latitude: 33° 15' 03"; Longitude: 92° 41' 02"

Outfall 007: Latitude: 33° 16' 11"; Longitude: 92° 41' 16"

Outfall 010: Latitude: 33° 09' 55"; Longitude: 92° 24' 40"

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

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

Signed this day of

Martin Maner, P.E.
Chief, Water Division
Arkansas Department of Environmental Quality
E:\NPDES\permits\AR0000752

PART I PERMIT REQUIREMENTS

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 – treated process and contaminated 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 001. Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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
pH	N/A	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	continuous	grab
<u>Whole Effluent Lethality</u> (7-day NOEC) ^{4,5} 22414	<u>Daily Average</u> <u>Minimum</u> not < 100%		<u>7-day Minimum</u> not < 100%		once/month	24-hr composite
<u>Pimephales promelas (Chronic)</u> ^{4,5} Pass/Fail Lethality (7-day NOEC) TLP6C Pass/Fail Growth (7-day NOEC)TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation TQP6C Growth (7-day NOEC) TPP6C			<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/month once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite 24-hr composite
<u>Ceriodaphnia dubia (Chronic)</u> ^{4,5} Pass/Fail Lethality (7-day NOEC) TLP3B Pass/Fail Growth (7-day NOEC)TGP3B Survival (7-day NOEC) TOP3B Coefficient of Variation TQP3B Reproduction (7-day NOEC) TPP3B			<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/month once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite 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

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:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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
pH	N/A	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	continuous	grab
<u>Whole Effluent Lethality</u> (7-day NOEC) ^{4,5} 22414	<u>Daily Average</u> <u>Minimum</u> not < 100%		<u>7-day Minimum</u> not < 100%		once/month	24-hr composite
<u>Pimephales promelas (Chronic)</u> ^{4,5} Pass/Fail Lethality (7-day NOEC) TLP6C Pass/Fail Growth (7-day NOEC)TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation TQP6C Growth (7-day NOEC) TPP6C			<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/month once/month once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite 24-hr composite 24-hr composite
<u>Ceriodaphnia dubia (Chronic)</u> ^{4,5} Pass/Fail Lethality (7-day NOEC) TLP3B Pass/Fail Growth (7-day NOEC)TGP3B Survival (7-day NOEC) TOP3B Coefficient of Variation TQP3B Reproduction (7-day NOEC) TPP3B			<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/month once/month once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite 24-hr composite 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:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 (NH ₃ -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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/day	grab
Acute Biomonitoring ³	N/A	N/A	N/A	N/A	once/month	24-hr composite
<u>Pimephales promelas (Acute)</u> ³ Pass/Fail Lethality (48-Hr NOEC) TEM6C Survival (48-Hr NOEC) TOM6C Coefficient of Variation (48-Hr NOEC) TQM6C			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite
<u>Daphnia pulex (Acute)</u> ³ Pass/Fail Lethality (48-Hr NOEC) TEM3D Survival (48-Hr NOEC) TOM3D Coefficient of Variation (48-Hr NOEC) TQM3D			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite

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

There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks. No visible sheen (Sheen means an iridescent appearance on the surface of the water).

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the final treatment unit.

**PART I
PERMIT REQUIREMENTS**

SECTION A. 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:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 (NH ₃ -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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/day	grab
Acute Biomonitoring ³	N/A	N/A	N/A	N/A	once/month	24-hr composite
<u>Pimephales promelas (Acute)</u>³ Pass/Fail Lethality (48-Hr NOEC) TEM6C Survival (48-Hr NOEC) TOM6C Coefficient of Variation (48-Hr NOEC) TQM6C			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite
<u>Daphnia pulex (Acute)</u>³ Pass/Fail Lethality (48-Hr NOEC) TEM3D Survival (48-Hr NOEC) TOM3D Coefficient of Variation (48-Hr NOEC) TQM3D			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite

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

There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks. No visible sheen (Sheen means an iridescent appearance on the surface of the water).

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the final treatment unit.

**PART I
PERMIT REQUIREMENTS**

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

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 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:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 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. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 004 – contaminated 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 004. Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 (NH ₃ -N)	N/A	N/A	Report	Report	once/week	grab
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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/day	grab
Acute Biomonitoring ³	N/A	N/A	N/A	N/A	once/month	24-hr composite
<u>Pimephales promelas (Acute)</u>³ Pass/Fail Lethality (48-Hr NOEC) TEM6C Survival (48-Hr NOEC) TOM6C Coefficient of Variation (48-Hr NOEC) TQM6C			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite
<u>Daphnia pulex (Acute)</u>³ Pass/Fail Lethality (48-Hr NOEC) TEM3D Survival (48-Hr NOEC) TOM3D Coefficient of Variation (48-Hr NOEC) TQM3D			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite

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

There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks. No visible sheen (Sheen means an iridescent appearance on the surface of the water).

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the final treatment unit.

**PART I
PERMIT REQUIREMENTS**

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 004 – 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 number 004. Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 (NH ₃ -N)	N/A	N/A	Report	Report	once/week	grab
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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/day	grab
Acute Biomonitoring ³	N/A	N/A	N/A	N/A	once/month	24-hr composite
<u>Pimephales promelas (Acute)</u>³ Pass/Fail Lethality (48-Hr NOEC) TEM6C Survival (48-Hr NOEC) TOM6C Coefficient of Variation (48-Hr NOEC) TQM6C			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite
<u>Daphnia pulex (Acute)</u>³ Pass/Fail Lethality (48-Hr NOEC) TEM3D Survival (48-Hr NOEC) TOM3D Coefficient of Variation (48-Hr NOEC) TQM3D			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite

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

There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks. No visible sheen (Sheen means an iridescent appearance on the surface of the water).

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the final treatment unit.

PART I PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALLS 005, 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 005, 006, and 007. Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/day	grab
Acute Biomonitoring ⁴	N/A	N/A	N/A	N/A	once/month	24-hr composite
<u>Pimephales promelas (Acute)</u> ⁴ Pass/Fail Lethality (48-Hr NOEC) TEM6C Survival (48-Hr NOEC) TOM6C Coefficient of Variation (48-Hr NOEC) TQM6C			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite
<u>Daphnia pulex (Acute)</u> ⁴ Pass/Fail Lethality (48-Hr NOEC) TEM3D Survival (48-Hr NOEC) TOM3D Coefficient of Variation (48-Hr NOEC) TQM3D			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite

- 1 Report monthly average and daily maximum as MGD.
- 2 See Condition No. 3 of Part III (Metals Requirements).
- 3 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 005, 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 005, 006, and 007. Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 (NH ₃ -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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/day	grab
Acute Biomonitoring ⁴	N/A	N/A	N/A	N/A	once/month	24-hr composite
<u>Pimephales promelas (Acute)</u> ⁴ Pass/Fail Lethality (48-Hr NOEC) TEM6C Survival (48-Hr NOEC) TOM6C Coefficient of Variation (48-Hr NOEC) TQM6C			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite
<u>Daphnia pulex (Acute)</u> ⁴ Pass/Fail Lethality (48-Hr NOEC) TEM3D Survival (48-Hr NOEC) TOM3D Coefficient of Variation (48-Hr NOEC) TQM3D			<u>48-hr Minimum</u> Report (Pass=0/Fail=1) Report % Report %		once/month once/month once/month	24-hr composite 24-hr composite 24-hr composite

- 1 Report monthly average and daily maximum as MGD.
- 2 See Condition No. 3 of Part III (Metals Requirements).
- 3 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, 004, 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:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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	grab
Fecal Coliform Bacteria (FCB)			colonies/100 ml			
	N/A	N/A	Report	Report	once/day ⁵	grab
pH	N/A	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/day	grab
Chronic Biomonitoring ³	N/A		N/A		N/A	N/A
Pimephales promelas (Chronic)³ Pass/Fail Growth (7-day NOEC)TLP6C Pass/Fail Lethality (7-day NOEC) TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation TQP6C			<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report %		once/quarter once/quarter once/quarter once/quarter	24-hr composite 24-hr composite 24-hr composite 24-hr composite

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Growth (7-day NOEC) TPP6C			Report %		once/quarter	24-hr composite
<u>Ceriodaphnia dubia (Chronic)</u> ³			<u>7-Day Average</u>			
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
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° 09' 55"; Longitude: 92° 24' 40"), 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:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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, 004, 005, 006, and 007:

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

Activity	Compliance Date from Effective Date of the Modified Permit (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, 004, 005, 006, and 007 - Item #12 in Part III

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

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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.

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.

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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 statutes 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.

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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

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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:

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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;

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

SECTION D – REPORTING REQUIREMENTS

1. Planned Changes

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

For Industrial Dischargers

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

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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, 004, 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, 004, 006, and 007 occurred. This documentation must be submitted within 48 hours of the occurrence of the emergency.
3. If any individual analytical test results is less than the minimum quantification level (MQL) listed below, a value of zero (0) may be used for that individual result for the Discharge Monitoring report (DMR) calculations and reporting requirements.

Pollutant	EPA Method	MQL (µg/l)
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:

$$\text{MQL} = 3.3 \times \text{MDL}$$

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 004, 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 004, 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, 004, 005, 006, and 007) and the dilution of effluent in the receiving stream as a result of a storm event. This permit may be reopened and modified as a result of this study.
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 or NMFS 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 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, 004, 005, 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

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

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.

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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 carelessness 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:
- 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;
 - 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.

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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.

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Fact Sheet

For modification of draft 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 permit was prepared on 12/07/2005.

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 004: Latitude: 33° 15' 42"; Longitude: 92° 41' 27"
Outfall 005: Latitude: 33° 15' 42"; Longitude: 92° 41' 17"
Outfall 006: Latitude: 33° 15' 03"; Longitude: 92° 41' 02"
Outfall 007: Latitude: 33° 16' 11"; Longitude: 92° 41' 16"
Outfall 010: Latitude: 33° 09' 55"; Longitude: 92° 24' 40"

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' 31"; Longitude: 92° 28' 14" 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, 004, 005, 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. The mercury levels in the effluent will be required to be less than the MQL of 0.2 µg/l.

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

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 **Outfalls 004, 005, 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

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

Outfall 003: treated domestic waste water

Outfall 004: contaminated storm water

Outfall 005: contaminated storm 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

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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 tentative determination to issue a permit for the discharge described in the application. Permit requirements are based on NPDES regulations (40 CFR Parts 122, 124, and Subchapter N) and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et. seq.).

a. **Interim Effluent Limitations**

Outfall 001 – process water and contaminated storm water

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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
pH	N/A	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	continuous	grab
<u>Whole Effluent Lethality (7-day NOEC)</u>	<u>Daily Average Minimum</u> not < 100%		<u>7-day Minimum</u> 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

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 (NH ₃ -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
pH	N/A	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	continuous	grab
<u>Whole Effluent Lethality</u> (7-day NOEC)	<u>Daily Average Minimum</u> not < 100%		<u>7-day Minimum</u> 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**

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 (NH ₃ -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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 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**

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 (NH ₃ -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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 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**

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 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**

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 (NH ₃ -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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 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. **Final Effluent Limitations**

Outfall 004 – contaminated storm water

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 (NH ₃ -N)	N/A	N/A	Report	Report	once/week	grab
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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 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).

h. **Final Effluent Limitations**

Outfall 004 – contaminated storm water

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 (NH ₃ -N)	N/A	N/A	Report	Report	once/week	grab
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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 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).

i. **Interim Effluent Limitations**

Outfalls 005, 006, and 007 – process water and contaminated storm water

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 (NH ₃ -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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 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).

j. **Final Effluent Limitations**

Outfalls 005, 006, and 007 – process water and contaminated storm water

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 (NH ₃ -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	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 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).

k. **Final Effluent Limitations**

Outfall 010 – combined outfall of 001, 004, 006, and 007. (first 2.0 inches of rainfall per 24 hour period from Outfalls 004, 006, and 007)

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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	grab
Fecal Coliform Bacteria			colonies/100 ml			
	N/A	N/A	Report	Report	once/day	grab
pH	N/A	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/day	grab
Chronic Biomonitoring	N/A		See Item #14 below.		once/quarter	24-hr composite

1. **Final Effluent Limitations**

SUM of Outfalls 001, 002, and 010

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	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 draft permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons suggesting the tentative decisions as required under 40 CFR 124.7 (48 FR 1413, April 1, 1983).

Technology-Based versus Water Quality-Based Effluent Limitations and Conditions

Following regulations promulgated at 40 CFR Part 122.44 (1) (2) (ii), the draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR Part 122.44 (a) or on State water quality standards and requirements pursuant to 40 CFR Part 122.44 (d), whichever are more stringent.

A. **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, 004, 005, 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, 004, 005, 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:

$$\text{Mass (lb/day)} = \text{Flow (MGD)} * \text{Concentration (mg/l)} * 8.34$$

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:

$$C_d = (IWC(Q_d + Q_b) - C_b Q_b) / Q_d,$$

Where:

C_d = effluent limit concentration (mg/l)

IWC = Ammonia toxicity standard for Ecoregion

Q_d = 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

Q_b = 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.

C_b = 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 (See attachment 1) :

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:

$$WLA_c = \text{chronic waste load allocation } (\mu\text{g/l})$$

$$\begin{aligned}Q_d &= \text{discharge flow (cfs)} \\Q_b &= 0.25 \times 7Q_{10} \text{ (cfs)} \\C_b &= \text{background concentration } (\mu\text{g/l}) \\WQS &= \text{chronic aquatic toxicity standards } (\mu\text{g/l})\end{aligned}$$

and;

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

Where:

$$\begin{aligned}WLA_a &= \text{acute waste load allocation } (\mu\text{g/l}) \\Q_d &= \text{discharge flow (cfs)} \\Q_b &= 0.13 \times 7Q_{10} \text{ (cfs)} \\C_b &= \text{background concentration } (\mu\text{g/l}) \\WQS &= \text{acute aquatic toxicity standards } (\mu\text{g/l})\end{aligned}$$

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

$$\begin{aligned}LTA_c &= 0.72 \times WLA_c \\LTA_a &= 0.57 \times WLA_a\end{aligned}$$

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:

$$\begin{aligned}AML &= 1.55 \times \text{Limiting LTA} \\DML &= 3.11 \times \text{Limiting LTA}\end{aligned}$$

The mass limits were then calculated using the following formulas:

$$\text{mg/l} = (\mu\text{g/l}) / 1000$$

$$\text{Joint Pipeline Mass (lb/day)} = 20 \text{ MGD} * \text{Concentration (mg/l)} * 8.34$$

$$\text{Qe as \% of Total Pipeline Flow (TPF)} = \text{Permitted Flow} / 20 \text{ MGD}$$

$$\text{Individual Mass (lb/day)} = \text{Qe as \% of TPF} * \text{Joint Pipeline Mass}$$

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. Only the pH limitations for Outfalls 001, 002, 003, 004, 005, 006, and 007 have been included in the table below since those are the only limits which are changing at those outfalls.

Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
OUTFALL 001								
TSS	N/A	N/A	30	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.	

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Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
(November – April)	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.	
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
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

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Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
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 004, 005, 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
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

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Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
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
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, 004, 005, 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 (ft³/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:

$$\text{Critical dilution (CD)} = (Q_d / (Q_d + Q_b)) \times 100$$

OUTFALL 010

$Q_d = \text{Permitted flow} = 2 \text{ MGD} = 3.09 \text{ cfs}$

$7Q_{10} = 750 \text{ cfs}$

$Q_b = \text{Background flow} = (0.25) \times 7Q_{10} = 187.5 \text{ cfs}$

$CD = (3.09) / (3.09 + 187.5) \times 100 = 1.6\%$

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, 004, 005, 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, 004, 005, 006, and 007:

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

Activity	Compliance Date from Effective Date of the Modified Permit (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, 004, 005, 006, and 007 - Item #12 in Part III

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

20. PUBLIC NOTICE AND PUBLIC HEARING.

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

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

Hearing Information

A Public Hearing will be held on May 18, 2006, at 6 p.m.. The location of the hearing is the **Best Western Kings Inn Conference Center, 1920 Junction City Road, in El Dorado.** The purpose of said hearing is to allow public participation in the determination of the terms and conditions of the modification to the NPDES permit. At said hearing, all interested parties may submit written or oral statements regarding the draft NPDES permit modification to the Hearing Officer for consideration.

21. 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



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

March 22, 2006

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (7002 0860 0007 6830 0092)

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

RE: Application to Discharge to Waters of the State Permit Number AR0000752

Dear Mr. Hogg:

Pursuant to 40 CFR 122.62(a)(1), the Department has concluded that cause exists for modification of the NPDES permit AR0000752. A copy of the proposed modified permit, fact sheet, and public notice is enclosed.

Please note that only the modified portion of the permit can be reopened for revision. A copy of the final permit will be mailed to you when the Director has made a final permit decision.

Federal law requires that all draft NPDES permits prepared by this Department complete a 30 day public notice period. The enclosed public notice will be published by ADEQ in the local paper of general circulation. Act 163 of 1993 requires the permit applicant to bear the expense of the notice's publication. Therefore, an invoice will be sent to you for the cost of publishing the public notice. Until this Department receives proof of publication, no further action will be taken on the modification of your NPDES permit.

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

Should you have any questions concerning any part of the permit, please feel free to contact the Arkansas Department of Environmental Quality, NPDES Branch, at (501) 682-0622.

Sincerely,

Martin Maner, P.E.
Chief, Water Division

MM:lr

Enclosure

