Wilson, Tabatha

From: Bailey, John
Sent: Thursday, November 14, 2013 5:06 PM
To: Fuller, Kim; Tillman, Michael (Tillman.Michael@epa.gov); Rosborough, Evelyn (rosborough.evelyn@epa.gov)
Cc: Wilson, Tabatha; Shafii, Mo; Reiber, Loretta
Subject: RE: Review Revised Draft Permit for El Doarto Chemical Company (AR0000752)
Attachments: AR0000752_PN2013.doc

November 14, 2013

Ms. Evelyn Rosborough (6WQ-O)
U.S. Environmental Protection Agency
1445 Ross Avenue
Dallas, TX 75202-2733

RE: NPDES Permit Number AR0000752, El Dorado Chemical Company

Dear Ms. Rosborough:

Pursuant to EPA Region 6 General Objection letter dated September 23, 2013 from William Honker, PE, Director, Water Quality Protection Division to Ryan Benefield, PE, Deputy Director, ADEQ, the revised subject draft permit that ADEQ is planning to send to public notice was e-mailed to you this date for review. In accordance with the Objection Letter, the following changes have been made to the draft permit e-mailed to you on August 29, 2013.

> Sulfates limits have been added to Outfalls 001, 002, 003, 006 and 007 in accordance with the *TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*. A 3 year Schedule of Compliance has been granted for the new limits.

We request that you provide ADEQ with your approval, comments, objections, or recommendations. ADEQ will proceed with issuance of the public notice if no comments are received within the required review timeframe.

If you have any questions, please feel free to contact me at (501) 682-0643.

Sincerely,

Kimberly A. Fuller, PE
NPDES Engineer Supervisor
Water Division

Attachment (Permit)

DRAFT

Permit Number: AR0000752
AFIN 70-00040

AUTHORIZATION TO DISCHARGE WASTEWATER UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. §1251 et seq.),

The applicant's mailing address is:

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

The facility address is:

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

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

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

to receiving waters named:

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

The outfalls are located at the following coordinates:

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

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

Effective Date:
Expiration Date:

_____ _____

Ryan Benefield, P.E.
Deputy Director
Arkansas Department of Environmental Quality

Issue Date

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PART I
PERMIT REQUIREMENTS

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

During the period beginning on the effective date and lasting three years, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	continuous	record
Total Suspended Solids (TSS)	462	692	30	45	three/week	24-hr composite
Ammonia, NH3-N	265.7	811.84	12	18	three/week	24-hr composite
Nitrates 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 (Minimum)	N/A	three/week	grab
(November – April)	N/A	N/A	5.0 (Minimum)	N/A	three/week	grab
Fecal Coliform Bacteria (FCB)			col/100 ml			
(April – September)	N/A	N/A	200	400	three/week	grab
(October – March)	N/A	N/A	1000	2000	three/week	grab
Total Recoverable Copper[1]	0.19	0.38	12.2 µg/l	24.48 µg/l	once/month	24-hr composite
Total Recoverable Zinc[1]	1.78	3.57	115.62 µg/l	231.99 µg/l	once/month	24-hr composite
Total Recoverable Selenium[1]	0.09	0.17	5.58 µg/l	11.2 µg/l	once/quarter	24-hr composite
Chlorides	Report	Report	38	57	once/month	24-hr composite
Sulfates	Report	Report	81	122	once/month	24-hr composite
Total Dissolved Solids	Report	Report	237	356	once/month	24-hr composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous[5]	grab[5]
Whole Effluent Lethality (7-day NOEC)[2, 3] 22414	Daily Average Minimum Not < 100%		7-day Minimum Not <100%		once/2 months	24-hr composite
Whole Effluent Sub-Lethality (7-day NOEC)[3] 22414	Daily Average Minimum not < 80%		7-day Minimum not <80%		once/2 months	24-hr composite
Pimephales promelas (Chronic)[3]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Pass/Fail Growth (7-day NOEC)TGP6C			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (7-day NOEC) TOP6C			Report %		once/2 months	24-hr composite
Coefficient of Variation (Growth) TQP6C			Report %		once/2 months	24-hr composite
Growth (7-day NOEC) TPP6C			Report %		once/2 months	24-hr composite

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Ceriodaphnia dubia (Chronic)[3]			7-Day Average			
Pass/Fail Growth (7-day NOEC)TLP3B			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Pass/Fail Lethality (7-day NOEC) TGP3B			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (7-day NOEC) TOP3B			Report %		once/2 months	24-hr composite
Coefficient of Variation (reproduction) TQP3B			Report %		once/2 months	24-hr composite
Reproduction (7-day NOEC) TPP3B			Report %		once/2 months	24-hr composite

1 See Condition No. 3 of Part II (Metals Requirements).
2 See Condition No. 11 of Part II (Chronic WET Limits Conditions).
3 The NOEC (No Observed Effect Concentration) is defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.
4 See Condition No. 19 of Part II (pH monitoring).

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

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken following Lake Kildare and prior to entering the receiving stream.

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PART I
PERMIT REQUIREMENTS

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

During the period beginning three years from the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	continuous	record
Total Suspended Solids (TSS)	462	692	30	45	three/week	24-hr composite
Ammonia, NH3-N						
(April – October)	37.5	56.25	2.43	3.65	three/week	24-hr composite
(November – March)	84.92	127.38	5.5	8.25	three/week	24-hr composite
Nitrates 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 (Minimum)	N/A	three/week	grab
(November – April)	N/A	N/A	5.0 (Minimum)	N/A	three/week	grab
Fecal Coliform Bacteria (FCB)			col/100 ml			
(April – September)	N/A	N/A	200	400	three/week	grab
(October – March)	N/A	N/A	1000	2000	three/week	grab
Total Recoverable Copper[1]	0.19	0.38	12.2 µg/l	24.48 µg/l	once/month	24-hr composite
Total Recoverable Zinc[1]	1.78	3.57	115.62 µg/l	231.99 µg/l	once/month	24-hr composite
Total Recoverable Selenium[1]	0.09	0.17	5.58 µg/l	11.2 µg/l	once/quarter	24-hr composite
Chlorides	262.35	393.52	19	28.5	once/month	24-hr composite
Sulfates	497.97	746.95	41	61.5	once/month	24-hr composite
Total Dissolved Solids	1324.62	1986.96	138	207	once/month	24-hr composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous[4]	grab[4]
Whole Effluent Lethality (7-day NOEC)[2, 3] 22414	Daily Average Minimum Not < 100%		7-day Minimum Not <100%		once/2 months	24-hr composite
Whole Effluent Sub-Lethality (7-day NOEC)[3] 22414	Daily Average Minimum not < 80%		7-day Minimum not <80%		once/2 months	24-hr composite
Pimephales promelas (Chronic)[3]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Pass/Fail Growth (7-day NOEC)TGP6C			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (7-day NOEC) TOP6C			Report %		once/2 months	24-hr composite
Coefficient of Variation (Growth) TQP6C			Report %		once/2 months	24-hr composite
Growth (7-day NOEC) TPP6C			Report %		once/2 months	24-hr composite

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Ceriodaphnia dubia (Chronic)[3]			7-Day Average			
Pass/Fail Growth (7-day NOEC)TLP3B			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Pass/Fail Lethality (7-day NOEC) TGP3B			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (7-day NOEC) TOP3B			Report %		once/2 months	24-hr composite
Coefficient of Variation (reproduction) TQP3B			Report %		once/2 months	24-hr composite
Reproduction (7-day NOEC) TPP3B			Report %		once/2 months	24-hr composite

1 See Condition No. 3 of Part II (Metals Requirements).
2 See Condition No. 11 of Part II (Chronic WET Limits Conditions).
3 The NOEC (No Observed Effect Concentration) is defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.
4 See Condition No. 19 of Part II (pH monitoring).

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

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken following Lake Kildare and prior to entering the receiving stream.

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PART I
PERMIT REQUIREMENTS

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

During the period beginning on the effective date and lasting three years, the permittee is authorized to discharge from Outfall 002. Such discharges shall be limited and monitored by the permittee as specified below.

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

1 See Condition No. 3 of Part II (Metals Requirements).
2 See Condition No. 10 of Part II (WET 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. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken following discharge from Lake Lee and prior to entering the receiving stream.

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PART I
PERMIT REQUIREMENTS

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

During the period beginning three years from the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 002. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Total Suspended Solids (TSS)	N/A	N/A	Report	Report	once/day	grab
Ammonia (NH3-N)						
(April – October)	Report[3]	Report[3]	0	0	once/day	grab
(November – March)	Report[3]	Report[3]	0.32	0.48	once/day	grab
Nitrates as N	405.02	1153.73	26.3	74.9	once/day	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/day	grab
Total Recoverable Copper[1]	N/A	N/A	12.2 µg/l	24.48 µg/l	once/month	24-hr composite
Total Recoverable Lead[1]	N/A	N/A	3.8 µg/l	7.62 µg/l	once/month	24-hr composite
Total Recoverable Zinc[1]	N/A	N/A	115.62 µg/l	231.99 µg/l	once/month	24-hr composite
Total Recoverable Selenium[1]	N/A	N/A	5.58 µg/l	11.2 µg/l	once/month	24-hr composite
Chlorides	Report[3]	Report[3]	19	28.5	once/month	grab
Sulfates	Report[3]	Report[3]	41	61.5	once/month	grab
Total Dissolved Solids	Report[3]	Report[3]	138	207	once/month	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Acute WET testing[2]	N/A		48-hr Minimum Report %		once/month	24-hr composite
Pimephales promelas (Acute)[2]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		once/month	24-hr composite
Survival (48-Hr NOEC) **TOM6C**			Report %		once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report %		once/month	24-hr composite
Daphnia pulex (Acute)[2]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		once/month	24-hr composite
Survival (48-Hr NOEC) **TOM3D**			Report %		once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/month	24-hr composite

1 See Condition No. 3 of Part II (Metals Requirements).
2 See Condition No. 10 of Part II (WET testing Requirements).
3 TMDL based mass limit is implemented in the Load Allocation Outfall.

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

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken following discharge from Lake Lee and prior to entering the receiving stream.

PART I
PERMIT REQUIREMENTS

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

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

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1.4	2.1	10	15	once/quarter	grab
Total Suspended Solids (TSS)	2.1	3.2	15	22.5	once/quarter	grab
Ammonia Nitrogen (NH3-N)						
(May – October)	0.7	1.1	5	7.5	once/quarter	grab
(November – April)	1.4	2.1	10	15	once/quarter	grab
Dissolved Oxygen						
(May – October)	N/A	N/A	2.0 (Inst. Min.)		once/quarter	grab
(November – April)	N/A	N/A	2.0 (Inst. Min.)		once/quarter	grab
Fecal Coliform Bacteria (FCB)			(colonies/100ml)			
	N/A	N/A	1000	2000	once/quarter	grab
Total Recoverable Copper[1]	Report	Report	Report µg/l	Report µg/l	once/quarter	24-hr composite
Total Recoverable Zinc[1]	Report	Report	Report µg/l	Report µg/l	once/quarter	24-hr composite
Chlorides	Report	Report	Report	Report	once/month	grab
Sulfates	Report	Report	Report	Report	once/month	grab
Total Dissolved Solids	Report	Report	Report	Report	once/month	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab

1. See Condition No. 3 of Part II (Metals 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. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken following the sanitary sewer treatment plant and prior to entering the receiving stream.

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PART I
PERMIT REQUIREMENTS

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

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

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1.4	2.1	10	15	once/quarter	grab
Total Suspended Solids (TSS)	2.1	3.2	15	22.5	once/quarter	grab
Ammonia Nitrogen (NH3-N)						
(April – October)	0.4	0.6	2.43	3.65	twice/7 months[1]	grab
(November – March)	0.86	1.29	5.5	8.25	twice/5 months[1]	grab
Dissolved Oxygen						
(May – October)	N/A	N/A	4.0 (Inst. Min.)		once/quarter	grab
(November – April)	N/A	N/A	2.0 (Inst. Min.)		once/quarter	grab
Fecal Coliform Bacteria (FCB)			(colonies/100ml)			
	N/A	N/A	1000	2000	once/quarter	grab
Total Recoverable Copper[2]	Report	Report	Report µg/l	Report µg/l	once/quarter	24-hr composite
Total Recoverable Zinc[2]	Report	Report	Report µg/l	Report µg/l	once/quarter	24-hr composite
Chlorides	2.65	3.98	19	28.5	once/month	grab
Sulfates	5.03	7.55	41	61.5	once/month	grab
Total Dissolved Solids	13.38	20.07	138	207	once/month	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab

1. One sample shall be taken during the months of April – July, August – October, November – December, and January – March.
2. See Condition No. 3 of Part II (Metals 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. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken following the sanitary sewer treatment plant and prior to entering the receiving stream.

DRAFT

PART I
PERMIT REQUIREMENTS

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

During the period beginning on the effective date of the permit and lasting three years, the permittee is authorized to discharge from Outfall 006. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Stream Flow[3]	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Stream Flow to Effluent Flow Ratio[3]	N/A	N/A	53.6:1	53.6:1	once/day	calculated
Total Suspended Solids (TSS)[4]	N/A	N/A	Report	Report	once/week	grab
Ammonia (NH3-N)	Report	Report	Report	Report	once/week	grab
Total Recoverable Lead[1]	N/A	N/A	99.24 µg/l	199.12 µg/l	once/month	24-hr composite
Total Recoverable Copper[1]	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Chlorides	Report	Report	Report	Report	once/month	grab
Sulfates	Report	Report	Report	Report	once/month	grab
Total Dissolved Solids	Report	Report	2807.3	4211.0	once/month	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Whole Effluent Lethality[2] (48-hr NOEC)	N/A	N/A	48-hr Minimum not < 22%		once/2 months	24-hr composite
Pimephales promelas (Acute)[2]	N/A	N/A	48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (48-Hr NOEC) **TOM6C**			Report %		once/2 months	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report %		once/2 months	24-hr composite
Daphnia pulex (Acute)[2]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (48-Hr NOEC) **TOM3D**			Report %		once/2 months	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/2 months	24-hr composite

1 See Condition No. 3 of Part II (Metals Requirements).
2 See Condition No. 12 of Part II (WET testing Requirements).
3 See Condition Nos. 13 through 16 of Part II (stream flow monitoring requirements).
4 See Condition No. 18 of Part II (TSS benchmark).

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

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken after all stormwater discharged through this outfall have commingled but prior to entering the receiving stream or commingling with other stormwater or wastewaters.

PART I
PERMIT REQUIREMENTS

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

During the period beginning three years from the effective date of the permit and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 006. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Stream Flow[3]	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Stream Flow to Effluent Flow Ratio[3]	N/A	N/A	53.6:1	53.6:1	once/day	calculated
Total Suspended Solids (TSS)[4]	N/A	N/A	Report	Report	once/week	grab
Ammonia (NH3-N)						
(April – October)	Report[5]	Report[5]	0	0	once/week	grab
(November – March)	Report[5]	Report[5]	0.32	0.48	once/week	grab
Total Recoverable Lead[1]	N/A	N/A	99.24 µg/l	199.12 µg/l	once/month	24-hr composite
Total Recoverable Copper[1]	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Chlorides	Report[5]	Report[5]	19	28.5	once/month	grab
Sulfates	Report[5]	Report[5]	41	61.5	once/month	grab
Total Dissolved Solids	Report[5]	Report[5]	138	207	once/month	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Whole Effluent Lethality[2] (48-hr NOEC)	N/A	N/A	48-hr Minimum not < 22%		once/2 months	24-hr composite
Pimephales promelas (Acute)[2]	N/A	N/A	48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (48-Hr NOEC) **TOM6C**			Report %		once/2 months	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report %		once/2 months	24-hr composite
Daphnia pulex (Acute)[2]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (48-Hr NOEC) **TOM3D**			Report %		once/2 months	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/2 months	24-hr composite

1 See Condition No. 3 of Part II (Metals Requirements).
2 See Condition No. 12 of Part II (WET testing Requirements).
3 See Condition Nos. 13 through 16 of Part II (stream flow monitoring requirements).
4 See Condition No. 18 of Part II (TSS benchmark).
5 TMDL based mass limit is implemented in the Load Allocation Outfall

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

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken after all stormwater discharged through this outfall have commingled but prior to entering the receiving stream or commingling with other stormwater or wastewaters.

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PART I
PERMIT REQUIREMENTS

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

During the period beginning on the effective date of the permit and lasting three years, the permittee is authorized to discharge from Outfall 007. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Stream Flow[3]	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Stream Flow to Effluent Flow Ratio[3]	N/A	N/A	15:1	15:1	once/day	calculated
Total Suspended Solids (TSS)[4]	N/A	N/A	Report	Report	once/week	grab
Ammonia-Nitrogen (NH3-N)	Report	Report	Report	Report	once/week	grab
Total Recoverable Lead[1]	N/A	N/A	41.79 µg/l	83.84 µg/l	once/month	24-hr composite
Total Recoverable Copper[1]	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Zinc[1]	N/A	N/A	685.53 µg/l	1375.48 µg/l	once/month	24-hr composite
Chlorides	Report	Report	Report	Report	once/month	grab
Sulfates	Report	Report	Report	Report	once/month	grab
Total Dissolved Solids	Report	Report	1203	1804.5	once/month	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Whole Effluent Lethality[2] 22414 (48-hr NOEC)	N/A	N/A	48-hr Minimum not < 50%		once/2 months	24-hr composite
Pimephales promelas (Acute)[2]	N/A	N/A	48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (48-Hr NOEC) **TOM6C**			Report %		once/2 months	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report %		once/2 months	24-hr composite
Daphnia pulex (Acute)[2]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (48-Hr NOEC) **TOM3D**			Report %		once/2 months	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/2 months	24-hr composite

1 See Condition No. 3 of Part II (Metals Requirements).
2 See Condition No. 12 of Part II (WET testing Requirements).
3 See Condition Nos. 13 through 16 of Part II (stream flow monitoring requirements).
4 See Condition No. 18 of Part II (TSS benchmark).

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

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken after all stormwater discharged through this outfall have commingled but prior to entering the receiving stream or commingling with other stormwater or wastewaters.

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PART I
PERMIT REQUIREMENTS

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

During the period beginning three years from the effective date of the permit and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 007. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Stream Flow[3]	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Stream Flow to Effluent Flow Ratio[3]	N/A	N/A	15:1	15:1	once/day	calculated
Total Suspended Solids (TSS)[4]	N/A	N/A	Report	Report	once/week	grab
Ammonia-Nitrogen (NH3-N)						
(April – October)	Report[5]	Report[5]	0	0	once/week	grab
(November – March)	Report[5]	Report[5]	0.32	0.48	once/week	grab
Total Recoverable Lead[1]	N/A	N/A	41.79 µg/l	83.84 µg/l	once/month	24-hr composite
Total Recoverable Copper[1]	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Zinc[1]	N/A	N/A	685.53 µg/l	1375.48 µg/l	once/month	24-hr composite
Chlorides	Report[5]	Report[5]	19	28.5	once/month	grab
Sulfates	Report[5]	Report[5]	41	61.5	once/month	grab
Total Dissolved Solids	Report[5]	Report[5]	138	207	once/month	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Whole Effluent Lethality[2] 22414 (48-hr NOEC)	N/A	N/A	48-hr Minimum not < 50%		once/2 months	24-hr composite
Pimephales promelas (Acute)[2]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (48-Hr NOEC) **TOM6C**			Report %		once/2 months	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM6C**	N/A	N/A	Report %		once/2 months	24-hr composite
Daphnia pulex (Acute)[2]			48-hr Minimum			
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		once/2 months	24-hr composite
Survival (48-Hr NOEC) **TOM3D**			Report %		once/2 months	24-hr composite
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/2 months	24-hr composite

1 See Condition No. 3 of Part II (Metals Requirements).
2 See Condition No. 12 of Part II (WET testing Requirements).
3 See Condition Nos. 13 through 16 of Part II (stream flow monitoring requirements).
4 See Condition No. 18 of Part II (TSS benchmark).
5 TMDL based mass limit is implemented in the Load Allocation Outfall.

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

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples taken in compliance with the monitoring requirements specified above shall be taken after all stormwater discharged through this outfall have commingled but prior to entering the receiving stream or commingling with other stormwater or wastewaters.

PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 010 – combined outfall of 001, 006, and 007 (treated process wastewater and contaminated stormwater).

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 010. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	2 MGD	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)						
(May – October)	83.4	125.1	N/A	N/A	once/day[3]	24-hr composite
(November – April)	166.8	250.2	N/A	N/A	once/day[3]	24-hr composite
Total Suspended Solids (TSS)	500.4	750.6	N/A	N/A	once/day[3]	24-hr composite
Ammonia – Nitrogen (NH3-N)	265.2	605	N/A	N/A	once/day[3]	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[3]	grab
Total Dissolved Solids (TDS)	N/A	N/A	Report	Report	two/week	grab
Sulfates	N/A	N/A	Report	Report	two/week	grab
Chlorides	N/A	N/A	Report	Report	two/week	grab
Mercury, Total Recoverable[2]	N/A	N/A	N/A	<0.2µg/l	once/month	24-hr composite
Cadmium, Total Recoverable[2]	0.22	0.45	N/A	N/A	once/month	24-hr composite
Hexavalent Chromium, Dissolved[2]	0.96	1.93	N/A	N/A	once/month	24-hr composite
Copper, Total Recoverable[2]	0.82	1.65	N/A	N/A	once/month	24-hr composite
Lead, Total Recoverable[2]	0.40	0.80	N/A	N/A	once/month	24-hr composite
Nickel, Total Recoverable[2]	14.23	28.55	N/A	N/A	once/month	24-hr composite
Selenium, Total Recoverable[2]	0.66	1.32	N/A	N/A	once/month	24-hr composite
Silver, Total Recoverable[2]	0.08	0.16	N/A	N/A	once/month	24-hr composite
Zinc, Total Recoverable[2]	7.35	14.75	N/A	N/A	once/month	24-hr composite
Chromium (III), Total Recoverable[2]	39.52	79.29	N/A	N/A	once/month	24-hr composite
Cyanide, Total Recoverable[2]	0.68	1.37	N/A	N/A	once/month	grab
Total Phosphorous	N/A	N/A	Report	Report	once/day[3]	24-hr composite
Fecal Coliform Bacteria (FCB)			col/100 ml			
	N/A	N/A	Report	Report	once/day[3]	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Chronic WET testing[1]	N/A	N/A	N/A	N/A	once/quarter	24-hr composite

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Pimephales promelas (Chronic)[1]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Growth (7-day NOEC)TGP6C			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) TOP6C			Report %		once/quarter	24-hr composite
Coefficient of Variation (Growth) TQP6C			Report %		once/quarter	24-hr composite
Growth (7-day NOEC) TPP6C			Report %		once/quarter	24-hr composite
Ceriodaphnia dubia (Chronic)[1]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail production (7-day NOEC)TGP3B			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) TOP3B			Report %		once/quarter	24-hr composite
Coefficient of Variation (Reproduction) TQP3B			Report %		once/quarter	24-hr composite
Reproduction (7-day NOEC) TPP3B			Report %		once/quarter	24-hr composite

1 See Condition No. 9 of Part II (WET testing requirements).
2 See Condition No. 3 of Part II (Metals requirements).
3 See Condition No. 4 of Part II (Monitoring frequency reduction).

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

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

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PART I
PERMIT REQUIREMENTS

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

During the period beginning on the effective date and lasting three years, the permittee is authorized to discharge from Outfalls 001 and 002. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	calculated
Ammonia-Nitrogen (NH3-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

When Outfall 002 is discharging, NH3-N and Nitrates from Outfall 001 and Outfall 002 combined must not exceed the outfall sum.

PART I
PERMIT REQUIREMENTS

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

During the period beginning three years from the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfalls 001 and 002. Such discharges shall be limited and monitored by the permittee as specified below.

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

When Outfall 002 is discharging, Nitrates from Outfall 001 and Outfall 002 combined must not exceed the outfall sum.

PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: Load Allocation Outfall (LAO) - treated process wastewater and contaminated stormwater from Outfalls 002, 006, and 007.

During the period beginning three years from the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfalls 002, 006, and 007. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**		**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max.		
Ammonia-Nitrogen (NH3-N)				
(April – October)	0	0	once/week	calculated
(November – March)	5.16	7.74	once/week	calculated
Chlorides	73	109.5	once/month	calculated
Sulfates	33	49.5	once/month	calculated
Total Dissolved Solids	635	952.5	once/month	calculated

SECTION B. PERMIT COMPLIANCE

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

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

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

3. Compliance with the Final Effluent Limitations for DO during the months May through October at Outfall 003, NH3-N, Chlorides, Sulfates, and TDS at Outfalls 001, 002, 003, 006, 007, and the Load Allocation Outfall is required three years after the effective date of the permit. The permittee shall submit progress reports addressing the progress towards attaining the Final Effluent Limitations for the parameters listed in the preceding sentence according to the following schedule:

ACTIVITY	**DUE DATE**
Progress Report[1, 2]	One (1) year from effective date
Progress Report[1, 3]	Two (2) years from effective date
Achieve Final Compliance[1, 4]	Three (3) years from effective date

All progress reports must be submitted to the Department at the following address:

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

[1] If the permittee is already in compliance with the final permit limit, only documentation demonstrating compliance with the final limit will be required for the progress report.

[2] If the permittee is not in compliance with the Final Limitations following one (1) year of sampling, the initial Progress Report must detail how the permittee plans to come into compliance with the Final Effluent Limitations for DO during the months May through October at Outfall 003, NH3-N, Chlorides, Sulfates, and TDS at Outfalls 001, 002, 003, 006, 007, and the Load Allocation Outfall within the remaining 2 years of the Interim period. Options must be provided that were considered along with which option* was selected. Any Best Management Practices (BMPs) that have been instituted to reduce the DO during the months May through October at Outfall 003, NH3-N, Chlorides, Sulfates, and TDS levels at

Outfalls 001, 002, 003, 006, 007, and the Load Allocation Outfall in the influent must also be discussed. If a study will be performed, a milestone schedule for the study must be provided.

* The permittee has the option to undertake any study deemed necessary to meet the final limitations during the interim period. Any additional treatment (including chemical addition) must be approved and construction approval granted prior to final installation.

[3] The second Progress Report must contain an update on the status of the chosen option from the initial Progress Report. If the facility is not meeting any of the milestones provided in the initial Progress Report, the facility must update the milestone schedule to show how the final limits will be met by the deadline.

[4] A final Progress Report must be submitted no later than 30 days following the final compliance date and include a certification that the final effluent limits were met on the effective date and that the limits are still being met.

PART II
OTHER CONDITIONS

1. All pollutants listed in Part IA (i.e., Outfall 010) of this permit must be sampled concurrently with the sampling requirements for Outfall 010 at Lion Oil Company (AR0000647), Outfalls 010 North and South at the City of El Dorado (AR0049743), Outfall 010 at Great Lakes Chemical Corporation – Central Plant (AR0001171), and Outfall 010R for the joint pipeline (AR0050296). For the purposes of this permit, concurrently shall mean that the samples are taken within a two-hour period or under the terms of a sampling plan submitted to and approved by the Department. Any sampling plan submitted to the Department must demonstrate that the samples will be representative of each permittee's discharge to the joint pipeline.

2. The permittee must notify the Department a minimum of 48 hours ***prior*** to the first discharge to the joint pipeline. The permittee shall notify the Department within 24 hours of any emergency or maintenance event that results in diverting wastewater from Outfall 010 to another permitted outfall. For non-emergency and non-maintenance events that may result in diverting wastewater from Outfall 010 to another permitted outfall, the permittee must provide notice with an explanation of the anticipated diversion to the Department at least two weeks in advance of any such event. The Department may, at its discretion, condition the diversion of water to another permitted outfall as may be reasonably necessary to protect human health and the environment.

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

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

The permittee may develop a matrix specific method detection limit (MDL) in accordance with Appendix B of 40 CFR Part 136. For any pollutant for which the permittee determines a site specific MDL, the permittee shall send to ADEQ, NPDES Permits Branch, a report containing QA/QC documentation, analytical results, and calculations necessary to demonstrate that a site specific MDL was correctly calculated. A site specific minimum quantification level (MQL) shall be determined in accordance with the following calculation:

MQL = 3.3 X MDL

Upon written approval by the NPDES Permits Branch, the site specific MQL may be utilized by the permittee for all future Discharge Monitoring Report (DMR) calculations and reporting requirements.

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

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

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

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

7. In accordance with 40 CFR Parts 122.62 (a)(2) and 124.5, this permit may be reopened for modification or revocation and/or reissuance to require additional monitoring and/or effluent limitations when new information is received that actual or potential exceedance of State water quality criteria and/or narrative criteria are determined to be the result of the permittee's discharge(s) to a relevant water body, or a Total Maximum Daily Load (TMDL) is established or revised for the water body that was not available at the time of the permit issuance that would have justified the application of different permit conditions at the time of permit issuance.

8. Other Specified Monitoring Requirements

The permittee may use alternative appropriate monitoring methods and analytical instruments other than as specified in Part I Section A of the permit without a major permit modification under the following conditions:

- The monitoring and analytical instruments are consistent with accepted scientific practices;
- The requests shall be submitted in writing to the Permits Section of the Water Division of the ADEQ for use of the alternate method or instrument.
- The method and/or instrument is in compliance with 40 CFR Part 136 or approved in accordance with 40 CFR Part 136.5; and
- All associated devices are installed, calibrated, and maintained to insure the accuracy of the measurements and are consistent with the accepted capability of that type of device. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

Upon written approval of the alternative monitoring method and/or analytical instruments, these methods or instruments must be consistently utilized throughout the monitoring period. ADEQ must be notified in writing and the permittee must receive written approval from ADEQ if the permittee decides to return to the original permit monitoring requirements.

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

1. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALLS:	010
CRITICAL DILUTION (%):	1.6%
EFFLUENT DILUTION SERIES (%):	0.7%, 0.9%, 1.2%, 1.6%, & 2.1%
TESTING FREQUENCY:	once/quarter
COMPOSITE SAMPLE TYPE:	Defined at Part I
TEST SPECIES/METHODS:	40 CFR Part 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

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

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

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

2. PERSISTENT LETHAL and/or SUB-LETHAL EFFECTS

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

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

a. Part I Testing Frequency Other Than Monthly

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

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

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

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

b. Part I Testing Frequency of Monthly

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

3. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

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

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

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

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

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

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

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

A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

vii. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.

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

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

b. Statistical Interpretation

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

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

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

c. Dilution Water

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

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

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

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

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

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

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

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

d. Samples and Composites

i. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a above. Unless otherwise stated in this section, a composite sample for WET shall consist of a minimum of 12 subsamples gathered at equal time intervals during a 24-hour period.

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

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

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

v. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 4 of this section.

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

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

4. REPORTING

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

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

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

i. Pimephales promelas (Fathead minnow)

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

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

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

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

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

ii. Ceriodaphnia dubia

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

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

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

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

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

5. TOXICITY REDUCTION EVALUATIONS (TREs)

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

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

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

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

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

ii. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and

confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified;

iii. 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;

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

v. 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 toxicity at the critical dilution.

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

e. Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to

capture toxic samples for identification of toxicants. Failure to identify the specific chemical compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 CFR 122.44(d)(1)(v).

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

1. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL:	002
CRITICAL DILUTIONS (%):	100%
EFFLUENT DILUTION SERIES (%):	32%, 42%, 56%, 75%, & 100%
TESTING FREQUENCY:	once/month
COMPOSITE SAMPLE TYPE:	Defined at Part I
TEST SPECIES/METHODS:	40 CFR Part 136

Daphnia pulex acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

Pimephales promelas (Fathead minnow) acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

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

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

2. PERSISTENT LETHALITY

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal effects at or below the critical dilution. Significant lethal effects are herein defined as a statistically significant difference at the 95% confidence level between

the survival of the appropriate test organism in a specified effluent dilution and the control (0% effluent). The purpose of additional tests (also referred to as 'retests' or confirmation tests) is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation.

Such testing cannot confirm or disprove a previous test result.

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

a. Part I Testing Frequency Other Than Monthly

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

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

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

b. Part I Testing Frequency of Monthly

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

3. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

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

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

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

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

iv. If a test passes, yet the percent coefficient of variation between replicates is greater than 40% in the control (0% effluent) and/or in the critical dilution for: the survival in the Daphnia pulex survival test or the survival endpoint of the Fathead minnow test, the test is determined to be invalid. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

v. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.

b. Statistical Interpretation

For the Daphnia pulex survival test and the Fathead minnow survival test, the statistical analyses used to determine if there is a statistically significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA-821-R-02-012 or the most recent update thereof.

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

c. Dilution Water

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

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

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

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

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

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

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

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

d. Samples and Composites

i. The permittee shall collect two flow-weighted composite samples from the outfall(s) listed at Item 1.a above. Unless otherwise stated in this section, a composite sample for WET shall consist of a minimum of 12 subsamples gathered at equal time intervals during a 24-hour period.

ii. The permittee shall collect a second composite sample for use during the 24-hour renewal of each dilution concentration for both tests. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours. The permittee must have initiated the toxicity test within

36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to between 0 and 6 degrees Centigrade during collection, shipping, and/or storage.

iii. The permittee must collect both flow-weighted composite samples within the monitoring period. The second composite sample shall not be collected into the next monitoring period; such tests will be determined to be invalid. Monitoring period definitions are listed in Part IV.

iv. The permittee must collect the composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis.

v. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 4 of this section.

4. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this Part in accordance with the Report Preparation Section of EPA-821-R-02-012, for every valid or invalid toxicity test initiated, whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.7 of this permit. The permittee shall submit full reports. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

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

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

i. Pimephales promelas (Fathead minnow)

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

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

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

ii. Daphnia pulex

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

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

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

5. TOXICITY REDUCTION EVALUATION (TRE)

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

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

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

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

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

Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where lethality was demonstrated within 24 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;

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

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

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

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

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

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

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

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

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

6. MONITORING FREQUENCY REDUCTION

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

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

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

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

11. 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(S):	001
CRITICAL DILUTION:	100%
EFFLUENT DILUTION SERIES:	32%, 42%, 56%, 80%, & 100%
LETHAL LIMIT:	100%
SUB-LETHAL LIMIT:	80%
SCHEDULE OF COMPLIANCE:	NO
TESTING FREQUENCY:	once/two months
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 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 herein defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-

lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.

c. The conditions of this item are effective beginning with the effective date of the WET limit. When the testing frequency stated above is less than monthly and the effluent fails the lethal or sub-lethal endpoint at or below the required limit specified in Item 1.a., 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 No Observed Effect Concentration (NOEC) effluent limitation is demonstrated for a period of three consecutive months, at which time the permittee may return to the testing frequency stated in PART I of this permit. During the period the permittee is out of compliance, test results shall be reported on the DMR for that reporting period. The purpose of additional tests (also referred to as 'retests' or confirmation tests) is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result.

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

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. 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 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 sub-lethal 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.

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

viii. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.

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

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

b. Statistical Interpretation

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

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

iii. If the conditions of Test Acceptability are met in Item 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 a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 3 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 where the receiving stream is classified as intermittent or where the receiving stream has no flow due to zero flow conditions.

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 2.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

(A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 2.a was run concurrently with the receiving water control;

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

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 3.a below; and

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

d. Samples and Composites

i. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a above. Unless otherwise stated in this section, a composite sample for WET shall consist of a minimum of 12 subsamples gathered at equal time intervals during a 24-hour period.

ii. The permittee must collect all three flow-weighted composite samples within the monitoring period. 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 a regular or 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 between 0 and 6 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 have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 3 of this section

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

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

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-821-R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.7 of this permit. The permittee shall submit full reports. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

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

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

If more than one species is tested during the reporting period (in accordance with item 1.a.), the permittee shall report the lowest 30-Day Average Minimum NOEC and the lowest 7-Day Minimum NOEC for Whole Effluent Toxicity.

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 WET test data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST lethal and sub-lethal effects results for each species during the reporting period. The full reports for all invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for Agency review.

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

   i. Pimephales promelas (Fathead minnow)

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

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

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

      D. If the NOEC for growth is less than or equal to the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP6C

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

   ii. Ceriodaphnia dubia

      A. If the NOEC for survival is less than or equal to 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 NOEC for reproduction is less than or equal to the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP3B

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

12. WHOLE EFFLUENT TOXICITY TEST REQUIREMENT (WET Limits, 48 HR. ACUTE, FRESHWATER)

1. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL(S):	006 and 007
REPORTED ON DMR AS OUTFALLS:	006 and 007
CRITICAL DILUTION:	
Outfall 006:	22%
Outfall 007:	50%
EFFLUENT DILUTION SERIES:	
Outfall 006:	9%, 12%, 17%, 22%, & 29%
Outfall 007:	21%, 28%, 38%, 50%, & 67%
LETHAL LIMIT:	
Outfall 006:	22%
Outfall 007:	50%
TESTING FREQUENCY:	
Outfall 006:	once/two months
Outfall 007:	once/two months
COMPOSITE SAMPLE TYPE:	Defined at PART I
TEST SPECIES/METHODS:	40 CFR Part 136

Daphnia pulex acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest update thereof. A minimum of five (5) replicates with

eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

Pimephales promelas (Fathead minnow) acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

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

c. The conditions of this item are effective beginning with the effective date of the WET limit. When the testing frequency stated above is less than monthly and the effluent fails the survival endpoint at or below the critical dilution, the permittee shall be considered in violation of this permit limit and the frequency for the affected species will increase to monthly until such time compliance with the No Observed Effect Concentration (NOEC) effluent limitation for toxicity 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.

The purpose of additional tests (also referred to as 'retests' or confirmation tests) is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result.

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

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. 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 the 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 the Daphnia pulex survival test and/or the Fathead minnow survival test.

iv. If a test passes, yet the percent coefficient of variation between replicates is greater than 40% in the control (0% effluent) and/or in the critical dilution for: the survival in the Daphnia pulex survival test or the survival endpoint of the Fathead minnow test, the test is determined to be invalid. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

v. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.

b. STATISTICAL INTERPRETATION

For the Daphnia pulex survival test and the Fathead minnow survival test, the statistical analyses used to determine if there is a statistically significant difference between the control and the critical dilution shall be in accordance with the methods fEPA-821-R-02-012 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 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 3 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 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., 48 hours);

(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 two flow-weighted composite samples from the outfall(s) listed at Item 1.a above. Unless otherwise stated in this section, a composite sample for WET shall consist of a minimum of 12 subsamples gathered at equal time intervals during a 24-hour period.

ii. The permittee shall collect a second composite sample for use during the 24-hour renewal of each dilution concentration for both tests. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to between 0 and 6 degrees Centigrade during collection, shipping, and/or storage.

iii. The permittee must collect both flow-weighted composite samples within the monitoring period. The second composite sample shall not be collected into the next monitoring period; such tests will be determined to be invalid. Monitoring period definitions are listed in Part IV.

iv. The permittee must collect the composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis.

v. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 3 of this section.

3. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this Part in accordance with the Report Preparation Section of EPA-821-R-02-012, for every valid or invalid toxicity test initiated, whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.7 of this permit. The permittee shall submit full reports. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

b. The permittee shall report the Whole Effluent Lethality values for the 30-Day Average Minimum and the 48-Hr. Minimum under Parameter No. 22414 on the DMR for that reporting period in accordance with PART III.D.4 of this permit.

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

If more than one species is tested during the reporting period, the permittee shall report the lowest 30-Day Average Minimum NOEC and the lowest 48-Hr. 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 WET test data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST Survival results for each species during the reporting period. The full report for all invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for Agency review.

c. The permittee shall submit the results of the valid toxicity test on the DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below.

Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. Pimephales promelas (Fathead minnow)

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

Additional Monitoring Requirements for Outfalls 006 and 007

13. The permittee shall monitor the stream flow downstream of Outfalls 006 and 007 once per day pursuant to Part IA. The downstream flow must be used to calculate the upstream flow once per day using the following formula:

    Upstream Flow = Downstream Flow – Outfall 006 Flow – Outfall 007 Flow

14. The stream flow to effluent flow ratios must be determined by dividing the upstream flow by the flow from the applicable outfall. These ratios must be calculated once per day in accordance with Part IA.

15. The permittee shall maintain the approved in-stream flow monitoring equipment and have the equipment serviced and calibrated on a regular basis. Records shall be kept and available for inspection upon request.

16. The ADEQ reserves the right to reopen the permit based on information submitted on the DMRs regarding compliance with the stream flow to effluent flow ratio. Items which may be modified to reflect stricter limitations include, but are not limited to, the following:

    A. Dilution series for chronic WET testing;
    B. Critical dilution for chronic WET testing; and
    C. Metals monitoring requirements.

17. The permittee may only discharge contaminated stormwater through Outfalls 006 and 007. Discharge of other waters such as leaks from the water distribution system must be made through other permitted outfalls.

18. TSS Benchmark

    If the TSS monitoring results from Part IA exceed the parameter benchmark value of 100 mg/l, the facility shall investigate the cause and/or source of the elevated pollutant levels, review the BMPs, and determine and document a corrective action plan to address the benchmark exceedance. The facility shall commence with the above process within 30 calendar days of the exceedance.

    The Corrective Action Plan must contain the following: the results of the review; the corrective actions the permittee will take to address the benchmark excursion, including whether any BMP modifications are necessary; and an implementation schedule including alternative methods for implementing existing site controls or methods for implementing additional effective site controls, if the site controls have not already been implemented. Corrective actions must be completed within 90 days of the exceedance of the benchmark value unless an extension in writing has been received from the Department.

The permittee must document the date that corrective actions are initiated and are completed or expected to be completed. A copy should be retained onsite with the BMP documents.

Corrective Action Plan data must be submitted to the Department once per calendar quarter.

Failure to meet the benchmark value of 100 mg/l may result in the inclusion of TSS or turbidity limits in the permit at the time of the next renewal.

19. When the 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 III.C.5.

20. When the permittee continuously monitors DO pursuant to an option or requirement of the permit, the DO level shall be monitored, calculated, and reported as an hourly average of all of the DO measurements taken each hour. Hourly averages below the permitted minimum DO level are violations and the number of violations shall be reported as excursions in accordance with Part III.C.5. This condition does not apply to Outfall 010.

21. All composite samples must be 24-hr composite samples. If use of an automatic sampler is infeasible, a minimum of four grab samples collected at 10 AM, 12 PM, 2 PM, and 4 PM during a normal business day may be taken and composited according to flow.

22. Ammonia as N and Nitrates as N discharges from Outfalls 001, 002, and 010 shall not exceed the Ammonia as N and Nitrates as N limits at the SUM Total Outfall (Page 21 of Part IA).

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

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

PART III
STANDARD CONDITIONS

SECTION A – GENERAL CONDITIONS

1. Duty to Comply

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

2. Penalties for Violations of Permit Conditions

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

3. Permit Actions

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

A. Violation of any terms or conditions of this permit; or
B. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
C. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
D. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.
E. Failure of the permittee to comply with the provisions of APCEC Regulation No. 9 (Permit fees) as required by Part III.A.11 herein.

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

4. Toxic Pollutants

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

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

5. Civil and Criminal Liability

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

6. Oil and Hazardous Substance Liability

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

7. State Laws

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

8. Property Rights

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

9. Severability

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

10. Applicable Federal, State or Local Requirements

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal such as endangered species, state or local statute, ordinance or regulation.

11. Permit Fees

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

SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

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

B. The permittee shall provide an adequate operating staff which is duly qualified to carryout operation, maintenance, and testing functions required to insure compliance with the conditions of this permit.

2. Need to Halt or Reduce not a Defense

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

3. Duty to Mitigate

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

4. Bypass of Treatment Facilities

A. Bypass not exceeding limitation

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

B. Notice

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

C. Prohibition of bypass

1. Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless:

(a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal or preventive maintenance; and
(c) The permittee submitted notices as required by Part III.B.4.b.

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

5. Upset Conditions

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

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

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

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

6. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of 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 prior to removal of substances. Additionally, the permittee shall give at least 120 days prior notice to the Director of any change planned in the permittee's sludge disposal practice or land use applications, including types of crops grown (if applicable). Produced sludge shall be disposed of by land application only when meeting the following criteria:

A. Sewage sludge from treatment works treating domestic sewage (TWTDS) must meet the applicable provisions of 40 CFR Part 503; and
B. The sewage sludge has not been classified as a hazardous waste under state or federal regulations.

7. Power Failure

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

SECTION C – MONITORING AND RECORDS

1. Representative Sampling

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

2. Flow Measurement

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

Calculated Flow Measurement

For calculated flow measurements that are performed in accordance with either the permit requirements or a Department approved method (i.e., as allowed under Part II.3), the +/- 10% accuracy requirement described above is waived. This waiver is only applicable when the method used for calculation of the flow has been reviewed and approved by the Department.

3. Monitoring Procedures

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

4. Penalties for Tampering

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

5. Reporting of Monitoring Results

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

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

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

6. Additional Monitoring by the Permittee

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

7. Retention of Records

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

8. Record Contents

Records and monitoring information shall include:

A. The date, exact place, time and methods of sampling or measurements, and preservatives used, if any;
B. The individuals(s) who performed the sampling or measurements;
C. The date(s) and time analyses were performed;
D. The individual(s) who performed the analyses;
E. The analytical techniques or methods used; and
F. The measurements and results of such analyses.

9. Inspection and Entry

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

A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
D. Sample, inspect, or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION D – REPORTING REQUIREMENTS

1. Planned Changes

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

2. Anticipated Noncompliance

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

3. Transfers

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

4. Monitoring Reports

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

5. Compliance Schedule

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

6. Twenty-four Hour Report

A. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the following information:

1. A description of the noncompliance and its cause;
2. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
3. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

B. The following shall be included as information which must be reported within 24 hours:

1. Any unanticipated bypass which exceeds any effluent limitation in the permit;
2. Any upset which exceeds any effluent limitation in the permit and
3. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part I of the permit to be reported within 24 hours to the Enforcement Section of the Water Division of the ADEQ.

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

7. Other Noncompliance

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

8. Changes in Discharge of Toxic Substances for Industrial Dischargers

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

A. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 CFR Part 122.42(a)(1); or
B. That any activity has occurred or will occur which would result in any discharge on a non-routine or infrequent basis of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 CFR Part 122.42(a)(2).

9. Duty to Provide Information

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

10. Duty to Reapply

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

11. Signatory Requirements

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

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

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

   (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
   (b) The manager of one or more manufacturing, production, or operation facilities, provided: the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

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

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

   (a) The chief executive officer of the agency, or
   (b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

B. All **reports** required by the permit and **other information** requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above.
2. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
3. The written authorization is submitted to the Director.

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

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

12. <u>Availability of Reports</u>

Except for data determined to be confidential under 40 CFR Part 2 and APCEC Regulation No. 6, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department of Environmental Quality. As required by the Regulations, the name and address of any permit applicant or permittee, permit applications, permits, and effluent data shall not be considered confidential.

13. Penalties for Falsification of Reports

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to civil penalties specified in Part III.A.2. and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

14. Applicable Federal, State or Local Requirements

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal, state, or local statute, ordinance, policy, or regulation.

PART IV
DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act and 40 CFR 122.2 shall apply to this permit and are incorporated herein by reference. Additional definitions of words or phrases used in this permit are as follows:

1. **"Act"** means the Clean Water Act, Public Law 95-217 (33.U.S.C. 1251 et seq.) as amended.
2. **"Administrator"** means the Administrator of the U.S. Environmental Protection Agency.
3. **"APCEC"** means the Arkansas Pollution Control and Ecology Commission.
4. **"Applicable effluent standards and limitations"** means all State and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards of performance, toxic effluent standards and prohibitions, and pretreatment standards.
5. **"Applicable water quality standards"** means all water quality standards to which a discharge is subject under the federal Clean Water Act and which has been (a) approved or permitted to remain in effect by the Administrator following submission to the Administrator pursuant to Section 303(a) of the Act, or (b) promulgated by the Director pursuant to Section 303(b) or 303(c) of the Act, and standards promulgated under (APCEC) Regulation No. 2, as amended.
6. **"Best Management Practices (BMPs)"** are activities, practices, maintenance procedures, and other management practices designed to prevent or reduce the pollution of waters of the State. BMPs also include treatment technologies, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw sewage. BMPs may include structural devices or nonstructural practices.
7. **"Bypass"** as defined at 122.41(m).
8. **Composite sample**
   a. **"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.
   b. **"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.
   c. **"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.
   d. **"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.
9. **Daily Discharge"** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.
   A. **Mass Calculations***:* For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of pollutant discharged over the sampling day.

B. **Concentration Calculations**: For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

9. **Daily Maximum"** discharge limitation means the highest allowable "daily discharge" during the calendar month. The 7-day average for Fecal Coliform Bacteria (FCB) or E-Coli is the geometric mean of the values of all effluent samples collected during the calendar week in colonies per 100 ml.
10. **"Department"** means the Arkansas Department of Environmental Quality (**ADEQ**).
11. **"Director"** means the Director of the Arkansas Department of Environmental Quality.
12. **"Dissolved oxygen limit"**, shall be defined as follows:
    A. When limited in the permit as a minimum monthly average, shall mean the lowest acceptable monthly average value, determined by averaging all samples taken during the calendar month;
    B. When limited in the permit as an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
13. **"E-Coli"** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For E-Coli, report the monthly average as a 30-day geometric mean in colonies per 100 ml.
14. **"Fecal Coliform Bacteria (FCB)"**a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For Fecal Coliform Bacteria (FCB) report the monthly average as a 30-day geometric mean in colonies per 100 ml.
15. **"Grab sample"** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
16. **"Industrial User**" means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a POTW.
17. **"Instantaneous Maximum"** when limited in the permit as an instantaneous maximum value, shall mean that no value measured during the reporting period may fall above the stated value.
18. **"Instantaneous Minimum"** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
19. **"Monthly average"** means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. For Fecal Coliform Bacteria (FCB) or E-Coli, report the monthly average.
20. **"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.
21. **"POTW"** means a Publicly Owned Treatment Works.
22. **"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.

23. **"Sewage sludge"** means the solids, residues, and precipitate separated from or created in sewage by the unit processes at a POTW. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and stormwater runoff that are discharged to or otherwise enter a POTW.
24. **"7-day average"** Also known as Average weekly. means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.
25. **"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.
26. **"Upset"** means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. Any upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventive maintenance, or careless of improper operations.
27. **"Visible sheen"** means the presence of a film or sheen upon or a discoloration of the surface of the discharge. A sheen can also be from a thin glistening layer of oil on the surface of the discharge.
28. **"MGD"** shall mean million gallons per day.
29. **"mg/l "**shall mean milligrams per liter or parts per million (ppm).
30. **"µg/l"** shall mean micrograms per liter or parts per billion (ppb).
31. **"cfs"** shall mean cubic feet per second.
32. **"ppm"** shall mean parts per million.
33. **"s.u."** shall mean standard units.
34. **"Weekday"** means Monday – Friday.
35. **Monitoring and Reporting:**

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

    A. **MONTHLY:**

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

B. **BI-MONTHLY:**
is defined as two (2) calendar months or any portion of 2 calendar months for monitoring requirement frequency of once/2 months or more frequently.

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

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

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

36. **"Calculated"** shall mean the sum of the mass loadings at the designated outfalls.

DRAFT

Fact Sheet

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

1. **PERMITTING AUTHORITY.**

   The issuing office is:

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

2. **APPLICANT.**

   The applicant's mailing address is:

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

   The facility address is:

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

3. **PREPARED BY.**

   The permit was prepared by:

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

4. **PREVIOUS PERMIT ACTIVITY.**

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

The permittee submitted a permit renewal application on 12/21/2006 with additional information submitted by 10/09/2007. It is proposed that the current NPDES permit be reissued for a 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

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

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

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

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

DOCUMENT ABBREVIATIONS

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

BAT - best available technology economically achievable
BCT - best conventional pollutant control technology
BMP - best management plan
BOD_5 - five-day biochemical oxygen demand
BPJ - best professional judgment
BPT - best practicable control technology currently available
$CBOD_5$ - carbonaceous biochemical oxygen demand
CD - critical dilution
CFR - Code of Federal Regulations
cfs - cubic feet per second
COD - chemical oxygen demand
COE - United States Corp of Engineers
CPP - continuing planning process
CWA - Clean Water Act
DMR - discharge monitoring report
DO - dissolved oxygen
ELG - effluent limitation guidelines
EPA - United States Environmental Protection Agency
ESA - Endangered Species Act
FCB - fecal coliform bacteria
gpm - gallons per minute
MGD - million gallons per day
MQL - minimum quantification level
NAICS - North American Industry Classification System
NH3-N - ammonia nitrogen
$NO_3 + NO_2$-N - nitrate + nitrite nitrogen
NPDES - National Pollutant Discharge Elimination System
O&G - oil and grease
Reg. 2 - APCEC Regulation No. 2
Reg. 6 - APCEC Regulation No. 6
Reg. 8 - APCEC Regulation No. 8
Reg. 9 - APCEC Regulation No. 9
RP - reasonable potential
SIC - standard industrial classification
TDS - total dissolved solids
TMDL - total maximum daily load
TP - total phosphorus
TRC - total residual chlorine
TSS - total suspended solids

UAA - use attainability analysis
USFWS - United States Fish and Wildlife Service
WET - Whole effluent toxicity
WQMP - water quality management plan
WQS - Water Quality standards
WWTP - wastewater treatment plant

DMR/Legal Notice Review

The Discharge Monitoring Reports for the time frame of January 2009 through December 2011 were reviewed.

The facility is currently under a Consent Administrative Order issued by the EPA.

5. FINANCIAL ASSURANCE

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

6. SIGNIFICANT CHANGES FROM THE PREVIOUSLY ISSUED PERMIT.

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

1. The description of the physical location has been expanded in order to give more information concerning where the facility is located.
2. The facility and the outfall coordinates have been updated based upon data collected during the site visit. The coordinates for Outfall 010 have been changed from the monitoring location at the facility to the discharge location at the Ouachita River.
3. The following changes have been made at Outfall 001 in the permit:
   a. The final NH3-N limits are based on the TMDL. Interim limits and a schedule of compliance for the more stringent limits have been included in the permit;
   b. The temperature limit has been removed based upon a study conducted by the permittee;
   c. The monitoring location has been clarified to state that the required samples must be taken after the final treatment unit and prior to entering the receiving stream or commingling with other wastewaters;
   d. Sub-lethal WET limits have been added. See Item No. 13 of this Fact Sheet for additional information;
   e. Mineral limits based on the TMDL have been included. Interim limits and a schedule of compliance for the more stringent limits have been included in the permit; and
   f. The WET testing frequency has been changed to once every two months.

4. The following changes have been made at Outfall 002 in the permit:
   a. The final NH3-N concentration limits are based on the TMDL. Interim limits and a schedule of compliance for the more stringent limits have been included in the permit;
   b. The monitoring location has been clarified to state that the required samples must be taken after the final treatment unit and prior to entering the receiving stream or commingling with other wastewaters; and
   c. Mineral limits based on the TMDL have been included (note – Chlorides requirements have been included for the first time at this outfall). Interim limits and a schedule of compliance for the more stringent limits have been included in the permit.
5. The following changes have been made at Outfall 003 in the permit:
   a. Minimum required DO levels have been added in order to ensure that the water quality standards in Reg. 2.505 are met. An interim requirement for the months of May through October and a schedule of compliance have been included in the permit;
   b. The TSS daily maximum concentration has been corrected to be exactly 1.5 times the monthly average limit. As a result of this correction, the mass limit has also been changed;
   c. The NH3-N limits are now based on the more stringent of the DO model based limits and the toxicity criteria contained in Reg. 2.512;
   d. The monitoring location has been clarified to state that the required samples must be taken after the final treatment unit and prior to entering the receiving stream or commingling with other wastewaters;
   e. Mineral limits based on the TMDL have been included; and
   f. Monitoring and reporting requirements for Total Recoverable Copper and Total Recoverable Zinc have been added to the permit.
6. Outfall 004 has been deleted. The permittee has made changes to their stormwater management program and no longer needs this outfall.
7. Outfall 005 has been deleted. The permittee has made changes to their stormwater management program and no longer needs this outfall.
8. The following changes have been made at Outfalls 006 and 007 in the permit:
   a. The permittee is required to monitor the flow of the receiving stream downstream from both of the outfalls. See Item No. 12.c of this section for additional information;
   b. The stream flow to effluent flow ratio upon which the water quality based limit have been determined has been added to Part IA of the permit;
   b. The Cadmium and the Zinc limits at Outfall 006 have been removed. Based upon the stream flow to effluent flow ratios developed through the study conducted by the permittee, the discharge no longer presents reasonable potential for water quality violations due to the levels of Cadmium;
   c. The Lead (both outfalls) and the Zinc (at Outfall 007) limits are less stringent due to the use of the stream flow to effluent flow ratio developed through the stormwater flow study;
   d. Monitoring and reporting requirements for Copper have been added because the receiving stream is on the 303(d) list for this parameter;

e. The TDS concentration limits are now based on the TMDL;
f. The critical dilutions and the dilution series have been modified based upon the use of the stream flow to effluent flow ratios;
g. Acute WET limits have been included in the permit;
h. The monitoring locations have been clarified to state that the samples taken in compliance with the monitoring requirements must be taken after all stormwater discharged through this outfall have commingled but prior to entering the receiving stream or commingling with other stormwater or wastewaters;
i. NH3-N, Chlorides, and Sulfates limits based on the TMDL have been added. Interim limits and a schedule of compliance have been included in the permit; and
j. The WET testing frequency has been changed to once every two months.

9. No changes have been made to the SUM Total at Outfalls 001 and 002.
10. No changes have been made at Outfall 010.
11. A Load Allocation Outfall has been included. This outfall contains the loads in the TMDL for NH3-N, Chlorides, Sulfates, and TDS at the non-point sources. The TMDL has designated Outfalls 002, 006, and 007 as the non-point sources at this facility.
12. The following changes have been made to Part II (formerly Part III):
    a. Condition No. 1 has been updated to specify that the facility can submit a sampling plan to ensure that the samples taken for all facilities discharging to the joint pipeline are representative. This change has been made to allow the facilities involved in the joint pipeline to set a sampling schedule which will be agreeable to them as well as to the Department;
    b. Condition No. 2 has been modified to allow the facility to divert flows from Outfall 010 to other permitted outfalls during non-emergency and non-maintenance events provided notification requirements are met. This change has been made to provide the permittee flexibility in controlling its discharges and was included in the AHO's recommended decision;
    c. Several MQLs contained in Condition No. 3 have been updated to more stringent requirements as more sensitive testing is now available;
    d. The required class of the licensed operator for this facility has been specified as Basic Industrial and is based on the requirements contained in Reg. 3;
    e. Stream flow monitoring conditions for Outfalls 006 and 007 (Nos. 13 through 16) have been added because the limits for those outfalls are based on ratios of discharge flows to stream flows during storm events. The ratios were developed through use of a study conducted by the permittee. The continued stream flow monitoring is necessary to verify the ratios over a longer term;
    f. A condition specifically prohibiting the discharge of any waters other than contaminated stormwater through Outfalls 006 and 007 has been added to the permit. The limits for those outfalls are based on ratios of discharge flows to stream flows during storm events;
    g. The WET language has been updated to reflect the requirements placed in permits for all facilities required to conduct WET testing;

h. The SWPPP language has been removed. The permittee is required to obtain alternate permit coverage for stormwater runoff associated with industrial activity which is not discharged through one of the outfalls included in NPDES Permit No. AR0000752; and
i. BMP language has been added for the outfalls contained in this permit which discharge stormwater.

13. Part III has been modified. This section was Part II in the previous permit.
    a. Section A, Condition No. 11 has been added. This condition requires that the permittee pay the permit fees required by Reg. 9 in order to keep the permit. This condition has been added to include the requirements of that regulation.
    b. Section B, Condition No. 6 has been modified to state that the permittee must receive permission from the Department prior to removing any solids, sludges, etc. and to specify that the permittee must notify the Department a minimum of 120 days prior to any planned changes to sludge practices.
    c. Section C, Condition No. 2 includes requirements for calculated flow measurements. The calculated flow measurement language does not affect this facility since they are required to use totalizing meters. However, Part III contains standard language which is placed in all permits and is not modified on a case-by-case basis.
    d. Section D, Condition No. 1 has been modified to reflect the planned changes notification with which an industrial discharger must comply. This condition previously included POTW and Industrial Discharger requirements.
    e. Section D, Condition No. 14 has been added to the permit. This condition requires the facility to comply with the permit.
14. Part IV has been modified. The definitions were placed in alphabetical order. Definitions for "E-coli" and "weekday" were added. Those definitions were added because permits being issued at this time might contain those requirements.

7. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

The outfalls are located at the following coordinates:

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

The receiving waters named:

Outfalls 001, 002, 003, 006, and 007 – unnamed tributaries of Flat Creek (a/k/a Elcc Tributary), thence to Flat Creek, thence to Haynes Creek, thence to Smackover Creek, thence to the Ouachita River in Segment 2D of the Ouachita River Basin. The receiving stream with

USGS Hydrologic Unit Code (H.U.C) of 8040201 and reach #606 is a Water of the State classified for secondary contact recreation, raw water source for industrial and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

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

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

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

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

The unnamed tributary to Flat Creek (a/k/a ELCC tributary) and Flat Creek are on the 2008 303(d) list for Copper, and Zinc in Category 5e. Category 5e includes those stream segments impaired by point source dischargers where it is anticipated that future permit restrictions will correct the problem. See Item Nos. 13.A.1.i and ii for additional information concerning these parameters in this permit.

The unnamed tributary of Flat Creek is on the 2008 303(d) list for Nitrates in Category 5e. The domestic water supply use was removed from the list of designated uses of the receiving stream in 2007. (Note: EPA approved this removal November 9, 2007.) Therefore, there are no applicable water quality standards for this parameter. Furthermore, the draft 2012 303(d) list does not included nitrates as a source of impairment for this receiving stream. No action is necessary regarding this listing. Nitrates is only included at Outfalls 001 and 002 in this permit because of the technology based standards in 40 CFR Part 418 which are applicable to this facility.

TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas (TMLD) was finalized in 2002. Limits based on the TMDL have been incorporated into the permit.

The permittee has indicated that they will begin the process to revise the TMDL to correct inconsistencies with actual operations and to incorporate the background flow study which was performed at the two stormwater only outfalls, Outfalls 006 and 007. The permittee may submit an application requesting modification of the permit to

incorporate a revised TMDL without violating the anti-backsliding standards of 40 CFR 122.44(l) since any such revisions would be based upon new information. A revised TMDL must be approved by EPA, publicly noticed, and finalized before it can be incorporated into a modified NPDES permit.

Via the Joint Pipeline to the Ouachita River - Outfall 010

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

b. **Endangered Species**:

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

c. **Anti-Degradation**:

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

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

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

a. Flows: Outfall 001 – 1.85 MGD (2002 permit renewal)
Outfall 002 – variable
Outfall 006 – background flow to effluent flow ratio of 53.6:1
Outfall 007 – background flow to effluent flow ratio of 15:1
Design Flow: Outfall 003 – 0.017 MGD
Permitted Flow: Outfall 010 – 2 MGD (This is a permit limit.)

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

c. Discharge Description: Outfalls 001 and 002 – treated process wastewater & contaminated stormwater.
Outfall 003 – treated sanitary wastewater.

Outfalls 006 and 007 – contaminated stormwater.
Outfall 010 – combination of Outfalls 001, 006, and 007

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

Cooling water is obtained from the Sparta Aquifer or the Union County Water Conservation Board. Therefore, Section 316(b) of the Clean Water Act is not applicable to this facility.

d. SUM Total Outfalls:

SUM TOTAL of Outfalls 001 and 002 - treated process wastewater and contaminated stormwater (technology based limits): This is not a physical outfall. It was created as a method of demonstrating compliance with the technology based limits calculated in accordance with 40 CFR 418. Compliance with the limits for this outfall will be demonstrated by measuring the concentrations for the permitted parameters and calculating the loadings for both of the individual outfalls. The data for the individual outfalls will then be used to calculate the concentrations and loadings for the SUM TOTAL of Outfalls 001 and 002.

SUM Load Allocation Outfall (LAO) – treated process wastewater and contaminated stormwater from Outfalls 002, 006, and 007: This is not a physical outfall. It was created as a method of demonstrating compliance with the Load Allocations for NH3-N, Chlorides, Sulfates, and TDS set forth in the applicable TMDL. Compliance with the limits for this outfall will be demonstrated by measuring the concentrations for the permitted parameters and calculating the loadings at each of the individual outfalls. The data for the individual outfalls will then be used to calculate the total loadings for the SUM Load Allocation Outfall (LAO).

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

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

10. **APPLICANT ACTIVITY.**

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

11. **SOLIDS PRACTICES.**

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

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

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

12. **PERMIT CONDITIONS.**

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

a. **Interim Effluent Limitations**

Outfall 001 - treated process wastewater and contaminated stormwater

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	continuous	record
Total Suspended Solids (TSS)	462	692	30	45	three/week	24-hr composite
Ammonia, NH3-N	265.7	811.84	12	18	three/week	24-hr composite

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Nitrates 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 (Minimum)	N/A	three/week	grab
(November – April)	N/A	N/A	5.0 (Minimum)	N/A	three/week	grab
Fecal Coliform Bacteria (FCB)			col/100 ml			
(April – September)	N/A	N/A	200	400	three/week	grab
(October – March)	N/A	N/A	1000	2000	three/week	grab
Total Recoverable Copper	0.19	0.38	12.2 µg/l	24.48 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
Total Recoverable Selenium	0.09	0.17	5.58 µg/l	11.2 µg/l	once/quarter	24-hr composite
Chlorides	Report	Report	38	57	once/month	24-hr composite
Sulfates	Report	Report	81	122	once/month	24-hr composite
Total Dissolved Solids	Report	Report	237	356	once/month	24-hr composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous	grab
Chronic Lethal WET Limit	Daily Average Minimum Not < 100%		7-day Minimum Not <100%		once/2 months	24-hr composite
Sub-Lethal WET Limit	Daily Average Minimum Not < 80%		7-day Minimum Not <80%		once/2 months	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. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

b. **Final Effluent Limitations**

Outfall 001 - treated process wastewater and contaminated stormwater

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	continuous	record
Total Suspended Solids (TSS)	462	692	30	45	three/week	24-hr composite
Ammonia, NH3-N						
(May – October)	37.5	56.25	2.43	3.65	three/week	24-hr composite
(November – April)	84.92	127.38	5.5	8.25	three/week	24-hr composite
Nitrates 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 (Minimum)	N/A	three/week	grab
(November – April)	N/A	N/A	5.0 (Minimum)	N/A	three/week	grab
Fecal Coliform Bacteria (FCB)			col/100 ml			
(April – September)	N/A	N/A	200	400	three/week	grab
(October – March)	N/A	N/A	1000	2000	three/week	grab
Total Recoverable Copper	0.19	0.38	12.2 µg/l	24.48 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
Total Recoverable Selenium	0.09	0.17	5.58 µg/l	11.2 µg/l	once/quarter	24-hr composite
Chlorides	262.35	393.52	19	28.5	once/month	24-hr composite
Sulfates	497.97	746.95	41	61.5	once/month	24-hr composite
Total Dissolved Solids	1324.62	1986.96	138	207	once/month	24-hr composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous	grab
Chronic Lethal WET Limit	Daily Average Minimum Not < 100%		7-day Minimum Not <100%		once/2 months	24-hr composite
Sub-Lethal WET Limit	Daily Average Minimum Not < 80%		7-day Minimum Not <80%		once/2 months	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. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

c. **Interim Effluent Limitations**

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

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Total Suspended Solids (TSS)	N/A	N/A	Report	Report	once/day	grab
Ammonia (NH3-N)	265.7	811.84	12	18	once/day	grab
Nitrates as N	405.02	1153.73	26.3	74.9	once/day	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/day	grab
Total Recoverable Copper	N/A	N/A	12.2 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 Zinc	N/A	N/A	115.62 µg/l	231.99 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
Chlorides	Report	Report	Report	Report	once/month	grab
Sulfates	Report	Report	250	375	once/month	grab
Total Dissolved Solids	Report	Report	500	750	once/month	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Acute WET testing	N/A	N/A	Report %		once/month	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. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

d. **Final Effluent Limitations**

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

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Total Suspended Solids (TSS)	N/A	N/A	Report	Report	once/day	grab
Ammonia (NH3-N)						
(April – October)	Report*	Report*	0	0	once/day	grab
(November – March)	Report*	Report*	0.32	0.48	once/day	grab
Nitrates as N	405.02	1153.73	26.3	74.9	once/day	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/day	grab
Total Recoverable Copper	N/A	N/A	12.2 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 Zinc	N/A	N/A	115.62 µg/l	231.99 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
Chlorides	Report*	Report*	19	28.5	once/month	grab
Sulfates	Report*	Report*	41	61.5	once/month	grab
Total Dissolved Solids	Report*	Report*	138	207	once/month	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Acute WET testing	N/A	N/A	Report %		once/month	24-hr composite

*TMDL based mass limit implemented in the Load Allocation Outfall.

2. **Solids, Foam, and Free Oil:** There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

e. **Interim Effluent Limitations**

Outfall 003 - treated sanitary wastewater

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1.4	2.1	10	15	once/quarter	grab
Total Suspended Solids (TSS)	2.1	3.2	15	22.5	once/quarter	grab
Ammonia Nitrogen (NH3-N)						
(April – October)	0.7	1.1	5	7.5	twice/7 months*	grab
(November – March)	1.4	2.1	10	15	twice/5 months*	grab
Dissolved Oxygen						
(May – October)	N/A	N/A	2.0 (Inst. Min.)		once/quarter	grab
(November – April)	N/A	N/A	2.0 (Inst. Min.)		once/quarter	grab
Fecal Coliform Bacteria (FCB)			(colonies/100ml)			
	N/A	N/A	1000	2000	once/quarter	grab
Total Recoverable Copper	Report	Report	Report µg/l	Report µg/l	once/quarter	24-hr composite
Total Recoverable Zinc	Report	Report	Report µg/l	Report µg/l	once/quarter	24-hr composite
Chlorides	Report	Report	Report	Report	once/month	grab
Sulfates	Report	Report	Report	Report	once/month	grab
Total Dissolved Solids	Report	Report	Report	Report	once/month	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab

*One sample shall be taken during each of the following time frames: April – July, August – October, November – December, and January – March.

2. **Solids, Foam, and Free Oil:** There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

f. **Final Effluent Limitations**

Outfall 003 - treated sanitary wastewater

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1.4	2.1	10	15	once/quarter	grab
Total Suspended Solids (TSS)	2.1	3.2	15	22.5	once/quarter	grab
Ammonia Nitrogen (NH3-N)						
(April – October)	0.4	0.6	2.43	3.65	twice/7 months*	grab
(November – March)	0.86	1.29	5.5	8.25	twice/5 months*	grab
Dissolved Oxygen						
(May – October)	N/A	N/A	4.0 (Inst. Min.)		once/quarter	grab
(November – April)	N/A	N/A	2.0 (Inst. Min.)		once/quarter	grab
Fecal Coliform Bacteria (FCB)			(colonies/100ml)			
	N/A	N/A	1000	2000	once/quarter	grab
Total Recoverable Copper	Report	Report	Report µg/l	Report µg/l	once/quarter	24-hr composite
Total Recoverable Zinc	Report	Report	Report µg/l	Report µg/l	once/quarter	24-hr composite
Chlorides	2.65	3.98	19	28.5	once/month	grab
Sulfates	5.03	7.55	41	61.5	once/month	grab
Total Dissolved Solids	13.38	20.07	138	207	once/month	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/week	grab

*One sample shall be taken during the months of April – July, August – October, November – December, and January – March.

2. **Solids, Foam, and Free Oil:** There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

g. **Interim Effluent Limitations**

Outfall 006 - contaminated stormwater

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Stream Flow[1]	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Stream Flow to Effluent Flow Ratio[1]	N/A	N/A	53.6:1	53.6:1	once/day	calculated
Total Suspended Solids (TSS)[2]	N/A	N/A	Report	Report	once/week	grab
Ammonia (NH3-N)	Report	Report	Report	Report	once/week	grab
Total Recoverable Lead	N/A	N/A	99.24 µg/l	199.12 µg/l	once/month	24-hr composite
Total Recoverable Copper	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Chlorides	Report	Report	Report	Report	once/month	grab
Sulfates	Report	Report	Report	Report	once/month	grab
Total Dissolved Solids	Report	Report	2807.3	4211.0	once/month	grab
Oil and Grease	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Acute WET Limit	N/A	N/A	48-hr Minimum Not < 22%		once/2 months	24-hr composite

1. See Condition Nos. 13 through 16 of Part II of the permit.
2. See Condition No. 18 of Part II of the permit.

2. **Solids, Foam, and Free Oil:** There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

h. **Final Effluent Limitations**

Outfall 006 - contaminated stormwater

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Stream Flow[1]	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Stream Flow to Effluent Flow Ratio[1]	N/A	N/A	53.6:1	53.6:1	once/day	calculated
Total Suspended Solids (TSS)[3]	N/A	N/A	Report	Report	once/week	grab
Ammonia (NH3-N)						
(April – October)	Report[2]	Report[2]	0	0	once/week	grab
(November – March)	Report[2]	Report[2]	0.32	0.48	once/week	grab
Total Recoverable Lead	N/A	N/A	99.24 µg/l	199.12 µg/l	once/month	24-hr composite
Total Recoverable Copper	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Chlorides	Report[2]	Report[2]	19	28.5	once/month	grab
Sulfates	Report[2]	Report[2]	41	61.5	once/month	grab
Total Dissolved Solids	Report[2]	Report[2]	138	207	once/month	grab
Oil and Grease	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Acute WET Limit	N/A	N/A	48-hr Minimum Not < 22%		once/2 months	24-hr composite

1. See Condition Nos. 13 through 16 of Part II of the permit.
2. TMDL based mass limit implemented in the Load Allocation Outfall.
3. See Condition No. 18 of Part II of the permit.

2. **Solids, Foam, and Free Oil:** There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

i. **Interim Effluent Limitations**

Outfall 007 - contaminated stormwater

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Stream Flow[1]	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Stream Flow to Effluent Flow Ratio[1]	N/A	N/A	15:1	15:1	once/day	calculated
Total Suspended Solids (TSS)[2]	N/A	N/A	Report	Report	once/week	grab
Ammonia (NH3-N)	Report	Report	Report	Report	once/week	grab
Total Recoverable Lead	N/A	N/A	41.79 µg/l	83.84 µg/l	once/month	24-hr composite
Total Recoverable Copper	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Zinc	N/A	N/A	685.53 µg/l	1375.48 µg/l	once/month	24-hr composite
Chlorides	Report	Report	Report	Report	once/month	grab
Sulfates	Report	Report	Report	Report	once/month	grab
Total Dissolved Solids	Report	Report	1203	1804.5	once/month	grab
Oil and Grease	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Acute WET Limit	N/A	N/A	48-hr Minimum Not < 50%		once/2 months	24-hr composite

1. See Condition Nos. 13 through 16 of Part II of the permit.
2. See Condition No. 18 of Part II of the permit.

2. **Solids, Foam, and Free Oil:** There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

j. **Final Effluent Limitations**

Outfall 007 - contaminated stormwater

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Stream Flow[1]	N/A	N/A	Report MGD	Report MGD	once/day	instantaneous
Stream Flow to Effluent Flow Ratio[1]	N/A	N/A	15:1	15:1	once/day	calculated
Total Suspended Solids (TSS)[3]	N/A	N/A	Report	Report	once/week	grab
Ammonia (NH3-N)						
(April – October)	Report[2]	Report[2]	0	0	once/week	grab
(November – March)	Report[2]	Report[2]	0.32	0.48	once/week	grab
Total Recoverable Lead	N/A	N/A	41.79 µg/l	83.84 µg/l	once/month	24-hr composite
Total Recoverable Copper	N/A	N/A	Report µg/l	Report µg/l	once/month	24-hr composite
Total Recoverable Zinc	N/A	N/A	685.53 µg/l	1375.48 µg/l	once/month	24-hr composite
Chlorides	Report[2]	Report[2]	19	28.5	once/month	grab
Sulfates	Report[2]	Report[2]	41	61.5	once/month	grab
Total Dissolved Solids	Report[2]	Report[2]	138	207	once/month	grab
Oil and Grease	N/A	N/A	10	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Acute WET Limit	N/A	N/A	48-hr Minimum Not < 50%		once/2 months	24-hr composite

1. See Condition Nos. 13 through 16 of Part II of the permit.
2. TMDL based mass limit implemented in the Load Allocation Outfall.
3. See Condition No. 18 of Part II of the permit.

2. **Solids, Foam, and Free Oil:** There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

k. **Final Effluent Limitations**

Outfall 010 – combined outfall of 001, 006, and 007 (treated process wastewater and contaminated stormwater)

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

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	2 MGD	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)						
(May – October)	83.4	125.1	N/A	N/A	once/day	24-hr composite
(November – April)	166.8	250.2	N/A	N/A	once/day	24-hr composite
Total Suspended Solids (TSS)	500.4	750.6	N/A	N/A	once/day	24-hr composite
Ammonia – Nitrogen (NH3-N)	265.2	605	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 Phosphorous	N/A	N/A	Report	Report	once/day	24-hr composite
Fecal Coliform Bacteria (FCB)			colonies/100 ml			
	N/A	N/A	Report	Report	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Chronic WET testing	N/A	N/A	Report %		once/quarter	24-hr composite

l. **Interim Effluent Limitations**

SUM TOTAL of Outfalls 001 and 002 - treated process wastewater and contaminated stormwater (technology based limits)

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	calculated
Ammonia-Nitrogen (NH3-N)	265.7	811.84	12	18	once/day	calculated
Nitrates as N	405.02	1153.73	26.3	74.9	once/day	calculated

When Outfall 002 is discharging, NH3-N and Nitrates from Outfall 001 and Outfall 002 combined must not exceed the outfall sum.

m. **Final Effluent Limitations**

SUM TOTAL of Outfalls 001 and 002 - treated process wastewater and contaminated stormwater (technology based limits)

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	calculated
Nitrates as N	405.02	1153.73	26.3	74.9	once/day	calculated

When Outfall 002 is discharging, Nitrates from Outfall 001 and Outfall 002 combined must not exceed the outfall sum.

n. **Final Effluent Limitations**

SUM Load Allocation Outfall (LAO) – treated process wastewater and contaminated stormwater from Outfalls 002, 006, and 007

Effluent Characteristics	Discharge Limitations		Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max.		
Ammonia-Nitrogen (NH3-N)				
(April – October)	0	0	once/week	calculated
(November – March)	5.16	7.74	once/week	calculated
Chlorides	73	109.5	once/month	calculated
Sulfates	33	49.5	once/month	calculated
Total Dissolved Solids	635	952.5	once/month	calculated

13. **BASIS FOR PERMIT CONDITIONS**.

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

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

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

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								

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
(April – October)	2.43 mg/l 37.5 lbs/day	3.65 mg/l 56.25 lbs/day	265.7 lbs/day	811.84 lbs/day	12 mg/l 265.7 lbs/day	18 mg/l 811.84 lbs/day	2.43 mg/l 37.5 lbs/day	3.65 mg/l 56.25 lbs/day
(November – March)	5.5 mg/l 84.92 lbs/day	8.25 mg/l 127.38 lbs/day	265.7 lbs/day	811.84 lbs/day	12 mg/l 265.7 lbs/day	18 mg/l 811.84 lbs/day	5.5 mg/l 84.92 lbs/day	8.25 mg/l 127.38 lbs/day
Nitrates as N	N/A	N/A	405.02 lbs/day	1153.73 lbs/day	405.02 lbs/day	1153.73 lbs/day	405.02 lbs/day	1153.73 lbs/day
DO								
(May – October)	4.0 (Min.)	N/A	N/A	N/A	4.0 (Minimum)		4.0 (Min.)	N/A
(November – April)	5.0 (Min.)	N/A	N/A	N/A	5.0 (Minimum)		5.0 (Min.)	N/A
FCB (col/100 ml)								
(April – September)	200	400	N/A	N/A	200	400	200	400
(October – March)	1000	2000	N/A	N/A	1000	2000	1000	2000
Total Recoverable Copper	12.2 µg/l	24.48 µg/l	N/A	N/A	12.2 µg/l	24.48 µg/l	12.2 µg/l	24.48 µg/l
Total Recoverable Zinc	115.62 µg/l	231.99 µg/l	N/A	N/A	115.62 µg/l	231.99 µg/l	115.62 µg/l	231.99 µg/l
Total Recoverable Selenium	5.58 µg/l	11.2 µg/l	N/A	N/A	5.58 µg/l	11.2 µg/l	5.58 µg/l	11.2 µg/l
Chlorides	19	28.5	N/A	N/A	38	57	19	28.5
Sulfates	41	61.5	N/A	N/A	81	122	41	61.5
TDS	138	207	N/A	N/A	237	356	138	207
pH	6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
Chronic Lethal WET Limit	Not <100%		N/A		Not <100%		Not <100%	
Sub-Lethal WET Limit	Not <80%		N/A		N/A		Not <80%	
OUTFALL 002								

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	N/A	N/A	Report	Report	Report	Report	Report	Report
NH3-N								
(April – October)	0 mg/l	0 mg/l	265.7 lbs/day	811.84 lbs/day	12 mg/l 265.7 lbs/day	18 mg/l 811.84 lbs/day	0 mg/l	0 mg/l
(November – March)	0.32 mg/l	0.48 mg/l	265.7 lbs/day	811.84 lbs/day	12 mg/l 265.7 lbs/day	18 mg/l 811.84 lbs/day	0.32 mg/l	0.48 mg/l
Nitrates as N[1]	N/A	N/A	405.02 lbs/day	1153.73 lbs/day	405.02 lbs/day	1153.73 lbs/day	405.02 lbs/day	1153.73 lbs/day
O & G	10	15	N/A	N/A	10	15	10	15
Total Recoverable Copper	12.2 µg/l	24.48 µg/l	N/A	N/A	12.2 µg/l	24.48 µg/l	12.2 µg/l	24.48 µg/l
Total Recoverable Lead	3.8 µg/l	7.62 µg/l	N/A	N/A	3.8 µg/l	7.62 µg/l	3.8 µg/l	7.62 µg/l
Total Recoverable Zinc	115.62 µg/l	231.99 µg/l	N/A	N/A	115.62 µg/l	231.99 µg/l	115.62 µg/l	231.99 µg/l
Total Recoverable Selenium	5.58 µg/l	11.2 µg/l	N/A	N/A	5.58 µg/l	11.2 µg/l	5.58 µg/l	11.2 µg/l
Chlorides	19	28.5	N/A	N/A	N/A	N/A	19	28.5
Sulfates	41	61.5	N/A	N/A	250	375	41	61.5
TDS	138	207	N/A	N/A	500	750	138	207
pH	6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
Acute WET Testing	N/A		Report		Report		Report	
OUTFALL 003								
CBOD5	10	15	N/A	N/A	10	15	10	15
TSS	15	22.5	N/A	N/A	15	23	15	22.5
NH3-N								
(April)	2.43	3.65	N/A	N/A	10	15	2.43	3.65

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
(May – October)	2.43	3.65	N/A	N/A	5	7.5	2.43	3.65
(November – March)	5.5	8.25	N/A	N/A	10	15	5.5	8.25
DO								
(May – October)	4.0 (Inst. Min.)		N/A	N/A	N/A	N/A	4.0 (Inst. Min.)	
(November – April)	2.0 (Inst. Min.)		N/A	N/A	N/A	N/A	2.0 (Inst. Min.)	
FCB, col/100 ml	1000	2000	N/A	N/A	1000	2000	1000	2000
Total Recoverable Copper	N/A	N/A	Report µg/l	Report µg/l	N/A	N/A	Report µg/l	Report µg/l
Total Recoverable Zinc	N/A	N/A	Report µg/l	Report µg/l	N/A	N/A	Report µg/l	Report µg/l
Chlorides	19	28.5	N/A	N/A	N/A	N/A	19	28.5
Sulfates	41	61.5	N/A	N/A	N/A	N/A	41	61.5
Total Dissolved Solids	138	207	N/A	N/A	N/A	N/A	138	207
pH	6.0 – 9.0 s.u.		N/A		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
OUTFALL 006								
Stream Flow to Effluent Flow Ratio	53.6:1	53.6:1	N/A	N/A	N/A	N/A	53.6:1	53.6:1
TSS	N/A	N/A	Report	Report	Report	Report	Report	Report
NH3-N								
(April – October)	0	0	N/A	N/A	Report	Report	0	0
(November – March)	0.32	0.48	N/A	N/A	Report	Report	0.32	0.48
Total Recoverable Lead	99.24 µg/l	199.12 µg/l	N/A	N/A	3.8 µg/l	7.62 µg/l	99.24 µg/l	199.12 µg/l
Total Recoverable Copper	N/A	N/A	Report µg/l	Report µg/l	N/A	N/A	Report µg/l	Report µg/l
Chlorides	19	28.5	N/A	N/A	N/A	N/A	19	28.5
Sulfates	41	61.5	N/A	N/A	N/A	N/A	41	61.5
Total Dissolved Solids	138	207	N/A	N/A	291	436.5	138	207

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	10	15	N/A	N/A	10	15	10	15
pH	6.0 – 9.0 s.u.		N/A		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
Acute WET Limit	Not < 22%		N/A		Report		Not < 22%	
OUTFALL 007								
Stream Flow to Effluent Flow Ratio	15:1	15:1	N/A	N/A	N/A	N/A	15:1	15:1
TSS	N/A	N/A	Report	Report	Report	Report	Report	Report
NH3-N								
(April – October)	0	0	N/A	N/A	Report	Report	0	0
(November – March)	0.32	0.48	N/A	N/A	Report	Report	0.32	0.48
Total Recoverable Lead	41.79 µg/l	83.84 µg/l	N/A	N/A	3.8 µg/l	7.62 µg/l	41.79 µg/l	83.84 µg/l
Total Recoverable Copper	N/A	N/A	Report µg/l	Report µg/l	N/A	N/A	Report µg/l	Report µg/l
Total Recoverable Zinc	685.53 µg/l	1375.48 µg/l	N/A	N/A	115.62 µg/l	231.99 µg/l	685.53 µg/l	1375.48 µg/l
Chlorides	19	28.5	N/A	N/A	N/A	N/A	19	28.5
Sulfates	41	61.5	N/A	N/A	N/A	N/A	41	61.5
Total Dissolved Solids	138	207	N/A	N/A	291	436.5	138	207
O & G	10	15	N/A	N/A	10	15	10	15
pH	6.0 – 9.0 s.u.		N/A		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
Acute WET Limit	Not < 50%		N/A		Report		Not < 50%	
OUTFALL 010								
Flow, MGD	Report	2	N/A	N/A	N/A	2	Report	2
CBOD5								
(May – October)	83.4 lbs/day	125.1 lbs/day	N/A	N/A	83.4 lbs/day	125.1 lbs/day	83.4 lbs/day	125.1 lbs/day
(November – April)	166.8 lbs/day	250.2 lbs/day	N/A	N/A	166.8 lbs/day	250.2 lbs/day	166.8 lbs/day	250.2 lbs/day

Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
TSS	500.4 lbs/day	750.6 lbs/day	N/A	N/A	30 mg/l 500.4 lbs/day	45 mg/l 750.6 lbs/day	500.4 lbs/day	750.6 lbs/day
NH3-N	265.2 lbs/day	605 lbs/day	265.7 lbs/day	811.84 lbs/day	265.2 lbs/day	605 lbs/day	265.2 lbs/day	605 lbs/day
Nitrate Nitrogen as N	N/A	N/A	405.02 lbs/day	1153.73 lbs/day	405.02 lbs/day	1153.73 lbs/day	405.02 lbs/day	1153.73 lbs/day
O & G	166.8 lbs/day	250.2 lbs/day	N/A	N/A	166.8 lbs/day	250.2 lbs/day	166.8 lbs/day	250.2 lbs/day
DO	Report, minimum		N/A		Report, minimum		Report, minimum	
TDS	N/A	N/A	Report	Report	Report	Report	Report	Report
Sulfates	N/A	N/A	Report	Report	Report	Report	Report	Report
Chlorides	N/A	N/A	Report	Report	Report	Report	Report	Report
Mercury, Total Recoverable	N/A	<0.2 µg/l	N/A	N/A	N/A	<0.2 µg/l	N/A	<0.2 µg/l
Cadmium, Total Recoverable	0.22 lbs/day	0.45 lbs/day	N/A	N/A	0.22 lbs/day	0.45 lbs/day	0.22 lbs/day	0.45 lbs/day
Hexavalent Chromium, Dissolved	0.96 lbs/day	1.93 lbs/day	N/A	N/A	0.96 lbs/day	1.93 lbs/day	0.96 lbs/day	1.93 lbs/day
Copper, Total Recoverable	0.82 lbs/day	1.65 lbs/day	N/A	N/A	0.82 lbs/day	1.65 lbs/day	0.82 lbs/day	1.65 lbs/day
Lead, Total Recoverable	0.40 lbs/day	0.80 lbs/day	N/A	N/A	0.40 lbs/day	0.80 lbs/day	0.40 lbs/day	0.80 lbs/day
Nickel, Total Recoverable	14.23 lbs/day	28.55 lbs/day	N/A	N/A	14.23 lbs/day	28.55 lbs/day	14.23 lbs/day	28.55 lbs/day
Selenium, Total Recoverable	0.66 lbs/day	1.32 lbs/day	N/A	N/A	0.66 lbs/day	1.32 lbs/day	0.66 lbs/day	1.32 lbs/day
Silver, Total Recoverable	0.08 lbs/day	0.16 lbs/day	N/A	N/A	0.08 lbs/day	0.16 lbs/day	0.08 lbs/day	0.16 lbs/day
Zinc, Total Recoverable	7.35 lbs/day	14.75 lbs/day	N/A	N/A	7.35 lbs/day	14.75 lbs/day	7.35 lbs/day	14.75 lbs/day
Chromium (III), Total Recoverable	39.52 lbs/day	79.29 lbs/day	N/A	N/A	39.52 lbs/day	79.29 lbs/day	39.52 lbs/day	79.29 lbs/day
Cyanide, Total Recoverable	0.68 lbs/day	1.37 lbs/day	N/A	N/A	0.68 lbs/day	1.37 lbs/day	0.68 lbs/day	1.37 lbs/day

Parameter	Water Quality-Based		Technology-Based		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
Total Phosphorous	N/A	N/A	Report	Report	Report	Report	Report	Report
FCB, col/100 ml	N/A	N/A	Report	Report	Report	Report	Report	Report
pH	6.0 – 9.0 s.u.		N/A		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
Technology-Based SUM TOTAL for OUTFALLS 001 and 002								
Nitrates as N	N/A	N/A	405.02 lbs/day	1153.73 lbs/day	405.02 lbs/day	1153.73 lbs/day	405.02 lbs/day	1153.73 lbs/day
SUM Load Allocation Outfall (LAO)								
NH3-N								
(April – October)	0 lbs/day	0 lbs/day	N/A	N/A	N/A	N/A	0 lbs/day	0 lbs/day
(November – March)	5.16 lbs/day	7.74 lbs/day	N/A	N/A	N/A	N/A	5.16 lbs/day	7.74 lbs/day
Chlorides	73 lbs/day	109.5 lbs/day	N/A	N/A	N/A	N/A	73 lbs/day	109.5 lbs/day
Sulfates	33 lbsd/ay	49.5 lbs/day	N/A	N/A	N/A	N/A	33 lbsd/ay	49.5 lbs/day
Total Dissolved Solids	635 lbs/day	952.5 lbs/day	N/A	N/A	N/A	N/A	635 lbs/day	952.5 lbs/day

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

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

(1) Applicable Effluent Limitations Guidelines

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

i. **Outfalls 001, 002, and 003 - Point Sources Discharging to an unnamed tributary of Flat Creek, a/k/a ELCC Tributary**

Only the justification for the final limits is in the following table. Justification for the interim limits is included in the narrative following the table.

Parameter	Water Quality or Technology	Justification
OUTFALL 001		
TSS	Technology	Judgment of previous permit writer, continued from previous permit, and 40 CFR 122.44(l)
NH3-N	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
Nitrates	Technology	40 CFR 418.43, 40 CFR 418.53(b), 40 CFR 122.44(l), and previous permit
DO	Water Quality	40 CFR 122.44(l) and previous permit
FCB	Water Quality	Reg. 2.507
Total Recoverable Copper	Water Quality	Reg. 2.508 and 40 CFR 122.44(l)
Total Recoverable Zinc	Water Quality	Reg. 2.508 and 40 CFR 122.44(l)
Total Recoverable Selenium	Water Quality	Reg. 2.508 and 40 CFR 122.44(l)
Chlorides	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
Sulfates	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
TDS	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
pH	Water Quality	Reg. 2.504
OUTFALL 002		
TSS	Technology	Judgment of previous permit writer and continued from previous permit.
NH3-N	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
Nitrates	Technology	40 CFR 418.43, 40 CFR 418.53(b), 40 CFR 122.44(l), and previous permit
Oil and Grease	Water Quality	Reg. 2.510
Total Recoverable Copper	Water Quality	Reg. 2.508
Total Recoverable Lead	Water Quality	Reg. 2.508
Total Recoverable Zinc	Water Quality	Reg. 2.508
Total Recoverable Selenium	Water Quality	Reg.2.508
Chlorides	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the*

Parameter	Water Quality or Technology	Justification
		ELCC Tributary, Arkansas.
Sulfates	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
TDS	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
pH	Water Quality	Reg. 2.504
OUTFALL 003		
CBOD5	Water Quality	MultiSMP Model dated 07/11/2007.
TSS	Water Quality	MultiSMP Model dated 07/11/2007.
NH3-N	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
DO	Water Quality	MultiSMP Model dated 07/11/2007.
FCB	Water Quality	Reg. 2.507
Total Recoverable Copper	Technology	2008 303(d) list
Total Recoverable Zinc	Technology	2008 303(d) list
Chlorides	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
Sulfates	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
TDS	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
pH	Water Quality	Reg. 2.504
SUM TOTAL OUTFALL FOR OUTFALLS 001 AND 002		
Nitrates	Technology	40 CFR 418.43 and 40 CFR 418.53(b)

Outfall 001

TSS has been included in the permit to protect designated use. 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 Reg. 2.408, "The receiving waters shall have no distinctly visible solids, scum or foam of a persistent nature…" ADEQ acknowledges that there are no Water Quality Standards for TSS; however, as TSS increases in a stream, light is blocked from aquatic plants, and then fish and other aquatic organisms are affected by the cloudy conditions. Therefore, these limits are necessary to protect the water quality of the receiving stream. Additionally, elevated TSS could cause high turbidity

in the receiving stream. TSS can also influence the benthic environment after settling in the receiving stream. Suspended solids that settle in the receiving stream can exert oxygen demand in the receiving stream, which can contribute to unacceptable level of dissolved oxygen sags in the receiving stream as result of high-suspended solids. The TSS limits, which have remained unchanged since prior to 1990, are further carried over from the existing permit in accordance with antibacksliding requirements found in 40 CFR 122.44(l).

The minimum required DO levels are also not changing with this permit renewal. The DO levels are based on a MultiSMP model and are necessary to protect the water quality of the receiving stream. The permittee is allowed to demonstrate compliance with the minimum required DO levels by averaging all samples taken each hour. See Condition No. 20 of Part II of the permit and LIS 03-067, Item No. 1.l of the Order and Agreement for additional information.

The FCB limits are continuing from the modified permit which was issued and appealed in 2007. No information regarding FCB limits has been submitted for this outfall even though the limits were not appealed. Since this is an existing limit and the permittee has not demonstrated that they do not have reasonable potential for water quality violations of the FCB standards in Reg. 2.507, the limits must remain in the permit to comply with the anti-backsliding standards in 40 CFR 122.44(l).

The Total Recoverable Copper, Total Recoverable Selenium, and Total Recoverable Zinc limits are remaining unchanged with this permit renewal.

The pH limit is remaining at the standards required by Reg. 2.504. The permittee may demonstrate compliance with the pH standards by use of a continuous monitor and averaging the results of all samples taken each hour. See Condition No. 19 of Part II of the permit and LIS 03-067, Item No. 1.m of the Order and Agreement.

Nitrates Limits

The Nitrates concentration and mass limits are continued unchanged from the previous permit.

The production based ELGs were used in the renewal permit issued in 2002 and the modified permit issued in 2004 to calculate the allowable loading for Nitrates for the waste streams regulated under 40 CFR Part 418. Stormwater runoff from outside the battery area of the ammonium nitrate manufacturing operations and cooling tower blowdown are not subject to 40 CFR Part 418, Subpart D (40 CFR 418.40).

Since stormwater from outside the battery area of the ammonium nitrate manufacturing operations and the cooling tower blowdown are not regulated waste streams and are combined with the regulated streams prior to any treatment occurring, the combined wastestream formula in 40 CFR 403.6(e) was used to calculate alternative mass and concentration limits. The

watershed analysis determined the amount of Nitrates as Nitrogen which were in the unregulated streams to be 113.5 lbs/day.

Ammonia-Nitrogen Limits

Concentration and mass limits based upon the NH3-N Waste Load Allocation in the TMDL must be included in this permit in accordance with 40 CFR 122.44(d)(1)(iv). The final monthly average mass limits will be equal to the WLA as found in Table 4.2 of the TMDL. The final monthly average concentration limits are contained in Appendix F, Table F.2 of the TMDL. The daily maximum concentration and mass limits are 1.5 times the monthly average limits in accordance with Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control.

A review of the NH3-N data submitted on the DMRs during the term of the previous permit has shown that the facility cannot meet the limits based on the WLA in the TMDL, therefore a three-year schedule of compliance has been granted in accordance with Reg. 2.106. The interim limits are based on the final limits from the previous permit.

Mineral Limits

Concentration and mass limits based upon the Mineral Waste Load Allocation in the TMDL must be included in this permit in accordance with 40 CFR 122.44(d)(1)(iv). The monthly average concentration limits for Chlorides, Sulfates, and TDS are based on Appendix D, Table D.2 of the TMDL and 40 CFR 122.45(f)(2). The daily maximum concentration limits and mass limits are 1.5 times the monthly average limits in accordance with Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control.

The previous permit contained limits for all three minerals. A review of the DMR data for minerals at this outfall showed that the permittee is unable to meet the limits based on the Waste Load Allocation in the TMDL. Therefore, a three-year schedule of compliance for the new water quality based limits has been included in the permit as allowed by Reg. 2.106. The interim concentration limits are the final limits from the previous permit. The permittee will only be required to monitor and report the loading levels in the interim period. Interim mass limits have not been included based on LIS 03-067, Item No. 1.j of the Order and Agreement.

Discharges from Outfall 001 comprise 99% of the flow from the outfalls designated as point sources (Outfalls 001 and 003) in the TMDL. The mineral monthly average mass limits were determined by multiplying the permittee's WLA in the TMDL by 0.99. See the calculations following the justification of the limits at Outfall 003.

Outfall 002

Discharges from this outfall will have the same characteristics as the discharges from Outfall 001. However, discharges from Outfall 002 will normally only occur in response to a heavy rain event. Therefore, the technology based limits for NH3-N and Nitrates at Outfall 001 will also be applied to this outfall.

The TSS, O &G, and pH requirements are continued unchanged from the previous permit. These parameters are typically included in outfalls where stormwater is a major component of the effluent.

The Total Recoverable Copper, Total Recoverable Lead, and Total Recoverable Zinc limits are continued unchanged from the previous permit. The permittee continued to demonstrate reasonable potential for water quality violations during the term of the previous permit. The limits were calculated in accordance with the procedures set forth in the CPP. See Item #13.D of this Fact Sheet for additional information.

The Total Recoverable Selenium limits will remain unchanged from the previous permit. The permittee has not submitted information which would allow the removal of these limits without violating the anti-backsliding standards of 40 CFR 122.44(l).

Nitrates Limits

The Nitrates concentration and mass limits are continued unchanged from the previous permit.

The production based ELGs were used in the renewal permit issued in 2002 and the modified permit issued in 2004 to calculate the allowable loading for Nitrates for the waste streams regulated under 40 CFR Part 418. Stormwater runoff from outside the battery area of the ammonium nitrate manufacturing operations and cooling tower blowdown are not subject to 40 CFR Part 418, Subpart D (40 CFR 418.40).

Since stormwater from outside the battery area of the ammonium nitrate manufacturing operations and the cooling tower blowdown are not regulated waste streams and are combined with the regulated streams prior to any treatment occurring, the combined wastestream formula in 40 CFR 403.6(e) was used to calculate alternative mass and concentration limits. The watershed analysis determined the amount of Nitrates as Nitrogen which were in the unregulated streams to be 113.5 lbs/day.

Interim and Final Ammonia-Nitrogen Limits

Concentration and mass limits based upon the NH3-N Load Allocation in the TMDL must be included in the permit in accordance with 40 CFR 122.44(d)(1)(iv). The final monthly average concentrations upon which the loadings were based are contained in Section 4.2.5 of the TMDL

and 40 CFR 122.45(f)(2). The daily maximum concentration limits are 1.5 times the monthly average limit in accordance with Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control.

A review of the NH3-N data submitted on the DMRs during the term of the previous permit has shown that the facility cannot meet the limits based on the LA in the TMDL. Therefore, a three-year schedule of compliance has been granted in accordance with Reg. 2.106. The interim limits are based on the final limits from the previous permit.

The loading limits based on the TMDL are contained in the Load Allocation Outfall. See Item A.1.iii of this section of the Fact Sheet for information regarding the Load Allocation Outfall.

Mineral Limits

Concentration and mass limits based upon the Mineral Load Allocations in the TMDL must be included in the permit in accordance with 40 CFR 122.44(d)(1)(iv). The final monthly average concentrations upon which the loadings were based are contained in Appendix D, Table D.2 of the TMDL and 40 CFR 122.45(f)(2). The daily maximum concentration limits are 1.5 times the monthly average limit in accordance with Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control.

The previous permit contained limits which were equal to the secondary drinking water standards for Sulfates and Total Dissolved Solids but did not contain any requirements for Chlorides at this outfall. A review of the DMR data for Sulfates and Total Dissolved Solids showed that the permittee is unable to meet the new concentration limits for those parameters. Limited information gathered during a UAA regarding the Chlorides levels at this outfall is available so the Department is unable to verify that the permittee would be able to meet the Chlorides limits at this time. Therefore, a three year schedule of compliance has been granted in accordance with Reg. 2.106. The interim limits for Sulfates and Total Dissolved Solids will be the final limits from the previous permit. The interim requirements for Chlorides will be monitoring and reporting.

The loading limits based on the TMDL are contained in the Load Allocation Outfall. See Item A.1.iii of this section of the Fact Sheet for information regarding the Load Allocation Outfall.

Outfall 003

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

Minimum required DO levels have been added to the permit based upon the review of the MultiSMP model. The MultiSMP model showed that those DO levels are necessary to maintain the standards set forth in Reg. 2.505.

Monitoring and reporting requirements for Total Recoverable Copper and Total Recoverable Zinc have been included in the permit since the receiving stream is on the 303(d) list for these parameters.

Ammonia-Nitrogen and Minerals

Concentration and mass limits based upon the Ammonia-Nitrogen Waste Load Allocation in the TMDL must be included in this permit in accordance with 40 CFR 122.44(d)(1)(iv). The monthly average concentration limits for Ammonia-Nitrogen are based on Appendix F, Table F.2 of the TMDL and 40 CFR 122.45(f)(2). The daily maximum concentration limits and mass limits are 1.5 times the monthly average limits in accordance with Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control.

Two effluent NH3-N test results from the time frame of January 2008 through October 2012 were over the new limits. Since the test data shows that the permittee is not always capable of meeting the new limits, a three year schedule of compliance will be given in accordance with Reg. 2.106. The interim limits will be the limits based on maintaining the DO standard in the receiving stream and were in effect during the term of the previous permit.

Concentration and mass limits based upon the Mineral Waste Load Allocation in the TMDL must be included in this permit in accordance with 40 CFR 122.44(d)(1)(iv). The monthly average concentration limits for Chlorides, Sulfates, and TDS are based on Appendix D, Table D.2 of the TMDL and 40 CFR 122.45(f)(2). The daily maximum concentration limits and mass limits are 1.5 times the monthly average limits in accordance with Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control.

Previous permits have not included provisions requiring the facility to monitor the Chlorides, Sulfates, and TDS levels in the effluent from Outfall 003. Therefore, information concerning Chlorides, Sulfates, and TDS from Outfall 003 is not available. Since the Department cannot verify that the permittee would be able to meet water quality based limits upon issuance, a three year schedule of compliance will be given in accordance with Reg. 2.106. In the interim, the permittee must monitor and report the mineral levels in the effluent from this outfall.

Discharges from Outfall 003 comprise 1% of the flow from the outfalls designated as point sources (Outfalls 001 and 003) in the TMDL. The ammonia-nitrogen and mineral mass limits were determined by multiplying the permittee's WLA in the TMDL by 0.01. See the calculations below for additional information.

TMDL WLA Calculations

Parameter	Concentration, mg/l[1]	WLA, lbs/day[2]
Ammonia-Nitrogen		
(April – October)	2.43	37.9
(November – March)	5.5	85.78
Chlorides	19	265
Sulfates	41	503
Total Dissolved Solids	138	1,338

1. See Appendix D, Table D.2 of the TMDL for minerals and Appendix F, Table F.2 of the TMDL for NH3-N.
2. See Table 4.1 of the TMDL for minerals and Table 4.2 of the TMDL for NH3-N.

Point Source Flows

Outfall 001 Flow = 1.85 MGD
Outfall 003 Flow = 0.017 MGD

Outfall 001 Flow as percentage of point source flows

[1.85 MGD / (1.85 MGD + 0.017 MGD)] * 100% = 99%

Outfall 003 Flow as percentage of point source flows

[0.017 MGD / (1.85 MGD + 0.017 MGD)] * 100% = 1%

Portion of WLA for each point source outfall

NH3-N

April – October

37.9 lbs/day * 0.99 = 37.5 lbs/day @ Outfall 001

37.9 lbs/day * 0.01 = 0.4 lbs/day @ Outfall 003

November – March

85.78 lbs/day * 0.99 = 84.92 lbs/day @ Outfall 001

85.78 lbs/day * 0.01 = 0.86 lbs/day @ Outfall 003

Chlorides

265 lbs/day * 0.99 = 262.35 lbs/day @ Outfall 001

265 lbs/day – 262.35 lbs/day = 2.65 lbs/day @ Outfall 003

Sulfates

503 lbs/day * 0.99 = 497.7 lbs/day @ Outfall 001

503 lbs/day – 497.97 lbs/day = 5.03 lbs/day @ Outfall 003

TDS

1,338 lbs/day * 0.99 = 1,324.62 lbs/day @ Outfall 001

1,338 lbs/day – 1,324.62 lbs/day = 13.38 lbs/day @ Outfall 003

The above loading limits are monthly average limits. The daily maximum limits are 1.5 times the monthly average limits in accordance with Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control.

SUM Total Outfall for Outfalls 001 and 002

Compliance with the limits at this outfall will be demonstrated by using the test results from Outfalls 001 and 002 and flow-weighted calculations.

When Outfall 002 is discharging, NH3-N (interim limits only) and Nitrates from Outfall 001 and Outfall 002 combined must not exceed the outfall sum. This outfall is necessary to ensure that the applicable technology based standards are not exceeded when discharges are occurring from both outfalls.

NH3-N limits have only been included as interim limits at the SUM Total Outfall for 001 and 002. These limits have been continued from the previous permit as interim limits which will be in effect until compliance with the TMDL is required, i.e., three years from the effective date of the permit.

For additional information concerning this outfall, please see Item #9.d of this Fact Sheet.

ii. **OUTFALLS 006 and 007 – Non-point sources discharging to an unnamed tributary of Flat Creek, a/k/a ELCC Tributary**

Only the justification for the final limits is in the following table. Justification for the interim limits is included in the narrative following the table.

Parameter	Water Quality or Technology	Justification
Stream Flow	Water Quality	Stormwater flow study
Stream Flow to Effluent Flow Ratio	Water Quality	Stormwater flow study
TSS	Technology	Judgment of permit writer, ARR000000, previous permit, and 40 CFR 122.44(l)
NH3-N	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
Total Recoverable Lead	Water Quality	Reg. 2.508
Total Recoverable Copper	Technology	2008 303(d) list
Total Recoverable Zinc*	Water Quality	Reg. 2.508
Chlorides	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
Sulfates	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
TDS	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.
O & G	Water Quality	Reg. 2.510
pH	Water Quality	Reg. 2.504

*At Outfall 007 only.

The permittee conducted a stream flow study regarding the receiving stream for Outfall 006 and Outfall 007. Stream flow to effluent flow ratios were established as a result of this study. The stream flow to effluent flow ratios are 53.6:1 at Outfall 006 and 15:1 at Outfall 007. (Outfall 007 is between 300 – 400 yards upstream of Outfall 006.) The water quality based limits were calculated using the stream flow to effluent flow ratios where appropriate. The permittee is required to continue monitoring the downstream flow and calculate the upstream flow in order to ensure that the stream flow to effluent flow ratios remain unchanged. The stream flow to effluent flow ratios have been placed in the permit as limits since several changes to permit limits were made as a result of the stormwater flow study. If the ratios are not met, reasonable potential for water quality violations for several parameters could exist.

The requirement to develop a program for demonstrating that the first 2.0 inches of rainfall in a 24 hour period are routed through Outfall 010 instead of Outfalls 006 and 007 is remaining in the permit. In an e-mail dated December 17, 2010, which was submitted on behalf of the permittee,

a request was made to remove this requirement. The e-mail stated that, based on the findings of the stream flow study, it is anticipated that there is no need to route those outfalls to the treatment system for ultimate discharge through Outfall 010.

The effluent description for Outfall 010 is "combined outfall of 001, 006, and 007 (treated process wastewater and contaminated stormwater)." In accordance with the AHO's Recommended Decision and APCEC Minute Order 08-23, Condition No. 2 of Part II of the permit has been amended from the modified permit to include the following language: "The permittee shall notify the Department within 48 hours of any emergency or maintenance event that results in diverting wastewater from Outfall 010 to another permitted outfall."

Therefore, once discharge to the joint pipeline begins, the permittee cannot discharge through Outfalls 006 and 007 except under the conditions set forth in Condition No. 2 of Part II of the permit. A request from the permittee to modify Outfall 010 to remove Outfalls 006 and 007 from the effluent description has not been received. Such a request must be signed by the permittee's responsible official. Any changes to the effluent discharged through Outfall 010 may result in changes to the permit limits for that outfall.

The permittee is still required to monitor and report the levels of TSS in the effluent from both Outfall 006 and Outfall 007. During a review of the DMR data submitted during the term of the previous permit, the TSS levels often exceeded the benchmark value of 100 mg/l contained in the general permit for stormwater runoff associated with industrial activity (ARR000000).

The Department has added a condition to Part II of the permit requiring the permittee to investigate the cause and/or source of the elevated pollutant levels, review the BMPs, and determine and document a corrective action plan to address the benchmark exceedance in the event that the TSS level is above 100 mg/l. Failure to reduce the TSS levels in the effluent from these outfalls may result in TSS or turbidity limits being included in the permit at the time of the next renewal.

The Total Recoverable Lead limits are remaining in the permit for both Outfall 006 and Outfall 007 because the permittee demonstrates reasonable potential for water quality violations when using the stream flow study. These limits have been revised to incorporate the results of the stream flow study.

Total Recoverable Zinc is remaining in the permit at Outfall 007. The permittee demonstrates reasonable potential for water quality violations when using the results of the stream flow study. The Total Recoverable Zinc limits at 006 and Outfall 007 have been revised from the previous permit to incorporate the results of the stream flow study.

Total Recoverable Zinc has been removed from the permit at Outfall 006. The permittee does not demonstrate reasonable potential for water quality violations when using the stream flow study.

Monitoring and reporting requirements for Total Recoverable Copper have been added to the permit because the receiving stream is on the 303(d) list for that parameter. A TMDL has not yet been completed for Total Recoverable Copper.

O & G requirements are remaining unchanged from the previous permit. O & G can be a pollutant of concern in stormwater runoff associated with industrial activity if the appropriate BMPs are not in place.

The pH limits are remaining unchanged.

Ammonia-Nitrogen

Concentration and mass limits based upon the NH3-N Load Allocation in the TMDL must be included in the permit in accordance with 40 CFR 122.44(d)(1)(iv). The final monthly average concentrations upon which the loadings were based are contained in Section 4.2.5 of the TMDL and 40 CFR 122.45(f)(2). The daily maximum concentration limits are 1.5 times the monthly average limit in accordance with Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control.

A review of the NH3-N data submitted on the DMRs during the term of the previous permit has shown that the facility cannot meet the limits based on the LA in the TMDL. Therefore, a three-year schedule of compliance has been granted in accordance with Reg. 2.106. The previous permit contained only monitoring and reporting requirements for NH3-N at Outfalls 006 and 007. The monitoring and reporting requirements have been included in this permit as the interim requirements for NH3-N at Outfalls 006 and 007.

The loading limits based on the TMDL are contained in the Load Allocation Outfall. See Item A.1.iii of this section of the Fact Sheet for information regarding the Load Allocation Outfall.

Minerals

Concentration and mass limits based upon the Mineral Load Allocation in the TMDL must be included in the permit in accordance with 40 CFR 122.44(d)(1)(iv). The final monthly average concentrations upon which the loadings were based are contained in Appendix D, Table D.2 of the TMDL and 40 CFR 122.45(f)(2). The daily maximum concentration limits are 1.5 times the monthly average limit in accordance with Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control.

The previous permit contained Total Dissolved Solids limits but no requirements for Chlorides and Sulfates at both outfalls. Based on a review of TDS data submitted on the DMRs, the permittee is currently unable to meet limits based on the Load Allocation in the TMDL. Limited information gathered during a UAA regarding the Chlorides and Sulfates levels at these outfalls

is available so the Department is unable to verify that the permittee would be able to meet the Chlorides and Sulfates limits at this time. Therefore, a three-year schedule of compliance for the new water quality based limits has been included in the permit as allowed by Reg. 2.106.

The Department has calculated the interim TDS limit based on information from the stream flow study and the procedures set forth in the CPP. The interim limits for Outfalls 006 and 007 are less stringent than the TDS limits in the previous permit due to the use of the stream flow study. The interim requirements for Chlorides and Sulfates will be monitoring and reporting at both outfalls.

The loading limits based on the TMDL are contained in the Load Allocation Outfall. See Item A.1.iii of this section of the Fact Sheet for information regarding the Load Allocation Outfall.

Calculation of Interim TDS limits

Limits Based on Water Quality Standards

Mineral	Stream Standard, mg/l	Secondary Drinking Water Standard, mg/l
Total Dissolved Solids	138	500

Background Flow to Effluent Flow Ratios

Outfall 006: 53.6:1; for calculation purposes, the Department will set the background flow at 53.6 cfs and the effluent flow at 1 cfs

Outfall 007: 15:1; for calculation purposes, the Department will set the background flow at 15 cfs and the effluent flow at 1 cfs

Since Outfall 007 is upstream of Outfall 006, the permit limit must first be calculated for 007 so that the proper background concentration can be used to determine the permit limit for Outfall 006. Due to the use of the background flow to effluent flow ratios, the background flow for calculating the stream mineral standard limits and the secondary drinking water standard limits is the same. Therefore, the calculations will only need to be performed for the lower standards as those will give the most stringent limits.

The Ecoregion background concentration for TDS is 67 mg/l.

Outfall 007

C_e = {[138 mg/l * (15 cfs + 1 cfs)] – (67 mg/l * 15 cfs)}/1 cfs

C_e = 1203 mg/l

Outfall 006

Background concentrations

53.6 cfs – (15 cfs + 1 cfs) = 37.6 cfs background flow (for calculation purposes) at 67 mg/l

16 cfs (total stream flow immediately after Outfall 007 for calculation purposes) at 138 mg/l

Background Con. = ((138 mg/l*16 cfs)+(67 mg/l*37.6 cfs))/(16 cfs+37.6 cfs) = 88.2 mg/l

C_e = {[138 mg/l * (53.6 cfs + 1 cfs)] – (88.2 mg/l * 53.6 cfs)}/1 cfs

C_e = 2807.3 mg/l

iii. **SUM Load Allocation Outfall (LAO)**

Parameter	Water Quality or Technology	Justification
NH3-N	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas.*
Chlorides	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas.*
Sulfates	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas.*
TDS	Water Quality	*TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas.*

The Load Allocations for NH3-N, Chlorides, Sulfates, and TDS are for the non-point sources at this facility. Outfalls 002, 006, and 007 are considered by the TMDL to be the non-point sources at this facility. (Note: Outfalls 004 and 005 were included in the TMDL. These outfalls have been removed from this permit.)

Outfall 002 normally discharges once per year or less while discharges from Outfalls 006 and 007 normally occur at least once per month. Due to the infrequent discharges from Outfall 002, the Load Allocation cannot be divided between the three outfalls in an equitable manner. Therefore, the Load Allocation Outfall has been established as a mechanism for demonstrating compliance with the requirements of the TMDL.

Concentration limits have not been included at this outfall. Concentration limits for NH3-N, Chlorides, Sulfates, and TDS based on the TMDL have been included at Outfalls 002, 006, and 007. Compliance with the mass limits at this outfall will be demonstrated by calculating the loadings of NH3-N, Chlorides, Sulfates, and TDS from Outfalls 002, 006, and 007 and totaling the loadings for each parameter.

For additional information concerning this outfall, please see Item #9.d of this Fact Sheet.

iv. **OUTFALL 010 – via the joint pipeline to the Ouachita River approximately 1.5 miles downstream of the H.K. Thatcher Lock and Dam**

Parameter	Water Quality or Technology	Justification
Flow	Water Quality	Model performed by permittee & approved by ADEQ & EPA
CBOD5	Water Quality	Model performed by permittee & approved by ADEQ & EPA
TSS	Technology	Judgment of Water Division staff and previous permit
NH3-N	Water Quality	Model performed by permittee & approved by ADEQ & EPA
Nitrate Nitrogen as N	Technology[1]	40 CFR 418.43 and 40 CFR 418.53(b)
O & G	Water Quality	Reg. 2.510
DO	Technology	Judgment of permit writer
TDS	Technology	Judgment of permit write.
Sulfates	Technology	Judgment of permit writer
Chlorides	Technology	Judgment of permit writer
Mercury, Total Recoverable	Water Quality	Reg. 2.508
Cadmium, Total Recoverable	Water Quality	Reg. 2.508
Hexavalent Chromium, Dissolved	Water Quality	Reg. 2.508
Copper, Total Recoverable	Water Quality	Reg. 2.508
Lead, Total Recoverable	Water Quality	Reg. 2.508
Nickel, Total Recoverable	Water Quality	Reg. 2.508
Selenium, Total Recoverable	Water Quality	Reg. 2.508
Silver, Total Recoverable	Water Quality	Reg. 2.508
Zinc, Total Recoverable	Water Quality	Reg. 2.508
Chromium (III), Total Recoverable	Water Quality	Reg. 2.508
Cyanide, Total Recoverable	Water Quality	Reg. 2.508
Total Phosphorous	Technology	Judgment of permit writer and previous permit
FCB	Technology	Judgment of permit writer and previous permit
pH	Water Quality	Reg. 2.504

The daily maximum flow limit of 2 MGD has been continued from the permit modified in 2007 because the limits obtained from the water quality studies were based on this flow limit. A limit is necessary because there are only mass limits for most of the parameters included in the permit at this outfall. The permittee agreed to this limit during the appeal of the modified permit. This limit will not be changed to a monthly average limit because that would change the terms of the agreement between the Department and the facility.

The CBOD5 mass limits were calculated using the permitted flows of 2 MGD, effluent concentrations obtained from a model performed by the permittee and approved by the Department and US EPA, and the formula below. These limits are included in the updated Water Quality Management Plan (WQMP). The concentration limits for CBOD5 have only been included in the joint permit (AR0050296) as required by EPA in the February 3, 2006, letter to ADEQ.

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

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 Section 2.408 of APCEC Regulation No. 2, "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 Section 2.503 of APCEC Regulation No. 2. Regulation No. 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.

TSS mass limitations were calculated using the permitted maximum flow of 2 MGD and concentrations of 30 mg/l on a monthly average and 45 mg/l on a daily maximum and the following formula:

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

El Dorado Chemical Company's current permit contains technology based effluent limitations for Nitrates as Nitrogen through the SUM TOTAL Outfall for Outfalls 001, 002, and 010. Concentration limits have not been included because there is a flow limit at Outfall 010.

Oil and Grease limits have been included in the permit at Outfall 010 because the outfall in question is part of the joint pipeline. Oil and Grease limits are included in the joint pipeline permit (AR0050296).

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.

Several of the outfalls 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 existing individual permits. 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.

Metals limits have been included in the permit in lieu of monthly WET test. Mercury limits were included in the permit because the receiving stream is on the 303(d) list for this parameter. As of the date of this permit, the permittee has not demonstrated that detectable levels of mercury are in the effluent.

Based on information submitted to the Department (i.e., nutrient study), total phosphorus monitoring and reporting requirements have been included in the permit. The data gathered by the required testing will enable the Department to determine the source(s) of any exceedances at the joint pipeline. The joint pipeline permit (AR0050296) contains numerical limits for total phosphorous based upon Reg. 6.402.

Monitoring and reporting requirements for fecal coliform bacteria have been included based on the judgment of the Water Division. There are monitoring and reporting requirements for fecal coliform bacteria in the joint pipeline permit (AR0050296) because the El Dorado Water Utilities will be allowed to discharge over 50% of the effluent through the joint pipeline under NPDES Permit No. AR0049743.

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

Ammonia-Nitrogen (NH3-N)

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

The toxicity-based effluent limitations are based on Reg. 2.512 and an ADEQ internal memo dated March 28, 2005. The following formula has been used to calculate toxicity based Ammonia limits:

Cd = (IWC(Qd + Qb) – CbQb)/Qd,

Where:

Cd = effluent limit concentration (mg/l)
IWC = Ammonia toxicity standard for Ecoregion
Qd = design flow = 2 MGD = 3.09 cfs
The 7Q10 of 750 cfs is based on flow data from the USGS Camden gauge (No. 07362000) for the time frame 1982 – 2001.
Qb = Critical flow of the receiving stream = 187.5 cfs. This flow is 25 percent of the 7-day, 10-year low-flow (7Q10) for the receiving stream.
Cb = background concentration = 0.04 mg/l (ADEQ date from Monitoring Stations OUA0008B – Ouachita River @ Felsenthal Lock & Dam and OUA 0037 – Ouachita River downstream of Camden, AR)

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

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

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

Calculations

Monthly Average Limits

April – October

Cd = (2.4(3.09 + 187.5) – 0.04*187.5)/3.09 = 145.6 mg/l = 2428.6 lbs/day

November – March

Cd = (6.8(3.09 + 187.5) – 0.04*187.5)/3.09 = 417.0 mg/l = 6955.6 lbs/day

Daily Maximum Limits

April – October

Cd = (6.1(3.09 + 187.5) – 0.04*187.5)/3.09 = 373.8 mg/l = 6235.0 lbs/day

November – March

Cd = (17.0(3.09 + 187.5) – 0.04*187.5)/3.09 = 1046.1 mg/l = 17448.9 lbs/day

By request of the City of El Dorado and El Dorado Chemical Company, the ammonia daily maximum value will be reduced by 86 lbs/day for the City's North Plant and 121 pounds per day for the City's South Plant. As a result, El Dorado Chemical Company's ammonia daily maximum value will be increased by 207 lbs/day for the DO based limits only.

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

Month	DO Based Limits		Calculated Toxicity Limits		Technology Based Limits		Final Water Quality Limits	
	Monthly Avg. (lbs/day)	Daily Max (lbs/day)	Monthly Avg. (lbs/day)	Daily Max (lbs/day)	Monthly Avg. (lbs/day)	Daily Max (lbs/day)	Monthly Avg. (lbs/day)	Daily Max (lbs/day)
(April – October)	265.2	605.0	2428.6	6235.0	265.7	811.84	265.2	605.0
(November – March)	265.2	605.0	6955.6	17448.9	265.7	1153.73	265.2	605.0

B. **Anti-backsliding**

The proposed permit is consistent with the requirements to meet Anti-backsliding provisions of the Clean Water Act (CWA), Section 402(o) [40 CFR 122.44(l)(i)(A)], which state in part that final effluent limitations for reissuance permits must be as stringent as those in the previous permit, unless material and substantial alternations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation.

Outfall(s)	Change	Justification
001	Temperature limit removed	New information - Permittee submitted a study demonstrating that the rise in temperature in Lake Kildare during the summer months was due to climatic conditions. This study was approved by the Department in a letter dated January 5, 2007. (40 CFR 122.44(l)(2)(i)(B)(1))
006	Total Recoverable Cadmium and Total Recoverable Zinc removed	New information – The permittee conducted a stream flow study at this outfall. The use of the stream flow shows that there is not reasonable potential at this time. (40 CFR 122.44(l)(2)(i)(B)(1))
006	Total Recoverable Lead limits have increased	New information – The permittee conducted a stream flow study at this outfall. In the previous permit, these limits were calculated using the procedures for toxics in Appendix D of the CPP and a stream flow of 0 cfs. The limits are now calculated using a stream flow to effluent flow ratio as well as the procedures set forth in Appendix D of the CPP. As a result of using the stream flow study, the limits are now less stringent than they were in the previous permit. (40 CFR 122.44(l)(2)(i)(B)(1))

Outfall(s)	Change	Justification
007	Total Recoverable Lead and Total Recoverable Zinc limits have increased	New information – The permittee conducted a stream flow study at this outfall. In the previous permit, these limits were calculated using the procedures for toxics in Appendix D of the CPP and a stream flow of 0 cfs. The limits are now calculated using a stream flow to effluent flow ratio as well as the procedures set forth in Appendix D of the CPP. As a result of using the stream flow study, the limits are now less stringent than they were in the previous permit. (40 CFR 122.44(l)(2)(i)(B)(1))
006 & 007	Interim TDS limitations have increased	New information – The permittee conducted a stream flow study at this outfall. In the previous permit, these limits were calculated using the procedures for minerals in Appendix D of the CPP and a stream flow of 0 cfs. The limits are now calculated using a stream flow to effluent flow ratio as well as the procedures set forth in Appendix D of the CPP. As a result of using the stream flow study, the limits are now less stringent than they were in the previous permit. (40 CFR 122.44(l)(2)(i)(B)(1))

C. **208 Plan (Water Quality Management Plan)**

The 208 Plan, developed by the ADEQ under provisions of Section 208 of the federal Clean Water Act, is a comprehensive program to work toward achieving federal water goals in Arkansas. The initial 208 Plan, adopted in 1979, provides for annual updates, but can be revised more often if necessary. Updates to the 208 Plan have been proposed to add minimum required DO levels of 2 mg/l for the months of November through April and 4 mg/l for the months of May through October at Outfall 003.

The following limits based on *TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.

Outfall 001:

NH3-N:	May – October – 37.5 lb/day, 2.43 mg/l
	November – April – 84.92 lb/day, 5.5 mg/l
Chlorides:	262.35 lb/day
Sulfates:	497.97 lb/day

TDS: 1324.62 lb/day

Outfall 003:
NH3-N: May – October – 0.4 lb/day, 2.43 mg/l
November – April – 0.86 lb/day, 5.5 mg/l
Chlorides: 2.65 lb/day
Sulfates: 5.03 lb/day
TDS: 13.38 lb/day

Outfalls 002, 006, and 007:
NH3-N: May – October – 0 mg/l
November – April – 0.32 mg/l

Load Allocation Outfall:
NH3-N: May – October – 0 lbs/day
November – April – 5.16 lbs/day
Chlorides: 73 lbs/day
Sulfates: 33 lbs/day
TDS: 635 lbs/day

D. Toxics Pollutants

ADEQ has reviewed and evaluated the effluent in accordance with the potential toxicity of each analyzed pollutant using the procedures outlined in the Continuing Planning Process (CPP).

The concentration of each pollutant after mixing with the receiving stream was compared to the applicable water quality standards as established in the Arkansas Water Quality Standards (AWQS), Regulation No. 2 (Reg. 2.508) and criteria obtained from the "Quality Criteria for Water, 1986 (Gold Book)".

Under Federal Regulation 40 CFR Part 122.44(d), as adopted by Regulation No. 6, if a discharge poses the reasonable potential to cause or contribute to an exceedance above a water quality standard, the permit must contain an effluent limitation for that pollutant. Effluent limitations for the toxicants listed below have been derived in a manner consistent with the Technical Support Document (TSD) for Water Quality-based Toxics Control (EPA, March 1991), the CPP, and 40 CFR Part 122.45(c).

The following items were used in calculations. Background concentrations for Outfalls 001, 002, 007, and 010 were not used in the calculations. No background data exists for Outfalls 001, 002, and 007. The closest upstream monitoring station for Outfall 010 is approximately 25 miles upstream. This distance is considered to be too great to accurately represent the background data for Outfall 010. This was affirmed by the

Administrative Hearing Officer during the appeal of the modified permit issued on February 28, 2007, the circuit court, and the Arkansas Supreme Court.

Outfall 007 is less than one mile upstream of Outfall 006. Therefore, the permit limits for Outfall 007 were used to calculate the background concentration used in the calculations for Outfall 006.

Parameter	Value	Source
Outfall 001		
Flow = Q	1.85 MGD = 3.09 cfs	based on the previous permit and Outfall 010
7Q10	0 cfs	U.S.G.S.
TSS	5.5 mg/l	CPP
Hardness as CaCo3	31 mg/l	CPP
pH	6.56 s.u.	OUA0027
Outfall 002		
Flow = Q	1 MGD = 1.545 cfs	DMR data
7Q10	0 cfs	U.S.G.S.
TSS	5.5 mg/l	CPP
Hardness as CaCo3	31 mg/l	CPP
pH	6.56 s.u.	OUA0027
Outfall 006		
Flow = Q	1 cfs*	stream flow study
7Q10	53.6 cfs*	stream flow study
TSS	5.5 mg/l	CPP
Hardness as CaCo3	31 mg/l	CPP
pH	6.56 s.u.	OUA0027
Total Rec. Cadmium Background Conc.	0 µg/l	Outfall 007 effluent data and stream flow study**
Total Rec. Copper Background Conc.	3.26 µg/l	Outfall 007 effluent data and stream flow study**
Total Rec. Lead Background Conc.	1.01 µg/l	Outfall 007 effluent data and stream flow study**
Total Rec. Zinc Background Conc.	35.67 µg/l	Outfall 007 effluent data and stream flow study**
Outfall 007		
Flow = Q	1 cfs*	stream flow study
7Q10	15 cfs*	stream flow study

Parameter	Value	Source
TSS	5.5 mg/l	CPP
Hardness as CaCo3	31 mg/l	CPP
pH	6.56 s.u.	OUA0027
Outfall 010		
Flow = Q	2.0 MGD	Permit Limit
7Q10	750 cfs	U.S.G.S.
TSS	5.5 mg/l	CPP
Hardness as CaCo3	28 mg/l	CPP
pH	6.56 s.u.	OUA0027

*For calculation purposes only, based on stream flow to effluent flow ratios.
**Calculated in the same manner as the NH3-N background concentrations in Item #12.c above.

The following pollutants were reported above the required MQL or the MQL achieved during the testing process:

Outfall	Pollutant	Concentration Reported, µg/l	MQL, µg/l
001	Total Recoverable Copper	16*	10
001	Total Recoverable Selenium	8.7*	5
001	Total Recoverable Zinc	404*	20
002	Total Recoverable Copper	13.12**	10
002	Total Recoverable Selenium	Not Detected	5
002	Total Recoverable Lead	3.43**	5
002	Total Recoverable Zinc	76.59**	20
006	Total Recoverable Cadmium	5	1
006	Total Recoverable Copper	Not Detected***	10
006	Total Recoverable Lead	94*	5
006	Total Recoverable Zinc	725*	20
007	Total Recoverable Copper	Not Detected***	10
007	Total Recoverable Lead	197*	5
007	Total Recoverable Zinc	977*	20

*Highest data point of over 20 samples.
**Geometric mean of less than 20 samples.
***Limits calculated for Total Recoverable Copper because the receiving stream is on the 303(d) list for this parameter.

Outfalls 001 and 002

Reasonable potential for water quality standard exceedances were found for Total Recoverable Copper, Total Recoverable Lead (at Outfall 002 only), Total Recoverable Selenium (at Outfall 001) and Total Recoverable Zinc. See below for limits determination.

Outfall 006

Monitoring and reporting requirements for Total Recoverable Copper have been placed in the permit because the receiving stream is on the 303(d) list for that parameter.

Permit limits for Total Recoverable Lead will remain in the permit because the permittee has demonstrated reasonable potential for water quality violations for this parameter using the results of the stormwater flow study and DMR data submitted during the term of the permit.

The Total Recoverable Zinc requirements have been removed from this outfall in the permit. The permittee does not demonstrate reasonable potential for water quality violations when using the results of the stream flow study.

Outfall 007

Monitoring and reporting requirements for Total Recoverable Copper have been placed in the permit because the receiving stream is on the 303(d) list for that parameter.

Permit limits for Total Recoverable Zinc and Total Recoverable Lead will be included in the permit because the permittee has demonstrated reasonable potential for water quality violations for those parameters using the results of the stormwater flow study and DMR data submitted during the term of the permit.

Outfall 010

The permittee has not demonstrated reasonable potential for water quality violations at these outfalls. This determination was made using the effluent concentrations submitted for the other outfalls at this facility. Metals limits for Outfall 010 have been included in the permit as it will discharge to the Ouachita River via the joint pipeline.

(a) **Aquatic Toxicity**

Outfall	Pollutant	Concentration ($C_{e)}$ µg/l	C_e X 2.13	IWC µg/l		Water Quality Standards (WQS)	
				Acute, µg/l	Chronic, µg/l	Acute, µg/l	Chronic, µg/l
001	Total Rec. Copper	16	16*	16	16	14.79	10.93
001	Total Rec. Zinc	404	404*	404	404	130.87	119.50
001	Total Rec. Selenium	8.7	8.7*	8.7	8.7	20	5
002	Total Rec. Copper	13.12	27.95	27.95	27.95	14.79	10.93
002	Total Rec. Lead	3.43	7.31	7.31	7.31	87.29	3.40
002	Total Rec. Zinc	76.6	163.16	163.16	163.16	130.87	119.50
006	Total Rec. Lead	94	94*	11.71	6.43	87.29	3.40
007	Total Rec. Lead	197	197*	38.12	70.77	87.29	3.40
007	Total Rec. Zinc	977	977*	350.99	189.05	130.87	119.50

*Highest data point of over 20 samples. Therefore, this value is not multiplied by 2.13.

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

Limits included in the permit are as follows:

Arkansas Numerical Aquatic Toxicity Limits			
Outfall	Pollutant	AML, µg/l	DML, µg/l
001	Total Recoverable Copper	12.20	24.48
001	Total Recoverable Zinc	115.62	231.99
001	Total Recoverable Selenium	5.58	11.2
002	Total Recoverable Copper	12.20	24.48
002	Total Recoverable Lead	3.8	7.62
002	Total Recoverable Zinc	115.62	231.99
002	Total Recoverable Selenium	5.58	11.2
006	Total Recoverable Lead	99.24	199.12
007	Total Recoverable Lead	41.79	83.84
007	Total Recoverable Zinc	685.53	1375.48

Outfall 010

Permit limits for the joint pipeline were calculated in the manner described above.

The mass limits were then calculated using the following formulas:

mg/l = (µg/l) / 1000

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

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

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

The mass limits are as follows:

Arkansas Numerical Aquatic Toxicity Limits		
Pollutant	AML*, lbs/day	DML*, lbs/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

a. Human Health (Bioaccumulation) Limits

ADEQ has determined from the information submitted by the permittee that there is not a reasonable potential for the discharge to cause an instream excursion above the state numeric bioaccumulation standards as specified in Section 6(H) of the AWQS, Regulation No. 2.

b. Drinking Water Supply Protection

ADEQ has determined from the information submitted by the permittee that there is not a reasonable potential for the discharge to cause an instream excursion above the drinking water criteria as specified in the Gold Book.

14. **WHOLE EFFLUENT TOXICITY TESTING.**

Outfall 001

Chronic Whole Effluent Toxicity Testing – WET Limit

A. Post Third Round Policy and Strategy

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....." To ensure that the CWA's prohibitions for toxics are met, EPA has issued a "Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants (49 FR 9016-9019, 3/9/84)." In support of the national policy, Region 6 adopted the "Policy for Post Third Round NPDES Permitting" and the "Post Third Round NPDES Permit Implementation Strategy" on October 1, 1992. 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.

The Regional policy and strategy are designed to ensure that no source will be allowed to discharge any wastewater which (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical State Water Quality Standard (WQS) resulting in non-conformance with the provisions of 40 CFR Part 122.44(d); (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

Whole effluent toxicity (WET) testing has been establishing for assessing and protecting against impacts upon water quality and designated used caused by the aggregate toxic effect of the discharge of pollutants. The stipulated test species, which are appropriate to measure whole effluent toxicity, are consistent with the requirements of the State Water Quality Standards. The WET testing frequency has been established to reflect the likelihood of ambient toxicity and 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.

B. Implementation

Arkansas has established a narrative water quality standard under the authority of Section 303 of the CWA which states "toxic materials shall not be present in receiving waters in such quantities as to be toxic to human, animal, plant or aquatic life or to interfere with the normal propagation, growth and survival of aquatic biota."

Whole effluent toxicity testing conducted by the permittee has shown potential ambient toxicity to be the result of the permittee's discharge to receiving stream or water body, at the appropriate instream critical dilution. Pursuant to 40 CFR 122.44(d)(1)(v), ADEQ has determined from the permittee's self reporting that the discharge from this facility does have the reasonable potential to cause, or contribute to an instream excursion above the narrative standard within the applicable State Water Quality Standards, in violation of Section 101(a)(3) of the Clean Water Act. Therefore, the draft permit must establish both monthly average and 7-day minimum effluent limitations for lethality following Regulations promulgated by 40 CFR 122.44(d)(1)(v). These effluent limitations for lethality (7-day NOEC) are continued from the previous permit at Outfall 001. The daily average lethality (7-day NOEC) and 7-day minimum lethality (7-day NOEC) value shall not be less than 100% (Critical Dilution) effluent for Outfall 001.

WET testing of the effluent is thereby required as a condition of this permit to assess potential toxicity. The WET testing procedures stipulated as a condition of this permit are as follows:

TOXICITY TESTS	FREQUENCY
Chronic WET Limit	Once/2 months

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

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

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

Outfall 001

Qd = flow = 2.33 MGD = 3.60 cfs
7Q10 = 0 cfs
Qb = Background flow = (0.67) X 7Q10 = 0 cfs
CD = (3.60) / (3.60 + 0) X 100% = 100%

A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are 32%, 45%, 56%, 80%, and 100% (Section 6.3 of the CPP). The low-flow effluent concentration (critical dilution) is defined as 100% effluent based on a 0 cfs 7Q10 flow of the receiving stream.

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/600/4-89/001 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

C. Administrative Records

The following information summarized toxicity test failures submitted by the permittee during the term of the current permit at Outfall 001.

DRAFT

Permit Number:	AR0000752	AFIN:	70-00040	Outfall Number:	001
Date of Review:	2/14/2012	Reviewer:	M. Barnett		
Facility Name:	El Dorado Chemical Company				
Previous Dilution series:	32, 42, 56, 75, 100	Proposed Dilution Series	32, 42, 56, 80, 100		
Previous Critical Dilution:	100	Proposed Critical Dilutio	100		
Previous TRE activities:	No TRE activities. Sub-lethal study plan approved May 7, 2010. Final report due August 31, 2012.				

Frequency recommendation by species	
Pimephales promelas (Fathead minnow):	once per two months
Ceriodaphnia dubia (water flea):	once per two months

TEST DATA SUMMARY

	Vertebrate		Invertebrate	
TEST DATE	Lethal	Sub-Lethal	Lethal	Sub-Lethal
	NOEC	NOEC	NOEC	NOEC
Jan-07	100	**0**	100	100
Feb-07	100	100	100	100
Mar-07	100	100	100	100
Apr-07	100	100	100	100
May-07	100	100	100	100
Jun-07	100	100	100	100
Jul-07	100	100	100	100
Aug-07	100	100	100	100
Oct-07	100	**0**	100	100
Oct-07	100	100	100	100
Nov-07	100	**0**	100	100
Mar-08	100	100	100	100
Apr-08	100	100	100	100
May-08	100	100	100	100
Jun-08	100	100	100	100
Aug-08	100	100	100	100
Sep-08	100	100	100	100
Oct-08	100	**0**	100	100
Dec-08	100	100	**0**	**0**
Jan-09	100	100	100	100
Feb-09	**42**	**0**	100	100
Mar-09	**56**	**56**	100	100
Apr-09	100	100	100	**0**
May-09	**42**	**42**	100	**0**
Jun-09	100	100	100	**0**
Jul-09	100	100	100	**0**
Sep-09	100	100	100	**32**
Oct-09	100	100	100	**42**
Nov-09	100	**0**	100	100
Dec-09	100	100	100	100
Jan-10	100	100	100	100
Feb-10	100	100	100	100
Mar-10	100	100	100	**0**
Apr-10	100	100	100	100
May-10	100	100	100	100

Jun-10	100	100	100	100
Sep-10	100	**0**	100	100
Nov-10	***0**	**0**	100	**0**
Dec-10	100	100	100	**0**
Jan-11	100	100	100	**0**
Feb-11	100	100	100	**32**
Mar-11	100	100	100	100
May-11	100	100	100	**56**
Jun-11	100	100	100	100
Jul-11	100	100	100	100
Aug-11	100	100	100	**0**
Sep-11	100	100	100	**32**
Oct-11	100	100	100	**56**
Nov-11	100	100	100	**0**
Dec-11	100	100	100	**0**

Failures are noted in BOLD

* Suspected pathogenic interference. UV treatment only conducted on 100% effluent, not entire dilution series.

REASONABLE POTENTIAL CALCULATIONS

	Vertebrate Leth	Vertebrate Sub-Lethal	Invertebrate Leth	Invertebrate Sub-Lethal
Min NOEC Observed	31	31	31	31
TU at Min Observed	3.23	3.23	3.23	3.23
Count	50	50	50	50
Failure Count	4	10	1	18
Mean	1.115	1.399	1.045	1.721
Std. Dev.	0.422	0.835	0.315	1.012
CV	0.4	0.6	0.3	0.6
RPMF	1.2	1.4	1.2	1.4
Reasonable Potential	3.871	4.516	3.871	4.516
100/Critical dillution	1.000	1.000	1.000	1.000
Does Reasonable Potential	Yes	Yes	Yes	Yes

PERMIT ACTION

P. promelas lethal - Limit (100%)
P. promelas sub-lethal - Limit (80%)
C. dubia lethal -Limit (100%)
C. dubia sub-lethal - Limit (80%)

Additional requirements (including WET Limits) rationale/comments concerning permitting:

Current lethal limits for *P. promelas* and *C. dubia* are required and appropriate.

Sub-lethal limits will be added to the permit due to a finding of Reasonable Potential for toxicity, in addition to the number and frequency of sub-lethal WET test failures. A compliance schedule will not be included in the permit. The facility has completed a 3 year sub-lethal study plan to investigate the source and solutions to sub-lethal toxicity.

A schedule of compliance for the sub-lethal limits has not been included in the permit since the sub-lethal study plan was completed in August 2012.

According to EPA Region 6 WET Permitting Strategy (May, 2005) due to the potential difficulty of resolving toxicity and/or identifying toxicants responsible for sub-lethal effects in effluent concentrations greater than 75% effluent, sub-lethal limits will be implemented at the 80% effluent level at this time.

The WET testing frequency has been revised from "once per month" to "once per two months" in conjunction with the inclusion of sub-lethal WET limits. Although the *Continuous Planning Process, App. D, Part III, E.2.b.* states "If the permittee has a history of sporadic toxicity, toxicity testing frequency shall be twelve times a year for both species.", it is recommended that WET tests be conducted six times per year. This will allow EDCC to use resources to potentially identify the source of toxicity when it is demonstrated in WET tests. When no failures are experienced, the frequency of "once per two months" is sufficient to protect the waters of the state and their associated uses.

Included within the Chronic WET limit language in the permit (Part II.11.1.c) is the requirement to for a period of monthly testing when WET failures are experienced "…the frequency for the affected species will increase to monthly until such time compliance with the No Observed Effect Concentration (NOEC) effluent limitation for toxicity is demonstrated for a period of three consecutive months, …". The requirement for a period of monthly testing when WET failures are experienced will assist with the determination of the duration of a toxic event.

Outfall 002

Acute Whole Effluent Toxicity Testing – Report Only

Section 101(a)(3) of the Clean Water Act states that "......it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited." In addition, ADEQ is required under 40 CFR Part 122.44(d)(1), adopted by reference in Regulation 6, to include conditions as necessary to achieve water quality standards as established under Section 303 of the Clean Water Act. Arkansas has established a narrative criteria which states "toxic materials shall not be present in receiving waters in such quantities as to be toxic to human, animal, plant or aquatic life or to interfere with the normal propagation, growth and survival of aquatic biota."

Whole effluent toxicity (WET) testing is the most direct measure of potential toxicity which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. It is the national policy of EPA to use bioassays as a measure of toxicity to allow evaluation of the effects of a discharge upon a receiving water (49 Federal Register 9016-9019, March 9, 1984). EPA Region 6 and the State of Arkansas are now implementing the Post Third Round Policy and Strategy established on September 9, 1992.

Whole effluent toxicity testing of the effluent is thereby required as a condition of this permit to assess potential toxicity. The whole effluent toxicity testing procedures stipulated as a condition of this permit are as follows:

TOXICITY TESTS	**FREQUENCY**
Acute WET Testing	Once/month

Requirements for measurement frequency are based on the CPP.

Although the 7Q10 is less than 100 cfs (ft^3/sec) and the dilution ratio is less than 100:1, acute WET testing requirements will be included in the permit. The permittee rarely discharges from Outfall 002. When a discharge does occur, it is due to exceptionally heavy rainfall.

The critical dilution will be 100% because the 7Q10 of the receiving stream is 0 cfs.

Toxicity tests shall be performed in accordance with protocols described in "Methods for Measuring the Acute Toxicity of Effluent to Freshwater and Marine Organisms", EPA/600/4-90/027. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are **32%, 45%, 56%, 75%, and 100%** (See the CPP). The low-flow effluent

concentration (critical dilution) is defined as **100**% effluent. The requirement for acute WET tests is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species are representative of organisms indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The WET testing frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be reported according to EPA/600/4-90/027 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

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

Administrative Records

The following information summarized toxicity test failures submitted by the permittee during the term of the current permit at Outfall 002.

DRAFT

Permit Number:	AR0000752	AFIN:	70-00040	Outfall Number:	002
Date of Review:	2/15/2012	Reviewer:	M. Barnett		
Facility Name:	El Dorado Chemical Company				
Previous Dilution series:	32, 42, 56, 75, 100	Proposed Dilution Series:	32, 42, 56, 75, 100		
Previous Critical Dilution:	100	Proposed Critical Dilution:	100		
Previous TRE activities:		None			

Frequency recommendation by species	
Pimephales promelas (Fathead minnow):	once per month
Daphnia pulex (water flea):	once per month

TEST DATA SUMMARY

	Vertebrate	Invertebrate
TEST DATE	Lethal NOEC	Lethal NOEC
Aug-08	100	100
Sep-08	**75**	100
May-09	100	100
Sep-09	100	100
Oct-09	100	100
Jan-10	100	
Dec-11	100	**0**

Failures are noted in BOLD

REASONABLE POTENTIAL CALCULATIONS

	Vertebrate Lethal	**Invertebrate Lethal**
Min NOEC Observed	75	31
TU at Min Observed	1.33	3.23
Count	7	6
Failure Count	1	1
Mean	1.048	1.371
Std. Dev.	0.126	0.909
CV	0.6	0.6
RPMF	2	2.1
Reasonable Potential	2.667	6.774
100/Critical dillution	1.000	1.000
Does Reasonable Potential Exist	Yes	Yes

PERMIT ACTION

P. promelas lethal - Monitoring
D. pulex lethal - Monitoring

Additional requirements (including WET Limits) rationale/comments concerning permitting:

Although reasonable potential appears to exist for *P. promelas* and *D. pulex* lethality, only one failure has been reported during the past five years. Additional data is needed to verify reasonable potential, therefore a monitoring frequency of once per month is required, and WET limits are not required at this time.

Outfalls 006 and 007

Acute Whole Effluent Toxicity Testing – WET Limits

A. Post Third Round Policy and Strategy

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....." To ensure that the CWA's prohibitions for toxics are met, EPA has issued a "Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants (49 FR 9016-9019, 3/9/84)." In support of the national policy, Region 6 adopted the "Policy for Post Third Round NPDES Permitting" and the "Post Third Round NPDES Permit Implementation Strategy" on October 1, 1992. 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.

The Regional policy and strategy are designed to ensure that no source will be allowed to discharge any wastewater which (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical State Water Quality Standard (WQS) resulting in non-conformance with the provisions of 40 CFR Part 122.44(d); (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

Whole effluent toxicity (WET) testing has been establishing for assessing and protecting against impacts upon water quality and designated used caused by the aggregate toxic effect of the discharge of pollutants. The stipulated test species, which are appropriate to measure whole effluent toxicity, are consistent with the requirements of the State Water Quality Standards. The WET testing frequency has been established to reflect the likelihood of ambient toxicity and 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.

B. Implementation

Arkansas has established a narrative water quality standard under the authority of Section 303 of the CWA which states "toxic materials shall not be present in receiving waters in such quantities as to be toxic to human, animal, plant or aquatic life or to interfere with the normal propagation, growth and survival of aquatic biota."

Whole effluent toxicity testing conducted by the permittee has shown potential ambient toxicity to be the result of the permittee's discharge to receiving stream or water body, at the appropriate instream critical dilution. Pursuant to 40 CFR 122.44(d)(1)(v), ADEQ has determined from the permittee's self reporting that the discharge from this facility

does have the reasonable potential to cause, or contribute to an instream excursion above the narrative standard within the applicable State Water Quality Standards, in violation of Section 101(a)(3) of the Clean Water Act. Therefore, the draft permit must establish both monthly average and 48-hr minimum effluent limitations for lethality following Regulations promulgated by 40 CFR 122.44(d)(1)(v). These effluent limitations for lethality (48-hr NOEC) are applied at Outfalls 006 and 007 beginning three years from the effective date of the permit. During the three years following the effective date of the permit, the draft permit requires monitoring and reporting only for lethality with no limitations being established. The daily average lethality (48-hr NOEC) and 48-hr minimum lethality (48-hr NOEC) value shall not be less than 22% effluent for Outfall 006 and shall not be less than 50% effluent for Outfall 007.

Whole effluent toxicity testing of the effluent is thereby required as a condition of this permit to assess potential toxicity. The WET testing procedures stipulated as a condition of this permit are as follows:

TOXICITY TESTS	**FREQUENCY**
Acute WET Testing/Limit	Once/2 months (Outfalls 006 and 007)

Requirements for measurement frequency are based on the CPP. The Acute WET Limit may become effective February 1, 2013.

Although the 7Q10 is less than 100 cfs (ft^3/sec) and the dilution ratio is less than 100:1, acute WET testing requirements will be included in the permit because these are stormwater only outfalls with no treatment units associated with the outfall.

The calculations for dilution used for the acute WET testing are as follows:

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

Outfall 006

Qd = 1 cfs, assumed for calculation purposes due to use of background flow to effluent flow ratio
Background Flow to Effluent Flow Ratio = 53.6:1, based upon stormwater flow study dated 09/21/2006, for calculation purposes, 53.6 cfs will be used to calculate Qb
Qb = Zone of Initial Dilution = 0.1 X 0.67 X 53.6 = 3.5912 cfs
CD = ((1) / (1 + 3.5912)) X 100% = 22%

Outfall 007

Qd = 1 cfs, assumed for calculation purposes due to use of background flow to effluent flow ratio
Background Flow to Effluent Flow Ratio = 15:1, based upon stormwater flow study dated 09/21/2006, for calculation purposes, 15 cfs will be used to calculate Qb
Qb = Zone of Initial Dilution = 0.1 X 0.67 X 15 = 1.005 cfs
CD = ((1) / (1 + 1.005)) X 100% = 50%

Toxicity tests shall be performed in accordance with protocols described in "Methods for Measuring the Acute Toxicity of Effluent to Freshwater and Marine Organisms", EPA/600/4-90/027. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations and the low-flow effluent concentration (critical dilution) are listed in the table below: (See the CPP)

Outfall	Critical Dilution	Dilution Series
006	22%	9%, 12%, 17%. 22%, 29%
007	50%	21%, 28%, 38%, 50%, 67%

The requirement for acute WET testing is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species are representative of organisms indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The WET testing frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be reported according to EPA/600/4-90/027 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

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

In accordance with Condition No. 20 of Part III of the permit, the monitoring and reporting requirements (i.e., the interim requirements) for WET testing will continue at

Outfalls 006 and 007 if the permittee demonstrates full compliance with the proposed WET limits during the first 30 months of the permit. If eligible to retain the monitoring and reporting requirements, the permittee would be required to submit an application to modify the permit six months prior to the limits becoming effective. The removal of the proposed WET limits would not constitute a violation of the anti-backsliding provisions of 40 CFR 122.44(l) because they will never have become effective and would also be based on new information.

C. Administrative Records

The following information summarized toxicity test submitted by the permittee during the term of the current permit at Outfalls 006 and 007.

DRAFT

Permit Number:	AR0000752	AFIN:	70-00040	Outfall Number:	006
Date of Review:	2/14/2012	Reviewer:	M. Barnett		
Facility Name:	El Dorado Chemical Company				
Previous Dilution series:	32, 42, 56, 75, 100	Proposed Dilution Series	9, 12, 17, 22, 29		
Previous Critical Dilutio	100	Proposed Critical Dilutio	22		
Previous TRE activiti	TRE Plan was received on December 22, 2010. Final TRE report due January 24, 2013				

Frequency recommendation by species

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

TEST DATA SUMMARY

	Vertebrate		Invertebrate	
TEST DATE	Lethal		Lethal	Effluent
	NOEC		NOEC	Treatment
Jan-07	100		100	
Feb-07	100		**56**	
Mar-07	100		**0**	pH ADJUSTED
Mar-07	**75**		**0**	
Apr-07	100		100	
May-07	100		**56**	
Jun-07	**75**		**56**	
Jun-07	**75**		**56**	pH ADJUSTED
Jul-07	**32**		**0**	pH ADJUSTED
Sep-07	**42**		**0**	
Sep-07	100		**0**	pH ADJUSTED
Oct-07	**0**		**0**	pH ADJUSTED
Nov-07	100			pH ADJUSTED
Dec-07	**42**		**32**	
Jan-08	100		**56**	
Feb-08	100		100	
Mar-08	100		100	
Apr-08	100		100	
May-08	100		100	
Jun-08	100		100	
Aug-08	100		100	
Sep-08	100		100	
Oct-08	100		100	
Nov-08	100		100	
Dec-08	**75**		100	
Jan-09	100		100	
Mar-09	100		100	
Apr-09	100		100	
May-09	100		100	
Jul-09	**75**		**75**	
Sep-09	100		100	
Oct-09	100		100	
Nov-09	100		100	
Dec-09	100		100	
Jan-10	100		100	

Feb-10	100		100		
Mar-10	100		100		
May-10	100		100		
Jun-10	100		**0**		
Jul-10	100		100		
Aug-10	100		**0**		
Oct-10	100		**75**		
Nov-10	**56**		**56**		
Jan-11	100		100		
Feb-11	**56**		**75**		
Mar-11	100		100		
Apr-11	**42**		**56**		
May-11	**56**		**75**		
Jul-11	100		100		
Aug-11	100		**0**		
Sep-11	100		**75**		
Oct-11	100		100		
Nov-11	**32**		**0**		
Dec-11	100		22*		
Failures are noted in BOLD					
***** Dec 2012 Dp test was invalid due to control failure, during retest there was a limited amount of test organisms. Test was conducted with a control and the new proposed cirtical dillution.					
REASONABLE POTENTIAL CALCULATIONS					
	Vertebrate Lethal		**Invertebrate Lethal**		
Min NOEC Observed	31		22		
TU at Min Observed	3.23		4.55		
Count	54		49		
Failure Count	14		23		
Mean	1.271		1.564		
Std. Dev.	0.585		0.918		
CV	0.5		0.6		
RPMF	1.3		1.4		
Reasonable Potential	4.194		6.364		
100/Critical dillution	1.000		1.000		
Does Reasonable Pot	Yes		Yes		
PERMIT ACTION					
P. promelas lethal - Limit (22%) - Compliance schedule - limit compliance date of February 1, 2013.					
D. pulex lethal - Limit (22%) - Compliance schedule - limit compliance date of February 1, 2013.					

Additional requirements (including WET Limits) rationale/comments concerning permitting:

The critical dilution has been revised to 22% effluent based on the results of a flow study conducted by EDCC in 2006 and 2007. Lethal limits at 22% effluent will account for test failures at or below the previous lowest dilution (32%). During the previous five years, ten test failures below the lowest dilution (32%) were reported for *D. pulex* and one for *P. promelas.*

Reasonable potential exists for *P. promelas* and *D. pulex* lethality so WET limits will be included in the permit. A schedule of compliance for the new limits has not been included in the permit since a TRE was completed in December 2012.

The WET testing frequency has been revised from "once per month" to "once per two months" in conjunction with the revision from Acute WET monitoring to Acute WET limits. Although the *Continuous Planning Process, App. D, Part III, E.2.b.* states "If the permittee has a history of sporadic toxicity, toxicity testing frequency shall be twelve times a year for both species.", it is recommended WET tests be conducted six times per year. This will allow EDCC to use resources to potentially identify the source of toxicity when it is demonstrated in WET tests. When no failures are experienced, the frequency of "once per two months" is sufficient to protect the waters of the state and their associated uses.

Included within the Acute WET limit language in the permit (Part II.12.1.c) is the requirement to for a period of monthly testing when WET failures are experienced "…the frequency for the affected species will increase to monthly until such time compliance with the No Observed Effect Concentration (NOEC) effluent limitation for toxicity is demonstrated for a period of three consecutive months, …". The requirement for a period of monthly testing when WET failures are experienced will assist with the determination of the duration of a toxic event.

Permit Number:	AR0000752	AFIN:	70-00040	Outfall Number:	007
Date of Review:	2/14/2012	Reviewer:	M. Barnett		
Facility Name:	El Dorado Chemical Company				
Previous Dilution series:	32, 42, 56, 75, 100	Proposed Dilution Series	21, 28, 38, 50, 67		
Previous Critical Dilution:	100	Proposed Critical Dilutio	50		
Previous TRE activities:	TRE Plan was received on December 22, 2010. Final TRE report due January 24, 2013				
Frequency recommendation by species					
Pimephales promelas (Fathead minnow):		once per two months			
Daphnia pulex (water flea):		once per two months			

TEST DATA SUMMARY

TEST DATE	Vertebrate Lethal NOEC	Invertebrate Lethal NOEC
Jan-07	**0**	**0**
Jan-07	100	100
Feb-07	100	**0**
Mar-07	100	100
Mar-07	**42**	**0**
Apr-07	**56**	**56**
May-07	100	100
Jun-07	100	100
Jun-07	100	100
Jul-07	**0**	**0**
Sep-07	**56**	**56**
Oct-07	**42**	**0**
Nov-07	100	
Dec-07	100	100
Jan-08	**0**	**0**
Feb-08	100	100
Mar-08	100	100
Apr-08	100	100
May-08	100	100
Jun-08	100	100
Aug-08	100	100
Sep-08	100	100
Oct-08	100	100
Nov-08	**56**	100
Dec-08	100	100
Jan-09	100	100
Mar-09	100	100
Apr-09	100	100
May-09	100	100
Jul-09	100	100
Sep-09	100	100
Oct-09	100	100
Nov-09	100	100
Dec-09	100	100
Jan-10	100	100

Feb-10	100		100		
Mar-10	100		100		
May-10	100		100		
Jun-10	100		100		
Jul-10	100		100		
Aug-10	100		100		
Oct-10	**0**		**0**		
Nov-10	**56**		**56**		
Jan-11	100		100		
Feb-11	**75**		**0**		
Mar-11	**0**		**0**		
Apr-11	**0**		**0**		
May-11	**0**		**0**		
Jul-11	**32**		100		
Aug-11	**0**		**0**		
Sep-11	**0**		**0**		
Oct-11	**0**		**75**		
Nov-11	**0**		**0**		
Dec-11	100		**0**		
Failures are noted in BOLD					
REASONABLE POTENTIAL CALCULATIONS					
	Vertebrate Lethal		**Invertebrate Lethal**		
Min NOEC Observed	31		31		
TU at Min Observed	3.23		3.23		
Count	54		53		
Failure Count	19		19		
Mean	1.608		1.681		
Std. Dev.	0.926		0.997		
CV	0.6		0.6		
RPMF	1.4		1.4		
Reasonable Potential	4.516		4.516		
100/Critical dillution	1.000		1.000		
Does Reasonable Potential	Yes		Yes		
PERMIT ACTION					
P. promelas lethal - Limit (50%) -Compliance schedule - limit compliance date of February 1, 2013.					
D. pulex lethal - Limit (50%) - Compliance schedule - limit compliance date of February 1, 2013.					

Additional requirements (including WET Limits) rationale/comments concerning permitting:

The critical dilution has been revised to 50% effluent based on the results of a flow study conducted by EDCC in 2006 and 2007. Lethal limits at 50% effluent will account for test failures at or below the previous lowest dilution (32%). During the previous five years, fifteen test failures at or below the lowest dilution (32%) were reported for *D. pulex* and fourteen for *P. promelas.*

Reasonable potential exists for *P. promelas* and *D. pulex* lethality so WET limits will be included in the permit. A schedule of compliance for the new limits has not been included in the permit since a TRE was completed in December 2012.

The WET testing frequency has been revised from "once per month" to "once per two months" in conjunction with the revision from Acute WET monitoring to Acute WET limits. Although the *Continuous Planning Process, App. D, Part III, E.2.b.* states "If the permittee has a history of sporadic toxicity, toxicity testing frequency shall be twelve times a year for both species.", it is recommended WET tests be conducted six times per year. This will allow EDCC to use resources to potentially identify the source of toxicity when it is demonstrated in WET tests. When no failures are experienced, the frequency of "once per two months" is sufficient to protect the waters of the state and their associated uses.

Included within the Acute WET limit language in the permit (Part II.12.1.c) is the requirement to for a period of monthly testing when WET failures are experienced "…the frequency for the affected species will increase to monthly until such time compliance with the No Observed Effect Concentration (NOEC) effluent limitation for toxicity is demonstrated for a period of three consecutive months, …". The requirement for a period of monthly testing when WET failures are experienced will assist with the determination of the duration of a toxic event.

Outfall 010

Chronic WET Testing – report only

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

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

Requirements for measurement frequency are based on the CPP.

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

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

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

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

Toxicity tests shall be performed in accordance with protocols described in "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", EPA/600/4-91/002, July 1994. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are **0.7%, 0.9%, 1.2%, 1.6%, and 2.1%** (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 1.6% effluent. The requirement for chronic WET testing 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 WET testing frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

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

Administrative Records

The following information summarized toxicity test submitted by the permittee during the term of the current permit at Outfall 010.

Permit Number:	AR0000752		AFIN: 70-00040	Outfall Number:	010
Date of Review:	10/15/2010		Reviewer: M. Barnett		
Facility Name:	El Dorado Chemical Company				
Previous Dilution series:	0.7, 0.9, 1.2, 1.6, 2.1	Proposed Dilution Series:	1.0, 1.3, 1.5, 2.0, 2.7		
Previous Critical Dilution:	1.6	Proposed Critical Dilution:	2.0		
Previous TRE activities:	None				

Frequency recommendation by species

Pimephales promelas (Fathead minnow):	once per quarter
Ceriodaphnia dubia (water flea):	once per quarter

TEST DATA SUMMARY

TEST DATE	Vertebrate		Invertebrate	
	Lethal NOEC	Sub-Lethal NOEC	Lethal NOEC	Sub-Lethal NOEC

No Discharge Reported

PERMIT ACTION

P. promelas lethal - Monitoring
P. promelas sub-lethal - Monitoring
C. dubia lethal - Monitoring
C. dubia sub-lethal - Monitoring

15. SAMPLE TYPE AND FREQUENCY.

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

Monitoring frequencies and sample types have been based on the modified NPDES permit. The frequency and sample types for new parameters have been based on similar parameters already in the permit.

The sample frequency for Total Recoverable Selenium at Outfall 001 has been reduced to once per quarter based on the permittee's compliance status for this parameter during the past two years. Although the permittee has complied with the Total Recoverable Selenium limit at Outfall 002 for the past several years, the monitoring frequency has not been reduced since the permit rarely discharges from that outfall.

The sample frequency for NH3-N at Outfall 003 has changed from once per quarter to twice per seven months for the months of April through October and twice per five months for the months of November through March due to the seasons for the toxicity based limits. The overall frequency of four per year is remaining unchanged.

The sample type for Copper and Zinc at Outfall 003 have been based upon the requirements for those parameters at other outfalls. The monitoring frequency for Copper and Zinc is based upon the type of effluent and monitoring frequency for other parameters at this outfall.

The sample type for minerals at Outfall 003 are based on the sample type of other parameters at this outfall. The monitoring frequency has been based upon the frequency for minerals at other outfalls in this permit due to the TMDL.

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
OUTFALL 001				
Flow	continuous	record	continuous	record
TSS	3/week	24-hr composite	3/week	24-hr composite
NH3-N				
(April – October)	3/week	24-hr composite	3/week	24-hr composite
(November – March)	3/week	24-hr composite	3/week	24-hr composite
Nitrates as N	3/week	24-hr composite	3/week	24-hr composite
Dissolved Oxygen				
(May – October)	3/week	grab	3/week	grab
(November – April)	3/week	grab	3/week	grab
FCB				
(April – September)	3/week	grab	3/week	grab
(October – March)	3/week	grab	3/week	grab
Total Recoverable Copper	1/month	24-hr composite	1/month	24-hr composite
Total Recoverable Zinc	1/month	24-hr composite	1/month	24-hr composite
Total Recoverable Selenium	1/month	24-hr composite	1/quarter	24-hr composite
Chlorides	1/month	24-hr composite	1/month	24-hr composite
Sulfates	1/month	24-hr composite	1/month	24-hr composite
TDS	1/month	24-hr composite	1/month	24-hr composite
pH	continuous	grab	continuous	grab
Lethal WET Limit	1/month	24-hr composite	1/2 months	24-hr composite
Sub-Lethal WET Limit	N/A	N/A	1/2 months	24-hr composite

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
OUTFALL 002				
Flow	1/day	estimate	1/day	estimate
TSS	1/day	grab	1/day	grab
NH3-N				
(April – October)	1/day	grab	1/day	grab
(November – March)	1/day	grab	1/day	grab
Nitrates as N	1/day	grab	1/day	grab
O & G	1/day	grab	1/day	grab
Total Recoverable Copper	1/month	24-hr composite	1/month	24-hr composite
Total Recoverable Lead	1/month	24-hr composite	1/month	24-hr composite
Total Recoverable Zinc	1/month	24-hr composite	1/month	24-hr composite
Total Recoverable Selenium	1/month	24-hr composite	1/month	24-hr composite
Chlorides	N/A	N/A	1/month	grab
Sulfates	1/month	grab	1/month	grab
TDS	1/month	grab	1/month	grab
pH	1/day	grab	1/day	grab
Acute WET testing	1/month	24-hr composite	1/month	24-hr composite
OUTFALL 003				
Flow	1/day	instantaneous	1/day	instantaneous
CBOD5	1/quarter	grab	1/quarter	grab
TSS	1/quarter	grab	1/quarter	grab
NH3-N				
(April – October)	1/quarter	grab	2/7 months*	grab
(November – March)	1/quarter	grab	2/5 months*	grab
Dissolved Oxygen				
(May – October)	N/A	N/A	1/quarter	grab

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
(November – April)	N/A	N/A	1/quarter	grab
FCB	1/quarter	grab	1/quarter	grab
Total Recoverable Copper	N/A	N/A	1/quarter	24-hr composite
Total Recoverable Zinc	N/A	N/A	1/quarter	24-hr composite
Chlorides	N/A	N/A	1/month	grab
Sulfates	N/A	N/A	1/month	grab
TDS	N/A	N/A	1/month	grab
pH	1/week	grab	1/week	grab
OUTFALL 006				
Flow	1/day	estimate	1/day	estimate
Stream Flow	N/A	N/A	1/day	instantaneous
Stream Flow to Effluent Flow Ratio	N/A	N/A	1/day	calculated
Total Suspended Solids (TSS)	1/week	grab	1/week	grab
Ammonia-Nitrogen (NH3-N)	1/week	grab	1/week	grab
Total Recoverable Lead	1/month	24-hr composite	1/month	24-hr composite
Total Recoverable Copper	N/A	N/A	1/month	24-hr composite
Chlorides	N/A	N/A	1/month	grab
Sulfates	N/A	N/A	1/month	grab
Total Dissolved Solids	1/month	grab	1/month	grab
Oil and Grease (O & G)	1/week	grab	1/week	grab
pH	1/day	grab	1/day	grab
Acute WET limit	1/month	24-hr composite	1/2 months	24-hr composite
OUTFALL 007				
Flow	1/day	estimate	1/day	estimate
Stream Flow	N/A	N/A	1/day	instantaneous

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Stream Flow to Effluent Flow Ratio	N/A	N/A	1/day	calculated
Total Suspended Solids (TSS)	1/week	grab	1/week	grab
Ammonia-Nitrogen (NH3-N)	1/week	grab	1/week	grab
Total Recoverable Lead	1/month	24-hr composite	1/month	24-hr composite
Total Recoverable Copper	N/A	N/A	1/month	24-hr composite
Total Recoverable Zinc	1/month	24-hr composite	1/month	24-hr composite
Chlorides	N/A	N/A	1/month	grab
Sulfates	N/A	N/A	1/month	grab
Total Dissolved Solids	1/month	grab	1/month	grab
Oil and Grease (O & G)	1/week	grab	1/week	grab
pH	1/day	grab	1/day	grab
Acute WET limit	1/month	24-hr composite	1/2 months	24-hr composite
OUTFALL 010				
Flow	continuous	record	1/day	totalizing meter
CBOD5				
(May – October)	1/day	24-hr composite	1/day	24-hr composite
(November – April)	1/day	24-hr composite	1/day	24-hr composite
TSS	1/day	24-hr composite	1/day	24-hr composite
NH3-N	1/day	24-hr composite	1/day	24-hr composite
Nitrate Nitrogen as N	3/week	24-hr composite	3/week	24-hr composite
Oil and Grease (O & G)	2/week	grab	2/week	grab
Dissolved Oxygen (DO)	1/day	grab	1/day	grab
Total Dissolved Solids (TDS)	2/week	grab	2/week	grab
Sulfates	2/week	grab	2/week	grab
Chlorides	2/week	grab	2/week	grab

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Mercury, Total Recoverable	1/month	24-hr composite	1/month	24-hr composite
Cadmium, Total Recoverable	1/month	24-hr composite	1/month	24-hr composite
Hexavalent Chromium, Dissolved	1/month	24-hr composite	1/month	24-hr composite
Copper, Total Recoverable	1/month	24-hr composite	1/month	24-hr composite
Lead, Total Recoverable	1/month	24-hr composite	1/month	24-hr composite
Nickel, Total Recoverable	1/month	24-hr composite	1/month	24-hr composite
Selenium, Total Recoverable	1/month	24-hr composite	1/month	24-hr composite
Silver, Total Recoverable	1/month	24-hr composite	1/month	24-hr composite
Zinc, Total Recoverable	1/month	24-hr composite	1/month	24-hr composite
Chromium (III), Total Recoverable	1/month	24-hr composite	1/month	24-hr composite
Cyanide, Total Recoverable	1/month	grab	1/month	grab
Total Phosphorous	1/day	24-hr composite	1/day	24-hr composite
Fecal Coliform Bacteria (FCB)	1/day	grab	1/day	grab
pH	1/day	grab	1/day	grab
Chronic WET Testing	1/quarter	24-hr composite	1/quarter	24-hr composite
SUM TOTAL OUTFALLS 001 AND 002 (Technology Based)				
Flow	1/day	calculated	1/day	calculated
NH3-N	1/day	calculated	1/day	calculated
Nitrates as N	1/day	calculated	1/day	calculated
SUM LOAD ALLOCATION OUTFALL (LAO)				
NH3-N	N/A	N/A	1/week	calculated
Chlorides	N/A	N/A	1/month	calculated
Sulfates	N/A	N/A	1/month	calculated
Total Dissolved Solids	N/A	N/A	1/month	calculated

*One sample shall be taken during the months of April – July, August – October, November – December, and January – March.

16. **PERMIT COMPLIANCE.**

Compliance with final effluent limitations is required by the effective date of the permit with the following exceptions: DO during the months May through October at Outfall 003, NH3-N, Chlorides, Sulfates, and TDS at Outfalls 001, 002, 003, 006, and 007 as well as compliance with the Final Effluent Limitations at the Load Allocation Outfall. The permittee has three years to come into compliance with the referenced final limitations.

These are new water quality based limits for the permittee. The permittee has demonstrated, based on data submitted during the term of the previous permit, that time is needed to come into compliance with the new NH3-N and mineral limits. Therefore, a three year schedule of compliance for these limits has been included in the permit as allowed under Reg. 2.106.

Minimum required DO levels have not been included in previous permits at Outfall 003. While the permittee should be able to meet a minimum DO of 2.0 mg/l in the effluent, it is unknown if they can meet the minimum DO of 4.0 mg/l for the months of May through October. Therefore, a three-year schedule of compliance for the minimum required DO for the months of May through October has been included in the permit as allowed under Reg. 2.106.

17. **MONITORING AND REPORTING.**

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

18. **SOURCES.**

The following sources were used to draft the permit:

A. NPDES application No. AR0000752 received 12/21/2006 with all additional information received by 10/09/2007.
B. Arkansas Water Quality Management Plan (WQMP).
C. APCEC Regulation No. 2.
D. APCEC Regulation No. 3.
E. APCEC Regulation No. 6.
F. 40 CFR Parts 122, 125, and 418.
G. NPDES permit file AR0000752.
H. Discharge Monitoring Reports (DMRs).
I. "Arkansas Water Quality Inventory Report 2008 (305(b))", ADEQ.
J. Memo from Mo Shafii to NPDES Engineers dated March 28, 2005.
K. "Identification and Classification of Perennial Streams of Arkansas", Arkansas Geological Commission.

L. Continuing Planning Process (CPP).
M. Technical Support Document For Water Quality-based Toxic Control.
N. Region 6 Implementation Guidance for Arkansas Water Quality Standards promulgated at 40 CFR Part 131.36.
O. Inspection Report dated 12/21/2006.
P. Site visits 03/2005 and 09/19/2007.
Q. Watershed Analysis Report dated 03/13/2003.
R. Stormwater Flow Study dated 09/21/2006.
S. Letter from Greg Withrow to Loretta Reiber, P.E. dated 06/20/2008.
T. Letter from Loretta Reiber, P.E. to Greg Withrow dated 06/26/2008.
U. APCEC Docket No. 07-006-P.
V. E-mail from Greg Withrow to Loretta Reiber, P.E. dated 09/18/2008.
W. Telephone conversation between Greg Withrow and Loretta Reiber, P.E. on 09/15/2009 regarding the handling of solids at Outfalls 001, 002, and 003.
X. Judgment of the Court upholding the APCEC's ruling issued on 03/31/2009 issued by the Honorable David Guthrie of the 13th Judicial District.
Y. State Supreme Court decision issued 10/07/2010.
Z. Meeting at ADEQ with permittee on 12/1/2010.
AA. Temperature study dated 10/29/2010.
BB. ADEQ letter approving temperature study dated 1/5/2007.
CC. E-mail from Mike Tillman of EPA Region VI to John Bailey, P.E. dated 4/2/2013.
DD. Letter from Claudia V. Hosch of EPA Region VI to Mo Shafii dated 4/23/2013.
EE. Letter from EPA to Mo Shafii dated 8/20/2013 clarifying implementation of TMDLs.
FF. Letter from EPA to Ryan Benefield, P.E. dated 9/23/2013 containing a General Objection to Draft Permit.
GG. *TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas.*

19. **PUBLIC NOTICE.**

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

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

20. **NPDES POINT OF CONTACT.**

For additional information, contact:

Loretta Reiber, P.E.
NPDES Branch, Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118
Telephone: (501) 682-0612

ADEQ

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

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (91 7199 9991 7030 4904 3396)

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

RE: Discharge Permit Number AR0000752, AFIN 70-00040

Dear Mr. Withrow:

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

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

For a list of changes, please see Section 6 of the enclosed Fact Sheet.

Comments must be received at ADEQ prior to the close of the public comment period as described in the enclosed public notice. Once a final permit is issued by the Director and becomes effective, the permittee must comply with all terms and conditions of the permit, or be subject to enforcement actions for any instances of noncompliance during the duration of the permit, usually five (5) years. Consequently, it is imperative that you, as the applicant, thoroughly review the enclosed documentation for accuracy, applicability, and your ability to comply with all conditions therein.

Should you have any questions concerning any part of the permit, please contact Loretta Reiber, P.E. at (501) 682-0612.

Sincerely,

EPA

Ryan Benefield, P.E.
Deputy Director

RB:lr

Enclosure

PUBLIC NOTICE OF DRAFT DISCHARGE PERMIT AND 208 Plan
PERMIT NUMBER AR0000752, AFIN 70-00040

This is to give notice that the Arkansas Department of Environmental Quality (ADEQ), Water Division, 5301 Northshore Drive, North Little Rock, Arkansas 72118-5317 at telephone number (501) 682-0622, proposes a draft renewal of the permit for which an application was received on 12/21/2006 with all additional information received by 10/09/2007 for the following applicant under the National Pollutant Discharge Elimination System (NPDES) and the Arkansas Water and Air Pollution Control Act.

Applicant: El Dorado Chemical Company, 4500 North West Avenue, El Dorado, AR 71730. Location: on the north side of the City of El Dorado, approximately 1 mile west of Hwy. 7 Spur at 4500 North West Avenue; Latitude: 33° 09' 55"; Longitude: 92° 24' 40" in Union County, Arkansas. The discharges from this existing facility are made as follows: Outfalls 001, 002, 003, 006, and 007: an unnamed tributary of Flat Creek (a/k/a ELCC Tributary), thence to Flat Creek, thence to Haynes Creek, thence to Smackover Creek, thence to the Ouachita River in Segment 2D of the Ouachita River Basin and Outfall 010: via the joint pipeline to the Ouachita River approximately 1.5 miles downstream of the H.K. Thatcher Lock and Dam in Segment 2D of the Ouachita River Basin.

The 208 Plan, developed by the ADEQ under provisions of Section 208 of the federal Clean Water Act, is a comprehensive program to work toward achieving federal water goals in Arkansas. The initial 208 Plan, adopted in 1979, provides for annual updates, but can be revised more often if necessary. Updates to the 208 Plan have been proposed to add minimum required DO levels of 2 mg/l for the months of November through April and 4 mg/l for the months of May through October at Outfall 003.

The following limits based on *TMDLs for Chloride, Sulfate, TDS, and Ammonia in the ELCC Tributary, Arkansas*.

Outfall 001:

NH3-N:	May – October – 37.5 lb/day, 2.43 mg/l
	November – April – 84.92 lb/day, 5.5 mg/l
Chlorides:	262.35 lb/day
Sulfates:	497.97 lb/day
TDS:	1324.62 lb/day

Outfall 003:

NH3-N:	May – October – 0.4 lb/day, 2.43 mg/l
	November – April – 0.86 lb/day, 5.5 mg/l
Chlorides:	2.65 lb/day
Sulfates:	5.03 lb/day
TDS:	13.38 lb/day

Outfalls 002, 006, and 007:

NH3-N: May – October – 0 mg/l
November – April – 0.32 mg/l

Load Allocation Outfall:

NH3-N:	May – October – 0 lbs/day
	November – April – 5.16 lbs/day
Chlorides:	73 lbs/day
Sulfates:	33 lbs/day
TDS:	635 lbs/day

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

The comment period shall end at 4:30 P.M. (Central Time) on the 30th day after the publication date. If the last day of the comment period is a Saturday, Sunday or legal holiday, the public comment period shall expire on the next day that is not a Saturday, Sunday or legal holiday. For information regarding the actual publication date along with the actual date and time the comment period will end, please contact Loretta Reiber, P.E. at the above address and telephone number or by email at Water-Draft-Permit-Comment@adeq.state.ar.us. Public notice, comments, and hearings will be conducted in accordance with Regulation 6.104(A)(5) [40 CFR Parts 124.10 through 124.12 by reference] and Regulation 8.209 and 8.210 (Administrative Procedures). All persons, including the permittee, who wish to comment on ADEQ's draft permitting decision must submit written comments to ADEQ, along with their name and mailing address. A Public Hearing will be held when ADEQ finds a significant degree of public interest. After the public comment period, ADEQ will issue a final permitting decision. ADEQ will notify the applicant and each person who has submitted written comments or request notice of the final permitting decision. Any interested person who has submitted comments may appeal a final decision by ADEQ in accordance with the APCEC Regulation No. 8.603.