LPDES PERMIT NO. LA0094846, AI No. 23941

LPDES STATEMENT OF BASIS
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM
(LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

I. Company/Facility Name: Koch Nitrogen Company
Sterlington Terminal
6310 Horseshoe Lake Road
Sterlington, LA 71280

II. Issuing Office: Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

III. Prepared By: Jenniffer Sheppard
Level 1 Industrial Permits Section
Water Permits Division
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Date Prepared: October 30, 2007

IV. Permit Action/Status:

A. Reason For Permit Action:

Proposed reissuance of an existing Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46.

* In order to ease the transition from NPDES to LPDES permits, dual regulatory references are provided where applicable. The LAC references are the legal references while the 40 CFR references are presented for informational purposes only. In most cases, LAC language is based on and is identical to the 40 CFR language. 40 CFR Parts 401, and 405-471 have been adopted by reference at LAC 33:IX.4903 and will not have dual references. In addition, state standards (LAC 33:IX Chapter 11) will not have dual references.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.4901, 4903, and 2301.F.

B. NPDES permit - NPDES permit effective date: N/A
NPDES permit expiration date: N/A
EPA has not retained enforcement authority.

C. LPDES permits - Individual LPDES Permit
LPDES permit effective date: March 1, 2003
LPDES permit expiration date: February 28, 2008

LAR05M318 - MSGP
LPDES permit effective date: May 23, 2006
LPDES permit expiration date: April 30, 2011

D. Application received on August 31, 2007. Additional information received via e-mail correspondence on November 6, 2007. Application addendum received on December 6, 2007.

V. Facility Information:

A. Location - 6310 Horseshoe Lake Road in Sterlington

B. Applicant Activity -

According to the application, Koch Nitrogen Company (KNC), Sterlington Terminal, is a anhydrous ammonia terminal that receives ammonia by pipeline, railcar, and barges for storage in one of three cryogenic ammonia tanks. Ammonia is loaded onto railcars, trucks, barges, as well as pipelined to other facilities.

KNC also has utility operations including a cooling tower to support the terminal operation. KNC provides river water to ANGUS Chemical, a neighboring facility. This facility returns reverse osmosis system backwash, utility wastewater, and boiler blowdown to KNC for discharge through Outfall 001.

KNC previously operated an ammonia production facility. However, in March 2007, they permanently terminated operation of the Sterlington ammonia production lines, and today, operates exclusively as an Ammonia Terminal.

Stormwater is covered under the Multi-Sector General Permit (MSGP), LAR05M318, effective on May 23, 2006.

Sanitary wastewater is discharged under the administratively continued LPDES permit, LA0007854, issued to ANGUS Chemical Company, effective on April 1, 2002 (currently in the process of being reissued).

C. Fee Rate -
1. Fee Rating Facility Type: minor
2. Complexity Type: I
3. Wastewater Type: I
4. SIC code: 5169

D. Continuous Facility Effluent Flow - 1.110 MGD.

VI. Receiving Waters: Ouachita River and Lonewa Bayou

1. TSS (15%), mg/L: 6.0
2. Average Hardness, mg/L $CaCO_3$: 38.5
3. Critical Flow, cfs: 764
4. Mixing Zone Fraction: 0.3333
5. Harmonic Mean Flow, cfs: 3757
6. River Basin: Ouachita River, Segment No. 080101
7. Designated Uses:
   The designated uses are primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply.

Information based on the following: Recommendation(s) from the Engineering Section. Hardness and 15% TSS data come from monitoring station #13 on the Ouachita River at the bridge on State Highway 2, in Sterlington. This information was presented in a memorandum from Will Barlett to Jenniffer Sheppard, dated October 30, 2007 (See Appendix B).

VII. Outfall Information:

Outfall 001

A. Type of wastewater - the discharge of utility wastewater including, but not limited to: filter backwash, ion exchange regeneration, cooling tower blowdown, boiler blowdown, non-contact cooling water, process condensate, and steam condensate; maintenance wastewater including but not limited to: clarifier underflow, Davidson Trucking rinse water, hydrostatic test water, river water overflow, catalyst change out water, dock sump waste water and car rinse water; and process area and contained areas stormwater runoff.

B. Location - at the point of discharge prior to combining with waters of the Ouachita River, 1000 feet south of Highway 2 at Latitude 32°41'23", Longitude 92°05'14".

C. Treatment - treatment of utility wastewaters and stormwater consists of:
   - neutralization basin (pH adjustment)

D. Flow - Continuous, (Max 30-Day) 1.110 MGD

E. Receiving waters - Ouachita River via an effluent pipe.

F. Basin and segment - Ouachita River Basin, Segment 080101.

Outfall 002

A. Type of wastewater - the discharge of utility wastewaters including, but not limited to: air compressor blowdown; maintenance wastewaters including but not limited to: fire waters, demineralized tank overflow, cooling tower overflow, hydrostatic test waters and safety shower waste water; and stormwater runoff from non-process areas and the offsite electric peaking plant.

B. Location - at the point of discharge from the settling basin at the northeast corner of the property boundary, near Solvent Avenue prior to combining with the waters of Sterlington Ditch thence to Lonewa Bayou, at Latitude 32°41'23", Longitude 92°04'47".

C. Treatment - treatment of utility wastewaters consists of:
- settling

D. Flow - Intermittent, (Max 30-Day) 0.290 MGD.

E. Receiving waters - Sterlington Ditch thence to Lonewa Bayou

F. Basin and segment - Ouachita River Basin, Segment 080101

VIII. Proposed Permit Limits:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

Summary of Proposed Changes From the Current LPDES Permit:

A. Ammonia production has been discontinued, therefore, the fertilizer guidelines, under 40 CFR 418.2 are no longer applicable to the discharges from this facility.

B. Outfall 001 - Ammonia limitations will remain in the permit due to the phosphorus, nutrients, and organic enrichment/low DO impairments addressed in the Ouachita Basin Oxygen Demand TMDL (issued March 1, 2006 and revised on April 3, 2006 and March 2, 2007). However, since ammonia production has been discontinued at the Sterlington Plant since the issuance of this TMDL, the allocations established for Koch Nitrogen Company will be reduced. Ammonia limitations will be based on the cooling tower blowdown allowance granted in the January 1998 and March 1, 2003 LPDES permits, of 179 lbs/day monthly average and 447 lbs/day daily maximum.

C. Outfall 001 - Whole Effluent Toxicity Testing has been changed from freshwater chronic testing to freshwater acute testing and increased from 1/year to 1/quarter. This recommendation is in accordance with the LDEQ/OES Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, EPA Region 6 Post-Third Round Whole Effluent Toxicity Testing Frequencies (Revised June 30, 2000), and the Best Professional Judgement (BPJ) of the reviewer.

IX. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit.

A. Outfalls 001 & 002 - Utility Wastewater & Stormwater Runoff

***Outfall 001** - the discharge of utility wastewater including, but not limited to: filter backwash, ion exchange regeneration, cooling tower blowdown, boiler blowdown, non-contact cooling water, process condensate, and steam condensate; maintenance wastewater

including but not limited to: clarifier underflow, Davidson Trucking rinse water, hydrostatic test water, river water overflow, catalyst change out water, dock sump waste water and car rinse water; and process area and contained areas stormwater runoff.

Utility wastewaters and stormwater runoff being discharged to discrete outfalls receive BPJ limitations/monitoring requirements according to the following schedule:

PARAMETER	**MONTHLY AVERAGE LBS/DAY**	**DAILY MAXIMUM LBS/DAY**	**MONITORING FREQUENCY**
Flow (MGD)	Report	Report	continuous recording
pH (standard units)	6.0	9.0	continuous recording
Oil & Grease	10 mg/L	20 mg/L	2/week
Ammonia (as N)	179	447	2/week
COD	1157.175	2314.35	2/week
Water Treatment Additives	Report, mg/L	Report, mg/L	1/quarter

Site-Specific Consideration(s)

Flow - established in accordance with LAC 33:IX.2707.I.1.b. Flow shall be monitored continuously. These requirements have been retained from the current LPDES permit, effective on March 1, 2003.

PH - established in accordance with LAC 33:IX.1113.C.1. Ph shall be monitored continuously. These requirements have been retained from the current LPDES permit, effective on March 1, 2003.

Oil & Grease - effluent limitations are established in accordance with Best Professional Judgment (BPJ) at a frequency of 2/week. The limitations and the monitoring frequency has been retained from the current LPDES permit, effective on March 1, 2003.

Ammonia (as N) - effluent limitations are established in accordance with Best Professional Judgment (BPJ) at a frequency of 2/week. Ammonia limitations will remain in the permit due to the phosphorus, nutrients, and organic enrichment/low DO impairments addressed in the Ouachita Basin Oxygen Demand TMDL (issued March 1, 2006 and revised on April 3, 2006 and March 2, 2007). However, since ammonia production has been discontinued at the Sterlington Plant since the issuance of this TMDL, the allocations established for Koch Nitrogen Company will be reduced. Ammonia limitations will be based on the cooling tower blowdown allowance granted in the January 1998 and March 1, 2003 LPDES permits, of 179

lbs/day monthly average and 447 lbs/day daily maximum. The monitoring frequency has been retained from the current LPDES permit, effective on March 1, 2003.

COD - effluent limitations are established in accordance with Best Professional Judgment (BPJ) at a frequency of 2/week. The January 1, 1998 LPDES permit retained concentrations of 125 mg/L monthly average and 250 mg/L daily maximum from the 1987 and 1994 NPDES permits. The same concentrations and an effluent flow rate of 1.110 MGD (Max 30 Day Flow) are used to calculate COD limitations. The monitoring frequency has been retained from the current LPDES permit, effective on March 1, 2003.

Calculation for COD daily average limitation:
(125 mg/L)(1.110 MGD)(8.34 lbs/gal) = 1157.175 lbs/day

Calculation for COD daily average limitation:
(250 mg/L)(1.110 MGD)(8.34 lbs/gal) = 2314.35 lbs/day

Water Treatment Additives - The quantity and types of all coagulants (clarifying agents) used in the intake raw river water treatment clarification system during the sampling month shall be recorded, Records of the quantity and type of coagulants used shall be retained for three (3) years following Part III.C.3. The monitoring frequency of 1/quarter has been retained from the current LPDES Permit, effective on March 1, 2003. No DMR reporting is required.

***Outfall 002** - utility wastewaters including, but not limited to: air compressor blowdown; maintenance wastewaters including but not limited to: fire waters, demineralized tank overflow, cooling tower overflow, hydrostatic test waters and safety shower waste water; and stormwater runoff from non-process areas and the offsite electric peaking plant

Utility wastewaters and stormwater runoff being discharged to discrete outfalls receive BPJ limitations/monitoring requirements according to the following schedule:

PARAMETER	**MONTHLY AVERAGE MG/L**	**DAILY MAXIMUM MG/L**	**MONITORING FREQUENCY**
Flow (MGD)	Report	Report	1/month
pH (standard units)	6.0	9.0	1/month
TOC	---	50	1/month
Oil & Grease	---	15	1/month
Ammonia (as N)	---	20	1/month

Site-Specific Consideration(s)

Since the flow is variable and estimated, concentration limitations are used rather than mass limitations based on Best Professional Judgment for similar outfalls.

Flow - established in accordance with LAC 33:IX.2707.I.1.b. Flow shall be monitored 1/month. These requirements have been retained from the current LPDES permit, effective on March 1, 2003.

PH - established in accordance with LAC 33:IX.1113.C.1. Ph shall be monitored 1/month. These requirements have been retained from the current LPDES permit, effective on March 1, 2003.

TOC - effluent limitations are established in accordance with the Multi-Sector General Permit and Best Professional Judgment (BPJ) at a frequency of 1/month. These requirements have been retained from the current LPDES permit, effective on March 1, 2003.

Oil & Grease - effluent limitations are established in accordance with the Multi-Sector General Permit and Best Professional Judgment (BPJ) at a frequency of 1/month. These requirements have been retained from the current LPDES permit, effective on March 1, 2003.

Ammonia (as N) - effluent limitations are established in accordance with Best Professional Judgment (BPJ) at a frequency of 1/month. These requirements have been retained from the current LPDES permit, effective on March 1, 2003.

B. WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations and/or specific analytical results from the permittee's application were screened against state water quality numerical standard based limits by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001. Calculations, results, and documentation are given in Appendix B.

In accordance with LAC 33:IX.2707.D.1/40 CFR § 122.44(d)(1), the existing (or potential) discharge (s) was evaluated in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Calculations, results, and documentation are given in Appendix B.

The following pollutants received water quality based effluent limits:

PARAMETER(S)
Ammonia (as N)

Minimum quantification levels (MQL's) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for

Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001. They are also listed in Part II of the permit.

TMDL Waterbodies

Outfalls 001 and 002

The discharges include utility wastewater including, but not limited to: filter backwash, ion exchange regeneration, cooling tower blowdown, boiler blowdown, non-contact cooling water, process condensate, and steam condensate; maintenance wastewater including but not limited to: clarifier underflow, Davidson Trucking rinse water, hydrostatic test water, river water overflow, catalyst change out water, dock sump waste water and car rinse water; and process area and contained areas stormwater runoff **(Outfall 001)** and utility wastewaters including, but not limited to: air compressor blowdown; maintenance wastewaters including but not limited to: fire waters, demineralized tank overflow, cooling tower overflow, hydrostatic test waters and safety shower waste water; and stormwater runoff from non-process areas and the offsite electric peaking plant **(Outfall 002)** are to Ouachita River, Segment No. 080101. The Ouachita River is listed on the 303(d) report as being impaired with mercury, organic enrichment/low DO, nutrients, and phosphorus. Two TMDLS have been completed to date covering the mercury, organic enrichment/low DO, nutrients, and phosphorus impairments.

Organic Enrichment/Low DO, Nutrients, and Phosphorus
These impairments were addressed in the Ouachita River Basin TMDL for BOD and Nutrients, issued July 1, 2002.

Outfall 001 - Ammonia limitations will remain in the permit due to the phosphorus, nutrients, and organic enrichment/low DO impairments addressed in the Ouachita Basin Oxygen Demand TMDL (issued March 1, 2006 and revised on April 3, 2006 and March 2, 2007). However, since ammonia production has been discontinued at the Sterlington Plant since the issuance of this TMDL, the allocations established for Koch Nitrogen Company will be reduced. Ammonia limitations will be based on the cooling tower blowdown allowance granted in the January 1998 and March 1, 2003 LPDES permits, of 179 lbs/day monthly average and 447 lbs/day daily maximum.

Outfall 002 - the Ouachita Basin Oxygen Demand TMDL (issued March 1, 2006 and revised on April 3, 2006 and March 2, 2007) did not establish ammonia limitations for this outfall. However, since this outfall previously established an ammonia limitation of 20 mg/L daily maximum, this limitation has been retained.

Mercury
The mercury impairment has been addressed by the Ouachita River Mercury in Fish Tissue TMDL, issued June 13, 2002.

Outfall 001 and Outfall 002 - Utility wastewaters were not considered in the TMDL model for mercury and did not receive waste load allocations for those outfalls. Therefore, no additional requirements were place on Outfalls 001 and 002 as a result of this TMDL.

Monitoring frequencies for water quality based limited parameters are established in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001.

Site-Specific Consideration(s)

Federal regulations under 40 CFR 130.7 require the State to incorporate all final TMDLs into its current Water Quality Management Plan (WQMP). The State is also required to ensure consistency with the WQMP requirements approved by EPA under Section 208(b) of the Clean Water Act (CWA), as cited under LAC 33.IX.2707.D.6. Since the requirements established in the Final TMDL (Federal Register Notice: Volume 67, Number 114, pages 40735 - 40737, 6/13/2002) are water quality-based effluent limitations that are part of the State's current Water Quality Management Plan (Volume 8), and are more stringent than the technology based effluent limitations, the TMDL waste load allocations must remain in the permit.

C. Biomonitoring Requirements

It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities that alone or in combination will be toxic to plant or animal life." The Office of Environmental Services requires the use of the most recent EPA biomonitoring protocols.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit for Outfall(s) 001 are as follows:

TOXICITY TESTS	FREQUENCY
Acute static renewal 48-hour definitive toxicity test using *Daphnia pulex*	1/quarter
Acute static renewal 48-hour definitive toxicity test using fathead minnow (*Pimephales promelas*)	1/quarter

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring 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 regulations promulgated at LAC 33:IX.2715/40 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 documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to the Office of Environmental Compliance. The full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 3%, 4%, 5%, 7%, and 9%. The low-flow effluent concentration (critical dilution) is defined as 7% effluent.

X. Compliance History/DMR Review:

A compliance history/DMR review was done covering the period of January 2001 to August 2007.

A. DMR Excursions Reported

For October and November 2003, no samples were collected at Outfall 002 due to operator error.

DATE	PARAMETER	OUTFALL	REPORTED VALUE	PERMIT LIMITS
04/01/2001	pH	002	9.3 (s.u.)	6.0 to 9.0 (s.u.)
07/01/2001	pH	001	1 pH range excursion > 60 minutes	<= 60 minutes
01/01/2003	Ammonia (as N)	002	21 mg/L daily maximum	20 mg/L daily maximum
03/01/2003	pH	001	1 pH range excursion > 60 minutes	<= 60 minutes
11/01/2003	pH	001	1 pH range excursion > 60 minutes	<= 60 minutes

DATE	PARAMETER	OUTFALL	REPORTED VALUE	PERMIT LIMITS
02/01/2004	Oil & Grease	001	31 mg/L daily maximum	20 mg/L daily maximum
05/01/2004	pH	001	1 pH range excursion > 60 minutes	<= 60 minutes
06/01/2004	Ammonia (as N)	002	29 mg/L daily maximum	20 mg/L daily maximum
08/01/2004	pH	001	1 pH range excursion > 60 minutes	<= 60 minutes
10/01/2005	Ammonia (as N)	002	24 mg/L daily maximum	20 mg/L daily maximum
08/01/2006	pH	001	1 pH range excursion > 60 minutes	<= 60 minutes

B. Inspections - A facility inspection was conducted on August 16, 2001. The following items were noted in the inspection report:

Records/Reports - Type of preservative not listed on Chain of Custody. No pH meter calibration records for the meter used to obtain pH at outfall 002.

Effluent/Receiving Waters - pH excursions at both outfall 001 and 002. Ammonia and TOC excursion at outfall 002.

C. Compliance History - None

XI. "IT" Questions - Applicant's Responses

Koch Nitrogen Company is a minor facility, therefore, IT Questions were not required to be submitted.

XII. ENDANGERED SPECIES

The receiving waterbody, Subsegment 080101 of the Ouachita River Basin is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated October 24, 2007 from Boggs (FWS) to Brown (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

XIII. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XIV. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to permit for the discharge described in the application.

XV. Variances:

No requests for variances have been received by this Office.

XVI. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List