

**LPDES PERMIT NO. LA0102318, AI NO. 1287****LPDES STATEMENT OF BASIS  
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM  
(LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA**

**COMPANY/FACILITY NAME:** GEO Specialty Chemicals, Inc.  
GEO Specialty Chemicals -Bastrop  
1502 N. Washington Street  
Bastrop, Louisiana 71220

**ISSUING OFFICE:** Louisiana Department of Environmental Quality (LDEQ)  
Office of Environmental Services  
Post Office Box 4313  
Baton Rouge, Louisiana 70821-4313

**PREPARED BY:** Paula M. Roberts  
Water Permits Division  
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**DATE PREPARED:** August 25, 2009

**I. PERMIT ACTION/STATUS:**

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

- A. LPDES permit: Effective date – September 1, 2003  
Expiration date – August 31, 2008
- B. Date Application Received: A renewal application was received on March 10, 2008. Additional information was received on August 24, 2009 and August 20, 2009 via email.

**II. FACILITY INFORMATION:**

A. LOCATION FACILITY- 1502 N. Washington Street, in Bastrop, Morehouse Parish (Latitude 32°47'29", Longitude 91°54'42")

B. TYPE/ACTIVITY – Aluminum Sulfate Production Plant

This facility manufactures water treatment and inorganic specialty chemicals. The primary product is aluminum sulfate with aluminum chlorhydrate and aluminum chloride. Other specialty ore digested products are in limited production.

Aluminum sulfate is produced in several forms. The two major forms of aluminum sulfate are 1) liquid –two by-products are obtained: a) processed silica, the residue of unreacted clay concentrate and b) weak liquor – the water used to wash and reclaim any residual product in the processed silica. The processed silica is dewatered with the weak liquor being recycled back into the process and is used as a diluent to control product concentration; 2) dry – the dry aluminum sulfate grinding process generated a by-product, alum dust, which is water soluble. The dust is collected in baghouse collectors and recycled back into the process.

The raw materials used for aluminum sulfate include sulfuric acid, clay concentrates and commercial aluminum hydrate. The raw materials used for aluminum chlorhydrate manufacturing are aluminum ingot and aluminum chloride solution. One-by product is

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obtained, spent aluminum, which is reclaimed by a metal reclaimer. Aluminum Chloride is manufactured by reacting aluminum trihydrate with hydrochloric acid.

The processes are relatively clean with no hazardous waste.

- C. Technology Basis – 40 CFR Chapter I, Subchapter N (Effluent Guidelines and Standards) parts 401, 405-415 and 417-471 have been adopted by reference at LAC 33:IX.4903.

<u>Guidelines</u>	<u>Reference</u>
None	N/A

Other Sources of Technology Based Limits:

Current LPDES Permit (effective September 1, 2003)

LDEQ Stormwater Guidance [letter dated June 17, 1987, from J. Dale Givens (LDEQ) to Myron Knudson (EPA)]

Best Professional Judgment

**D. FEE RATE**

1. Fee Rating Facility Type: Minor
2. Complexity Type: II
3. Wastewater Type: II
4. SIC code:2819

**III. RECEIVING WATERS:**

**STREAM** – Outfalls 001, 002 and 003

drainage ditch, thence into storm drain, thence into Staulkinghead Creek, thence into Little Bayou Boeuf, thence into Wham Brake, thence into Bayou Lafourche

Internal Outfall 101 – commingles with Outfall 001 and is discharged through Outfall 001.

**BASIN AND SUBSEGMENT**- Ouachita River, Subsegment No. 080912

**DESIGNATED USES:** a. secondary contact recreation  
b. limited aquatic life and wildlife use

**IV. OUTFALL INFORMATION:**

Outfall 001

**Discharge Type:** the combined previously-monitored treated sanitary wastewater and stormwater runoff

**Treatment:** None

**Location:** At the point of discharge from the northeast end of the physical plant at the alum storage pits prior to mixing with other waters (Latitude 32°47'32", Longitude 91°54'39")

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**Flow:** Intermittent – 0.089 MGD

**Discharge Route:** drainage ditch, thence into storm drain, thence into Staulkinghead Creek, thence into Little Bayou Boeuf, thence into Wham Brake, thence into Bayou Lafourche

**Internal Outfall 101**

**Discharge Type:** the continuous discharge of treated sanitary wastewater

**Treatment:** three chamber septic system located below ground

**Location:** at the last treatment chamber, prior to mixing with waters in Outfall 001 (Latitude 32°47'28", Longitude 91°54'36")

**Flow:** Continuous – 460 GPD

**Discharge Route:** drainage ditch, thence into storm drain, thence into Staulkinghead Creek, thence into Little Bayou Boeuf, thence into Wham Brake, thence into Bayou Lafourche

**Outfall 002**

**Discharge Type:** the intermittent discharge of stormwater runoff

**Treatment:** None

**Location:** At the point of discharge from the southwest corner of the plant property prior to mixing with other waters (Latitude 32°47'21", Longitude 91°54'42")

**Flow:** Intermittent – variable

**Discharge Route:** drainage ditch, thence into storm drain, thence into Staulkinghead Creek, thence into Little Bayou Boeuf, thence into Wham Brake, thence into Bayou Lafourche

**Outfall 003**

**Discharge Type:** the intermittent discharge of stormwater runoff

**Treatment:** None

**Location:** At the point of discharge from the southeast corner of the plant property prior to mixing with other waters (Latitude 32°47'20", Longitude 91°54'40")

**Flow:** Intermittent – variable

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Discharge Route: drainage ditch, thence into storm drain, thence into Staulkinghead Creek, thence into Little Bayou Boeuf, thence into Wham Brake, thence into Bayou Lafourche

**V. PROPOSED CHANGES from PREVIOUS PERMIT:**

- A. A reopener clause has been added to Part II of the draft permit in the event that the permit requires reassessment regarding 303(d) status resulting in cooperation of the results of any Total Maximum Daily Load (TMDL) allocation for the receiving water body.
- B. Updated Part II conditions for stormwater discharges associated with industrial activities have been established in the draft permit.
- C. The statistical basis for Internal Outfall 101 has been changed from a weekly average limitation to a daily maximum limitation for all parameters. This is consistent with current office guidance for sanitary discharges.
- D. The previous discharge from Outfall 001 included process area stormwater runoff. The discharge has since changed. Over the past four years, there have been some facility modifications to ensure that no process wastewater leaves the site. Process wastewater is returned to the process via recycling. Therefore, the description in the wastewater being discharged from Outfall 001 has changed to uncontaminated stormwater runoff.

**VI. PERMIT LIMIT RATIONALE:**

Outfall 001 – the combined previously-monitored treated sanitary wastewater and uncontaminated stormwater runoff

Parameter	Monthly Average	Daily Maximum	Monitoring Frequency	Sample Type	Reference
Flow	Report	Report	1/week	Estimate	Current permit and LAC 33:IX.2701.1.1.b
TOC	---	50 mg/L	1/quarter	Grab	Limitations are based upon BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)
Oil & Grease	---	15 mg/L	1/quarter	Grab	Limitations are based upon BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)
pH	5.0 S.U. (min)	9.0 S.U. (max)	1/month	Grab	Current LPDES permit and LAC 33:IX.1113.C.1

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Internal Outfall 101 – the continuous discharge of treated sanitary wastewater

Parameter	Monthly Average	Daily Maximum	Monitoring Frequency	Sample Type	Reference
Flow	Report	Report	1/6 months	Estimate	Current LPDES permit and LAC 33:IX.2701.1.1.b
BOD <sub>5</sub>	---	45 mg/L	1/6 months	Grab	Limitations are based upon the LPDES Class I Sanitary General Permit (LAG530000) effective December 1, 2007
TSS	---	45 mg/L	1/6 months	Grab	Limitations are based upon the LPDES Class I Sanitary General Permit (LAG530000) effective December 1, 2007
Fecal Coliform	---	400	1/6 months	Grab	Limitations are based upon the LPDES Class I Sanitary General Permit (LAG530000) effective December 1, 2007

Outfall 002 – the intermittent discharge of uncontaminated stormwater runoff

Parameter	Monthly Average	Daily Maximum	Monitoring Frequency	Sample Type	Reference
Flow	Report	Report	1/week	Estimate	Current LPDES permit and LAC 33:IX.2701.1.1.b
TOC	---	50 mg/L	1/quarter	Grab	Limitations are based upon BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).
Oil & Grease	---	15 mg/L	1/quarter	Grab	Limitations are based upon BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).
pH	5.0 S.U. (min)	9.0 S.U. (max)	1/month	Grab	Current LPDES permit and LAC 33:IX.1113.C.1

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Outfall 003 – the intermittent discharge of uncontaminated stormwater runoff

Parameter	Monthly Average	Daily Maximum	Monitoring Frequency	Sample Type	Reference
Flow	Report	Report	1/week	Estimate	Current LPDES permit and LAC 33:IX.2701.1.1.b
TOC	---	50 mg/L	1/quarter	Grab	Limitations are based upon BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)
Oil & Grease	---	15 mg/L	1/quarter	Grab	Limitations are based upon BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)
pH	5.0 S.U. (min)	9.0 S.U. (max)	1/month	Grab	Current LPDES permit and LAC 33:IX.1113.C.1

**VII. TMDL WATERBODIES:**

The discharge from Outfall(s) 001, 002 and 003 flows directly into Staulkinghead Creek in Subsegment No. 080912 of the Ouachita River Basin. Subsegment 080912, Tisdale Brake/Staulkinghead Creek from origin to Little Bayou Boeuf is listed on LDEQ's FINAL 2006 305(b)/303(d) Integrated Report with EPA Additions dated February 15, 2008 as fully supporting its designated use of secondary contact recreation and not supporting its designated use of limited aquatic life. Suspected causes for impairments include Dioxin and Dissolved Oxygen. Suspected sources include industrial point source discharges.

The Dioxin TMDL for Tisdale Brake, Staulkinghead Creek, Little Bayou Boeuf, Wham Brake and Bayou Lafourche, Subsegments 080912 and 080904 was finalized June 13, 2002. In order to adequately address Dioxin sources contributing to the fish consumption advisory in Wham Brake and Bayou Lafourche (Subsegment 080904), it was necessary to consider the hydrologic connection of Dioxin sources upstream of Wham Brake.

According to this TMDL, International Paper (IP) is the only known source of Dioxin loading to Wham Brake and Bayou Lafourche in this watershed. The effluent from Outfall 001 discharges into Staulkinghead Creek (an intermittent stream), which then joins Little Bayou Boeuf, then flows into Wham Brake.

Wham Brake is a low swamp, approximately 6 square miles in area, which has a controlled outflow to Bayou Lafourche.

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Under its permit, IP monitors Dioxin and controls the flow from Wham Brake to Bayou Lafourche. There is typically no discharge to Bayou Lafourche during the summer and fall.

There is no data available to ascertain whether nonpoint sources of Dioxin contribute pollutant loadings within this watershed. Based upon the information supplied in this TMDL and since this facility has a small discharge that discharges treated sanitary wastewater and uncontaminated stormwater runoff, it is believed that this discharge will not contribute to the impairment Dioxin.

A TMDL/Wasteload Allocation (WLA) for dissolved Oxygen was finalized on April 11, 1996 for Tisdale Brake and Staulkinghead Creek. The model included only two facilities. The Town of Bastrop Main STP and West Pond STP were given Dissolved Oxygen limits of 5.0 mg/l year round to both plants.

Because the discharge from this facility is quite small compared to the design capacity of the two Bastrop facilities, it is believed that this discharge will not affect the DO standard for the receiving stream and not contribute to the Dissolved Oxygen impairment.

Therefore, there will be no additional permit limitations proposed in the permit to address these impairments. However, a reopener clause has been placed in Part II of the permit to allow for more stringent or additional limitations or requirements to be placed in the permit, if needed, as a result of the establishment of any future TMDLs.

## VIII. COMPLIANCE HISTORY/DMR REVIEW:

A compliance history was done covering the period of January 2002 to June 2009.

- A. A DMR review for the period beginning May 2007 through June 2009 revealed no excursions.
- B. Inspections – According to EDMS and TEMPO, the last compliance inspection was done on June 11, 2003. The only area of concern noted was that the effluent for Outfall 001 was not consistently meeting the permit limits for pH.
- C. Compliance History - There are no open, appealed, or pending enforcement actions for this facility.

## IX. ENDANGERED SPECIES:

The receiving waterbody, Subsegment No. 080912 of the Ouachita River Basin has not been identified by the U.S. Fish and Wildlife Service as habitat for any endangered species. This type of discharge 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 November 17, 2008 from Rieck (FWS) to Nolan (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. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

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### **X. HISTORIC SITES**

The discharges are from an existing facility, 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.

### **XI. “IT” QUESTIONS – Applicant’s Responses:**

GEO Specialty Chemicals, Inc. – GEO Specialty Chemicals – Bastrop is a minor facility; therefore, IT Questions were not required to be submitted.

### **XII. TENTATIVE DETERMINATION**

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

### **XIII. 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 fact sheet. 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(s) of general circulation

Department of Environmental Quality Public Notice Mailing List

### **XIV. STORMWATER POLLUTION PREVENTION PLAN (SWP3) REQUIREMENT**

A SWP3 is included in the permit since there is a potential for stormwater contamination from ancillary activities which include handling of lubricants and fuels.

For first time permit issuance, the SWP3 shall be prepared, implemented and maintained within six (6) months of the effective date of the final permit. For renewal permit issuance, the SWP3 shall be reviewed and updated, if necessary within six (6) months of the effective date of the final permit. The plan should identify potential sources of stormwater pollution and ensure the implementation of practices to prevent and reduce pollutants in stormwater discharges associated with industrial activity at the facility.