JOHN BEL EDWARDS
GOVERNOR

CHUCK CARR BROWN, PH.D.
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL ASSESSMENT

Anne Idsal
Regional Administrator
US EPA Region 6/6-RA
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: St. Bernard 2008 Sulfur Dioxide State Implementation Plan
Supplemental Information and Executed Administrative Order on Consent (AOC)

Dear Ms. Idsal:

The Louisiana Department of Environmental Quality (LDEQ) has conducted additional modeling of St. Bernard Parish in order to incorporate additional operating parameters for Rain CII during plant transition. This has resulted in additional flow rate and temperature limits as outlined in the AOC on the Pyroscrubber along with the requirement for the installation of a flow meter to allow the company to track emissions and concentrations during transition with greater accuracy.

The present model run used current permitted emissions for sources in St. Bernard Parish and actual emissions from the 2017 emissions inventory for explicitly modeled sources outside of the parish. The present model inputs correct a mislabeled facility; the facility previously labeled as Chevron Oronite should have been labeled as Phillips Alliance. The Chevron facility was screened out earlier in the process.

There were no changes to the limits when the facility is operating under steady state conditions (normal operation). All modeled transition stages met the ambient air quality standard

with the greatest modeled impact at 191.4 $\mu g/m^3$. LDEQ and Rain CII incorporated these operating levels into a new AOC that was executed on August 2, 2018. The modeling files and new AOC were submitted electronically to the Environmental Protection Agency (EPA) as a supplement to the previously submitted State Implementation Plan, dated November 9, 2017.

Should you have any questions concerning this supplemental SIP submittal, please do not hesitate to contact Jason Meyers, Administrator, Air Planning Section at 225-219-3408 or Jason.meyers@la.gov.

Sincerely,

Chuck Carr Brown, Ph.D.
Secretary

C: Guy Donaldson, Section Chief
Michael Feldman

JOHN BEL EDWARDS
GOVERNOR

CHUCK CARR BROWN, PH.D.
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL ASSESSMENT

August 2, 2018

CERTIFIED MAIL 7018 0680 0000 0518 1665
RETURN RECEIPT REQUESTED

RAIN CII CARBON LLC
c/o Elwood F. Cahill, Jr
Agent for Service of Process
Sher Garner Cahill Richter, et.al.
909 Poydras Street, 28th Floor
New Orleans, LA 70112-1003

RE: ADMINISTRATIVE ORDER ON CONSENT
SULFUR DIOXIDE STATE IMPLEMENTATION PLAN
AGENCY INTEREST NO. 2557

Dear Sir:

Pursuant to the Louisiana Environmental Quality Act (La. R.S. 30:2001, *et seq.*), the attached **ADMINISTRATIVE ORDER ON CONSENT** is hereby served on **RAIN CII CARBON LLC (RESPONDENT).**

Any questions concerning this action should be directed to Vennetta Hayes at (225) 219-3412.

Sincerely,

Roger W. Gingles
Assistant Secretary
Office of Environmental Assessment

Attachment

c: Rain CII Carbon LLC
Jimmy Delaneuville
700 Coke Plant Road
Chalmette, LA 70043

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL ASSESSMENT

IN THE MATTER OF	*	
	*	
RAIN CII CARBON LLC	*	**AGENCY INTEREST NO. 2557**
ST. BERNARD PARISH	*	
	*	
	*	
	*	
	*	
PROCEEDINGS UNDER THE LOUISIANA	*	**SULFUR DIOXIDE (SO_2)**
ENVIRONMENTAL QUALITY ACT,	*	**STATE IMPLEMENTATION PLAN**
La. R.S. 30:2001, ET SEQ.	*	

ADMINISTRATIVE ORDER ON CONSENT

The following **ADMINISTRATIVE ORDER ON CONSENT** is issued this day to **RAIN CII CARBON LLC (RESPONDENT)** by the Louisiana Department of Environmental Quality (the Department), under the authority granted by the Louisiana Environmental Quality Act (the Act), La. R.S. 30:2001, *et seq.*, and particularly by La. R.S. 30:2011(D)(6) and (D)(14). The Respondent consents to the requirements set forth below.

FINDINGS OF FACT

I.

The Respondent owns and/or operates the Chalmette Coke Plant (the facility), a green petroleum coke calcining facility, located at 700 Coke Plant Road in Chalmette, St. Bernard Parish, Louisiana. The facility currently operates under Title V Permit No. 2500-00006-V3 issued October 27, 2017.

II.

On June 22, 2010, the U.S. Environmental Protection Agency (EPA) promulgated a revised national ambient air quality standard (NAAQS) for sulfur dioxide (SO_2). *See,* 75 Fed. Reg. 35,520. The

new 1-hour SO_2 NAAQS of 75 parts per billion (ppb) is intended to provide the requisite protection of public health for this criteria pollutant.

III.

In correspondence dated July 25, 2013, the EPA notified the state of Louisiana that it intended to designate St. Bernard Parish as a nonattainment area for the 1-hour SO_2 NAAQS based on area monitoring conducted from 2009-2011. The EPA published a final rule on this designation in the Federal Register on August 5, 2013. *See,* 78 Fed. Reg. 47,191. Pursuant to this notice, the effective designation date for St. Bernard Parish was October 4, 2013. *See also,* 40 C.F.R. § 81.319.

IV.

As required by Section 110(a) of the Federal Clean Air Act, the Department is required to implement a plan to attain or maintain the SO_2 NAAQS. The State Implementation Plan (SIP) must demonstrate that all sources contributing to or having the potential to contribute to violations will be sufficiently controlled to ensure timely attainment and maintenance of the new SO_2 standard for the designated area.

V.

On February 20, 2013, the Department published notice that a revision to the infrastructure of the Louisiana SIP would be provided to the EPA as required by CAA section 110(a) (1) and (2). *See,* 39 La. Reg. 433 (1302Pot1).

VI.

To comply with the requirements set forth in CAA section 110(a) and the implementing regulations, the Department reviewed all measures necessary to achieve attainment on or before the attainment deadline established for the 1-hour SO_2 NAAQS promulgated on June 22, 2010. This assessment included air quality modeling conducted for the geographic area within and surrounding St. Bernard Parish.

VII.

The Department has determined that the attainment demonstration for the state of Louisiana should include enforceable restrictions for SO_2 emitted from the Chalmette Coke Plant. These enforceable restrictions are based, in part, on air quality modeling conducted by the Department and the reductions deemed necessary to achieve attainment for all air monitors located within St. Bernard Parish.

VIII.

In a separate agreement between the Department and Respondent, Enforcement Tracking No. AE-AOA-13-00490, effective on June 20, 2013, Respondent voluntarily agreed to replace the stack for the Waste Heat Boiler/Baghouse (EQT 0003) with a new stack with a height of approximately 199 feet. The new stack was installed and operational prior to December 31, 2013. On September 20, 2017 the LDEQ proposed a revision to the State Implementation Plan (SIP) to address the St. Bernard Parish Sulfur Dioxide (SO2) Nonattainment Area, providing for the attainment and maintenance of the 1-hour SO2 NAAQS in St. Bernard Parish, Louisiana. The SIP and Attainment Demonstration for the St. Bernard SO2 Nonattainment Area was submitted on November 9, 2017. A commitment was made by the LDEQ to work on a SIP revision concerning the Pyroscrubber (EQT 004) at the Rain CII Carbon, LLC (Rain) facility in Chalmette, Louisiana by March 1, 2018. The LDEQ issued an Administrative Order on Consent (AOC) to Rain to set emission limits that would allow the facility to comply with the SO2 NAAQS promulgated by the EPA. This AOC was to be effective on May 2, 2018. However, upon review of the stack test data, Rain requested an extension of the AOC deadline in order to perform a second stack test so the data from both tests could be used to analyze the SO2 emissions and flue gas flow rates and develop more appropriate emissions limits. Rain's request was granted and the deadline was extended to August 1, 2018.

ADMINISTRATIVE ORDER

Based on the foregoing, the Department **HEREBY ORDERS**, and the Respondent hereby **AGREES** that:

I.

Upon operation of the SO_2 scrubbing system referenced in paragraph II of this **ADMINISTRATIVE ORDER ON CONSENT**, the Respondent shall comply with the emissions limitations set forth below:

Source ID	Source Description	Sulfur Dioxide (SO_2) Limit
EQT 0003	Waste Heat Boiler/Baghouse	During normal, steady state operations, and damper to EQT 0004 is closed, SO_2 emissions shall be ≤ 510 lb/hr when stack flow rate ≥ 140,000 ACFM and stack temperature ≥ 210°F. If stack flow rate ≥ 120,000 ACFM and < 140,000 ACFM and Temperature is ≥ 210°F, SO_2 emissions shall be <=420 lb/hr. If the stack flow rate ≥ 90,000 ACFM and < 120,000 ACFM and Temperature is ≥ 210°F, SO_2 emissions shall be <=380 lb/hr. If the stack flow rate ≥ 46,000 ACFM and < 90,000 ACFM and Temperature is ≥ 150°F, SO_2 emissions shall be <=200 lb/hr.
EQT 0003	Waste Heat Boiler/Baghouse	Transition Stage 1: when the flue flow rate is > 0 ACFM and <45,000 ACFM or Temperature <60°F as measured by the CEMS, SO_2 emissions shall be ≤4.5 lb/hr.
EQT 0003	Waste Heat Boiler/Baghouse	Transition Stage 2: when the flue gas flow rate ≥ 45,000 ACFM and <60,000 ACFM: • Temperature ≥ 110°F as measured by the CEMS, SO_2 emissions shall be ≤ 49.5 lb/hr.
EQT 0003	Waste Heat Boiler/Baghouse	Transition Stage 3: when the flue gas flow rate ≥ 60,000 ACFM and <85,000 ACFM: Temperature ≥ 150°F as measured by the CEMS, SO_2 emissions shall be ≤ 90 lb/hr.
EQT 0003	Waste Heat Boiler/Baghouse	Transition Stage 4: when the flue gas flow rate ≥ 85,000 ACFM and <110,000 ACFM: Temperature ≥ 160°F as measured by the CEMS, SO_2 emissions shall be ≤ 108 lb/hr.
EQT 0003	Waste Heat Boiler/Baghouse	Transition Stage 5: when the flue gas flow rate ≥ 110,000 ACFM and <140,000 ACFM: Temperature ≥ 210°F as

		measured by the CEMS, SO_2 emissions shall be ≤ 171 lb/hr.
EQT 0003	Waste Heat Boiler/Baghouse	Transition Stage 6: when the flue gas flow rate ≥ 140,000 ACFM: Temperature ≥ 210°F as measured by the CEMS, SO_2 emissions shall be ≤ 189 lb/hr.
EQT 0004	Pyroscrubber Stack	Non-transition operations: When the damper to EQT 0003 is closed, SO_2 emissions shall be ≤ 2020 lb/hr.
EQT 0004	Pyroscrubber Stack	Transition Stage 1: 10,000 ACFM < EQT 0003 flow rate ≤45,000 ACFM, SO_2 emissions shall be ≤1600 lb/hr, EQT 0004 flow rate shall be ≥ 400,000 ACFM, and temperature ≥ 1600 °F.
EQT 0004	Pyroscrubber Stack	Transition Stage 2: 45,000 ACFM ≤ EQT 0003 flow rate < 60,000 ACFM, SO_2 emissions shall be ≤1400 lb/hr, EQT 0004 flow rate shall be ≥ 375,000 ACFM, and temperature ≥ 1600 °F.
EQT 0004	Pyroscrubber Stack	Transition Stage 3: 60,000 ACFM ≤ EQT 0003 flow rate ≤85,000 ACFM, SO_2 emissions shall be ≤1200 lb/hr, EQT 0004 flow rate shall be ≥ 375,000 ACFM, and temperature ≥ 1600 °F.
EQT 0004	Pyroscrubber Stack	Transition Stage 4: 85,000 ACFM ≤ EQT 0003 flow rate <110,000 ACFM, SO_2 emissions shall be ≤1000 lb/hr, EQT 0004 flow rate shall be ≥ 310,000 ACFM, and temperature ≥ 1600 °F.
EQT 0004	Pyroscrubber Stack	Transition Stage 5: 110,000 ACFM ≤ EQT 0003 flow rate <140,000 ACFM, SO_2 emissions shall be ≤900 lb/hr, EQT 0004 flow rate shall be ≥ 310,000 ACFM, and temperature ≥ 1600 °F.
EQT 0004	Pyroscrubber Stack	Transition Stage 6: 140,000 ACFM ≤ EQT 0003 flow, SO_2 emissions shall be ≤800 lb/hr, EQT 0004 flow rate shall be ≥ 220,000 ACFM, and temperature ≥ 1400 °F.

After a process trip, causing brief shutdown of the Energy Recovery System, Rain will restore operation of the Energy Recovery System and emit solely from the WHB Stack within 15 minutes, or Rain will complete shut down the Energy Recovery System and emit solely from the Pyroscrubber Stack. The time emitting solely from the Pyroscrubber Stack will be counted as hot stack hours until the Energy Recovery System startup process begins following the limits in the table above.

If a startup is not initiated on an exact clock-hour, the first hour of the process will be a complete 60 minutes and every remaining hour will be a clock-hour, beginning with the first clock-hour after the startup was initiated.

Example: Startup initiated at 1:45. Data will be averaged from 1:45-2:45, then 2:00-3:00, 3:00-4:00, etc.

Cold Stack Emission Rate and Record Keeping Requirements

Cold Stack flow rates, temperatures, and emission rates (SO_2 and CO_2) will be measured by CEMS. Hourly average data will be logged and weekly hourly spreadsheet made available to LDEQ and EPA on request within 7 days of such a request.

Estimation of Hot Stack Emission Rate and Record Keeping Requirements

Hot Stack flow rates, temperatures, and calculated emission rates (SO_2 and CO_2) and supporting information will be made available to LDEQ and EPA within 7 days from the request. Additional supporting information requirements are given in this section (calculations) and in the Monitoring, Reporting and Record Keeping Requirements section below.

(1) Hot Stack SO_2 emissions will be estimated by the following equation when flow also exits the Cold Stack.
Sulfur Dioxide (lb/hr) = ((0.5349) * (Tons Coke (input) per hour * (1- fraction Moisture in Uncalcined Coke) x 2000 lbs/ton * fraction Sulfur in Uncalcined Coke) -9.93) * (fraction of total air flow in dscfm through Pyroscrubber/Hot Stack)

(2) Fraction of total dry air flow through the hot stack is estimated as:
Hot Stack Flow Fraction = 100,000 dscfm * (1 – fraction of flow through cold stack)

(3) Fraction of flow through cold stack is estimated as:
Cold Stack Flow Fraction = (CO_2 measured in cold stack by CEM)/ CO_2 total produced by kiln)

(4) CO_2 total produced by kiln (lb/hr) is estimated as:
Produced CO_2 = Green Feed [tons/hr] * 2,000 [lbs/ton] * (1 - Moisture fraction in Uncalcined Coke) * (Carbon Content Green fraction - (Carbon Content Calcined fraction * Coke Yield fraction)) * Molecular Weights [CO2/C]

*Example: 1/8/17 17:00; 24 tons/hr * 2000 lbs/ton * (1 - 8.94%) * (89.7% - (95.3% * 79%)) * 44/12 = 23,099 lbs/hr*

Where:

- Fraction moisture and fraction sulfur is the daily Production Quality Control analysis of a composite sample taken throughout the operational day
- Tons Coke input rate is the total green coke feed for the operating hours for each occurrence.

During non-transitional operations, Pyroscrubber/Hot Stack SO_2 emissions shall be $\leq$ 2020 lb/hr

Compliance with this non-transitional operation Pyroscrubber/Hot Stack emission limit should be based on the following (Non-Transitional is when there is no flow through the Cold/Waste Heat Boiler Stack)

(5) Compliance with these Pyroscrubber/Hot Stack emission limits should be based on the following equation:
Sulfur Dioxide (lb/hr) = (0.5349) * (Tons Coke(input) per hour * (1- Moisture fraction in Uncalcined Coke) x 2000 lbs/ton * Sulfur fraction in Uncalcined Coke) -9.93

Where:

- Moisture fraction and Sulfur fraction is the daily Production Quality Control analysis of a composite sample taken throughout the operational day
- Tons Coke input rate is the total green coke feed for the operating hours for each occurrence.

Monitoring, Reporting, Record Keeping and Testing Requirements

SO_2 emission rates and supporting information used to estimate emissions will be made available to LDEQ and EPA within 7 days from the request.

Annual stack testing of the Pyroscrubber/Hot Stack for normal operations and transition/start-up conditions will be conducted for SO2, CO2, and flow to validate hot stack emissions and flow rate equations. The Respondent will evaluate the annual stack test data and estimates to validate the equations above. This will include submission of an annual report to LDEQ and EPA within three months of the annual stack test on the findings and including a determination of whether or not the equations need to be modified. If, necessary, the LDEQ will work with the Respondent (in consultation with EPA) to revise the equations. LDEQ and the Respondent will enter into a revised AOC. LDEQ will adopt and submit the revised AOC to EPA as a SIP revision.

Parameters recorded or estimated on an hourly basis:

- Cold Stack:
  - Date & Time
  - Process Feed Rate (tph)
  - Flow rate (wscfm, measured by CEMS, converted to acfm)
  - Temperature (F) (measured by probe)
  - SO_2 Emission rate (ppm, measured by CEMS, converted to lb/hr)
  - CO_2 (%, measured by CEMS, converted to lb/hr)
  - Flue Gas Moisture (estimated to be 18%)
  - Fraction of flow through Cold Stack (estimated by equation above)
  - Damper position
  - Identification of stage of operation (based on damper position, flow rate and temperature per Cold Stack chart above)
- Hot Stack
  - Date & Time, or Date & Interval (if composite)
  - Hot Stack Temperature (F, measured by temperature probe)
  - Process feed rate (tph)
  - Green Coke fraction sulfur (weight fraction, daily Production Quality Control analysis of a composite sample taken throughout the operational day)
  - Green Coke fraction moisture (weight fraction, daily Production Quality Control analysis of a composite sample taken throughout the operational day)
  - Fraction of flow through Hot Stack (estimated by equation above until installation of monitor)
  - Hot Stack flow rate (as estimated by equation above until installation of monitor)
  - CO_2 total produced by kiln (estimated by equation above)
  - SO_2 emissions (lb/hr, estimated by equation above)

- Damper position
- Identification of stage of operation (based on damper position, Cold Stack flow rate and Hot Stack chart above)
- Annual testing of flow rate monitor and verification of the flow rate and SO2 emission rate equations.

Reporting of hourly emissions, calculated emissions, flow rates and supporting data and calculations should be included with annual Title V permit compliance certification submittal for the facility.

II.

The Respondent shall operate a SO_2 scrubbing system to achieve the emissions limits set forth in Paragraph I of this **ADMINISTRATIVE ORDER ON CONSENT**. Construction of the SO_2 scrubbing system commenced on February 28, 2015. The SO_2 scrubbing system was operational before February 29, 2016.

III.

The Respondent shall install and operate a flow monitor on the pyroscrubber/hot stack to measure flow rates used to demonstrate compliance with the emissions limits set forth in Paragraph I of this **ADMINISTRATIVE ORDER ON CONSENT**. Installation, verification, and operation of the flow monitor shall be completed by

December 31, 2018. RAIN must notify LDEQ of the installation within 7 days. LDEQ will inspect the flow monitor and issue a report that it is installed and operating correctly. After installation and verification of accuracy of the flow monitor, the SO2 emission rate using equation 1 will be determined using hot stack flow rates determined by the monitor instead of the equations 2-4 in Paragraph I of this **ADMINISTRATIVE ORDER ON CONSENT.**

IV.

The emissions limits set forth in Paragraph I of this **ADMINISTRATIVE ORDER ON CONSENT** shall be made a part of the SO_2 NAAQS SIP submitted on behalf of the state of Louisiana to the EPA upon a final approval action by the EPA.

V.

The Respondent shall continue to comply with all reporting and recordkeeping requirements contained within all applicable permits.

VI.

To the extent required by law, further proceedings relating to this **ADMINSTRATIVE ORDER ON CONSENT** will be governed by the Administrative Procedure Act, La. R.S. 49.950, *et seq*.

VII.

Under CAA section 504(a), permits issued under this section shall include enforceable emission limitations and standards. In accordance with CAA section 504(a) and as a part of this agreement, the Department will modify Title V Permit No. 2500-00006-V3 to include the federally enforceable limitations listed herein.

VIII.

This **ADMINISTRATIVE ORDER ON CONSENT** may be executed in counterparts, each of which may be executed by one (1) or more of the signatory parties hereto. Signature pages may be detached from the counterparts and attached to one or more copies of this Agreement to form multiple legally effective documents. Facsimile signatures shall be sufficient in lieu of original signatures.

IX.

For each action or event described herein, the Department reserves the right to seek compliance with its rules and regulations in any manner allowed by law, and nothing herein shall be construed to preclude the right to seek such compliance.

X.

This **ADMINISTRATIVE ORDER ON CONSENT** will be transferred to future owners of the facility for as long as the order is active. At least 15 days prior to any transfer of the facility, Rain shall

provide a copy of this AOC to the proposed transferee and shall simultaneously provide written notice of the prospective transfer to LDEQ and EPA Region 6. Rain's obligations in this AOC shall terminate only upon execution of an Administrative Order intended to meet the requirements in this AOC between LDEQ and a transferee.

XI.

This **ADMINISTRATIVE ORDER ON CONSENT** may be amended by mutual consent of the Department and Respondent. Such amendments shall be in writing, shall follow proper SIP procedures and be submitted to EPA as a SIP revision, and shall be final and effective upon signature by an authorized representative of the Department and signature by the authorized representative of the Respondent.

XII

This ADMINISTRATIVE ORDER ON CONSENT supersedes and replaces the existing ADMINISTRATIVE ORDER ON CONSENT, dated February 2, 2018, by the Department and Respondent, and related to the facility.

XIII.

This **ADMINISTRATIVE ORDER ON CONSENT** shall be final and effective upon signature by an authorized representative of the Department and signature by the authorized representative of the Respondent.

Baton Rouge, Louisiana, this 2nd day of August, 2018.

Chuck Carr Brown, Ph.D.
Secretary

RAIN CII CARBON LLC

By: _____ Date: August 2, 2018

Name: Ron M. Gorbarino

Title: Chief Commercial Officer