Phillips 66
San Francisco Refinery
1380 San Pablo Avenue
Rodeo, CA 94572
phone 510.799.4411
fax 510.245.4476

RECEIVED
2018 JAN 31 AM 10: 49
BAY AREA AIR QUALITY
MANAGEMENT DISTRICT

January 26, 2018

ESDR-034-18
CP: 05-B-01-C

CERTIFIED MAIL – 7015 0640 0005 0673 7854

Director of Compliance and Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105

Attn: Title V Reports

Subject: **Phillips 66 Company**
Contra Costa Carbon Plant – Plant No. A0022
Six-month Monitoring Report for July 1, 2017 through December 31, 2017

Director:

Phillips 66 is submitting its Monitoring Report covering the period of July 1, 2017 through December 31, 2017 as required by Section I.F in its Title V permit.

If you have any questions, or require additional information on the information contained in this report, please contact Mr. Brent Eastep at (510) 245-4672.

Sincerely,

Don Bristol, Superintendent
Environmental Department

Attachment

cc: Ying Yu, BAAQMD Inspector, via e-mail (YYu@baaqmd.gov)

Certification Statement

I certify under penalty of law that based on the information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

x	Mark Evans	Refinery Manager	1/26/18
Signature of Responsible Official	Print Name	Title	Date

BAAQMD Title V Permit
6 Month Deviation Summary Report

From 7/1/2017 *to* 12/31/2017

A0022 Phillips 66 Company Contra Costa Carbon Plant

Facility Address:	Mailing Address:
2101 Franklin Canyon Road	2101 Franklin Canyon Road
City: Rodeo	City: Rodeo
State: CA	State: CA
Zip Code: 94572-	Zip Code: 94572-

Contact: Brent Eastep Title: Environmental Engineer Phone (510) 245-4672

Title V deviations for the reporting period are summarized below:

			May have resulted in a deviation from:
Deviation No: 024-17	Source Number(s): 1		Permit: 136-9
Event Started: 7/18/2017 10:16 PM	Abatement Device(s) : 10		AQMD:
Stopped: 7/18/2017 11:07 PM	Emission Point(s):		Other:

Event Description: On July 18, 2017 at 9:42 PM the Carbon Plant experienced a significant power surge due to a downed PG&E power pole on the Christie-Franklin #2 line (CB22). This surge caused both cooling tower circulation pumps to trip. Without cooling water, the main turbine generator tripped due to high condenser pressure. The green coke feed was shut off to both kilns immediately after the trip at 9:43 PM.

Both boilers immediately over pressured and started venting a result of the shutdown of the cooling water pumps. Per safe operating practice, the hot stacks were opened at 10:16 PM to reduce the temperature in the boilers and prevent a potential boiler tube rupture. PG&E was contacted and they confirmed a problem at the Christie station (CB22 had tripped). It was determined that a car had run into the power pole causing the surge. The alternate line from PG&E was confirmed operational and the plant was allowed to re-start the generator and come back on line at approximately 11:03 PM. The hot stacks were closed at 11:07 PM. Breakdown ID 07D93 was granted by BAAQMD on 1/3/18.

Probable Cause: A power surge caused by a downed power pole at the PG&E Christie station led to the opening of the hot stacks and potential bypass of the baghouse.

Corrective actions or preventative steps taken: Feed to the kiln was stopped and the ID fan was kept running. This will cause a portion of the exhaust to exit through the baghouse even though the hot stack was open. Operating the ID fan and stopping feed to the kiln effectively minimizes the amount of particulate matter that can bypass the baghouse.

May have resulted in a deviation from:

Deviation No: 033-17	Source Number(s): 1; 2	Permit: 136-9	
Event Started: 9/10/2017 8:25 AM	Abatement Device(s) : 10; 11	AQMD:	
Stopped: 9/10/2017 9:25 AM	Emission Point(s):	Other:	

Event Description: On September 10, 2017 at 8:25 a.m., the Carbon Plant experienced a sudden and complete power outage that likely caused exhaust gas to bypass the baghouse emission control system (A-10 and A-11, respectively) and, instead, be routed through the hot stacks at Kiln 1 and Kiln 2 (S-1 and S-2, respectively). This incident was reported under Breakdown ID 07E54. The power outage caused a shutdown of the kilns, baghouses, and turbine generator. Fresh green coke feed automatically suspended immediately due to loss of power. The hot stacks opened automatically at approximately the same time (as designed) to serve as an emergency relief for any excess exhaust gas that, if not released, could have caused a boiler tube rupture. In addition, the ID fan downstream of the hot stack that pulls kiln exhaust air into and through the baghouse system lost power and shutdown on both Kiln 1 and Kiln 2. As a result, we suspect that the kiln exhaust air was pulled up the hot stacks based on natural updraft, bypassing the baghouse emission control systems. There were no visible emissions from the hot stacks during the event.

Probable Cause: The cause of the power outage was a failed brush within the turbine generator. When the failed brush wore down, it caused swinging excitation current. The swinging excitation current caused a swing in output voltage that disrupted the power being sent to the rest of the plant and exported to PG&E. Per design and for protection of the PG&E system, the swinging voltages tripped the breaker between PG&E and the Carbon Plant, resulting in the plant being islanded from PG&E power. The unexpected and premature failure of the brush was due to the minimally worn brush causing arcing that resulted in swinging of voltages which caused pitting on the collector ring that accelerated the arcing issues and caused the brushes to become worn down at an unforeseen rate.

Corrective actions or preventative steps taken: Fresh feed to the kilns stopped when the power went out, minimizing the amount of particulate matter that can bypass the baghouse. Power was restored to the plant as quickly and safely as possible by approximately 11:25 a.m. on September 10. Based on the average residence time for the residual green coke to be moved out of the system, it is estimated that particulate emissions from S-1 and S-2 stopped and was no longer bypassing the baghouse systems after approximately one hour (i.e., the deviation stopped at 9:25 a.m.). To prevent future brush-related issues on the turbine generator, Phillips 66 will add learnings from this event to its training curriculum so that awareness about the potential accelerated arcing issue is raised within the operations and maintenance organizations.

May have resulted in a deviation from:

Deviation No: 047-17	Source Number(s): 2	Permit: 136-9	
Event Started: 11/29/2017 8:06 AM	Abatement Device(s) : 11	AQMD:	
Stopped: 11/29/2017 9:06 AM	Emission Point(s):	Other:	

Event Description: At approximately 08:06 AM on 11/29/17, the K2 kiln was inadvertently shutdown due to K2 boiler low water level which likely caused exhaust gas to bypass the baghouse (A11). Fresh green coke feed was removed at 08:06 AM when the low water level alarm was received. The hot stack opened automatically at approximately the same time (as designed) to serve as an emergency relief for any excess exhaust gas that, if not released, could have caused a boiler tube rupture. In addition, the ID fan downstream of the hot stack that pulls kiln exhaust air into and through the baghouse system shutdown. As a result, we suspect that the kiln exhaust air was pulled up the hot stacks based on natural updraft, bypassing the baghouse emission control systems. There were no visible emissions from the hot stacks during the event.

Probable Cause: The Carbon Plant board operator was intending to place the K2 boiler de-superheater controller in manual and close the valve and instead, inadvertently placed the boiler level controller in manual and closed the valve. At 08:06 AM the K2 boiler low water level drop out was activated. This activation results in the shutdown of the kiln.

Corrective actions or preventative steps taken: Fresh feed to the Kiln was shut off minimizing the amount of particulate matter that can bypass the baghouse. Based on the average residence time for the residual green coke to be moved out of the system, it is estimated that particulate emissions stopped and were no longer bypassing the baghouse systems after approximately one hour (i.e., the deviation stopped at 9:06 AM). To prevent future inadvertent closure of the boiler level control valve, proper operating procedures will be reviewed with personnel.

May have resulted in a deviation from:

Deviation No:	048-17	Source Number(s):	16; 17; 22; 26; 27; 5	Permit:	10438-2; 10439-2
Event Started:	12/7/2017 5:15 PM	Abatement Device(s) :	3; 4	AQMD:	
Stopped:	12/7/2017 5:20 PM	Emission Point(s):		Other:	

Event Description: At approximately 5:15 pm on 12/7/17, the electric motor on the calcine process baghouse (A-4) shut down due to the failure of a vibration sensor on the motor. Operations personnel immediately received an alarm and attempted to restart the motor for the fan. The motor on the fan failed to start so the bypass to the railcar loading baghouse (A-3) was opened to control the process equipment. Less than 5 minutes elapsed between receiving the alarm on A-4 and opening the bypass on A-3. Dedust oil was being added to the calcined coke the entire time the process baghouse was not operating and no visible emission were observed from any of the equipment.
This incident was reported as breakdown ID 07F62.

Probable Cause: The vibration switch in the process baghouse motor was faulty, which caused an automatic shutdown of the motor.

Corrective actions or preventative steps taken: Upon discovery that the process baghouse would not re-start, the bypass to the railcar loading baghouse was opened to control the equipment. The vibration switch identified as the cause of the baghouse shutdown was replaced on 12/8/17.

BAAQMD Title V Permit
6 Month Monitoring Report

A0022 Phillips 66 Company Contra Costa Carbon Plant

Facility Address:	Mailing Address:
2101 Franklin Canyon Road	2101 Franklin Canyon Road
City: Rodeo	City: Rodeo
State: CA	State: CA
Zip Code: 94572-	Zip Code: 94572-

Contact: Brent Eastep Title: Environmental Engineer Phone (510) 245-4672

Inoperable monitors as defined by BAAQMD Regulations 1-522 and 1-523 for the reporting period are summarized below:

Nothing to Report