

Bay Area Air Quality Management District

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Permit Evaluation and Statement of Basis for Renewal of

MAJOR FACILITY REVIEW PERMIT

for
**Phillips 66 Carbon Plant
Facility #A0022**

Facility Address:

2101 Franklin Canyon Road
Rodeo, CA 94572

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2101 Franklin Canyon Road
Rodeo, CA 94572

October 12, 2017

Application Engineer: M.K. Carol Lee
Site Engineer: M.K. Carol Lee

Applications: 28341

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Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Title 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a major facility as defined by BAAQMD Regulation 2-6-212. It is a major facility because it has the “potential to emit,” as defined by BAAQMD Regulation 2-6-218, of more than 100 tons per year of regulated air pollutants, NO_x and SO₂, and more than 10 tons per year of a hazardous air pollutant, hydrogen chloride.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A0022.

This statement of basis contains the basis for the Title V permit.

This facility received its initial Title V permit on July 31, 2002. Significant revisions were issued on June 18, 2009. The permit was renewed on April 30, 2012. Minor revisions were issued on September 6, 2012 and November 5, 2013. Section X of the permit, Revision History, has a list of these revisions in chronological order.

This application is for the second renewal of the Title V permit. The standard sections of the permit have been upgraded to include new standard language used in all Title V permits. Also, various other corrections have been made to the permit. The draft Title V permit shows all proposed changes to the permit in ~~strikeout~~/underline format. This statement of basis discusses all of the substantive changes made to the Title V permit.

B. Facility Description

The ConocoPhillips Carbon Plant refines petroleum coke. The process used is as follows:

1. Petroleum coke is received from a refinery.
2. Coke is conveyed to the coke calciner where it is calcined (heated). This process removes impurities from the coke, including sulfur and water.
3. The hot waste gases from the calciner are sent to the pyroscrubber that removes particulate by a combination of settling and incineration. Sulfur compounds are oxidized to sulfur dioxide.
4. The hot waste gases are sent to a heat recovery steam generator to produce steam for the generation of electricity. The cooled waste gases pass through a baghouse and tall stack and are then emitted into the atmosphere.
5. The resulting refined coke is sold.

The emissions from the facility have varied with the amount of coke processed per year. The actual emissions summaries submitted by the plant for 1999, 2006, 2011, and 2015 are shown below.

Year	NO _x (tons/year)	CO (tons/year)	POC (tons/year)	PM ₁₀ (tons/year)	SO _x (tons/year)
1999	576	10.7	<1.0	61.5	1535
2006	533	3.8	<1.0	63.5	1212
2011	507	4.1	0.2	37.2	1151
2015	344	10.5	0.1	21.9	1392

C. Permit Content

The legal and factual basis for the permit revision follows. The permit sections are described in the order presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District’s General Provisions and Permitting rules.

Changes to permit

- The facility contact and BAAQMD representatives have been updated.
- The adoption dates of the rules in Standard Condition I.A have been updated.
- Regulation 2, Rule 1 and Rule 2 amendments which were incorporated into the SIP was updated in the Standard Condition 1.A.
- The mailing address has been updated and the email address added for the Director of Compliance and Enforcement in Standard Condition I.F.

- The contact information has been updated and the email address added for the U.S. EPA contact in Standard Condition I.G.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302.

Significant sources are those sources that have a potential to emit of more than 2 tons of a “regulated air pollutant,” as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a “hazardous air pollutant,” as defined in BAAQMD Rule 2-6-210, per year.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A24).

The equipment section is part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District’s regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Changes to permit:

- Clarified Table IIA capacities to reflect the actual 12 month rolling throughput limits that are specified in permit conditions and indicate where the hourly capacities were based on annual limits divided by 365 days per year and 24 hours per day (annual daily average).
- The formatting of Table II B was amended to include the source controlled for all abatement device repeated line items to improve reading clarity.
- A-32 and A-33 were added to Table II B for abatement equipment. This equipment was added as part of District application # 24652 and processed as an administrative amendment in Title V application # 24653.
- Updated Table IIB to correct typo of “sdcm” to “dscm” (dry standard cubic meter).
- Updated Table II B reference to BAAQMD Regulation 6 to Regulation 6-1.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District

permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered significant sources pursuant to the definition in BAAQMD Rule 2-6-239.

Changes to permit

- The adoption dates of the rules have been updated.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are “federally enforceable” and a “Y” (yes) indication will appear in the “Federally Enforceable” column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the “Federally Enforceable” column will have a “Y” for “yes”. If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District’s or EPA’s websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Complex Applicability Determinations

Acid Rain: In accordance with 40 CFR Part 72 – Permits Regulation, Subpart A, paragraph 72.6 (b) (4) (i), the facility is NOT an affected facility since it is a cogeneration facility which produces less than 219,000 MW-hrs actual electric output on an annual basis for sale (on a gross basis) to any utility power distribution system.

40 CFR 60, Subparts D and Da: In accordance with 40 CFR Part 60 – Standards of Performance for New Stationary Sources, Subpart D, paragraph 60.40 (a) (1) and Subpart Da, paragraph 60.40a (a) (1), the facility is NOT an affected facility. The US EPA has determined that petroleum coke is not a fossil fuel. (reference: February 4, 1983 memorandum, subject: KPL Applicability Determination, from Director, Stationary Source Compliance Division, Office of Air Quality Planning & Standards, to Carl M. Walter, Chief, Air Branch, Region VII). Approximately 180 million Btu per hour of natural gas total can be fired in the two kilns so the fossil fuel heat input is below the 73 megawatts (250 million Btu per hour) threshold for an affected facility.

40 CFR Part 64, Compliance Assurance Monitoring (CAM): S-1 and S-2, Calciners, are subject to 40 CFR 64, Compliance Assurance Monitoring (CAM) because they meet the criteria in Section 64.2(a). They use the pyroscrubbers, A-1 and A-2, the baghouses, A-10 and A-11, and the dry sorbent injection systems, A-14 and A-15, for compliance with the federally enforceable SO₂ limits in BAAQMD Regulation 9-1-310.2 and the federally enforceable filterable particulate limits in BAAQMD Regulations 6-310, 6-310.3, and 6-311. The annual SO₂ limit in Condition #136, Part 5, is also a federally enforceable limit. The PM₁₀ limit in Condition #136, part 10, is not federally enforceable. The emissions of both SO₂ and filterable particulate are more than 100 tons per year before abatement. The SO₂ emissions are also more than 100 tons per year after abatement.

An analysis of the CAM requirements was included in the Statement of Basis for Application 17331, which was issued on June 18, 2009. The analysis is summarized below.

ConocoPhillips will comply with CAM for the SO₂ limits because Section 64.3(d) allows the use of existing CEMs for compliance and Section 64.4(b)(2) acknowledges that CEMs are “presumptively acceptable.”

However, the existing monitoring for particulate consists of weekly pressure drop measurements, quarterly visible emissions monitoring, and annual source tests was not adequate to comply with CAM requirements.

Therefore, the facility proposed daily visible emissions monitoring in addition to the existing weekly pressure drop monitoring and the annual baghouse inspection. An annual source test for PM₁₀ was also required to ensure compliance with the annual PM₁₀ limit. Where there is no direct measurement, the facility must use an “indicator” to determine

that the control device is operating properly. The facility proposed that the indicator would be any visible emissions, which would be an excursion pursuant to Section 64.6(c)(2). The visible emissions monitoring is performed using EPA Method 22, which is more appropriate to determine whether there are any visible emissions, instead of the BAAQMD Method, "Evaluation of Visible Emissions." The BAAQMD method is appropriate for determining the opacity of the emissions.

The end of Section 64.3(a) states that: "In addition, unless specifically stated otherwise by an applicable requirement, the owner or operator shall monitor indicators to detect any bypass of the control device (or capture system) to the atmosphere, if such bypass can occur based on the design of the pollutant-specific emissions unit." Each kiln has a bypass stack prior to the pyroscrubbers.

ConocoPhillips will determine whether the bypass is in use by using the CEM to note changes in concentration and flow through the main stack. This monitoring was added in Condition 136, part 3d.

Section 64.3(b)(4)(ii) requires that for sources where the emissions after control are more than 100 tons per year of the controlled regulated air pollutant, the monitoring method must collect four or more data points per hour and average the values. The SO₂ emissions after control are more than 100 tons per year, therefore this requirement will be added as Condition #136, part 3c.

The facility uses the quality assurance procedures in the BAAQMD Manual of Procedures, Volume V, Continuous Emission Monitoring Policy and Procedures, for the SO₂ CEM, so it will comply the requirement for quality assurance procedures in Section 64.3(b)(3).

40 CFR 60, Subpart J, Standards of Performance for Petroleum Refineries: This subpart applies to fluid catalytic cracking unit catalyst regenerators, fuel gas combustion devices and Claus sulfur recovery plants. Since the facility does not have any "affected sources," as defined in Subpart J, the facility is not subject to this subpart.

40 CFR 60, Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978: The applicability for this standard is not affected by the facility's association with a petroleum refinery. The facility has no tanks that are subject to 40 CFR 60, Subpart K.

40 CFR 60, Subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984: The applicability for this standard is not affected by the facility's association with a petroleum refinery. The facility has no tanks that are subject to 40 CFR 60, Subpart Ka.

40 CFR 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984: The applicability for this standard is not affected by the facility's association with a petroleum refinery. The facility has no tanks that are subject to 40 CFR 60, Subpart Kb.

40 CFR 60, Subpart QQQ, Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems: Although the facility is associated with a refinery, the facility itself is not a petroleum refinery and does not contain any "affected facilities located in petroleum refineries" as defined in Subpart QQQ, and therefore, it is not subject to 40 CFR 60, Subpart QQQ.

40 CFR 61, Subpart FF, National Emission Standard for Benzene Waste Operations: This standard applies to hazardous waste treatment, storage, and disposal facilities that treat, store, or dispose of hazardous waste generated by chemical manufacturing plants, coke by-product recovery plants, and petroleum refineries. The waste streams subject to the provisions of this subpart are any streams containing benzene-containing hazardous waste. Phillips 66 Carbon Plant does not produce benzene-containing hazardous waste, and therefore, is not subject to 40 CFR 61, Subpart FF.

Refinery MACT, 40 CFR 63, Subpart CC, National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries: Although the facility is associated with a refinery, the facility itself is not a petroleum refinery, and therefore, it is not subject to 40 CFR 63, Subpart CC. Moreover, the facility does not have petroleum refining process units as defined in 40 CFR 63.641, and does not have any related emission points listed in 40 CFR 63.640, paragraphs (c)(1) through (c)(7).

Refinery MACT, 40 CFR 63, Subpart UUU, National Emission Standards for Hazardous Air Pollutants For Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units: Although the facility is associated with a refinery, the facility itself is not a petroleum refinery, and therefore, it is not subject to 40 CFR 63, Subpart UUU. Moreover, the facility does not have any catalytic cracking units, catalytic reforming units, or sulfur recovery units.

40 CFR 82, Ozone Depleting Compounds: The facility is subject to this standard due to its association with the refinery. Although it does not store or use 50 pounds of refrigerant, the refinery does. The Title VI requirements are included Section III of the Title V permit for the carbon plant.

BAAQMD Regulation 1-520, Subsection 520.1: This subsection does not apply (NO_x, oxygen, and opacity CEM requirement) since the heat input to each waste heat recovery boiler is less than 250 MMBTU/hr. The rated heat duty of each Zurn Industries waste heat boiler is 23.4 MMBtu/hour with a design load of 117,865 lb steam per hour.

BAAQMD Regulation 6-1-310 and 6-1-310.3: S1 and S2, Calciners, are subject to the general grain loading limitation in 6-1-310. The exhaust gases are then routed to an incinerator and a heat recovery steam generator. The heat recovery steam generator is subject to 6-1-310.3. Either standard can be the most stringent depending on the oxygen content of the exhaust gases. The exhaust gases are subject to both standards in accordance with BAAQMD Regulation 1-107, which states: “Where air contaminants from two or more sources are combined prior to emission and there are no adequate and reliable means to establish the nature, extent and quantity of emission from each source, District Regulations shall be applied to the combined emission as if it originated in a single source. Such emissions shall be subject to the most stringent limitations and requirements of District Regulations applicable to any of the sources whose air contaminants are so combined.”

BAAQMD Regulation 7: Regulation 7 is included in Section III, Generally Applicable Requirements, but is not triggered until the APCO receives odor complaints from ten or more complainants within a 90-day period. The applicability for this standard is not affected by the facility’s association with a petroleum refinery.

BAAQMD Regulation 8, Rule 1, Organic Compounds, General Provisions: Regulation 8, Rule 1 is included in Section III, Generally Applicable Requirements. The applicability for this standard is not affected by the facility’s association with a petroleum refinery.

BAAQMD Regulation 8, Rule 5, Organic Compounds, Storage of Organic Liquids: The facility is not subject to Regulation 8, Rule 5 because it has no tanks that contain organic liquids with a vapor pressure over 0.5 psia except for the tanks at the gasoline dispensing facility, S-24, which is subject to Regulation 8, Rule 7, Organic Compounds, Gasoline Dispensing Facilities. The applicability for this standard is not affected by the facility’s association with a petroleum refinery.

BAAQMD Regulation 8, Rule 8, Organic Compounds, Wastewater (Oil-Water) Separators: The facility is not subject to Regulation 8, Rule 8 because it has no oil-water separators. The applicability for this standard is not affected by the facility’s association with a petroleum refinery.

BAAQMD Regulation 8, Rule 18, Organic Compounds: The facility is not subject to Regulation 8, Rule 18 because it does not handle organic gases or liquids and therefore has no equipment that could have leaks of organic compounds.

BAAQMD Regulation 8, Rule 28, Organic Compounds: The facility is not subject to Regulation 8, Rule 28 because it does not handle gaseous organic compounds, does not have pressure relief valves, and is not a petroleum refinery, although it is associated with a petroleum refinery.

BAAQMD Regulation 9, Rule 1: Regulation 9-1 does apply to the carbon plant. The facility meets the conditional exemption for area monitoring under 9-1-110. The facility operates an area monitor meeting the requirements contained in 9-1-110.1 and 110.2. Therefore, the facility is exempt from the concentration limit in 9-1-302.

The facility must comply with the concentration limits contained in 9-1-301. The facility is also subject to 9-1-310.2 which limits SO₂ emissions from coke calcining kilns to 400 ppm by volume or 250 pounds per hour. Section 9-1-310.3 requires facilities subject to 9-1-310.1 or 310.2 to comply with the requirements contained in 9-1-110.1 and 110.2.

BAAQMD Regulation 9, Rule 10: Regulation 9-10 does not apply to the carbon plant. Regulation 9-10 requires that NO_x emissions from refinery boilers, steam generators, and process heaters, on a refinery-wide basis, must be below 0.033 pounds NO_x per million BTU of heat input. The District has determined that none of the combustion devices at ConocoPhillips Carbon are boilers, steam generators, or process heaters. As a result, they are not included in the refinery-wide average for determination of compliance.

BAAQMD Regulation 9, Rule 14: Regulation 9-14 does apply to the carbon plant. Regulation 9-14 requires that SO₂ emissions from all petroleum coke calcining kilns operating at a facility, must be below 320 pounds per hour, averaged over any consecutive 24 hours (effective 1/1/2019) and 1,050 tons per year on a twelve-month rolling averaged basis (effective 1/1/2020).

Changes to permit

- The adoption dates of the rules have been updated.
- Minor formatting changes were made to the tables in improve consistency and readability.
- Regulation 9-14 requirements were added to Tables IV-A and IV-B for the Coke Calcining Kilns (S-1 and S-2).
- Part 3d of Condition # 136 was added to Tables IV-A and IV-B. This is not a new part by rather fixing an error of omission.
- Condition # 22970 Part B.1 was removed from Table IV-B because this offset requirement has long since been met.
- Regulation 6-1 was added, while the existing Regulation 6 was amended to reflect that it is SIP Regulation 6 in Table IV-J.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

“409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;

- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.”

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

Changes to permit

No changes were made to this portion of the permit.

VI. Permit Conditions

The Major Facility Review permit contains conditions that are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

Each permit condition is identified with a unique numerical identifier, up to five digits.

All changes to existing permit conditions that are proposed in this action are clearly shown in “strike-out/underline” format in the proposed permit. When the permit is issued, all “strike-out” language will be deleted and all “underline” language will be retained, subject to consideration of comments received.

Changes to permit

- Amended condition basis of BAAQMD Regulation 6 to Regulation 6-1 in Conditions # 10438 and 17539.
- Amended Conditions # 10438 Part 4, 10439 Part 4, and 17539 Part 3 to include allowance for exception during cleaning consistent with Condition # 136 Part 11.
- Condition # 22970 was removed from the conditions because other than the offset requirement of Part B.1 which has been met, there are no applicable parts of this condition that applies to the sources at the carbon plant.

- Condition # 136 Part 13c was amended to remove reference to “S1” so as to not confuse the requirement that source testing is for S2 only because Part 13c refers to part 10 which is applicable to S2 only.
- Condition # 136 Part 16 was amended to correct the reference from part 12 to part 15. There are no natural gas and coke production limits in part 12, they are in part 15.
- Condition # 10438 Part 8c was corrected to be consistent with Condition # 10439 Part 8c.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

Changes to permit

- The effective dates which have passed have been deleted.
- Added pressure drop monitoring requirements of Conditions # 10438 Part 4 (Table VII-F), 10439 Part 4 (Table VII-C), and 17539 Part 3 (Table VII-D) consistent with Condition # 136 Part 11 (Table VII-A and B).

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements. It follows that, although Title V calls for a re-examination of all monitoring, there is a presumption that these factors have been appropriately balanced and incorporated in the District’s prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation. Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate.

NOX and CO Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
	No NOx or CO limits		

NOx and CO Discussion:

Since no NOX or CO limits apply to the facility, there is no monitoring for NOX or CO.

SO₂ Sources

S# & Description	Fed. Enf. Emission Limit Citation	Federally Enforceable Emission Limit	Potential to Emit: tpy	Monitoring
S-1 K-1 Coke Calcine Kiln/Cooler, Natural gas fired, 60 MMBTU/HR	BAAQMD 9-1-301	Ground level concentrations shall not exceed: 0.5 ppm for 3 consecutive minutes AND 0.25 ppm averaged over 60 consecutive minutes AND 0.05 ppm averaged over 24 hours	1,091 (based on 113 kg/hr x 8760 hrs/yr)	Continuous/Existing
S-1 K-1 Coke Calcine Kiln/Cooler, Natural gas fired, 60 MMBTU/HR	BAAQMD 9-1-310.2	400 ppm by volume	1,091 (based on 113 kg/hr x 8760 hrs/yr)	Continuous/Existing
	BAAQMD 9-1-310.2	113 kg per hour	1,091 (based on 113 kg/hr x 8760 hrs/yr)	Continuous/Existing
S-2, K-2 Coke Calcine Kiln/Cooler, Natural gas fired, 60 MMBTU/HR	BAAQMD 9-1-301	Ground level concentrations shall not exceed: 0.5 ppm for 3 consecutive minutes AND 0.25 ppm averaged over 60 consecutive minutes AND 0.05 ppm averaged over 24 hours	749.32 (based on Condition 136, part 5)	Continuous/existing

SO₂ Sources

S# & Description	Fed. Enf. Emission Limit Citation	Federally Enforceable Emission Limit	Potential to Emit: tpy	Monitoring
S-2, K-2 Coke Calcine Kiln/Cooler, Natural gas fired, 60 MMBTU/HR	BAAQMD 9-1-310.2	400 ppm by volume	749.32 (based on Condition 136, part 5)	Continuous/Existing
	BAAQMD 9-1-310.2	113 kg per hour	749.32 (based on Condition 136, part 5)	Continuous/Existing
S-2, K-2 Coke Calcine Kiln/Cooler, Natural gas fired, 60 MMBTU/HR	BAAQMD 9-14-301.1 (effective 1/1/19)	320 lb/hr, averaged over any consecutive 24 hours for all kilns combined	BAAQMD 9-14-601	Continuous/Existing
	BAAQMD 9-14-301.2 (effective 1/1/20)	1,050 tons/yr on a twelve month rolling average basis for all kilns combined	BAAQMD 9-14-602	Continuous/Existing
	BAAQMD Cond. #136, part 5	749.32 tons in any 12-month period	749.32	Continuous/Existing

SO₂ Discussion:

The potential to emit calculation for kiln S-1 assumes SO₂ emissions occur at the limit allowed by Regulation 9, Rule 1, Section 310.2 of 113 kilograms per hour for 8,760 hours per year. Kiln S-2 is limited by permit condition 136 part 5 to 749.32 tons per year of SO₂.

BAAQMD Regulation 9, Rule 1:

This facility uses area monitoring to determine compliance with BAAQMD Regulation 9-1-301. Compliance with 9-1-310.2 is determined by continuous emission monitors. The use of area monitoring and continuous emission monitors on S-1 and S-2 is adequate to ensure compliance with the SO₂ permit limits.

PM Sources

S# & Description	Fed. Enf. Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1 and S-2 Coke Calcine Kiln/Cooler	BAAQMD 6-1-301	Ringelmann 1.0 for < 3 minutes/hr	Daily visible emission monitoring, weekly pressure drop monitoring, and annual baghouse inspection
S-1 and S-2 Coke Calcine Kiln/Cooler	SIP 6-301	Ringelmann 1.0 for < 3 minutes/hr	Daily visible emission monitoring, weekly pressure drop monitoring, and annual baghouse inspection
S-1 and S-2 Coke Calcine Kiln/Cooler	BAAQMD 6-1-310	0.15 gr/dscf	Daily visible emission monitoring, weekly pressure drop monitoring, annual baghouse inspection, and annual source test
S-1 and S-2 Coke Calcine Kiln/Cooler	SIP 6-310	0.15 gr/dscf	Daily visible emission monitoring, weekly pressure drop monitoring, annual baghouse inspection, and annual source test
S-1 and S-2 Coke Calcine Kiln/Cooler	BAAQMD 6-1-310.3	0.15 gr/dscf @ 6% O ₂	Daily visible emission monitoring, weekly pressure drop monitoring, annual baghouse inspection, and annual source test
S-1 and S-2 Coke Calcine Kiln/Cooler	SIP 6-310.3	0.15 gr/dscf @ 6% O ₂	Daily visible emission monitoring, weekly pressure drop monitoring, annual baghouse inspection, and annual source test
S-1 and S-2 Coke Calcine Kiln/Cooler	BAAQMD 6-1-311	$4.10P^{0.67}$ lb/hr but not to exceed 40 lb/hr, where P is process weight, ton/hr; maximum 40 lb/hr	Daily visible emission monitoring, weekly pressure drop monitoring, annual baghouse inspection, and annual source test
S-1 and S-2 Coke Calcine Kiln/Cooler	SIP 6-311	$4.10P^{0.67}$ lb/hr but not to exceed 40 lb/hr, where P is process weight, ton/hr; maximum 40 lb/hr	Daily visible emission monitoring, weekly pressure drop monitoring, annual baghouse inspection, and annual source test
S-1 and S-2 Coke Calcine Kiln/Cooler	BAAQMD Cond. #136, parts 11 and 12	Pressure drop at the baghouse shall be maintained between 1.0 and 10.0 inches of water gauge except during cleaning and maintenance	Weekly pressure drop monitoring
S-2 Coke Calcine Kiln/Cooler	BAAQMD Cond. #136, part 10	46.10 tons in any 12-month period	Annual source test

# & Description	Fed. Enf. Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-5 Coke Storage Bins (9), S-22 Conveyor, S-6 Conveyor, S-16 Rotary Cooler, S-26 Conveyor, S-17 Rotary Cooler, and S-27 Conveyor	BAAQMD 6-1-301	Ringelmann 1.0 for < 3 minutes/hr	Quarterly visible emission monitoring, weekly pressure drop monitoring, and annual baghouse inspection
S-5 Coke Storage Bins (9), S-22 Conveyor, S-6 Conveyor, S-16 Rotary Cooler, S-26 Conveyor, S-17 Rotary Cooler, and S-27 Conveyor	SIP 6-301	Ringelmann 1.0 for < 3 minutes/hr	Quarterly visible emission monitoring, weekly pressure drop monitoring, and annual baghouse inspection
S-5 Coke Storage Bins (9), S-22 Conveyor, S-6 Conveyor, S-16 Rotary Cooler, S-26 Conveyor, S-17 Rotary Cooler, and S-27 Conveyor	BAAQMD 6-1-310	0.15 gr/dscf	Quarterly visible emission monitoring, weekly pressure drop monitoring, and annual baghouse inspection
S-5 Coke Storage Bins (9), S-22 Conveyor, S-6 Conveyor, S-16 Rotary Cooler, S-26 Conveyor, S-17 Rotary Cooler, and S-27 Conveyor	SIP 6-310	0.15 gr/dscf	Quarterly visible emission monitoring, weekly pressure drop monitoring, and annual baghouse inspection
S-5 Coke Storage Bins (9), S-22 Conveyor, S-6 Conveyor, S-16 Rotary Cooler, S-26 Conveyor, S-17 Rotary Cooler, and S-27 Conveyor	BAAQMD 6-1-311	4.10P ^{0.67} lb/hr but not to exceed 40 lb/hr, where P is process weight, ton/hr; maximum 40 lb/hr	Quarterly visible emission monitoring, weekly pressure drop monitoring, and annual baghouse inspection
S-5 Coke Storage Bins (9), S-22 Conveyor, S-6 Conveyor, S-16 Rotary Cooler, S-26 Conveyor, S-17 Rotary Cooler, and S-27 Conveyor	SIP 6-311	4.10P ^{0.67} lb/hr but not to exceed 40 lb/hr, where P is process weight, ton/hr; maximum 40 lb/hr	Quarterly visible emission monitoring, weekly pressure drop monitoring, and annual baghouse inspection
S-7 Stockpile fugitives, S-23 Portable Conveyor, S-30 Portable Conveyor, and S-31 Portable Conveyor	BAAQMD 6-1-301	Ringelmann 1.0 for < 3 minutes/hr	Quarterly visible emission monitoring
S-7 Stockpile fugitives, S-23 Portable Conveyor, S-30 Portable Conveyor, and S-31 Portable Conveyor	SIP 6-301	Ringelmann 1.0 for < 3 minutes/hr	Quarterly visible emission monitoring
S-32 and S-33 Internal Combustion Engine, Detroit Diesel 3-71, 87 hp	BAAQMD 6-1-303	Ringelmann 2.0 for < 3 minutes/hr	None

S# & Description	Fed. Enf. Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-32 and S-33 Internal Combustion Engine, Detroit Diesel 3-71, 87 hp	SIP 6-303	Ringelmann 2.0 for < 3 minutes/hr	None
S-32 and S-33 Internal Combustion Engine, Detroit Diesel 3-71, 87 hp	BAAQMD 6-1-310	0.15 gr/dscf	None
S-32 and S-33 Internal Combustion Engine, Detroit Diesel 3-71, 87 hp	SIP 6-310	0.15 gr/dscf	None
S-32 and S-33 Internal Combustion Engine, Detroit Diesel 3-71, 87 hp	CCR, Title 17, Section 93115 ATCM for Stationary Compression Ignition Engines 93115.7(b) Emission Standards In Use Prime Engines (Not federally enforceable)	85% Reduction from Baseline Level, or 0.01 g/bhp-hr (Not federally enforceable)	None
S-41 Silo, S-42 Silo	BAAQMD 6-1-301	Ringelmann 1.0 for < 3 minutes/hr	Annual visible emission monitoring
S-41 Silo, S-42 Silo	SIP 6-301	Ringelmann 1.0 for < 3 minutes/hr	Annual visible emission monitoring
S-41 Silo, S-42 Silo	BAAQMD 6-1-310	0.15 gr/dscf	Annual visible emission monitoring
S-41 Silo, S-42 Silo	SIP 6-310	0.15 gr/dscf	Annual visible emission monitoring
S-41 Silo, S-42 Silo	BAAQMD 6-1-311	4.10P ^{0.67} lb/hr but not to exceed 40 lb/hr, where P is process weight, ton/hr; maximum 40 lb/hr	Annual visible emission monitoring
S-41 Silo, S-42 Silo	SIP 6-311	4.10P ^{0.67} lb/hr but not to exceed 40 lb/hr, where P is process weight, ton/hr; maximum 40 lb/hr	Annual visible emission monitoring

PM Discussion:

S-1 and S-2 are abated by baghouses and are monitored on a daily basis for visible emissions, on a weekly basis for pressure drop across the baghouse, and on an annual basis for the baghouse inspection and annual PM source test. The monitoring requirements are adequate to demonstrate compliance with the applicable PM limits. S-2 has an annual CEQA permit limit of 46.1 tons/year. The facility uses the annual source

test results to develop an PM emission factor per ton of coke calcined. This emission factor and the coke throughput are the basis for demonstrating compliance with this permit limit.

S-5, S-6, S-16, S-17, S-22, S-26, and S-27 are all required by permit condition to monitor visible emissions on a quarterly basis using a District approved method. The sources abated by baghouses are required to monitor the pressure drop across the baghouse on a weekly basis. In addition, each baghouse is required to be inspected on an annual basis.

S-7, S-23, S-30, and S-31 are required by permit condition to monitor visible emissions on a quarterly basis using a District approved method.

The two 87 hp diesel engines (S-32 and S-33) are prime engines that typically operate less than 100 hours per year. The particulate emissions from these two engines are abated by a diesel particulate filter. The engines are not expected to have visible emissions that exceed Ringleman 2.0 for more than 3 minutes per hour. The engines are expected to comply with Regulation 6 Rule 1 and SIP Regulation requirements. The engines are not large enough to require periodic source testing to demonstrate compliance with these particulate limits. The engines will be required to demonstrate compliance with the non-federally enforceable particulate limits contained in the ATCM for Stationary Compression Ignition Engines. This compliance demonstration could be the completion of source testing to demonstrate compliance or the use of certified and verified equipment to meet the ATCM emission requirements. Please see Section V Compliance Schedule for more information.

S-41 and S-42 Silos are abated by vent filters and are required to monitor visible emissions using a District approved method on an annual basis.

The PM monitoring for all of the particulate sources meets or exceeds the Title V Periodic Monitoring Recommendations approved by CAPCOA on June 24, 1999. The PM monitoring is adequate to demonstrate compliance with all of the PM limits contained in the permit.

POC Sources

S# & Description	Fed. Enf. Emission Limit Citation	Federally Enforceable Emission Limit	Potential to Emit: tpy	Monitoring
S-24 Non Retail Gasoline Dispensing Facility, One Nozzle (GDF #6050)	BAAQMD 8-7-301.2	95% (wt) organic vapor recovery efficiency	0.33	Not recommended.
	BAAQMD 8-7-301.6	Limited leakage	0.33	Annual leak test/Proposed
	BAAQMD Condition #20666, Part 2	Limited leakage	0.33	Source test every 3 years

POC Discussion:

An annual static pressure performance test was added for the gasoline storage tank. The storage tank owner or operator is also required to conduct and pass a Rotatable Adaptor Torque Test (CARB Test Procedure TP201.1B) and either a Drop Tube/Drain Valve Assembly Leak Test (TP201.1C) or, if operating drop tube overfill prevention devices ("flapper valves"), a Drop Tube Overfill Prevention Device and Spill Container Drain Valve Leak Test (TP201.1D) at least once in each 36-month period. Measured leak rates of each component shall not exceed the levels specified in VR-102. Since the potential to emit is so low, no further monitoring for the 8-7-301.2 limit is necessary.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

Changes to permit

No changes were made to this portion of the permit.

IX. Permit Shield:

Changes to permit:

This action proposes no changes to permit shields.

X. Revision History

Changes to permit:

A revision history section will be added with the following information:

Initial Issuance (Application 25817)	July 31, 2002
Significant Revision (Application 17331):	June 18, 2009
Renewal (Application 15619) and Significant Revision (Application 8389)	April 30, 2012

- Add pressure drop ranges, which were provided by Permit Holder, to Table IIB for baghouses and to Permit Conditions #10438, Part 4; #10439, Part 4; #17539, Part 3
- Change A-41 and A-42 description from baghouse to vent filter in Tables IIB and IV-J, and Permit Condition #17820, Parts 6 and 7
- Change Permit Condition #136, Part 12b to apply limits to S2 and A2 rather than S1 and A1, which are already limited by Part 12a
- Change Permit Condition #3752, Part 3, to apply to *natural* gas rather than *fuel* gas
- Add back sentence that had been inadvertently deleted in Permit Condition #17539, Part 2 and add S-6 to sources abated by A-4 in Table IIB
- Delete Parts 8 and 9 of Permit Condition #17820 and all references to those parts and the measurement of pressure drops across A-41 and A-42 in Tables IIB, IV-J, and VII-J
- Change visible emission monitoring in Permit Condition #17820, Part 10, to annually from quarterly.
- Revise Permit Condition #17820, Part 11 by deleting annual baghouse inspection and adding corrective action requirement and maintenance log requirement. Revise Tables IV-J and VII-J accordingly.
- Update Table IV-H to show that Regulation 8, Rule 7 amended 11/6/02 is both the current and SIP-approved rule and apply section of rule for Underground Storage Tank rather than section of rule that had erroneously been applied for an Aboveground Storage Tank.
- Delete Permit Conditions #701 and #17571 and add Permit Condition #20666 for Enhanced Vapor Recovery Phase I upgrade. Revise Tables IV-H and VII-H accordingly.
- Condition 10438 part 6, 10439 part 6, 17539 part 5, 17540 part 1, and 17820 part 10 have been reworded to require a District approved method for visible emissions monitoring. EPA method 9 has been added to these conditions as a District approved method for visible emissions monitoring. This is a minor revision to the permit.
- Change Table VIII to replace the above ground storage tank test method

with a test method for an underground storage tank plus a CARB test procedure. Table VIII was updated to allow the use of EPA Method 9 for visible emissions, EPA Method 5 for TSP, and EPA 201A/202 for PM10. Table VIII was updated to include ATCM approved source test methods for testing of S-32 and S-33.

- Add CARB test procedures to Table VIII for enhanced vapor recovery Phase I
- Correct description of one of the sources for Permit Condition #10439 in Section VI from S-17 Rotary Cooler K1 to S-17 Rotary Cooler K-2.

Administrative Amendment (Application 24531) September 6, 2012

- Change the name of the facility from ConocoPhillips Carbon Plant to Phillips 66 Carbon Plant.

Administrative Amendment (Application 24653) November 5, 2013

- Add non-federally enforceable permit condition 19758, parts 1 through 6 to the permit for S-32 and S-33 diesel engines to ensure compliance with the stationary diesel engine air toxics control measure.

Renewal (Application 28341): [date]

XI. Glossary

Changes to permit:

This action proposes no changes to the glossary.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

The responsible official for Phillips 66 Carbon Plant submitted a signed Certification Statement form dated July 27, 2017. On this form, the responsible official certified that the following statements are true:

- Based on information and belief formed after reasonable inquiry, the sources identified in the Applicable Requirements and Compliance Summary form that are in compliance will continue to comply with the applicable requirements;
- Based on information and belief formed after reasonable inquiry, the sources identified in the Applicable Requirements and Compliance Summary form will comply with future-effective applicable requirements, on a timely basis;
- Based on information and belief formed after reasonable inquiry, information on application forms, all accompanying reports, and other required certifications is true, accurate, and complete;

- All fees required by Regulation 3, including Schedule P, have been paid.

APPENDIX A

GLOSSARY

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority that allows the District to impose requirements.

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CEM

Continuous Emission Monitor

CEQA

California Environmental Quality Act

CFEP

Clean Fuel Expansion Project

CFR

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO

Carbon Monoxide

Cumulative Increase

The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Cumulative increase is used to determine whether threshold-based requirements are triggered.

District

The Bay Area Air Quality Management District

dscf

Dry Standard Cubic Feet

EPA

The federal Environmental Protection Agency.

EFRT

External Floating Roof Tank

Federally Enforceable, FE

All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA approved program that has been incorporated into the SIP.

FP

Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

MOP

The District's Manual of Procedures.

NAAQS

National Ambient Air Quality Standards

NESHAPS

National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NH3

Ammonia

NOx

Oxides of nitrogen.

NSPS

Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR

New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

Offset Requirement

A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

POC

Precursor Organic Compounds

PM

Particulate Matter

PM10

Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

SCR

Selective Catalytic Reduction

SIP

State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2

Sulfur dioxide

Title V

Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TRMP

Toxic Risk Management Plan

VOC

Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cfm	=	cubic feet per minute
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m ²	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year