

CBE, Sierra Club, Center, ForestEthics et al. Comments on the Revised Draft Environmental Impact Report for the Phillips 66 Company Rail Spur Extension and Crude Unloading Project

ATTACHMENT C10

Attachments to Expert Report of Phyllis Fox on the Revised Draft Environmental Impact Report for the Phillips 66 Rail Spur Extension and Crude Unloading Project, November 2014.



Air Pollution Control District
San Luis Obispo County

PERMIT TO OPERATE

Number 44-52

EQUIPMENT OWNER-OPERATOR:

Phillips 66 Company - Santa Maria Refinery
2555 Willow Road
Arroyo Grande, CA 93420

EQUIPMENT LOCATION:

2555 Willow Road, Arroyo Grande

FOR THE EQUIPMENT LISTED HEREIN AND SUBJECT TO THE LISTED CONDITIONS

November 6, 2013
ISSUANCE DATE

November 6, 2018
ANNIVERSARY

LARRY R. ALLEN
Air Pollution Control Officer

GARY E. WILLEY
Manager, Engineering Division

Application Number: 5504

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Conventions and Abbreviations

- A. The following conventions are used in this permit.
1. The reference for each requirement will be noted in [square brackets]. References that are noted as being "District-only" are not federally-enforceable requirements. All conditions with references in [square brackets] that do not contain the phrase "District-only" must be considered federally-enforceable requirements.
 2. In multi-part conditions, the general reference notation at the beginning of the condition will apply throughout, except for those subparts that are followed by a specific reference for which only the specific reference shall apply.
 3. Unless otherwise noted, both a "day" and an "operating day" shall be considered a 24 hour period from midnight to midnight (*i.e.*, calendar day).
 4. Unless otherwise noted, averaging periods are intended to mean the following.
 - a. Daily average for hourly limit, record, or report: total for calendar day divided by twenty-four (24).
 - b. Three (3) hour average for concentration: average concentration over a continuous three (3) hour period.
 - c. 168 hour average for concentration: average concentration over a continuous 168 hour period.
 - d. Quarterly average sulfur content: average of all sulfur content determinations made during the preceding three (3) month period (see additional note a.2 to condition section I.A).
 5. The number of values displayed for any given emission or operational limit in this permit is intended to represent the number of significant figures to which test or analysis results are to be rounded. *e.g.*, 2,000 ppm is intended to represent 2.000E3 ppm and any test result greater than 2,000.5 ppm would not comply with that limit.
 6. When rounding test and analysis results or recorded and reported values to the correct number of significant figures, any rounding of the value "five (5)" should result in an even number. *e.g.*, 34.65 to three significant figures would be written 34.6. Also when rounding, if the final digit is 0, 1, 2, 3, or 4, the number does not change and, if the final digit is 6, 7, 8, or 9, the number is increased by one.
 7. Federal regulation subpart references will typically be indicated by their subpart designation only. The titles of all subparts included here are as follows.
 - 40CFR60 Subpart A, General Provisions (New Source Performance Standards - NSPS)
 - 40CFR60 Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
 - 40CFR60 Subparts J/Ja, Standards of Performance for Petroleum Refineries
 - 40CFR60 Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984

- 40CFR60 Subpart VV/VVa, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry
 - 40CFR60 Subpart GGG/GGGa, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries
 - 40CFR60 Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems
 - 40CFR60 Subpart IIII Standards of Performance for Stationary Combustion Ignition Internal Combustion Engines
 - 40CFR60 Subpart JJJJ Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
 - 40CFR60, Appendix B, Performance Specification 2, Specifications and Test Procedures for SO₂ and NO_x Continuous Emission Monitoring Systems in Stationary Sources (abbreviated 40CFR60.PS-2)
 - 40CFR60, Appendix B, PS-5, Specifications and Test Procedures for TRS Continuous Emission Monitoring Systems in Stationary Sources (abbreviated 40CFR60.PS-5)
 - 40CFR60, Appendix B, PS-7, Specifications and Test Procedures for Hydrogen Sulfide Continuous Emission Monitoring Systems in Stationary Sources (abbreviated 40CFR60.PS-7)
 - 40CFR61 Subpart A, General Provisions (National Emission Standards for Hazardous Air Pollutants - NESHAP)
 - 40CFR61 Subpart M, National Emission Standard for Asbestos
 - 40CFR61 Subpart FF, National Emission Standard for Benzene Waste Operations
 - 40CFR63 Subpart A, General Provisions (NESHAP for Source Categories - MACT)
 - 40CFR63 Subpart CC, National Emission Standard for Hazardous Air Pollutants from Petroleum Refineries
 - 40CFR63 Subpart UUU, National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units
 - 40CFR63 Subpart EEEE, National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (non-Gasoline)
 - 40 CFR 63 Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines
 - 40CFR63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters
 - 40CFR64, Compliance Assurance Monitoring
 - 40CFR68, Chemical Accident Prevention
 - 40CFR82, Protection of Stratospheric Ozone
 - 40CFR82 Subpart E, Labeling of Products Using Ozone-Depleting Substances
 - 40CFR82 Subpart F, Recycling and Emission Reduction
 - 40CFR82 Subpart G, Significant New Alternatives Policy Program
 - 40CFR98 Mandatory Greenhouse Gas Reporting
8. District rule numbers only, will be used for the most part in this permit. The titles of all rules referenced are as follows.
- SIP Rule 106, Standard Conditions
 - Rule 107, Breakdown or Upset Conditions and Emergency Variances
 - Rule 113, Continuous Emissions Monitoring

- SIP Regulation IV, Rule 113, Particulate Matter (abbreviated SIP Rule IV.113)
 - SIP Rule 114, Gaseous Contaminants Prohibitions
 - Rule 201, Equipment Not Requiring a Permit
 - SIP Rule 201.E, Posting of Permit to Operate
 - Rule 204, Requirements (a.k.a. New Source Review)
 - SIP Rule 205, Conditional Approval
 - Rule 206, Conditional Approval
 - Rule 210, Periodic Inspection, Testing and Renewal of Permits to Operate
 - Rule 216, Federal Part 70 Permits
 - Rule 302, Schedule of Fees
 - SIP Rule 401, Visible Emissions
 - Rule 401, Visible Emissions
 - Rule 402, Nuisance
 - Rule 403, Particulate Matter Emission Standards
 - SIP Rule 404, Sulfur Compounds Emission Standards, Limitations, and Prohibitions
 - SIP Rule 406, Carbon Monoxide Emission Standards, and Limitations
 - SIP Rule 407, Organic Material Emission Standards, Limitations, and Prohibitions
 - Rule 407, Organic Material Emission Standards
 - SIP Rule 416, Degreasing Operations
 - SIP Rule 419, Petroleum Pits, Ponds, Sumps, Well Cellars, and Wastewater Separators
 - SIP Rule 422, Refinery Process Turnarounds
 - SIP Rule 424, Gasoline Dispensing Facilities
 - Rule 425, Storage of Volatile Organic Compounds
 - Rule 430, Control of Oxides of Nitrogen from Industrial, Institutional, Commercial Boilers, Steam Generators, and Process Heaters
 - Rule 431, Stationary Internal Combustion Engines
 - Rule 433, Architectural Coatings
 - Rule 440, Petroleum Coke Calcining and Storage
 - SIP Rule 501, General Burning Provisions
9. Federally-enforceable requirements that gain their authority from a court of law will be indicated by their commonly used title plus the court's tracking number. The title of all such requirements included here are as follows.

Consent Decree H-05-0258 US District Court for the Southern District of Texas
case number H-05-0258

B. Abbreviations used in this permit are as follows.

Abbreviation	Description
40CFR	Chapter 40 to the Code of Federal Regulations
≥50 hp	rated at 50 horsepower or more
acfm	actual cubic feet per minute
ACM	asbestos containing material
APCO	Air Pollution Control Officer
ARB	Air Resources Board
atm	atmosphere
bbbl	barrel (42 gallons)
BACT	Best Available Control Technology
CAA	Clean Air Act
CALOSHA	California Occupational Safety and Health Authority
CAM	Compliance Assurance Monitoring
CCR	California Code of Regulations
cf	cubic feet
CEMS	continuous emissions monitoring system
CO	carbon monoxide
CS ₂	carbon disulfide
CH ₃ SH	methyl mercaptan
DCS	Distributed Control System
District	San Luis Obispo County Air Pollution Control District
DOC	diesel oxidation catalyst
DPF	diesel particulate filter
EPG	electrical power generation
ERC	emission reduction credit
°F	degrees Fahrenheit
HAPs	hazardous air pollutant(s)
heat exch	heat exchanger
hp	horsepower
H ₂ O	water
H ₂ S	hydrogen sulfide
gph	gallons per hour
gpm	gallons per minute
GHV	gross heating value
g/hr	grams per hr
g/bhph	grams per brake horsepower hour
gr/dscf	grains per dry standard cubic foot
H&SC	California Health and Safety Code
ID	induced draft
inH ₂ O	inches of water column (pressure)
KO	knock-out (catch point for liquids in a vapor line)
lb	pounds
lb/hr	pounds per hour
lb/mmBtu	pounds per million British thermal units of heat input
lb-stm/hr	pounds of steam per hour
MACT	Maximum Achievable Control Technology
mg/m ³	milligrams per cubic meter
ml/min	milliliter per minute

Abbreviation	Description
mmBtu	million British thermal units
mmscfd	million standard cubic feet per day
MVAC	motor vehicle air conditioner
MW	megawatt (electrical)
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO _x	oxides of nitrogen
NO ₂	nitrogen dioxide
NSPS	New Source Performance Standards
O ₂	oxygen
ODS	ozone-depleting substances
OMMP	operating, maintenance, and monitoring plan
P&ID	pipng and instrumentation diagram
PM	particulate matter
PM10	particulate matter less than ten (10) microns
ppmv	parts per million by volume
ppmww	parts per million by volume, wet
PR	photochemically reactive (solvent)
psia	pounds per square inch absolute
psig	pounds per square inch gauge
RACM	regulated asbestos-containing material
RGG	reduced gas generator
RMP	risk management plan
ROU	reverse osmosis unit
RVP	Reid vapor pressure
S	total sulfur
SIC	Standard Industrial Classification
SIP	State of California Implementation Plan
SO _x	oxides of sulfur
SO ₂	sulfur dioxide
SSM	startup, shutdown, and malfunction
SSMP	startup, shutdown, and malfunction plan
TABQ	total annual benzene quantity
tpy	tons per year
TRS	total reduced sulfur compounds
TVP	true vapor pressure
VOC	volatile organic compounds
wt%	percent by weight

I. Specific Emission and Operational Limits

A. Emission Limits. The following emission limits shall apply to the identified units:

Unit		Limit			Compliance	Notes
B-1,C,D-1	B-2A/B(2) B-62A/B(2) B-102A/B(2) B-504 B-506	1.	NO _x	0.036 lb/mmBtu or 30 ppmv @3% O ₂ dry	annual test and oxygen monitoring	[Rule 430 & 40CFR60.44b. for B- 506 and District-only, Rule 430 for all others]
		2.	CO	400 ppmv @3% O ₂ dry	annual test	[District-only, Rule 430]
B-1,C	B-2A	3.	SO ₂	0.090 lb/mmBtu 6.94 lb/hr	biennial stack test	[District-only, Rule 206]
	B-2B	4.	SO ₂	0.091 lb/mmBtu 6.93 lb/hr	biennial stack test	[District-only, Rule 206]
	B-102A/B(2)	5.	SO ₂	0.094 lb/mmBtu 7.6 lb/hr each	biennial stack test	[SIP Rule 205]
	B-201A/B(2)	6.	NO _x	0.090 lb/mmBtu 0.29 lb/hr each	annual test	[SIP Rule 205]
7.		SO ₂	0.094 lb/mmBtu 0.3 lb/hr each	biennial stack test	[SIP Rule 205]	
D-1	B-507	8.	NO _x	0.036 lb/mmBtu or 30 ppmv @ 3% O ₂ dry	annual test	[District-only Rule 430]
		9.	CO	400 ppmv @ 3% O ₂ dry		[District-only Rule 430]
		10.	PM	0.03 lb/mmBtu	low sulfur fuel	[40CFR60.43c.e.1]
D-2, EPG boiler	B-505	11.	NO _x	30 ppmv @3% O ₂ dry	annual test	[District-only, Rule 430]
		12.	SO ₂	100 lb/day	quarterly calculation	(a) [District-only, Rule 204]
		13.	CO	154 ppmv @3% O ₂ dry	annual test	[District-only, Rule 206]
		14.	VOC	30 ppmv @3% O ₂ dry	biennial test	[District-only, Rule 206]
E-1, K Sulfur Recovery Plant	B-602 A/B(2) B-702	15.	SO ₂	250 ppmv @0% O ₂ dry	biennial test and AN-1600 A/B, AN- 1707/1709	(e), (f) [40CFR60.104.a.2.i]
		16.	TRS	300 ppmv @0% O ₂ dry		(e), (f) [40CFR60.104.a.2.ii]
		17.	H ₂ S	10 ppmv @0% O ₂ dry	cont. monitor	[40CFR60.104.a.2.ii]
K, tail gas unit	B-702	18.	a. SO ₂	100 ppmv @0% O ₂ dry	biennial test and AN- 1707/ 1709 continuous monitor	high-fire operation, (d) [SIP Rule 205, 40CFR60.104.a.2.i, 40CFR63.1568.a.1& c.1, and subpart

Unit		Limit			Compliance	Notes
						UUU, table 29, item 1.a]
			b.	4.8 lb/hr		[SIP Rule 205]
		19.	a.	TRS	383.5 lb/week	(b) [SIP Rule 205]
			b.		65 ppmv @0% O ₂ dry	annual test and AN-1707/ 1709 continuous monitor
			c.		300 ppmv @0% O ₂ dry	168 hour average [SIP Rule 205]
		20.		H ₂ S	10 ppmv @0% O ₂ dry	instantaneous, low-fire operation, (c)(d) [40CFR60.104.a.2.ii]
B-1, M	GB-1015 GE-522	21.		NO _x	600 ppmv @15% O ₂ dry or 30 vol% reduction	periodic test [District-only, Rule 431.D.3]
		22.		CO	4500 ppmv @15% O ₂ dry	
D-1	G-515-3 G-515-4	23.		NO _x	3274 g/hr ea.	manufacture specification [District-only, Rule 206]
		24.		CO	935 g/hr each	
		25.		PM10	39 g/hr each	
		26.		VOC	113 g/hr each	
		27.		SO _x	344 g/hr each	
M	GE-522	28.		PM	0.0165 g/hphr	periodic test [District-only, 17CCR93115]
B-1	G-51-4	29.	a.	NO _x	50 ppmvd @15% O ₂	Annual test [District-only Rule 431]
			b.		160 ppmvd @15% O ₂ 2.0 g/hphr	[40CFR60.4233.e]
		30.		CO	540 ppmvd @15% O ₂ 4.0 g/hphr	[40CFR60.4233.e]
		31.		VOC	86 ppmvd @15% O ₂ 1.0 g/hphr	[40CFR60.4233.e]
M	Sullair 1600H	32.		NO _x + NMHC	3.0 g/hphr	Manufact. Specif. [40CFR60.4202, 40CFR89.112 & 17CCR93115.6]
		33.		CO	2.6 g/hphr	
		34.		PM	0.15 g/hphr	
M	Sullair 900H	35.		NO _x	1.5 g/hphr	Manufact. Specif. [40CFR60.4202, 40CFR89.112 & 17CCR93115.7]
		36.		CO	2.6 g/hphr	
		37.		PM	0.01 g/hphr	

Additional Notes

- (a) 1) The SO₂ calculations shall be based on 100% oxidation of fuel gas sulfur in the fuel gas to SO₂. The sulfur content of the fuel gas shall be calculated by multiplying the

- daily amount of fuel gas burned by the quarterly average sulfur content of the fuel gas.
- 2) The quarterly average sulfur content of the fuel gas shall be calculated by summing all weekly Tutweiler measurements required under condition III.B.2.d.2 and dividing by the number of weekly readings.
 - 3) The average daily oxides of sulfur (as SO₂) emissions shall be calculated at the end of each quarter.
- (b) Total reduced sulfur compounds (TRS) shall be analyzed specifically as COS, CS₂, mercaptans as CH₃SH, and H₂S; and then summed and presented as total reduced sulfur compounds.
 - (c) Calculated as sulfur dioxide.
 - (d) Averaging period is one-hour for both continuous emissions monitoring instrument results and stack testing results.
 - (e) Not applicable during periods of startup, shutdown or malfunction of the SRP or malfunction of the TGU.
 - (f) COP AMP submitted to EPA for approval provides during normal operation that the weighted average of B602 and B702 emissions meet 300 ppm TRS as SO₂ per 12-hour average (40 CFR 60.105.e.4, Table 34 to Subpart UUU of Part 63).

B. Operational Limits. The following operational limits shall apply to the specified units. Compliance shall be determined through recordkeeping except as noted: [District-only, Rule 206]

Unit		Parameter	Limit	Notes
1.	refinery	crude oil throughput	a. 48,000 bbl/day	daily total, wet basis [District-only, Rule 206]
			b. 16,220,600 bbl/yr	12 month rolling period, wet basis [District-only, Rule 206]
2.	B-1,C	B-2A	a. 77.0 mmBtuh	maximum hour [District-only, Rule 206]
		B-2B	b. 76.2 mmBtuh	maximum hour [District-only, Rule 206]
		B-2A/B (2)	c. 529,104 mmBtu each	12 month rolling period [District-only, Rule 204]
		B-62A	d. 16.2 mmBtuh	maximum hour [District-only, Rule 206]
		B-62B	e. 16.0 mmBtuh	maximum hour [District-only, Rule 206]
		B-62A/B (2)	f. 140,160 mmBtu each	12 month rolling period [District-only, Rule 204]
		B-102A/B (2)	g. 80.5 mmBtuh each	maximum hour [District-only, Rule 206]
			h. 705,180 mmBtu each	12 month rolling period [District-only, Rule 204]
		B-2A,62A, 102A (3)	i. 156.9 mmBtuh total	daily average [District-only, Rule 206]
		B-2B,62B, 102B (3)	j. 156.9 mmBtuh total	daily average [District-only, Rule 206]

Unit		Parameter	Limit	Notes	
3.	B-1, cooling tower	total HC conc.	6.2 ppmv VOC	monthly El Paso Method testing [40CFR63.654.c]	
4.	refinery	fuel gas	a. 0.10 gr/dscf H ₂ S (160 ppmv)	AN-603 continuous monitor, 3 hour average [40CFR60.104.a.1]	
			b. 0.50 gr/dscf total S (797 ppmv)	weekly fuel test & annual analytical test, intentional duplication of condition III.A.1.d.2 [SIP Rule 404.e.1]	
5.	D-1 boiler plant	B-504,B-506, B507	total steam produced	170,000 lb/hr	daily average [SIP Rule 205]
6	Emergency water pumps	G-515-3 G-515-4	non-emergency operation	50 hrs/yr/unit	calendar year, (e) [District-only, 17CCR93115.6]
7.	D-2, EPG boiler	B-505	fuel feed	a. 100 mmBtuh	(d), daily average [District-only, Rule 204]
				b. 821,250 mmBtu/yr	(a), yearly total [District-only, Rule 204]
8.	I & J	D-601A/B	Sulfolane W concentration	a. ≥20% wt	Specific operating conditions added as a BACT finding for the B-505 boiler, application number 1916. Except during start-up and shutdown periods: [District-only, Rule 204]
				b. ≥250°F and ≤280°F	Stripper Bottoms Temperature Application Number 1916 BACT finding. [District-only, Rule 204]
9.	M	GE-522 portable water pump	total hours of operation	a. 777 hr/yr	[District-only, Rule 206]
		GB-1015 portable air compressor		b. 4,380 hr/yr	[District-only, Rule 204]
		Sullair 1600H Sullair 900H		c. 200 hr/yr each	[District-only, Rule 206]
10.	U, sulfur pelletizing plant	pelletizer throughput	a. 42.6 tons/hr	[District-only, Rule 206]	
		screen throughput	b. 50 tons/hr	[District-only, Rule 206]	
		open stockpile storage	c. 25,000 tons	(b) [District-only, Rule 206]	
11.	W, backup diesel generators	non-emergency operation	a. 20 hrs/yr	calendar year [District-only, 17CCR93115.6]	
12.	Welder engines 1485, 7970	total hours of operation	a. 80 hrs/yr each	calendar year [District-only 17CCR93116.3.b.1.B]	

Additional Notes:

- (a) Calendar year basis. The actual fuel usage shall be the summation of each calendar month's total fuel flow rate times the respective month's average fuel gas gross heating value (GHV) used for compliance under condition III.D.5 below.
- (b) Prior approval for additional storage may be obtained from the APCO.
- (c) Rolling 12-month basis. The actual fuel usage shall be the summation of the preceding 12-month's total fuel flow rate times the respective month's average fuel gas GHV used for compliance under condition III.D.5 below.
- (d) Daily average basis. The actual fuel usage shall be the summation of the day's total fuel flow divided by twenty-four (24) times the respective month's average fuel gas GHV used for compliance under condition III.D.5 below.
- (e) An emergency is defined as any time a refinery-declared state of emergency exists.
- (f) Non-Emergency Operation of Diesel Engine Systems listed in Process Unit W:
 - 1) Non-emergency operation of backup engines shall be limited to maintenance and performance testing only and shall not exceed twenty (20) hours per engine per calendar year. Operation for emissions testing required by the District shall not be limited by this condition. [District-only, 17CCR93115.6.b]
 - 2) Except for the carbon plant runoff collection pond pump, item II.B.23.e, an emergency is defined as failure of normal electrical power service that is beyond the control of the permit holder and does not include voluntarily disconnecting from utility grid power. [District-only, 17CCR93115.4.a.30]
 - 3) For the carbon plant runoff collection pond pump, item II.B.23.e, an emergency is defined as the pumping of water to prevent the flooding of areas that are down slope from the collection pond. [District-only, 17CCR93115.4.a.30.c]

C. Continuous Emission Monitoring Systems Operational Standards: NSPS Subpart J and the Quality Assurance Requirements of Appendix F are applicable to the following equipment:

NSPS CEMS	Span	Performance Standard	Daily Drift Standard	2 x Standard	4 x Standard
AN 603/04	300 ppm	PS 7.6.2	5% of span	30 ppm	60 ppm
AN 1709	350 ppm	PS 5.13.1	5% of span	35 ppm	70 ppm
AN 1600 A/B	500 ppm	PS 2.13.1	2.5% of span	25 ppm	50 ppm

Calibration Drift Requirement: Calibration Drift at two concentration values shall be checked and recorded at least once daily. The calibration must be adjusted whenever the drift exceeds two times the applicable performance standard. [40CFR60 App.F, 4.1]

Criteria for Excessive Calibration Drift: If the calibration drift results exceed twice the applicable drift specification for five consecutive days, or if any calibration drift result exceeds four times the applicable drift specification, the CEMS is out of control and corrective action must be taken. The calibration drift checks must be repeated after taking corrective action. [40CFR60 App F, 4.3]

Audit Requirements: Relative accuracy test audits for each CEMS shall be conducted at least once every calendar quarter. Cylinder gas audits may be conducted in three of the four quarters. [40CFR60 App F, 5.1]

If the average emissions during testing are less than 50% of the emission standard, the applicable emission standard value shall be used in the denominator of the Relative Accuracy (RA) equation 2-6 from 40CFR60.PS-2, as it appeared in the federal regulations as published on July 1, 2001, and the RA shall be no greater than 10%. If the average emissions during testing are greater than or equal to 50% of the emission standard, the average reference method value shall be used in the denominator of the equation and the RA shall be no greater than 20%. [40CFR60.PS-2.13.2]

II. Facility Description

A. General

This facility is a petroleum refinery having the Standard Industrial Classification (SIC) Code of 2911. Raw petroleum enters the refinery by pipeline. Products leave as semi-refined petroleum by pipeline, as solid petroleum coke by rail or haul truck, and as recovered sulfur by haul truck. The primary processes involve: raw material storage, atmospheric pressure distillation, vacuum distillation, delayed coking of residual solids, product storage, and product shipping. Secondary processes include: a refinery fuel gas system, a relief flare system, steam production, sulfur recovery, and oily water treatment. Two extraordinary aspects of the operation are worthy of specific note: petroleum storage tanks utilizing domed roofs and vapor recovery, and a six-megawatt electrical power generation system.

Domed roofs with a vapor recovery system were added to several large storage tanks in the early 1990's because of their significant odor potential. This effort was one of many in response to a conditional order of abatement brought by the District's Hearing Board. As the fluid level in a dome-covered tank drops, purchased natural gas is bled into the head space to maintain a positive pressure. As the fluid level rises, that blanket gas, which may now contain odorous compounds, is vented to the refinery's make-gas system where the hydrogen sulfide absorption units remove odorous compounds to produce elemental sulfur.

The power generation system is used to generate electricity from excess fuel gas that is not needed elsewhere in the refinery. With the shutdown of the Guadalupe oil field, where fuel gas was burned to produce enhanced oil recovery steam, and the Battles gas plant, where fuel gas was converted to pipeline quality natural gas, the refinery found itself in the mid-1990's with much more fuel gas than was necessary for crude oil processing. The electrical power generation unit was their solution and consists of the B-505 boiler, which burns the excess gas to produce high quality steam, and a 5.8 megawatt steam turbine. The B-505 boiler emissions were new to the refinery and triggered the need for offsets under the District's New Source Review program. Emission reductions from the Battles gas plant shutdown in nearby Santa Maria were used to satisfy that need. Thus, this project provided the refinery with a more reliable source of electricity without creating an emission increase in the region.

The Santa Maria Refinery is a major federal stationary source for criteria air pollutants. It is subject to several New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAPs), and maximum achievable control technology (MACT) standards. Continuous emission monitoring systems (CEMS) keep watch over both the refinery fuel gas system and the sulfur plant system.

The petroleum coke calciner at the facility was permanently shut down on March 13, 2007. This shut down reduced the facility emissions of hazardous air pollutants (HAPs) below the major source level, and also lead to several equipment and operating condition changes in the permit. A new boiler was installed in the Utility Plant at this time to replace steam that was previously produced by the calciner waste heat boiler.

B. Specific Equipment

The equipment descriptions in this section are organized by process. Major emission units are listed but all associated valves, flanges, piping, and minor emission units, which are not explicitly identified, are also included in this permit and subject to their respective major emission unit's requirements. Phillips 66 is authorized to operate the equipment listed below in the configuration described. [SIP Rule 201]

1. Process Unit A-1, Petroleum Tank Farm

TITLE		ID	CAPACITY	DESCRIPTION
a.	gas oil (2)	TK-800,801	76,500 bbl each	welded shell, external floating pontoon roof, single shoe seal, 345.6 foot circumference [District-only, Rule 206]
b.	crude oil (3)	TK-900,901	92,000 bbl each	welded shell, external floating pontoon roof, primary shoe and zero-gap secondary wiper seals, 421 foot circumference [District-only, Rule 425.E.1]
		TK-903	92,000 bbl	welded shell, external floating pontoon roof, primary shoe and zero-gap secondary wiper seals, 421 foot circumference [Rule 425.E.1 & 40CFR60-Kb]
c.	recovered oil (2)	TK-100,101	9,460 bbl each	welded shell, dome roof, vented to Process A-2 [District-only, Rule 425.E.3]
d.	pressure distillate (2)	TK-550,551	52,000 bbl each	welded shell, dome roof, vented to Process A-2 [Rule 425.E.3 & SIP Rule 407.A.2]

2. Process Unit A-2, Tank Farm Vapor Recovery System

controlling vapors from Tanks 100, 101, 351, 550, and 551, water treatment system vessels F-821A/B/C, F-824, and F-408/9, and product pumps G-50-1/2; consisting of:

TITLE		ID	CAPACITY	DESCRIPTION
a.	blower suction knock-out drum	F-455		24" D x 5' T
b.	blower suction drip pot	F-456		13" D x 36' T
c.	vapor recovery blower (2)	GB-451/451S	582 acfm	40 hp
d.	blower recycle cooler(2)	E-450		
e.	Tank 351 drip pot	F-353		16" D x 22" T

3. Process Unit B-1, Coking Unit A

TITLE		ID	CAPACITY	DESCRIPTION
a.	crude fractionating heater	B-2A	65.0 mmBtuh	eight (8) John Zink InfurNOx PSMR-16RM burners with automatic oxygen feedback control
b.	vacuum distillation heater	B-62A	17.2 mmBtuh	three (3) John Zink InfurNOx PSMR-15RM burners
c.	coking heater	B-102A	88.6 mmBtuh	twenty-four (24) John Zink InfurNOx PSMR-13RM burners
d.	coke drums (2)	D-101A, D-102A		
e.	coker fractionator	D-103A		
f.	gas recovery compressor	G-212A	1400 hp	turbine driven compressor with steam supplied by B-201A
g.	gas recovery steam superheater	B-201A	3.2 mmBtuh	
h.	cooling tower			Serving processes B-1 and C.
i.	el paso method monitoring station			Monitors VOC from common coker A/B cooling waters
j.	natural gas fired engine for a cooling tower spare circulation pump	G-51-4	284 hp	Dresser-Waukesha Model F18GSIDU, manufactured 2010, equipped with a Miratech RCSS-1814-06-EC2 Catalyst

4. Process Unit B-2, Coker Steamout System

TITLE		ID	CAP.	DESCRIPTION
a.	steamout quench tower	F-411		12' & 9' D x 35' T
b.	steamout condensate drum	F-415		6'6" D x 18' T
c.	steamout overhead condenser	E-411	62.4 mmBtuh	heat exchanger, no atmospheric vent
d.	steamout accumulator	F-412		7' D x 35' T
e.	quench tower circulating pump (2)	G-411	220 gpm each	
f.	heavy recovered oil pump (2)	G-412	40 gpm each	
g.	light recovered oil pump (2)	G-413	330 gpm each	
h.	steamout water pump (2)	G-414	147 gpm each	
i.	coke strainer (2)	F-413		12" D x 28" T
j.	open top, coke cutting and cooling water storage tanks (2)	TK-405,6	20,000 bbl each	71' D, manually positioned oil skimmers

5. Process Unit B-3, Gland Oil System

TITLE		ID	CAP.	DESCRIPTION
a.	gland oil tank	F-115	500 bbl	vented to F-117
b.	gland oil pump (2)	G-122	90 gpm each	
c.	gland oil filters (2)	F-116		12"D x 2'T each
d.	carbon canister (2)	F-117	400 lb carbon each	

6. Process Unit C, Coking Unit B

TITLE		ID	CAP.	DESCRIPTION
a.	crude fractionating heater	B-2B	65.0 mmBtuh	eight (8) John Zink InfurNOx PSMR-16RM burners with automatic oxygen feedback control
b.	vacuum distillation heater	B-62B	17.2 mmBtuh	three (3) John Zink InfurNOx PSMR-15RM burners
c.	coking heater	B-102B	88.6 mmBtuh	twenty-four (24) John Zink InfurNOx PSMR-13RM burners
d.	coke drums (2)	D-101B, D-102B		
e.	coker fractionator	D-103B		
f.	gas recovery compressor	G-212B	1400 hp	turbine driven compressor with steam supplied by B-201B
g.	gas recovery steam superheater	B-201B	3.2 mmBtuh	
h.	coke transfer conveyor system			bridge crane, hopper (2), and convey-or (2) serving Processes B-1 and C

7. Process Unit D-1, Main Boiler Plant

TITLE		ID	CAP.	DESCRIPTION
a.	steam boiler	B-504	125 mmBtuh	Nebraska, 100,000 lb-stm/hr, burner: low-nox North American 4211-140-LE, gaseous fuel only
b.	steam boiler	B-506	127 mmBtuh	B&W model FM103-97, burner: low-nox North American 4211-116-LE, gaseous fuel only
c.	steam boiler	B-507	99.9 mmBtuh	B&W model FM103-79, gaseous fuel only
d.	emergency water pump engines (2)	G-515-3, G-515-4	370 hp each	Caterpillar model 3406B DIT LTS, diesel fueled, manufactured in 2000

8. Process Unit D-2, Electrical Power Generation (EPG) Plant

with steam supplied to the EPG turbine and to refinery utilities; consisting of:

	TITLE	ID	CAP.	DESCRIPTION
a.	fuel gas storage (2)	F-931-1 F-931-2	4,000 cf (each) @ 150 psig	pressure vessels located near Process Unit B-2 Coker Steamout
b.	boiler	B-505	70,000 lb- stm/hr & 100 mmBtuh	Babcock and Wilcox with Coen CFP/LN-32 burner, flue gas recirculation, and automatic oxygen feedback control
c.	steam driven turbine	N-970	7935 hp @ 66,000 lb- stm/hr	
d.	electrical generator	GT-970	5.8 MW	

9. Process Unit E-1, Sulfur Recovery Units A and B

each of a three (3) stage Claus design with 91 long-ton per day capacity and, except as noted, each consisting of:

	TITLE	ID	CAP.	DESCRIPTION
a.	acid gas knock-out drum	F-612		3' D x 10'6" T
b.	acid gas preheater	E-600	0.211 mmBtuh	no vent to atmosphere
c.	process water stripper overhead knock-out drum	F-355		3' D x 8' T
d.	reaction furnace & waste heat boiler	B-600	16.1 mmBtuh	Comprimo burner, no vent to atmosphere
e.	process water stripper knock-out drum cond pump (2)	G-358	30 gpm each	
f.	sulfinol acid gas knock-out drum pump	G-618	30 gpm	
g.	converters (2)	D-603/5		
h.	in-line heaters	B-605		no vent to atmosphere
i.	waste heat condenser	E-611		
j.	air blower (3)	GB-611		driven by: two each steam turbine and one electric
k.	sulfur condensers (4)	E-605/8 & E-610/12		
l.	air demand analyzer (2 total)	AA-601 & AB-601		no vent to atmosphere
m.	sulfur recovery unit incinerator (2 total)	B-602A/B	9 mmBtuh each	normal operation is 750°F
n.	stack flow meters	FI-1600 A/B		EMRC DP-60/75 Mark 2 monitors
o.	incinerator SO2 monitor	AN-1600 A/B		Ametek Model 922 Multi-Gas Analyzer dual span 0-500 ppm and 0-10,000 ppm
p.	sulfur pit (2 total)			vented to B-602A/B

10. Process Unit E-2, Sulfur Recovery Support Units (common to Sulfur Recovery Units A and B)

	TITLE	ID	CAP.	DESCRIPTION
a.	sulfur plant relief drum	F-617		3'6" D x 7' T
b.	relief drum pump (2)	G-617	15 gpm each	
c.	spare turbine	GB-611		

11. Process Unit G, Oily Water Treatment

	TITLE	ID	CAP.	DESCRIPTION
a.	oily water sewer system			refinery-wide
b.	covered diversion box	F-820		10' H x 10' W x 10' D, atm vent
c.	covered API oil-water separator (3)	F-821A, B,C	535 gpm each	85' L x 12' W x 8' H, natural gas blanket vented to Process A-2
d.	recovered oil surge drum	F-824	110 bbl	fixed roof, natural gas blanket vented to Process A-2
e.	recycled solids tank (2)	F-408,9	120 bbl each	fixed roof, natural gas blanket vented to Process A-2
f.	safety surge tank (2)	TK-822,3	40,000 bbl	floating roof, 120' diameter, 377' circumference, mechanical shoe primary, rim-mounted secondary, roof drain with slotted membrane cover, and under-roof oil skimmer
g.	effluent air cooler	E-801	7.1 mmBtuh heat removal	fin-fan heat exchanger

12. Process Unit I, Hydrogen Sulfide Absorption Unit A

	TITLE	ID	DESCRIPTION
a.	sulfinol H ₂ S absorber	D-601	3'7" D x 61' T
b.	sulfinol stripper	D-602	5' D x 62' T
c.	rich sulfinol flash drum	F-600	7' D x 26' L
d.	hydrogen sulfide scrubber	F-616	18" D 13' T
e.	sulfinol storage and handling system		
f.	carbon filtration system		

13. Process Unit J, Hydrogen Sulfide Absorption Unit B

TITLE		ID	DESCRIPTION
a.	sulfinol H ₂ S absorber	D-601	
b.	sulfinol stripper	D-602	
c.	fuel gas H ₂ S analyzer	AN 603	Rosemount-Daniels Model 500 gas chromatograph, span is 300 ppm H ₂ S, monitors output of both Process Units I & J
	fuel gas GHG/HHV analyzer	AN604	
d.	rich sulfinol flash drum	F-600	7' D x 26' L
e.	hydrogen sulfide scrubber	F-616	18" D 13' T
f.	sulfinol storage and handling system		
g.	carbon filtration system		

14. Process Unit K, Tail Gas Treating Unit

utilizing a vanadium-based liquid solution and consisting of:

TITLE		ID	DESCRIPTION
a.	reduced gas generator	B-701	
b.	hydrogenation reactor	D-701	
c.	contact condenser/desuperheater	D-702	
d.	absorber/reaction tank	F-704	
e.	tail gas combustor	B-702	discharge to atmosphere, 12 mmBtuh, normal operation is 600°F
f.	three-stage oxidizer system	F-701/2/3	Claus reaction
g.	tail gas emissions monitor	AN-1707/1709	Emerson Process-Daniel model 1000 flame photometric detector gas chromatograph system with model 2350A controller, span is 20 ppm H ₂ S & 350 ppm TRS
h.	sulfur melt pit	F-716	inactive
i.	sulfur froth handling system		
	1) froth tank	F-712	25' D x 18' T
	2) Verti-press filter	ME-701	with bagging system

15. Process Unit L, Product Pump System

TITLE		ID	DESCRIPTION
electrically driven pump (2)		G-50, G-50S	tandem barrier-fluid seals vented to Process A-2

16. Process Unit M, Compressor and Pump Engines

TITLE		ID	CAP.	DESCRIPTION
a.	back-up plant-air compressor engine	Sullair 1600H	540 hp	One 1600 cfm compressor, powered by a Caterpillar Model C15 diesel engine, 540 hp, equipped with a Johnson Matthey CRT Particulate Filter.

TITLE		ID	CAP.	DESCRIPTION
b.	portable water pump	GE-522	225 hp	John Deere, model 6081AF001, diesel engine; manufactured in 1999 with turbocharger on the inlet, catalyzed particulate filter on the exhaust, and Claire Longview backpressure monitoring system
c.	portable air compressor system	GB-1015	115 hp	John Deere, 4045TF275 Tier 2 diesel engine, manufactured in 2004, Harco catalyzed particulate filter, model SUD-CHEMIE EnviCat
d.	limited use plant air compressor engine	Sullair 900H	300 hp	One 1050 cfm compressor, powered by a Caterpillar Model C9.3 diesel engine, 300 hp, Interim Tier 4

17. Process Unit N, Portable Abrasive Blasting Equipment

TITLE		CAPACITY	DESCRIPTION
a.	sandpot	6.5 cu.ft.	portable, Schmidt 2006 model 24L-144
b.	sandpot	6.5 cu.ft.	portable, Schmidt model 24L-6300124
c.	blast valve		Schmidt MV2 valve with Schmidt nozzles numbers 5-10
d.	blasting containment structure		24' x 20' x 15'

18. Process Unit O, Hydrocarbon Relief and Recovery System

Title		ID	CAP.	DESCRIPTION
a.	relief drum	F-451		8' D x 32' L
b.	quench tower	D-451		11' D x 28'6" T
c.	blower suction knock-out drum	F-452		24" D x 5' T
d.	blower suction drip pot	F-453		12" D x 36" T
e.	vapor recovery blower	GB-455	833 mmscfd	40 hp
f.	blower recycle cooler	E-452	47.4 mBtuh	heat exchanger, no atmospheric vent
g.	blower discharge cooler	E-458	0.45 mmBtuh	heat exchanger, no atmospheric vent
h.	blower discharge knock-out drum	F-458		30" D x 6' T
i.	discharge knock-out drum pump	G-458	10 gpm	
j.	light recovered oil pump (2)	G-454	100 gpm each	
k.	flare stack and seal drum	C-451		24" D x 200' H, steam-assisted
l.	flare gas flowmeter	FI-1413-2		Panametric, model GF868, ultrasonic
m.	flare stack sampling system to determine flared gas heat content		auto sample after 6 minutes of flared gas flow	Welker Engineering, downstream of D-451 quench tower
n.	heavy recovered oil pump (2)	G-453	250 gpm each	

o.	quench tower bottoms pump (2)	G-452	250 gpm each	
p.	recovered oil cooler	E-451	30 mmBtuh	heat exch, no atm vent

19. Process Unit P, Process Water System

	Title	ID	CAP.	DESCRIPTION
a.	process water stripper	D-351		5' D x 93' T
b.	process water tank	TK-351	40,000 bbl	domed roof, vent to Process A-2
c.	feed/effluent exchanger	E-351	12.0 mmBtuh	heat exch, no atm vent
d.	stripper reboiler	E-353	24.7 mmBtuh	heat exch, no atm vent
e.	stripper overhead condenser	E-352	17.6 mmBtuh	heat exch, no atm vent
f.	stripper water cooler	E-354	5.4 mmBtuh	heat exch, no atm vent
g.	feed pump (2)	G-351	265 gpm each	
h.	stripper water pump (2)	G-352	280 gpm each	
i.	stripper reflux pump (2)	G-353	50 gpm each	
j.	skim oil pump	G-354	20 gpm	
k.	tank block sump pump (2)	G-357	20 gpm each	
l.	stripper feed filters	F-352		18" D x 3' T
m.	caustic storage tank	F-354		10' D x 17' H
n.	caustic circulation pump	G-356	5 gpm	
o.	caustic injection pump	G-355	30 gph	

20. Process Unit Q, Green Coke Handling System

	TITLE	CAP.	DESCRIPTION
a.	stock-piles		green coke
b.	runoff collection pond pump		electrically driven pump

21. Process Unit S-3, Coke Portable Handling Equipment

	Title	ID	CAP.	DESCRIPTION
a.	semi-portable hopper and conveyor	4004	10 ton	hopper: 16' L x 9' W x 12' H, conveyor: 24" W x 19' L,

22. Process Unit U, Sulfur Pelletizing Plant

	TITLE	ID	CAP.	DESCRIPTION
a.	sulfur pump	6000	10 hp	
b.	pelletizing nozzle	6007		
c.	hopper with feeder/breaker	6026	15 hp	

	TITLE	ID	CAP.	DESCRIPTION
d.	conveyor (short)	6027	15 hp	between c and e
e.	hopper with de-lumper	6032	15 hp	Between d and f
f.	conveyor (long, inclined)	6028	10 hp	between e and g
g.	rod deck screen	6029	7.5 hp	4' x 8', Symon
h.	screen delumper	6030	5 hp	
i.	screened product silo (truck loading hopper)			
j.	sulfur storage pit			16' W x 16' L x 13.5' D, below grade

23. Process Unit W, Diesel Engine Systems

- a. Backup electrical generator for the Wet Plant consisting of: one 230 kW Kohler, Model 230R0ZD71, generator driven by a 370 hp, diesel fueled, Detroit Diesel, Model 6V92T engine, turbocharged, Phillips 66 ID# NE-800. Manufactured in 1996 with run-time of 26.9 hours on February 27, 2004.
- b. Backup electrical generator for the coker control room consisting of: one 180 kW Kohler, Model 180R0ZD71, generator driven by a 300 hp, diesel fueled, John Deere, Model 6076AF011 engine, turbocharged, Phillips 66 ID# NE-503. Manufactured in 1996 with run-time of 88.2 hours on February 27, 2004.
- c. Backup electrical generator for the maintenance and administration operation consisting of: one 150 kW Kohler, Model 150R0ZD71, generator driven by a 250 hp, diesel fueled, John Deere, turbocharged, Model 6076AF010 engine, Phillips 66 ID# NE-504. Manufactured in 1996 with run-time of 30.4 hours on February 27, 2004.
- d. Backup electrical generator for the Reverse Osmosis Unit consisting of: one 355 kW Kohler, Model 350RE0ZD, generator driven by a 550 hp, diesel fueled, Detroit Diesel, Model 6063TK35 engine, turbocharged. Engine family YDDXL12.7TGD, manufactured in 2000 with run-time of 56.6 hours on February 27, 2004.
- e. Backup water pump for the carbon plant runoff collection pond consisting of: one 82 hp, diesel fueled, Perkins, Model 1004-42 engine, Phillips 66 BK-699. Engine family 1PKXL04.2AR1, manufactured in 2001 with run-time of 564.5 hours on March 9, 2004.
- f. Portable welding unit (#7975) consisting of: one Lincoln Welder driven by a 71 hp, diesel fueled, Perkins, model K1278-5, Serial C102090053, Phillips 66 ID 7975. Manufactured in 1999 with a run time of 750 hours on December 9, 2005. Mine-X diesel oxidation catalyst installed 2006.
- g. Portable welding unit (#1485) consisting of: one ARC Welder Trailer driven by a 71 hp, diesel fueled, Perkins, model SAE-400 4.236, Serial 944059, Phillips 66 ID 1485. Manufactured in 1975 with a run-time meter installed on March 9, 2006. Mine-X diesel oxidation catalyst installed 2006.

- h. Portable welding unit (#7970) consisting of: one Diesel Welder SAE driven by an 80 hp, diesel fueled, Perkins, model SAE-400 4.236, Phillips 66 ID 7970. Manufactured in 1985. Mine-X diesel oxidation catalyst installed 2006.

C. Insignificant Equipment

The following equipment and equipment types are considered environmentally insignificant. This equipment is not subject to the provisions of this permit except for those units that are subject to a federally-enforceable, generally applicable requirement as listed in section III.A.1, and diesel engines rated at <50 bhp that become subject to the requirements of 17CCR93115, Airborne Toxic Control Measure for Stationary Compression Ignition Engines.

Description	Basis for Insignificance
chemical laboratory analytical equipment	Rule 201.A.1
internal combustion engines rated <50 bhp	Rule 201.B.1
restroom water heaters	Rule 201.B.2
coke handling mobile equipment	Rule 201.C.1
diesel storage tanks used for vehicle fueling	Rule 201.I.4
gasoline storage tanks used for vehicle fueling	Rule 201.I.9
architectural coating spray guns	Rule 201.J.1
cold solvent cleaners	Rule 201.J.2
comfort air conditioning	Rule 201.M.1
comfort space heating	Rule 201.M.5
welding equipment	Rule 201.N.2
bead blaster	Rule 201.A.1
tail gas unit regenerative crystallizer system	Rule 201.A.1
temporary Stretford solution storage tank, 21,000 gallons	Rule 201.A.1

III. CONDITIONS

A. STANDARD CONDITIONS

1. Generally Applicable Requirements.

For the purposes of this permit, all requirements shall be based on standard atmospheric conditions of sixty degrees Fahrenheit (60°F) and 14.7 psia. [SIP Rule 106]

- a. Visible emissions shall not exceed any of the following from any single source of emissions, except for open outdoor fires that have been approved by the APCO for the purposes of employee instruction in firefighting methods: [SIP Rule 401.B.3]
 - 1) Ringlemann #2 or forty percent (40%) opacity for a period exceeding three (3) minutes aggregated in any sixty (60) minute period of time; or [SIP Rule 401 and District-only, H&SC 41701]
 - 2) Ringlemann #1 or twenty percent (20%) opacity for a period exceeding three (3) minutes aggregated in any sixty (60) minute period of time. [District-only, Rule 401.A]

- b. If the APCO determines that the operation of this equipment is causing a public nuisance, Phillips 66 shall take immediate action and eliminate the nuisance. [District-only, Rule 402]

- c. Particulate matter emissions shall not exceed any of the following:
 - 1) For all emission units:
 - i. 0.30 gr/scf, on an hourly basis, and [SIP Rule IV.113.1]
 - ii. that lb/hr amount identified in Table I of SIP Rule 113 depending on process rate; [SIP Rule IV.113.2]
 - 2) For all emission units, except combustion devices and internal combustion engines:
 - i. 0.10 gr/dscf, on an hourly basis, and [District-only, Rule 403.A]
 - ii. that lb/hr amount identified in Rule 403.B depending on process rate; [District-only, Rule 403.B]
 - 3) For combustion devices:
 - i. 0.30 gr/scf corrected to three percent (3%) O₂, wet, and [SIP Rule IV.113.4]
 - ii. 0.120 lb/mmBtu of fuel input, except for internal combustion engines. [District-only, Rule 403.C.1]

- d. Sulfur compound limitations.
 - 1) Sulfur compound emissions shall not exceed 0.20 percent by volume of sulfur compounds calculated as sulfur dioxide, excluding units B-602A/B, which are exempt under SIP Rule 114.1.c [SIP Rule 114.1.a]
 - 2) Gaseous fuel sulfur content shall not exceed 50 gr/100 dscf (797 ppmv) total sulfur (as H₂S at standard conditions). [SIP Rule 404.E.1]
 - 3) Liquid fuel sulfur content shall not exceed 0.50 wt% sulfur. [SIP Rule 404.E.1]
 - 4) Phillips 66 shall not burn liquid fuel in the following combustion devices: [Consent Decree H-05-0258, condition 117]
 - i. B-2A&B
 - ii. B-62A&B
 - iii. B-102A&B

- iv. B-201A&B
- v. B-504, B-505, B-506 & B-507

- e. Carbon monoxide emissions shall not exceed 2000 ppmv at standard conditions. This condition shall not apply to internal combustion engines. [SIP Rule 406]
- f. Metal surface coatings shall not be thinned or reduced with photochemically reactive solvents, as defined in SIP Rule 407. [SIP Rule 407.H.2]
- g. Architectural coatings, which are purchased in containers of one (1) quart capacity or larger, shall not contain photochemically reactive solvents nor shall they be thinned or reduced with photochemically reactive solvents. [SIP Rule 407.H.3]
- h. No photochemically reactive solvent, or any material containing that amount of photochemically reactive solvent, may be evaporated during the disposal of that solvent or material. [SIP Rules 205 and 407.H.4]
- i. Phillips 66 shall not vent organic compounds to the atmosphere during the depressurization, or vessel purging, steps of a refinery process turnaround. Compliance shall be accomplished by venting all uncondensing organic gases to a fuel gas system or to a flare. [SIP Rule 422]
- j. This facility shall comply with all applicable provisions of the Air Toxic "Hot Spots" Act as set forth in Health and Safety Code Section 44300 (et seq.). [District-only, H&SC 44300 (et seq.) and, District-only, Rule 204.F.1]
- k. All abrasive blasting shall be conducted in accordance with Title 17 of the California Code of Regulations (CCR). [District-only, CCR92000 (et seq.)]
 - 1) Each operator of this equipment shall be supplied with a copy of the abrasive blasting provisions of Title 17 and the APCO prepared summary of Title 17. [District-only, Rule 206]
 - 2) Abrasive blasting of items smaller than eight feet (8') shall be conducted within an enclosure or indoors. [District-only, CCR92000 (et seq.)]
 - 3) All dry, unconfined blasting shall utilize ARB certified abrasives. [District-only, CCR92000 (et seq.)]
 - 4) Areas surrounding the blasting operation shall be periodically washed, swept, vacuumed, or otherwise cleaned to prevent re-entrainment of dust. [District-only, Rule 206]
- l. This equipment shall be operated consistent with the information provided in the application under which this permit, or previous versions of this permit and all previous permits issued for this equipment, were issued; and shall be maintained on-line and in good working order at all times during the operation of their respective process and in such a manner as to minimize the emission of air contaminants. [SIP Rule 201]
- m. The APCO shall be notified in writing before any changes are made in the design, construction, or method of operation of this equipment, or any modifications are made to process conditions that might increase the emission of air contaminants in excess of existing permit limits, for those emission unit and pollutant combinations with such limits, or that might increase the potential to emit of any air contaminant,

- for those emission unit and pollutant combinations without current limits. [SIP Rule 201]
- n. Spilled petroleum material shall be cleaned up as soon as possible to minimize hydrocarbon emissions and odors. Clean up materials shall be stored in closed containers in accordance with applicable regulations and disposed of as hazardous material in compliance with federal, state, and local regulation. [District-only, Rule 206]
 - o. Any gasoline transfer to a stationary storage tank shall utilize a permanently installed submerged fill pipe and a tight-fitting nozzle. [SIP Rule 407.C.1.a]
 - p. Phillips 66 shall follow good operating practices when storing or transferring gasoline including: [SIP Rule 424.B.5]
 - 1) preventing spills;
 - 2) utilizing closed storage containers; and
 - 3) disposing of any gasoline in compliance with all applicable federal, state, and local regulations.
 - q. Phillips 66 shall ensure that cold solvent metal cleaning devices, with the exception of wipe clean operations:
 - 1) utilize: [SIP Rule 416.B]
 - i. a container for the solvent and the articles being cleaned;
 - ii. a cover, easily operated with one hand, which prevents the solvent from evaporating when the cleaning device is not in use;
 - iii. a shelf for draining cleaned parts such that the drained solvent is returned to the solvent storage container;
 - iv. a permanent, conspicuous label, which lists all applicable operating requirements; and
 - v. a freeboard ratio equal to or greater than 0.75, if the solvent surface area is greater than or equal to 5.4 square feet; and
 - 2) are operated as follows. [SIP Rule 416.C]
 - i. All degreasing equipment and emission control equipment shall be operated and maintained in good working order.
 - ii. No solvent may be allowed to leak from the degreasing equipment.
 - iii. All solvent shall be stored and disposed of in a manner that prevents its evaporation to the atmosphere.
 - iv. The cover of any cleaning device shall not be removed unless that device is in use or undergoing maintenance.
 - v. The operator shall drain parts for at least fifteen (15) seconds after cleaning or until dripping ceases.
 - vi. Flowing solvent shall consist of a liquid stream and not a fine, atomized, or shower type spray; and the motive pressure for that solvent flow shall be sufficiently low to prevent the splashing of solvent beyond the container.

- r. Phillips 66 shall not ignite or maintain an open outdoor fire except as approved by the APCO for the purposes of employee instruction in fire fighting methods. [SIP Rule 501.A]
- s. All subject processes shall comply with applicable provisions of 40CFR61, National Emission Standards for Hazardous Air Pollutants, subpart A, General Provisions, and all of the provisions of subpart M, Asbestos. [40CFR61.05.c and subpart M]
 - 1) General Provisions. Phillips 66 shall:
 - i. not fail to report, revise reports, or report source test results as required by subpart M; [40CFR61.05.d]
 - ii. ensure that any change to the information provided in the initial notification under 40CFR61.10.a shall be submitted to the APCO no later than thirty (30) calendar days after that change; [40CFR61.10.c]
 - iii. ensure that each subject process shall be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions; [40CFR61.12.c]
 - iv. ensure that regulated asbestos containing material (RACM) workers are adequately trained in accordance with 40CFR60.145.c.8; and [40CFR61.145.c.8]
 - v. not install or reinstall RACM. [40CFR61.148]
 - 2) Applicability. The notification and procedural requirements of subpart M apply to demolition and renovation activity of regulated asbestos-containing material (RACM) involving: [40CFR61.145.a.1]
 - i. at least 260 linear feet of RACM on pipes,
 - ii. at least 160 square feet of RACM on other components, or
 - iii. at least thirty-five (35) cubic feet of RACM that has been removed from refinery components and is no longer otherwise measurable in the above units.
 - 3) Notifications. Phillips 66 shall submit the following notifications to the APCO and CALOSHA. [District-only, Rule 206 for the requirement to notify CALOSHA]
 - i. No later than ten (10) working days prior to any renovation or demolition involving that amount of RACM identified in condition III.A.1.s.2 and using a form similar to that shown in figure 3 to subpart M: [40CFR61.145.b.4]
 - (a) identify the notification as either an original or a revision;
 - (b) name, address, and telephone numbers of both the facility and the contractor, if appropriate;
 - (c) identify the activity as either demolition or renovation;
 - (d) location and description of the affected part of the facility including the affected part's size, age, and use;
 - (e) procedure used to detect the presence of RACM;
 - (f) the estimated amount of RACM involved and the basis for that estimate;
 - (g) scheduled starting and completion dates of the RACM work;
 - (h) description of RACM work, including the work practices, engineering controls, and waste-handling procedures to be used to comply with subpart M;

- (i) name, location, and telephone number of the waste transporter and disposal site;
 - (j) certification that at least one properly trained person will supervise the activity; and
 - (k) description of procedures to be followed in the event that unexpected RACM is found or that Category II nonfriable asbestos containing material becomes crumbled, pulverized, or reduced to powder.
 - ii. If an RACM activity start date is after the date given in the original notification, provide verbal notification of the new date as soon as possible before the original date and a written notification as soon as possible, but no later than the original start date. [40CFR61.145.b.3.iv.A]
 - iii. If an RACM activity start date is earlier than the date given in the original notification, provide written notification at least ten (10) working days before the new start date. [40CFR61.145.b.3.iv.B]
 - iv. Update any previously provided notice, if the amount of RACM involved changes by at least twenty percent (20%) or if the start or end date of any activity changes. [40CFR61.145.b.2]
- 4) Emission Controls. Phillips 66 and/or their contractor(s) shall comply with the procedures for asbestos emission control identified in 40CFR61.145.c. [40CFR61.145.c]
- 5) Waste Disposal. Phillips 66 shall:
 - i. not discharge any visible emissions to the ambient air during the collection, processing, packaging, or transporting of asbestos-containing material (ACM), except as allowed by 40CFR61.150.a; [40CFR61.150.a]
 - ii. ensure that all ACM is properly disposed of as soon as practicable; [40CFR61.150.b]
 - iii. ensure that vehicles used to transport ACM are marked with visible signs in accordance with 40CFR61.149.d; [40CFR61.150.c]
 - iv. provide a copy of the ACM waste shipment record, as required under condition III.B.1.w, to the disposal site operator when the waste is delivered to their site; [40CFR61.150.d.2]
 - v. if a copy of a waste shipment record is not received within thirty-five (35) calendar days of the date that ACM waste was accepted by an initial transporter, contact the transporter(s) or the owner/operator of the designated waste disposal site to determine the status of the waste shipment; and [40CFR61.150.d.3]
 - vi. if a copy of a waste shipment record is not received within forty-five (45) calendar days of the date that ACM waste was accepted by an initial transporter, provide a written report to the APCO and CALOSHA which includes the waste shipment record of concern and details Phillips 66' efforts to determine the shipment's status. [40CFR61.150.d.4]
- t. All subject processes shall comply with the provisions of 40CFR61, National Emission Standards for Hazardous Air Pollutants, subpart A, General Provisions, and subpart FF, Benzene Waste Operations. [40CFR61.05.c and subpart FF]

- 1) General Provisions
 - i. Phillips 66 shall not fail to report, revise reports, or report source test results as required by subpart FF. [40CFR61.05.d]
 - ii. Any change to the information provided in the initial notification under 40CFR61.10.a shall be submitted to the APCO no later than thirty (30) calendar days after that change. [40CFR61.10.c]
 - iii. Each subject process shall be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions. [40CFR61.12.c]
 - 2) Phillips 66 shall determine the total annual benzene waste quantity (TABQ) generated using the procedures in 40CFR61.355: [40CFR61.355.a]
 - i. annually for the preceding calendar year, and [40CFR61.355.a]
 - ii. whenever there is a change in the process generating the waste that could cause the TABQ to increase to ten (10) megagrams per year or more. [40CFR61.355.a.4.ii]
 - 3) Whenever a TABQ determination is made under condition III.A.1.t.2.ii above, Phillips 66 shall submit an update of their original report under 40CFR61.357.a to the APCO, with a copy to the EPA Region IX administrator. [40CFR61.357.c]
- u. Phillips 66 shall comply with all applicable provisions of 40CFR82, Protection of Stratospheric Ozone. [40CFR82.1.b]
- 1) Phillips 66 shall comply with the ozone-depleting substance (ODS) labeling standards of 40CFR82 subpart E. No person may modify, remove, or interfere with a required warning statement, except as described in 40CFR82.112. [40CFR82.112.a]
 - 2) Phillips 66 shall comply with the recycling and emissions reduction standards of 40CFR82 subpart F. [40CFR82.150.b]
 - i. Phillips 66 shall comply with 40CFR82.156 when opening any appliance for maintenance, service, repair, or disposal.
 - ii. Phillips 66 shall ensure that recycling and recovery equipment used during the maintenance, service, repair, or disposal of appliances complies with 40CFR82.158.
 - iii. Phillips 66 shall ensure that any person performing maintenance, service, or repairs on, or disposing of, appliances is currently certified under a technician certification program that has been approved under 40CFR82.161.
 - iv. Phillips 66 shall comply with the recordkeeping requirements of 40CFR82.166 when disposing of small appliances or motor vehicle air conditioner (MVAC)-like appliances.
 - v. Phillips 66 shall comply with the leak repair requirements of 40CFR82.156.
 - vi. Phillips 66 shall maintain a record of refrigerates purchased and added to the coker control room chiller, which contains fifty (50) pounds or more of refrigerate, as required by 40CFR82.166.

- 3) Phillips 66 shall not perform maintenance, service, or repairs on MVACs. [SIP Rule 205]
- 4) For any given equipment, Phillips 66 may at any time, and without prior notification to the APCO, switch from the use of an ODS to an alternative substance, which has been approved under the Significant New Alternatives Program of 40CFR82 subpart G, and shall comply with any use restriction for that alternative substance which was set by the applicability decision. [40CFR82.174.c]
- v. A copy of the State certification must be readily available for any portable equipment that operates at Phillips 66' Santa Maria Refinery and is registered with ARB pursuant to CCR Title 13, section 2450 (et seq.). [SIP Rule 205]
- w. This facility shall comply with all applicable provisions of District Rule 433, Architectural Coatings. [District-only, Rule 433]

2. Compliance with Permit Conditions

- a. Phillips 66 shall comply with all terms and conditions of this permit. Non-compliance constitutes a violation of the federal Clean Air Act. Continuing non-compliance with any federally-enforceable permit condition is grounds for permit termination, revocation and reissuance, modification, enforcement action, or denial of permit renewal. [Rule 216.F.1.f for all "federally-enforceable" conditions and, District-only, Rule 206 for "District-only" enforceable conditions]
- b. The need to halt or reduce a permitted activity in order to maintain compliance shall not be used as a defense for noncompliance with any permit condition. [Rule 216.F.1.g]
- c. This permit may be reopened by the APCO at any time for cause. For the purposes of this permit, the following circumstances shall constitute cause. [Rule 216.K.1]
 - 1) Phillips 66 becomes subject to an additional federally-enforceable requirement, the remaining term of this permit is three years or more, and the effective date of that requirement is not later than the date on which this permit is due to be reissued. [Rule 216.K.1.a]
 - 2) The APCO or the EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards, terms, or conditions of the permit. [Rule 216.K.1.c]
 - 3) The APCO determines that this permit must be revised or revoked to assure compliance with any applicable requirement, or EPA determines that the permit must be revised or revoked to assure compliance with any federally-enforceable requirement. [Rule 216.K.1.d]
 - 4) A TABQ equal to or exceeding ten (10) megagrams in any given year, as determine under 40CFR61 subpart FF and condition III.A.1.t to this permit, shall be considered cause for reopening this permit. [40CFR61.342.b]
- d. This permit does not convey property rights or exclusive privilege of any sort. [Rule 216.F.1.i]

- e. Within a reasonable time period, Phillips 66 shall furnish any information requested by the APCO, for the purpose of determining:
 - 1) compliance with this permit; [Rule 216.F.1.j.2]
 - 2) air contaminant emissions; [SIP Rule 205]
 - 3) whether or not cause exists to modify, revoke, reissue, or terminate this permit; or [Rule 216.F.1.j.1]
 - 4) whether or not cause exists for an enforcement action. [Rule 216.F.1.j.2]
- f. If Phillips 66 is not in compliance with any federally-enforceable requirement, they shall submit to the APCO a schedule of compliance, which has been approved by the Hearing Board. [Rule 216.F.2.c]
- g. A pending permit action, or notification of anticipated noncompliance, does not stay any condition of this permit. [SIP Rule 205]
- h. All terms and conditions of this permit are enforceable by the EPA Administrator and citizens of the United States under the federal Clean Air Act unless referenced as being based on a District-only requirement. All terms and conditions of this permit, including those referenced as being based on a District-only requirement, are enforceable by the APCO. [Rule 216.F.3]
- i. This permit, or a true copy, shall be made readily accessible at Phillips 66' Santa Maria Refinery and shall not be altered or defaced in any way. [SIP Rule 201.E&F]
- j. The terms and conditions of this permit shall apply to the equipment listed herein, which is operated by either Phillips 66 or their contractor(s), and located at 2555 or 2565 Willow Road, Arroyo Grande, California, or on contiguous properties to those addresses, which are owned and controlled by Phillips 66. [SIP Rule 205]
- k. A permit revision shall not be required to implement processes changes, economic incentives, marketable permits, emissions trading and other similar programs that are provided for elsewhere in this permit. [Rule 216.F.1.l]

3. Emergency Provisions

Phillips 66 shall comply with the requirements of District Rule 107, Breakdown or Upset and Conditions and Emergency Variances. [Rule 107]

4. Federal Regulation and District Compliance Plans

- a. Phillips 66 will continue to comply with those permit conditions with which it is in compliance, as identified in this permit. [Rule 216.F.1.f & L.2.b]
- b. Phillips 66 shall comply with all federally-enforceable requirements that become applicable during the permit term, in a timely manner, as identified in this permit. [Rule 216.F.1.f & L.2.c]
- c. Phillips 66 shall comply with all APCO approved compliance plans. [District-only, Rule 206]

- d. Phillips 66 shall comply with the control measures and associated compliance plans for particulate matter emission minimization listed as Items B.1 through B.9 in the Memorandum of Agreement for Coke and Sulfur Storage and Handling Plan, dated May 11, 2011 or any updated version approved by the APCO. Phillips 66 shall also comply with the coke storage quantity limit listed in Section C of that Agreement.
- e. No later than sixty (60) calendar days after the completion of an engine retrofit or replacement under condition III.C.11.a.2, Phillips 66 shall submit an Engine Operator Inspection Plan for the APCO's approval. At a minimum, that Plan shall include the following. [District-only, Rule 431.E]
 - 1) The manufacturer, model number, horsepower, and combustion type of the engine.
 - 2) A description of the NO_x control system installed on the engine, including type and manufacturer, as well as a description of any ancillary equipment related to the control of emissions.
 - 3) The facility-defined equipment identification number and the location of the engine on a map or plot plan of the affected facility.
 - 4) A specific engine inspection procedure to ensure that the engine is operated in compliance with the provisions of Rule 431. That procedure shall include an inspection schedule and the inspection log format as required by Section G of Rule 431. Inspections shall be conducted every quarter or after every 2,000 hours of engine operation. In no event shall the frequency of inspection be less than once per year.
 - 5) A description of each preventive or corrective maintenance procedure or practice that will be used to maintain the engine and NO_x control system in compliance with the provisions of Rule 431.

5. **Right of Entry**

The Regional Administrator of U.S. Environmental Protection Agency, the Executive Officer of the California Air Resources Board, the APCO, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises and, at reasonable times, be permitted to: [Rule 216.F.2.a].

- a. inspect the stationary source, including equipment, work practices, operations, and emission-related activity; and
- b. inspect and duplicate records required by this Permit to Operate; and
- c. sample substances or monitor emissions from the source or other parameters to assure compliance with the permit or applicable requirements. Monitoring of emissions can include source testing.

6. **Severability**

The provisions of this Permit to Operate are severable, and, if any provision of this Permit to Operate is held invalid, the remainder of this Permit to Operate shall not be affected thereby. [Rule 216.F.1.e]

7. **Circumvention**

Phillips 66 shall not build, erect, install, or use, any article, machine, equipment, or process subject to an applicable standard, if the use of which conceals an emission that would otherwise constitute a violation of that standard. [40CFR60.12, 61.19, & 63.4.b]

8. Permit Life

This Permit to Operate shall become invalid five (5) years from the original effectiveness date unless a timely and complete renewal application is submitted to the District. Phillips 66 shall apply for renewal of this permit no later than six (6) months before the date of expiration. Upon submittal of a timely and complete renewal application, this Permit to Operate shall remain in effect until the APCO issues or denies the renewal application. [Rule 216.I.1, I.2, & I.4]

9. Payment of Fees

Phillips 66 shall remit Title V compliance determinations fees to the District in response to the District's invoice on a timely basis. Failure to remit fees in accordance with District Rule 302 shall result in forfeiture of this Permit to Operate. Operation without a permit to operate subjects the source to potential enforcement action by the District and the U.S. EPA pursuant to section 502(a) of the Clean Air Act. [Rule 216.F.1.k]

B. Specific Recordkeeping, Inspection, and Reporting Requirements

All records shall be retained for a minimum of five (5) years and be made available to the APCO upon request. For the purposes of this permit, records shall be considered all calibration and maintenance records, all original strip-chart or electronic recordings for continuous monitoring and instrumentation, all records specifically required to be maintained herein, and copies of all reports required to be submitted herein. [District-only, Rule 206, for "District-only" records; Rule 216.F.1 for all other records; for B-505, 40CFR60.48c.i; and for subpart UUU provisions, 40CFR63.10.b.1&1576.h]

1. Recordkeeping

Phillips 66 shall record the following.

- a. All AN-1707/1709 tail gas CEMS data as follows:
 - 1) any measurement made, except that the concentration of CS₂ may be added to the concentration of mercaptans as CH₃SH and recorded as mercaptans; [40CFR60.7.f]
 - 2) relative accuracy tests performed in accordance with EPA Method 15; [40CFR60.7.f]
 - 3) calibration drift test results as required by 40CFR60.PS-5; [40CFR60.7.f]
 - 4) daily records of the calibration including the date, zero and span values, and calibration drift; [40CFR60.7.f]
 - 5) records of all maintenance: [40CFR60.7.f and 40CFR63.10.b.2.iii]
 - i. date, place, and time of maintenance activity;
 - ii. operating conditions at the time of maintenance activity;
 - iii. date, place, name of company or entity that performed the maintenance activity and the methods used; and
 - iv. results of the maintenance;
 - 6) all data sufficient to report excess emissions and CEMS downtime as required by 40CFR60.105.e.4.ii and 40CFR60.7.c; and [40CFR60.7.f]
 - 7) the original FQI-1721/FQI-1759 "Combined CEM Recorder" strip chart which shows tail gas H₂S and TRS, combustor duty, and fuel gas sulfur content as

- the preferred record, with DCS data as an approved alternative to the FQI-1721/FQI-1759 chart. [District-only, Rule 206]
- b. Data from the AN-603 fuel gas hydrogen sulfide CEMS, and the AN-1600 A/B B-602 sulfur dioxide CEMS as follows:
- 1) any measurement made; [40CFR60.7.f]
 - 2) relative accuracy tests [40CFR60.7.f]
 - 3) calibration drift test results as required by the Performance Specifications in Appendix B to 40CFR60 [40CFR60.7.f]
 - 4) daily records of the calibration including the date, zero and span values, and calibration drift; [40CFR60.7.f]
 - 5) records of all maintenance: [40CFR60.7.f]
 - i. date, place, and time of maintenance activity;
 - ii. operating conditions at the time of maintenance activity;
 - iii. date, place, name of company or entity that performed the maintenance activity and the methods used; and
 - iv. results of the maintenance; and
 - 6) all data sufficient to report excess emissions and CEMS downtime as required by 40CFR60.105.e.3.ii and 40CFR60.7.c. [40CFR60.7.f]
- c. Data from the AN-604 fuel gas analyzer as follows:
- 1) any measurement made; [40CFR98.3]
 - 2) relative accuracy tests; [District-only Rule 206]
 - 3) calibration records; [District-only Rule 206]
 - 4) records of all maintenance: [40CFR98.3]
 - i. date, place, and time of maintenance activity;
 - ii. operating conditions at the time of maintenance activity;
 - iii. date, place, name of company or entity that performed the maintenance activity and the methods used; and
 - iv. results of the maintenance; and
 - 5) records of analyzer downtime. [40CFR98.3]
- d. Boilers B-504, B-505, B-506 and B-507 fuel usage continuously, including an hourly summary, with the Distributed Control System (DCS) and at least once per shift in an operating log.
[District-only Rule 206 for B-504, B-507 DCS records, SIP Rule 205 and 40CFR60.48c.g for B-505 DCS records, and SIP Rule 205 and 40CFR60.49b.c.3 for B-506 DCS records; and District-only, Rule 206 for all unit operating logs]
- e. Boilers B-504, B-505, B-506 and B507 steam production continuously, including an hourly summary, with the DCS and at least once per shift in an operating log.
[SIP Rule 205 and 40CFR60.49b.c for B-506 DCS records, District-only Rule 206 for all other unit DCS records, and District-only, Rule 206 for all unit operating logs]
- f. The following parameters for the B-2A/B, B-62A/B, and B-102A/B heaters. The fuel gas heat content shall be based on readings from the AN-604 for fuel gas GHV testing, except as otherwise allowed under condition III.D.5. [District-only, Rule 206]

- 1) Hourly heat input for each heater in terms of mmBtuh.
 - 2) Monthly heat input for each heater in terms of mmBtu per month.
 - 3) Hourly heat input for the B-2A, B-62A, and B-102A heaters combined, and for the B-2B, B-62B, and B-102B heaters combined, on a daily average and in terms of mmBtuh.
 - 4) Cumulative heat input for each heater in terms of mmBtu, on a monthly basis, for the most recent 12-month rolling period.
- g. The following parameters for the B-505 boiler. For the purposes of this condition, the fuel gas heat content shall be based on the readings from the AN-604, except as otherwise allowed under Condition III.D.5. [District-only, Rule 206]
- 1) Hourly heat input, on a daily average and in terms of mmBtuh.
 - 2) Cumulative heat input, in terms of mmBtu, for the current calendar year.
 - 3) During any period when steam from the B-505 boiler is being supplied to the utility plant, the start and stop time of that period and the combined steam production of the B-504, B-506, and B-507 boilers on an hourly basis in an operating log.
- h. The total daily crude oil feed to the refinery in barrels and, at the end of each calendar month, the cumulative total crude oil feed for the preceding 12-month rolling period. [District-only, Rule 206]
- i. The daily amount of sulfur pelletizing plant production and shipping, when operation occurs during any part of a day. That record shall also include a running balance of stockpiled sulfur. [District-only, Rule 206]
- j. Process Unit B-2, Tanks 405 & 406: The date, time, staff initials, and surface area appearance in oil percentage, and tank activity at the time of the visual observation for floating oil. [District-only, Rule 206]
- k. Process Units I & J, Sulfinol: The concentration of Sulfolane W in the D601A and D601B H2S absorbers determined by the weekly sampling. [District-only, Rule 206]
- l. Sulfur pit air sweep quarterly air flowrate results performed under condition III.B.2.f below. [District-only, Rule 206]
- m. Inspection results, adjustments, and repairs made to any floating roof storage tank seal. [for Tanks 800, 801, 822, 823, 900, & 901 District-only, Rule 206 and for Tank 903, SIP Rule 205 and 40CFR60.116b.a]
- n. The location, date, and corrective action taken for the following units subject to 40CFR60, subpart QQQ, Waste Water Systems: [40CFR60.697.b thru e]
- 1) drains, if a water seal is found dry, a drain cap or plug is found missing, or any other problem is identified that could result in VOC emissions;
 - 2) junction boxes, if a broken seal, gap, or any other problem is identified that could result in VOC emissions;
 - 3) sewer lines, if any problem is identified that could result in VOC emissions;

- 4) oil-water separators, if any problem is identified that could result in VOC emissions; and
 - 5) closed vent systems, if a leak is measured or any problem is identified that could result in VOC emissions. In addition, the background level and the maximum level of VOC concentration shall be recorded if a leak is measured;
 - 6) if repairs cannot be performed without process unit shutdown, the reason for delay, the expected date of repair, the signature of the person responsible for the delay, and the date of successful repair shall be recorded.
- o. For the life of the refinery, Phillips 66 shall maintain a copy of the design specification used to comply with 40CFR60, subpart QQQ, Waste Water Systems. [40CFR60.697.f]
- p. For the life of the refinery, Phillips 66 shall maintain plans and specification as necessary to qualify for the exclusions allowed under 40CFR60, subpart QQQ, Waste Water Systems, as follows: [40CFR60.697.g thru j]
- 1) capped or plugged inactive drain location; and
 - 2) stormwater sewer, ancillary equipment, and non-contact cooling water separation from the oil water drain system.
- q. All records required under 40CFR60, subpart GGG/GGGa. [in addition to the references cited below, the following reference(s) shall apply to each requirement: 40CFR60.592.e and, for all naphtha stream components, 40CFR63.648.a]
- 1) A list of all subject components categorized by type of service. [40CFR60.486.e.1]
 - 2) A list, which has been signed by the owner or operator, of all components designated as having no detectable emissions. [40CFR60.486.e.2]
 - 3) For each compliance test to determine no detectable emissions, the following data: [40CFR60.486.e.4]
 - i. the beginning date of the test,
 - ii. the measured background level, and
 - iii. the maximum instrument reading.
 - 4) A list of all valves designated as unsafe-to-monitor or difficult-to-monitor, including an explanation for that designation and a plan for monitoring each valve. [40CFR60.486.f]
 - 5) If a leak is detected, log the following data: [40CFR60.486.c]
 - i. the instrument, operator, and equipment identification numbers;
 - ii. the dates of detection and each repair attempt;
 - iii. the method of each repair attempt;
 - iv. the phrase "above 10,000," if the maximum instrument reading after an attempt at repair is equal to or greater than 10,000 ppm; and
 - v. the date of successful repair of the leak.
 - 6) If a leak is not repaired within fifteen (15) calendar days of detection, log the following data: [40CFR60.486.c]
 - i. the phrase "repair delayed," the reason for the delay, and the expected date of repair;
 - ii. the printed name of the owner or operator whose decision it was that a repair must be delayed, if the reason for delay is that the repair could not be affected without a process shutdown;

- iii. the date(s) of the respective process unit's shutdown that occur while the equipment is not repaired.
 - 7) For closed vent systems, the relief and recovery system, and the flare system: [40CFR60.486.d]
 - i. detailed schematics, design specifications, and P&ID drawings;
 - ii. the date(s) and description(s) of any changes in the design specifications;
 - iii. the description of the parameter(s) monitored to ensure that the systems are operated and maintained in accordance with their design and an explanation of why each parameter was selected for monitoring; and
 - iv. a log of:
 - (a) periods when the systems are not operating as designed, including when the flare pilot flame is extinguished; and
 - (b) dates of startup and shutdown of the systems.
- r. All records required under 40CFR61 subpart M. For all asbestos containing material (ACM) transported away from the Santa Maria Refinery, and using a form similar to that shown in figure 4 to subpart M, record the following. [40CFR61.150.d.1]
 - 1) The name, address, and telephone number of the waste generator.
 - 2) The District's name and address as the local agency responsible for administering the asbestos NESHAP program.
 - 3) The approximate quantity of ACM in cubic yards.
 - 4) The name and telephone number of the disposal site operator.
 - 5) The name and physical location of the disposal site.
 - 6) The date transported.
 - 7) The name, address, and telephone number of the transporter.
 - 8) A certification the ACM are fully and accurately described; are classified, packed, marked, and labeled; and are in all respects in proper condition for transport.
- s. All records required under 40CFR61 subpart FF. [in addition to the references cited below, the following reference shall apply to each requirement: 40CFR61.355.a.4.i.]
 - 1) A record that identifies each waste stream that is subject to subpart FF. [40CFR61.356.b]
 - 2) For each waste stream which is subject to subpart FF, a record which includes all test results, measurements, calculations, and other documentation used to determine the following information for that waste stream: [40CFR61.356.b.1]
 - i. waste stream identification,
 - ii. water content,
 - iii. whether or not the waste stream is a process water stream,
 - iv. annual waste quantity,
 - v. benzene concentration range,
 - vi. annual average flow-weighted benzene concentration, and
 - vii. annual benzene quantity.
 - 3) When the annual waste quantity for process unit turnaround waste is determined by selecting the highest annual quantity of waste managed from

historical records representing the most recent five (5) years of operation, a record which includes all test results, measurements, calculations, and other documentation used to determine the following information:

[40CFR61.356.b.5]

- i. identification of the process units undergoing turnaround,
 - ii. most recent turnaround date for each unit,
 - iii. identification of each process unit turnaround waste,
 - iv. water content of the waste,
 - v. annual waste quantity,
 - vi. benzene concentration range of the waste,
 - vii. annual average flow-weighted benzene concentration of the waste,
 - viii. annual benzene quantity.
- t. The manufacturer's brand name and designation of each solvent used to thin or reduce any coating that is applied to a metal surface by either Phillips 66 or any contractor employed by Phillips 66. Purchase records will be sufficient to satisfy this recordkeeping requirement. Material Data Safety Sheet information sufficient to determine the non-photochemical reactivity of those solvents shall be maintained within easy access of this record. [Rule 216.F.1.c.1]
- u. The manufacturer's brand name and designation of each architectural coating used in containers of one quart capacity or larger, and the solvent used to thin or reduce those coatings, which is applied by either Phillips 66 or any contractor employed by Phillips 66. Purchase records will be sufficient to satisfy this recordkeeping requirement. Material Data Safety Sheet information sufficient to determine the non-photochemical reactivity of those coatings and solvents shall be maintained within easy access of this record. [Rule 216.F.1.c.1]
- v. The following information during startup, shutdown, and malfunction (SSM) periods.
- 1) The title of the federal standard for which the approved SSM plan is activated. [SIP Rule 205]
 - 2) The process equipment and/or air pollution control equipment involved. [SIP Rule 205]
 - 3) The occurrence and duration of each SSM of that operation; in other words, the process equipment. [40CFR63.10.b.2.i]
 - 4) The occurrence and duration of each malfunction of the required air pollution control and monitoring equipment. [40CFR63.10.b.2.ii]
 - 5) Actions taken during periods of SSM, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation, when such actions are different from the procedures specified in the affected emission unit's SSMP. [40CFR63.10.b.2.iv]
 - 6) All information necessary to demonstrate conformance with the affected emission unit's SSMP when all actions taken during periods of SSM, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation, are consistent with the procedures specified in such plan. [40CFR63.10.b.2.v]
 - 7) When actions taken by Phillips 66 during a SSM, including actions taken to correct a malfunction, are consistent with the procedures specified in the affected emission unit's SSMP, Phillips 66 must keep records for that event

- which demonstrate that the procedures specified in the plan were followed. [40CFR63.6.e.3.iii]
- 8) Phillips 66 must keep records as specified in 40CFR63.10(b), including records of the occurrence and duration of each startup, shutdown, or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. [40CFR63.6.e.3.iii]
- w. Maintain a list of stationary diesel engines rated at ≤ 50 hp that began initial operation after January 1, 2005, and the emission limits with which they comply from the Off-Road Compression-Ignition Engine Standards found in 13CCR2423. [District-only, Rule 206]
- x. The following records shall be maintained on a monthly basis for any stationary internal combustion engines > 50 hp having undergone retrofit or replacement under condition III.C.11.a. [District-only, Rule 431.G.1]
- 1) date and results of each engine inspection,
 - 2) a summary of any preventive or corrective maintenance taken,
 - 3) the total hours of operation,
 - 4) the type and quantity of fuel used, and
 - 5) any additional information required in the Engine Operator Inspection Plan.
- y. Non-mobile diesel engine systems rated at ≥ 50 hp [District-only, Rule 206, and 17CCR93115 for emergency standby engines]
- 1) Phillips 66 shall retain a copy of the purchase invoice for each delivery of fuel to the tanks supplying stationary diesel engines rated at > 50 hp. Each invoice must indicate: [District-only, Rule 206, and 17CCR93115.10]
 - i. whether or not the fuel qualifies as CARB diesel fuel,
 - ii. amount of fuel purchased,
 - iii. date when the fuel was purchased,
 - iv. signature of the person who received the fuel, and
 - v. signature of fuel provider indicating that the fuel was delivered.
 - 2) Phillips 66 shall maintain a daily operational log of the following information for diesel engine systems.
 - i. Operating mode: emergency, maintenance, District required testing, or, prime mover
 - ii. Engine run-time hour meter reading at initial start-up for the day,
 - iii. Engine run-time hour meter reading at final shutdown for the day,
 - iv. Total operating hours for the calendar day based on run-hour meter readings,
 - v. Running total calendar year to date operating hours,
 - vi. Running total calendar year to date operating hours in maintenance mode,
 - vii. Running total calendar year to date operating hours in emergency mode,
 - viii. Any significant maintenance performed that might affect the engine's emissions,

- ix. For the following engine systems, running total calendar year to date operating hours in prime mover mode,
 - (a) GB-1015, portable air compressor,
 - (b) GE-522, coke pile water pump,
 - (c) Sullair 1600H air compressor,
 - (d) Sullair 900H air compressor
 - (e) Diesel powered welder #1485
 - (f) Diesel powered welder #7970

- z. For the GE-522, coke pile water pump, GB-1015, portable air compressor, and BK-699, runoff pond backup pump, [District-only, Rule 206]
 - 1) list of operating locations,
 - 2) plot map showing those locations, and
 - 3) the beginning and ending dates of operation at those locations,
 - i. For the GB-1015, portable air compressor, those back-pressure monitor indications that show adequate diesel particulate filter operation,
 - ii. Estimated fuel use for the day in gallons,
 - iii. Running total calendar year to date fuel use in gallons, and
 - iv. Fuel supplied in gallons.

- aa. Process Unit D-1, Emergency Water Pump Engines, G-515-3 and G-515-4. An operating and inspection log for the G-515 engines shall be maintained on a monthly basis and on any day the engines are operated that includes the following data: [District-only, Rule 206]
 - 1) date and results of each new engine inspection,
 - 2) a summary of any preventive or corrective maintenance taken,
 - 3) the total minutes of operation for each engine for maintenance and testing,
 - 4) the total minutes of operation for each engine for emergency use for fire suppression/protection or to maintain pressure in the fire water system for any pipe break or fire system supported equipment failure,
 - 5) the quantity of fuel used, and
 - 6) any additional information required in the Engine Operator Inspection Plan. Operation time shall be determined by each engine's installed hour meter.

- ab. Process Unit M, GE-522, 225 hp John Deere Portable Water Pump; GB-1015 115 hp John Deere portable air compressor; Sullair 900H, 300 hp limited use air compressor; Sullair 1600H, 540 hp backup plant air compressor. [District-only, Rule 206]
 - 1) An inspection log shall be maintained that includes the following data:
 - i. date and results of each engine inspection,
 - ii. results of any check of the backpressure monitoring system used to ensure proper diesel particulate filter operation, and
 - iii. a summary of any preventative or corrective maintenance taken during and since the last inspection.

- ac. Refinery MACT II, 40CFR63, subpart UUU. Phillips 66 shall maintain the following records in a form suitable and readily available for expeditious review. [40CFR63.1576.a&g and 63.10.b.1]
- 1) A copy of each notification and report submitted to comply with this subpart, including all documentation supporting any initial notification or Notification of Compliance Status submitted. [40CFR63.10.b.2.xiv and 63.1576.a.1].
 - 2) Records of performance tests, performance evaluations, and opacity and visible emission observations. [40CFR63.10.b.2.viii and 63.1576.a.3]
 - 3) The following information for the AN-1707/1709 continuous emission monitoring system. This is separate requirement from condition III.B.1.a. [40CFR63.8.d,10.b,&10.c and 1576.b]
 - i. Records described in 40CFR63.10.b.2.vi through xi.
 - ii. Records described in 40CFR63.10.c.1 through 6 and 9 through 14.
 - iii. Previous versions of the performance evaluation plan as required in 40CFR63.8(d)(3).
 - iv. Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.
 - 4) The following information to ensure continuous compliance. [40CFR63.1576.d]
 - i. Hourly average TRS monitoring data in accordance with 40CF63.1572.a for the AN-1707/1709. This is separate requirement from condition III.B.1.a. [40CFR63, subpart UUU, table 34, item 3]
 - ii. The date, time, and duration of any bypass from either Sulfur Recover Plant to their respective B-602 incinerator. [40CFR63.1569.c.1 and subpart UUU, table 39, item 5]
 - iii. The date, time, and duration of any bypass from either H₂S Absorption Plant to the Hydrocarbon Relief and Recover System through their respective PCV-657 valve. [40CFR63.1569.c.1 and subpart UUU, table 39, item 5]
 - iv. Whether or not any bypass was the result of a startup, shutdown, or malfunction and the process unit involved. [SIP Rule 205]
 - v. At least as frequently as on an hourly basis, whether the PCV-657A/B valve position indicators are operating properly and whether flow is present in the line. [40CFR63.1569.c.1 and subpart UUU, table 39, item 1]
 - vi. At least as frequently as on a monthly basis, whether the Sulfur Recovery Plant to B-602 incinerator bypass line valves are locked in the closed position and whether flow is present in the line. [40CFR63.1569.c.1 and subpart UUU, table 39, item 2]
 - 5) A copy of the current operation, maintenance, and monitoring plan and records to show continuous compliance with the procedures in that plan. [40CFR63.1576.e]
 - 6) A record of any changes that affect emission control requirements. [40CFR63.1576.f]

- ad. Process Unit B-2 – Open Top Tanks 405 and 406. [District-only, Rule 206]
 - 1) For each shift, record the date, time, staff initials, and surface area appearance in oil percentage, and tank activity at the time of observation.
 - 2) Record the final observation during a greater than 50% oil coverage episode and the length of that episode.

- ae. Process Unit I and J – Amine Units
 - 1) Record the concentration of Sulfolane W in the D601A and D601B H₂S absorbers from the weekly sampling as required by condition III.B.2.d. [District-only, Rule 204]

- af. Phillips 66 shall develop and implement a QC program that includes written procedures which describe in detail, procedures and operations for affected NSPS CEMS that include: Calibration, CD determination and adjustment, Preventive Maintenance, Data Recording, Calculation and Reporting, Accuracy audit procedures and corrective actions. [40CFR60 Appendix F]

- ag. Discharges greater than 500 lb SO₂ in any 24-hour period from any affected flare in any 24-hour period. [40CFR60.103a(c)].

2. Inspections, Calibrations, and Sampling

Phillips 66 shall inspect, calibrate, or sample, the following processes as indicated. The results shall be recorded in an operational log or as specified. [SIP Rule 205 and, for "District-only" inspections, District-only, Rule 206]

- a. On an hourly basis, determine that the position indicator systems for the Sulfur Recovery Unit bypass line blocking valves, PCV-657A/B, are operating properly and that there is no flow in the respective bypass line. [40CFR63.1569.c.1 and subpart UUU, table 39, item 1]

- b. On a **Per Shift** Basis

Process	Desc/ID	Parameter
B-2-j	TK-405 & 406	1) Visually inspect for floating oil. [District-only, Rule 206] <ul style="list-style-type: none"> i. Phillips 66 shall take immediate action to reposition the installed oil skimmer to maximize oil collection for either tank in which greater than fifty percent (50%) of oil coverage is observed. Following such an observation, the oil coverage shall be monitored at least every half-hour, and the installed oil skimmer repositioned as necessary, until the observed oil coverage is less than fifty percent (50%).

Process	Desc/ID	Parameter
<p>A-1,A-2, B-1,B-2, B-3,C, D-1,E-1, E-2,G,H, I,J,K,L,</p>	<p>O,P, fugitive emissions program</p>	<p>2) On a continual basis and by using visual, audible, or olfactory means, monitor all pumps and valves in heavy liquid service, pressure relief valves in light liquid or heavy liquid service, and flanges and other connectors for leaks. Within five (5) calendar days of detecting evidence of a leak, the suspected component shall be monitored with an instrument. [40CFRGGGa corresponding to 60.482-1a through 482-10a]</p> <ul style="list-style-type: none"> i. A leak is defined as an instrument reading of 2,000 ppm or greater for pumps; 500 ppm or greater for valves in gas/light liquid service; 500 ppm or greater for connectors in gas/light liquid service; and 10,000 ppm or greater for pumps, valves, or connectors in heavy liquid service. ii. A leaking component shall be affixed with a weatherproof tag that displays the respective equipment's identification number. This tag may be removed upon repair, except for valves that must be monitored for two (2) successive months following repair and found to not leak before their tag may be removed. [40CFR60.486a.b] iii. Any leak shall be repaired as soon as practicable, with the first repair attempt occurring within five (5) calendar days and the final repair not later than fifteen (15) calendar days after detection, except as allowed under condition III.B.3.i.

Process	Desc/ID	Parameter
A-1,A-2, B-1,B-2, B-3,C, D-1,E-1, E-2,G,H, I,J,K,L, O,P,	fugitive emissions program	3) On a continual basis and by using visual, audible, or olfactory means, monitor all pressure relief devices that relieve to the atmosphere in VOC gas/vapor service for leaks. As soon as practicable after detecting evidence of a leak, the suspected component shall be monitored with an instrument according to EPA Method 21. [District-only, Rule 206] <ul style="list-style-type: none"> i. A leak is defined as an instrument reading of 500 ppm or greater (intentional duplication of condition III.C.1.d.1). ii. A leaking component shall be affixed with a weatherproof tag that displays the respective equipment's identification number. This tag may be removed following repair and found to not leak. iii. Any leak shall be repaired as soon as practical.

c. On a **Daily** Basis

Process	Description	Parameter
1) B-1-h	cooling tower	Visually inspect for floating oil. [District-only, Rule 206]
2) J	AN-603 AN-604	Analyzer calibration. [40CFR60.13.d.1] Analyzer calibration. [40CFR98.3]
3) K	AN-1707/1709	Analyzer calibration. [40CFR60.13.d.1]
4) E-1	AN-1600 A/B	Analyzer calibration [40CFR60.13.d.1]

d. On a **Weekly** Basis

Process	Description	Parameter
1)		
2) I,J	fuel gas	Fuel gas shall be sampled for hydrogen sulfide by using the draeger tube method and total sulfur content using the Tutweiler test method. [Rule 216.F.1.c.1 and SIP Rule 404.E.1 for total sulfur]
3) I,J	sulfinol	The concentration of Sulfolane W in the D601A and D601B H ₂ S absorbers shall be sampled using a method subject to the approval of the APCO. [District-only, Rule 204]
4) A-1,A-2,B-1, B-2,B-3, C, D-1,E-1,E-2, G,H,I,J,K,L,O,P,	fugitive emissions program	Inspect each pump in light liquid service for leaks, except those designated as having no detectable emissions. A "leak" is defined as liquid dripping from the pump seal. See condition III.B.2.b.2 above for tagging and repair requirements. [40CFRGGGa60.482-2a(a)(2), 40CFR60.482-2a(d)(4), and, for all naphtha stream components, 40CFR63.648.a]

e. On a **Monthly** Basis (a)

	Process	Description	Parameter
1)	A-2,E-1,E-2, G,I,J,L,O,P	active drains, drain hubs, and catch basins	Inspect each drain, drain hub, and catch basin for indications of low water level, or other condition that would reduce the effectiveness of the water seal control. [40CFR60.692-2.a.2] i. Water shall be added if low water level is found. ii. All other abnormal conditions shall be repaired as soon as practicable, but not later than twenty-four (24) hours after detection, except as allowed under condition III.B.3.i.
2)	A-1,A-2,B-1, B-2,B-3,C, D-1,E-1,E-2, G,H,I,J,K,L,O,P	fugitive emissions program	Monitor each pump in light liquid service for leaks, except for those with dual mechanical seals or those designated as having no detectable emissions. See condition III.B.2.b.2 above for tagging and repair requirements and the definition of "leak." [40CFR60.482-a2.a.1 and, for all naphtha stream components, 40CFR63.648.a]
3)	E-1	Tail Gas Unit bypass valves	Confirm that the Tail Gas Unit bypass valves to the B-602A/B incinerators are locked closed by a car-seal device and that there is no flow in the respective bypass line. [40CFR63.1569.c.1 and subpart UUU, table 39, item 2]
4)	A-1	TK-900, 901, & 903	Inspect all openings and fittings for closure and the secondary seal for integrity and gaps. [40CFR60.113b.b.1.ii and Rule 425.I.1 for Tank 903 and District-only, Rule 425.I.1 for Tanks 900 & 901]
5)	B-1	cooling tower exchangers	<u>Monitor each affected heat exchange system for a leak from exchangers in organic HAP service by the El Paso Method (40CFR63 Subpart CC: 63.654.c)</u> <u>A leak is defined as 6.2 ppmv total strippable VOC</u> <ul style="list-style-type: none"> <u>A leak shall be repaired no later than 45 days after identifying a leak, except if delay of repair is required (63.654.d)</u> <u>Delay of repair allowed pursuant to 63.654.f and with recordkeeping per 63.654.g</u>
6)	A-1, A-2, B-1, B-2, B-3, C, D-1, E-1, E-2, G, H, I, J, K, L, O, P	Fugitive emissions program	Each valve in gas/vapor light liquid service must be monitored monthly to detect leaks (leak = 500ppm) Valve must be monitored first time within 30 days after startup (60.482-7a(a)(2)(i)) Any valve, other than those designated NDE, UTM, or DTM, for which a leak is not detected for 2 consecutive months may be monitored the first month of every calendar quarter beginning with the next calendar quarter until a leak is detected (60.482-7a(c)) See condition III.B.2.b.2 above for tagging and repair requirements and the definition of "leak."

Note (a) See condition III.D.5.a for monthly fuel gas sampling requirements.

f. On a **Quarterly** Basis

	Process	Description	Parameter
1)	E-1, E-2	sulfur pits	Inspect the air intake sweeps for both the A and B side sulfur pits for proper operation of the pit vent system and quantitatively measure the air flowrate through each sweep.

			[District-only, Rule 206]
2)	B-1, M	diesel engines	Inspect subject units in accordance with the Engine Operator Inspection Plan approved under condition III.A.4.e. [District-only, Rule 431.E.4]
3)	D-1	G-515-3 G-515-4	Inspect subject units in accordance with the Engine Operator Inspection Plan submitted on March 18, 2002, under application number 3111. [District-only, Rule 206]
4)	M	GB-1015	Inspect the subject unit in accordance with the Engine Operator Inspection Plan submitted on May 1, 2006, under application number 3875. [District-only, Rule 206]
5)	A-1	Tanks 900, 901, 903	Inspect primary and secondary seals. [District-only Rule 206, NOV 2026 settlement].
6)	E, K	AN603/604 AN1707/09 AN 1600A/B	Conduct quarterly cylinder gas audits as specified in Appendix F to Part 60. [40CFR60 Appendix F, Section 5]

g. On a **Semi-annual** Basis

Process	Description	Parameter
A-2,E-1, E-2,G,I, J,L,O,P	inactive drains	1) Inspect each plugged or capped drain to ensure that the plug or cap is in place and properly installed. Any abnormal condition shall be repaired as soon as practicable, but not later than twenty-four (24) hours after detection, except as allowed under condition III.B.3.i. [40CFR60.692-2.a.4]
	junction boxes and manholes	2) Inspect each junction box and manhole to ensure the cover is in place and that the edge is tightly sealed. Any abnormal condition shall be repaired as soon as practicable, but not later than fifteen (15) calendar days after detection, except as allowed under condition III.B.3.i. [40CFR60.692-2.b.3]
	F-821A,B,& C,F-824, F-408&9	3) Inspect each oil-water separator, oily solids tank, and the slop oil tank to ensure there are no cracks or gaps in any seal and that all access doors and other openings are closed and gasketed properly. Any abnormal condition shall be repaired as soon as practicable, but not later than fifteen (15) calendar days after detection, except as allowed under condition III.B.3.i. [40CFR60.692-3.a.4]
	closed vent systems	4) Inspect each closed vent system for leaks. A "leak" shall be defined as an instrument reading of 500 ppm as methane. Any leak shall be repaired as soon as practicable, but not later than thirty (30) calendar days after detection, except as allowed under condition III.B.3.i. [40CFR60.692-5.e.1]
	unburied sewer lines	5) Inspect each unburied sewer line for cracks, gaps, or other problems. Any abnormal condition shall be repaired as soon as practicable, but not later than fifteen (15) calendar days after detection, except as allowed under condition III.B.3.i. [40CFR60.692-2.c.2]

Process	Description	Parameter
G	TK-822,823	6) Inspect all access doors and other openings to ensure that there is a tight fit around the edges and to identify other problems that could result in VOC emissions. [District-only, Rule 206]

h. On an **Annual** Basis

Process	Description	Parameter
1) A-1	TK-900, 901,903	Inspect the primary seal at four (4) locations to be selected by the APCO. [District-only Rule 425.G.6 for Tanks 900 & 901, federally-enforceable 40CFR60.113b.b.1.i and Rule 425.G.6 for Tank 903]
2) G	TK-822,823	Inspect the secondary seal. [District-only, Rule 206]
3) A-1,A-2,B-1, B-2, B-3,C, D-1,E-1,E-2, G,H,I,J,K,L, O,P,	fugitive emissions program	Monitor each component for leaks that has been designated as having no detectable emissions as follows. "No detectable emissions" is defined as an instrument reading of less than 500 ppm above background. See conditions III.B.2.b.2&3 above for tagging and repair requirements and the definition of "leak": [for all naphtha stream components, 40CFR63.648.a] i. pumps in light liquid service [40CFR60.482-2.e.3] ii. compressors [40CFR60.482-3.i.2] iii. closed vent systems [40CFR60.482-10.f.2] iv. pressure relief devices in gas/vapor service [District-only Rule 206].

- i. On an **annual** basis, calibrate the following recording or indicating devices. Upon successful calibration, a notation shall be made on the cover glass of each device, or other such readily visible location, that includes the date of calibration and the individual's initials that performed the calibration. [40CFR64.3.b.2 for process R-2 and District-only Rule 206 for all others]

Process	Description	Parameter
1) D-1	B-504, 506, 507	i. Individual boiler inlet fuel flow instruments [40CFR60.49b.c for B-506 and District-only, Rule 206 for B504] ii. Individual boiler steam production instruments [40CFR60.49b.c for B-506 and District-only, Rule 206 for B504]

j. At Least Once **Every Five Years**

Process	Description	Parameter
A-1	TK-800,801	Inspect the primary seal for gaps and physical condition. [District-only Rule 425.I.1]
G	TK-822,823	

k. At Least Once **Every Ten Years**

Process	Description	Parameter
A-1	TK-900,901,903	Inspect the primary seal for gaps and physical condition. [Rule 425.I.1 for Tank 903 and District-only, Rule 425.I.1 for Tanks 900 & 901]

3. Unusual Operating Conditions, Actions, and Reporting

- a. AN-603 Fuel Gas Analyzer Operation
 - 1) Any instantaneous exceedance of 160 ppmv H₂S in the fuel gas shall be reported immediately to the District, and strip charts for periods of exceedance included in the monthly report, under condition III.B.4.a. [District-only, Rule 206]
 - 2) Any exceedance of 160 ppmv H₂S, averaged over three (3) hours, shall be included with the monthly report under condition III.B.4.a and shall include: the magnitude of emissions due to excess H₂S, conversion factors used, and date and time of commencement and completion of each time period of excess emissions. [40CFR60.105.e.3.ii]
 - 3) Specific identification of any exceedance of 160 ppmv H₂S, averaged over three (3) hours, that occurs during start-up, shutdown, or malfunction of the gas sweetening systems shall be included with the monthly report under condition III.B.4.a and shall include the nature and cause of any malfunction and corrective action taken. [District-only, Rule 206]
 - 4) The date and time identifying each period during which the CEMS was inoperative, other than for daily calibration, and the nature of system repairs and adjustments shall be logged and reported to the APCO in accordance with the provisions of District Rules 107 and 113. A summary report of this information shall be included with the quarterly report as required in condition III.B.4.b. [40CFR60.7.b&c]
- b. Process Analyzers Operation:
 - 1) Failure of AA-601 or the AB-601:
Failure of either AA-601 or the AB-601 air demand analyzers, or their associated AI-601 A/B indicator instruments when the H₂S process monitor AN-1704 is also not in proper operation, calibrated and on-line shall be reported to the APCO as soon as reasonably possible but in any case within 4 hours of discovery of the failure.. A written report of analyzer failure shall be filed within ten (10) calendar days that includes the reason for failure, the corrective action taken, and the effect on plant operations. [District-only, Rule 206]
 - 2) Failure of AN-1704:
Failure of the tail gas H₂S process monitor AN-1704 shall be reported to the APCO as soon as reasonably possible but in any case within 4 hours of discovery of the failure. A written report of analyzer failure shall be filed within ten (10) calendar days that includes the reason for failure, the corrective action taken, and the effect on plant operations. [District-only, Rule 206, 107]

- c. AN-1707/1709 Tail Gas Analyzer Operation:
 - 1) The date and time identifying each period during which the CEMS was inoperative, other than for daily calibration, and the nature of system repairs and adjustments shall be logged and reported to the APCO in accordance with the provisions of District Rules 107 and 113. A summary report of this information shall be included with the quarterly report as required in condition III.B.4.b. [40CFR60.7.b&c]
 - 2) Any exceedance of 300 ppmv TRS, averaged over twelve (12) hours, shall be included with the monthly report under condition III.B.4.a and shall include: the magnitude of emissions due to excess TRS, conversion factors used, and date and time of commencement and completion of each time period of excess emissions. [40CFR60.105.e.4.ii]

- d. AN-1600 B-602 Incinerator SO2 Analyzer:
 - 1) The date and time identifying each period during which the CEMS was inoperative, other than for daily calibration, and the nature of system repairs and adjustments shall be logged and reported to the APCO in accordance with the provisions of District Rules 107 and 113. A summary report of this information shall be included with the quarterly report as required in condition III.B.4.b [40CFR60.7.b&c]
 - 2) Any exceedance of effective emission limits (condition 1.A. 15 or 16), averaged over twelve (12) hours, shall be included with the monthly report under condition III.B.4.a and shall include: the magnitude of emissions due to excess SO2, and the date and time of commencement and completion of each time period of excess emissions. [40CFR60.105.e.4.iii]

- e. Flaring:
 - 1) Flaring as a result of either G-212 compressor being inoperative or flaring in excess of sixty (60) minutes cumulative in any given day, for whatever reason, shall be considered an upset under District Rule 107 and may be a violation of this condition unless relief is granted in accordance with the provisions of that rule. The written report shall include, in addition to those items required by Rule 107, the volume and heat content of the flared gas. [District-only, Rule 206]
 - 2) All incidences of flaring less than sixty (60) minutes cumulative in any given day shall be logged and reported to the APCO in accordance with the provisions of District Rule 107 and shall also include the information required in condition III.B.3.e.1 above. These incidences of flaring are not considered a breakdown or upset condition. [District-only, Rule 206]
 - 3) Flaring during maintenance, testing of the flare system, or turnarounds shall be logged. These incidents of flaring are not considered a breakdown or upset condition. [District-only, Rule 206]

- 4) If a hydrocarbon, acid gas or tail gas flaring event results in a discharge greater than 500 pounds in any 24 hour period, a root cause analysis shall be conducted. A corrective action analysis shall also be conducted if applicable. Records shall be maintained of the steps taken to limit the emissions during the discharge, and any corrective actions taken. All required actions shall be taken within 45 days of the event. An implementation schedule shall be submitted for corrective actions that will exceed 45 days.
[40CFR60.108a(c)(6)]
 - 5) Keep records of discharges greater than 500 lb SO₂ in any 24-hour period from any affected flare. The following information shall be recorded no later than 45 days following the end of the discharge:
 - (i) A description of the discharge.
 - (ii) The date and time the discharge was first identified and the duration of the discharge.
 - (iii) The quantity of gas discharged to the flare. If the discharge duration exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period.
 - (iv) For each discharge greater than 500 lb SO₂ in any 24-hour period, the measured total sulfur concentration, and the cumulative quantity of H₂S and SO₂ released into the atmosphere, assuming a 99% conversion of H₂S to SO₂.
 - (v) The steps that P66 took to limit the emissions during the discharge.
 - (vi) A root cause analysis and corrective action analysis, including a statement noting whether the discharge resulted from the same root cause identified in a previous analysis and either a description of the recommended corrective action or an explanation of why corrective action is not necessary.
 - (vii) For any corrective action analysis for which actions are specified in 40CFR60.103a(e), a description of the corrective action completed within the first 45 days following the discharge and, for actions not already completed, a schedule for implementation, including proposed commencement and completion dates.
- f. Tail Gas Unit Desalting Plant:
Any failure of the tail gas unit regenerative crystallizer system that causes the release of an air contaminant shall be considered an upset under District Rule 107 and shall be a violation of this Condition unless breakdown relief is granted in accordance with the provisions of that rule. [District-only, Rule 206]
- g. Deviations from Requirements:
Any deviation from any requirement in this permit, excluding those reported under District Rule 107, Breakdown or Upset Conditions and Emergency Variances as required by condition III.A.3, shall be reported to the APCO as follows: [Rule 216.F.1.o]
- 1) As soon as reasonably possible, but in any case within four (4) hours, after its detection.
 - 2) As soon as the occurrence has been corrected, but no later than ten (10) calendar days after the event, through a written report which includes the

probable cause of the deviation and the corrective actions or preventative measures taken.

- h. **Asbestos Stripping or Removal:**
At least ten (10) working days before asbestos stripping or removal work, the APCO shall be notified as required by section 61.145.b.3.i of 40CFR61 subpart M, National Emission Standard for Asbestos. [40CFR61.145.b.3.i]

- i. **Delay of Repair Until Unit Shutdown:**
The repair of any component subject to 40CFR60 subparts QQQ or GGGa may be postponed until the next refinery or respective process unit shutdown if that repair is technically impossible without complete or partial refinery or process unit shutdown. Additional delay of repair provisions for subpart GGGa components appear in 40CFR60.482-9a. [40CFR60.692-6 and 40CFR60.482-9a]

- j. **Runoff Collection Pond Pump:**
Emergency use of the carbon plant runoff collection pond pump, BK-699, that exceeds 48 hours in any calendar month shall be reported to the APCO as soon as reasonably possible, but in any case within four (4) hours. [District-only, Rule 206]
 - 1) The initial notification shall include the nature of the emergency and whether or not the electrically-driven collection pond pump is also in use. If the electric pump is not in use, the initial report shall include the reason and the estimated time period before it can be put into use.

 - 2) As soon as the emergency use is no longer occurring, but no later than ten (10) calendar days after the initial notification, Phillips 66 shall submit a written report which includes the nature of the emergency, the status of the electric pump during the emergency, and, if the electric pump was not in use during all or part of the emergency, those steps to be taken to ensure that the electric pump is available during future emergencies.

4. Reporting

Each report, due on the date indicated in the following table, should include data for the respective time periods in any given year unless otherwise indicated. [SIP Rule 205]

Due Date	Monthly Data	Quarterly Data	Semi-annual Data	Annual Data
January 31	December	October 1 through December 31	July 1 through December 31	
March 1				January 1 through December 31
April 30	March	January 1 through March 31		
July 31	June	April 1 through June 30	January 1 through June 30	
October 31	September	July 1 through September 30		

- a. On a calendar **monthly** basis, Phillips 66 shall submit a report to the APCO. That report shall be submitted no later than ten (10) business days after the end of the month and shall include the following for the respective calendar month. [SIP Rule 205]
- 1) Daily steam records kept under condition III.B.1.d. [District-only, Rule 206]
 - 2) Results of hydrogen sulfide and total sulfur samples drawn on the fuel gas under condition III.B.2.d.2. [Rule 216.F.1.c.1]
 - 3) Daily average AN-1707/1709 tail gas monitoring results, including the daily average TRS concentration as SO₂. [40CFR60.7.c]
 - 4) Copies of records, including strip charts as identified under condition III.B.3.a.1 above, and an explanation for any unusual event that either affects the normal operation of the B-702 tail gas combustor or causes the fuel gas sulfur content to exceed an instantaneous value of 160 ppm H₂S. [District-only, Rule 206]
 - 5) The daily average SO₂ concentration results from the AN-1600 A/B monitors, and an explanation for any unusual event that either affects the normal operation of the B-602 incinerators or causes the SO₂ concentration to exceed the effective emission limits (condition 1.A. 15 or 16). [40CFR60.7.c]
 - 6) A summary of flaring that occurs as a result of maintenance, testing of the flare system, or turnarounds. [District-only, Rule 206]
 - 7) A list of all floating roof storage tanks which were emptied and degassed and/or whose roof was landed on its support legs. The reason for that activity for each tank and results of all inspections required by this permit shall also be included. [SIP Rule 205 for Tank 903 and District-only, Rule 206 for all other tanks]
 - 8) The amount of open coke storage determined under Condition III.E..13.c. [District-only Rule 440]
 - 9) The results of the fuel gas GHV analysis for the given month, and the average value to be used to determine compliance. If a fuel gas GHV was not determined for the given month, an explanation shall be included. [District-only, Rule 206]
- b. On a **quarterly** basis, Phillips 66 shall submit a report to the APCO, with a copy to the EPA Region IX Administrator. Each report shall be submitted no later than January 31, April 30, July 31, and October 31 of any given year, shall be certified to be true, accurate, and complete by a responsible official, and shall include the following data. [SIP Rule 205]
- 1) Summary information of the hydrogen sulfide concentration in the refinery fuel gas based on records maintained under condition III.B.1.b.1. [40CFR60.7.c]
 - 2) Average sulfur content of the fuel gas supplied to the B-505 boiler. [District-only, Rule 206]
 - 3) Those dates, if applicable, in the preceding quarter when the daily oxides of sulfur emissions from the B-505 boiler exceeded 100 lbs. [District-only, Rule 206]
 - 4) Report excess emissions as indicated by, or CEMS downtime of, AN-603, Fuel Gas CEMS, AN-1707/1709, Tail Gas CEMS, and AN-1600 A/B B-602 CEMS using

the summary report form that appears in 40CFR60.7, Figure One (1). If the total duration of excess emissions is less than one percent (1%) and the CEMS downtime is less than five percent (5%) of the total operating time, only the summary report form, with a statement that no excess emissions and/or no CEMS downtime occurred, need be submitted. If the excess emissions or CEMS downtime exceeds either of those times, the summary report shall be accompanied by a report that includes: [40CFR60.7.c and SIP Rule 205]

- i. The magnitude of excess emissions, conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.
 - ii. The process operating time during the reporting period.
 - iii. Whether the excess emissions occurred during start-up, shutdown, or malfunction.
 - iv. The nature and cause of any malfunction, the corrective action taken, or preventive measures adopted.
 - v. The date and time of CEMS downtime, except for zero and span checks, and the nature of system repairs or adjustments.
- c. On a **semi-annual** basis, Phillips 66 shall submit a report to the APCO, with a copy to the EPA Region IX Administrator. Each report shall be submitted no later than January 31 and July 31 of any given year, shall be certified to be true, accurate, and complete by a responsible official, and shall include the following. [Rule 216.F.1.c.3]
- 1) Certification that all of the required inspections have been carried out in accordance with 40CFR60, subpart QQQ. That report shall also summarize all inspections when a water seal was dry or otherwise breached; when a drain cap or plug was missing or improperly installed; or cracks, gaps, or other problems were identified that could result in VOC emissions. [40CFR60.698.b.1 & c]
 - 2) A fugitive emission program summary in accordance with 40CFR60, subparts GGGa and VVa, which contains the following. [40CFR60.487a(c) and, for all naphtha stream components, 40CFR63.648.a]
 - i. A list of leaking components by month including those whose repaired was delayed and justification for that delay.
 - ii. Process unit shutdown dates.
 - iii. Revisions to the component count list.
 - iv.
 - v. number of open ended lines found and closed.
 - vi. results of El Paso exchanger monitoring.
 - 3) A summary of deviations from requirements in this permit. [Rule 216.F.1.c.3.i]
 - 4) If Phillips 66 is not in compliance with any federally-enforceable requirement, include a progress report on the schedule of compliance that has been approved by the District Hearing Board. That report shall include: [Rule 216.F.2.c]
 - i. dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and

- ii. 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.
- 5) For each of the preceding six months, the 12-month rolling period totals for:
 - i. individual fuel heat input in mmBtu for the B-2A, B-2B, B-62A, B-62B, B-102A, B-102B heaters; and [SIP Rule 205]
- 6) The maximum hourly heat input rate, in terms of a single mmBtuh-value each, for the B-2A, B-2B, B-62A, B-62B, B-102A, and B-102B heaters. [District-only, Rule 206]
- 7) The maximum hourly heat input rate, on a daily average and in terms of mmBtuh, for the B-2A, B-62A, and B-102A heaters combined and for the B-2B, B-62B, and B-102B heaters combined. [District-only, Rule 206]
- 8) For the B-505 boiler: [District-only, Rule 206]
 - i. the maximum hourly heat input rate on a daily average and in terms of a single mmBtuh-value;
 - ii. for the July 31 report, the cumulative subtotal heat input for the first six months of the current calendar year, in terms of mmBtu;
 - iii. for the January 31 report, the cumulative total heat input for the preceding calendar year, in terms of mmBtu/yr; and
 - iv. for any period when steam is supplied to the utility plant, the start and stop time of that period and the maximum combined steam production of the B-504 boiler, the B-506 boiler and the B-507 boiler during that period.
- 9) The maximum daily crude oil feed to the refinery in barrels and, for each of the preceding six (6) months, the 12-month rolling period totals for crude oil feed. [District-only, Rule 206]
- 10) Startup, shutdown, and Malfunction Report. [40CFR63.10.d.5.i for subpart CC and SIP Rule 205 for subpart UUU, except as noted]
 - i. If an approved SSM plan is activated and that plan was correctly implemented, include a statement to that effect.
 - ii. If an approved SSM plan is activated for a malfunction and correctly implemented, but an applicable emission limitation is exceeded, include the number, duration, and a brief description for each type of malfunction.
 - iii. If an approved SSM plan is activated and the action taken is not consistent with that plan, but no applicable emission standard is exceeded, include a statement to that effect and the response taken. [40CFR63.1575.h.2 for subpart UUU]
- 11) Information in accordance with 40CFR63.1575.c and subpart UUU, table 43, item 1. [40CFR63.1575.a,b,&c]
 - i. If there were no deviations from any emission limitation or work practice standard, include a statement that there were no deviations from the emission limitations or work practice standards during the reporting period and that no continuous emission monitoring system was inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted. [40CFR63.1575.c.4]
 - ii. Deviations from emission limitations and work practice standards shall be reported in accordance with 40CFR63.1575.d&e. For the AN-

1707/1709, this is a separate requirement from condition III.B.4.b.6. [40CFR63.1570.f and 63.1575.d&e.]

- iii. Include a copy of any performance test done during the reporting period on any affected unit. [40CFR63.1575.f.1]

- d. On an **annual** basis, no later than March 1 of each year, Phillips 66 shall submit the following.
 - 1) A Compliance Certification Report to the APCO pursuant to District Rule 216.L.3. This report shall identify each federal applicable requirement in this permit, the compliance status of each subject process unit, whether the compliance was continuous or intermittent since the last certification, and the method(s) used to determine compliance. In addition, Phillips 66 shall certify that the refinery is in compliance with 40CFR68, Chemical Accident Prevention Provisions. Each report shall be certified to be true, accurate, and complete by a responsible official and a copy of this portion of the annual report shall also be submitted to the EPA Region IX Administrator. [Rule 216.L.3 and 40CFR68.215.a]
 - 2) Total Annual Benzene Quantity (TAB-Q) as required by 40CFR61.357.c. A copy of this portion of the annual report shall also be submitted to the EPA Region IX Administrator. [40CFR61.357.c]
 - 3) Summaries of automatic and manual calibration data and internal audits of the AN-603 fuel gas analyzer, AN-1600 A/B sulfur recovery unit incinerator monitors, and the AN-1707/1709 tail gas plant monitor. [District-only, Rule 206]
 - 4) The location and current use of the coke portable handling equipment, Process S-3. A plot plan of the facility, with equipment locations indicated, shall be included. [District-only, Rule 206]
 - 5) For any diesel engine having undergone retrofit or replacement under condition III.C.11.a, the actual annual fuel usage and operating hours for the respective engine. The report shall also include the engine manufacturer, model number, facility-defined equipment identification number, and a summary of the maintenance record maintained under condition III.B.1.x above. [District-only, Rule 431.H]
 - 6) The following information for the preceding calendar year. [District-only, Rule 206]

UNIT		INFORMATION	
i.	GB-1015, portable air compressor G-51-4, cooling tower pump, natural gas Sullair 900H air compressor Sullair 1600H air compressor GE-522, coke pile water pump BK-699, runoff pond backup pump G-515-3, emergency water pump G-515-4, emergency water pump NE-503, coker control room generator NE-504, administration generator NE-800, wet plant generator ROU, utility plant generator	(a)	maintenance operating hours
		(b)	emergency operating hours
		(c)	District required testing operating hours
		(d)	total engine operating hours
		(e)	total fuel usage
		(f)	copies of all fuel purchase records for diesel.

UNIT		INFORMATION
ii.	GE-522, portable water pump	prime use operating hours
iv.	<50hp diesel engines that have undergone initial operation after January 1, 2005	the emission limits with which each engine complies from the Off-Road Compression-Ignition Engine Standards found in 13CCR2423
v.	G-515-3, G-515-4, emergency water pumps	Emission offsets if either engine non-emergency operation > 100 hrs/yr

- e. On an **annual** basis at least ten (10) working days before the end of the calendar year, the APCO shall be notified of the predicted asbestos renovations for the following year, if the total amount of RACM is estimated to be in excess of those amounts identified in condition III.A.1.s.2. [40CFR61.145.b.3.ii]
- f. For Tanks 800, 801, 822, 823, 900, 901, and 903, a report of any excessive seal gap repair action shall be made to the APCO within thirty (30) calendar days of the repair. That report shall include the date of discovery and either: the date of repair; or, in the case of a delayed repair, the date of anticipated repair and reason for delay. That report shall also include the results of a post-repair inspection for compliance. [SIP Rule 205 for Tank 903 and District-only, Rule 206, for all others]
- g. For Tanks 900, 901, and 903, a report of any seal gap inspection performed under conditions III.B.2.h.1.ii & iii and III.B.2.k shall be made to the APCO within thirty (30) calendar days of the inspection. That report shall include the tank inspected, the date of the inspection, the tank and seal inspected, and a summary of the inspection results. [Rule 425.I.2 for Tank 903 and, District-only, Rule 425.I.2 for Tanks 900 & 901]
- h. For Tanks 100, 101, 351, 550, 551, 800, 801, 822, 823, 900, 901, and 903, the tank cleaning plan required under III.C.5.a.4.ii shall be submitted to the APCO for his approval no less than fifteen (15) calendar days prior to the initiation of cleaning. [District-only, Rule 206]
- i. If an approved SSM plan is activated, the action taken is not consistent with that plan, and an applicable emission standard is exceeded or a work practice standard is not met, Phillips 66 shall report the action taken within two (2) working days after commencing such action, followed by a letter no later than seven (7) working days after the event. That report shall include the following information. [SIP Rule 205]
 - 1) name, title, and signature of the responsible official who is certifying to the report's accuracy,
 - 2) the circumstances of the event,
 - 3) the reasons for not following the SSM plan, and
 - 4) a description of any excess emissions and/or parameter monitoring exceedances that are believed to have occurred.

C. Conditions Common To More Than One Process Unit

1. Inspection and Maintenance Program for Fugitive VOC Emissions

Subject Process	Condition
A-1,A-2,B-1, B-2,B-3,C, D-1,D-2,E-1, E-2,G,H,I,J, K,L,O,P,	a. Each subject process shall be inspected and maintained on a schedule that satisfies the provisions of 40CFR60, subpart GGa, <u>Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries</u> . Conditions III.B.2 and III.B.4 to this permit shall respectively govern the timing of periodic inspections and reporting. [40CFR60-GGa and, for all naphtha stream components, 40CFR63.648.a]
	b. A leak, as referenced in subpart GGa, detected by the APCO or his designee shall constitute a violation of this condition with the exception of those components previously identified by Phillips 66 that are awaiting repair. [District-only, Rule 206]
	c.
	d. All pressure-vacuum relief valves shall be maintained in a leak-free condition except when the operating pressure exceeds the valve pressure setting or during testing. [40CFR60.482-4a] <ol style="list-style-type: none"> 1) Leak-free is defined as an instrument reading of less than 500 ppm above background. 2) After the lifting of any pressure-vacuum relief valve, that valve shall be returned to leak-free condition as soon as practicable, but not later than five (5) calendar days after the release, except as allowed under condition III.B.3.i. 3) No later than five (5) calendar days after the lifting of any pressure-vacuum relief valve, that valve shall be monitored to determine that it is leak-free.
	e. Each pump, which is equipped with a dual mechanical seal employing a barrier fluid system, shall: [40CFR60.482-2a.d] <ol style="list-style-type: none"> 1) operate with the barrier fluid at a pressure that is greater than the pump stuffing box pressure; 2) employ a barrier fluid that is a heavy liquid; 3) employ a barrier fluid system which has a sensor to detect failure of the seal system, the barrier fluid system, or both and that sensor employs an audible alarm or the system is checked daily; 4) A "leak" is defined as liquid dripping from the pump seal. See condition III.B.2.b.2 above for tagging and repair requirements.

Subject Process	Condition
A-1,A-2,B-1, B-2,B-3,C, D-1,D-2,E-1, E-2,G,H,I,J, K,L,O,P	<p>f. Each compressor shall be equipped with a seal system that includes a barrier fluid system, which shall: [40CFR60.482-3a]</p> <ol style="list-style-type: none"> 1) operate with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure, or 2) employ a barrier fluid system that is connected by a closed vent system to a control device; 3) employ a barrier fluid that is a heavy liquid; 4) employ a barrier fluid system which has a sensor to detect failure of the seal system, the barrier fluid system, or both; and 5) that sensor employs an audible alarm or the system is checked daily. 6) A "leak" is defined as a failure of the seal system or the barrier fluid system. See condition III.B.2.b.2 above for tagging and repair requirements.
	<p>g. Each sampling system, which is not an in-situ system, shall be equipped with a closed purge, closed loop, or closed vent system, which shall: [40CFR60.482-5a]</p> <ol style="list-style-type: none"> 1) return the purged process fluid directly to the process line, or 2) collect and recycle the purged process fluid, or 3) capture and transport all purged process fluid to a control device.
	<p>h. Each open ended valve or line shall: [40CFR60.482-6a]</p> <ol style="list-style-type: none"> 1) be equipped with a cap, blind flange, plug, or secondary valve which seals the open end at all times except during operations requiring process fluid flow through the valve or line; and 2) if a secondary valve is used, be operated in such a manner that the valve on the process fluid end is closed before the secondary valve is closed; and 3) if a double block-and-bleed system is used, be allowed to operated with the bleed valve open during operations requiring venting of the line between the block valves but shall comply with this condition III.C.1.h at all other times.
	<p>i. Closed vent system requirements [40CFR60.482-10a]</p> <ol style="list-style-type: none"> 1) Vapor recovery system shall be operated to recover VOC emissions with an efficiency of ninety-five percent (95%) or greater. 2) All control devices shall be monitored to ensure that they are operated and maintained in accordance with their design specifications. 3) Closed vent systems shall be operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections. 4) Closed vent systems and control devices shall be operated at all times when emissions may be vented to them.

2. Waste Water Systems.

Process	Condition
A-2,B-2,B-3, D-2,E-1,E-2, G,I,J,L,O,P	<p>Each subject oily water sewer, installed or modified after May 4, 1987, shall be inspected and maintained on a schedule that satisfies the provisions of 40CFR60, subpart QQQ, <u>Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems</u>. Conditions III.B.2 and III.B.4 to this permit shall respectively govern the timing of periodic inspections and reporting. [40CFR60-QQQ]</p> <p>a. All process drains connected to the first downstream junction box common to a new, modified, or reconstructed individual drain system or oil-water separator are included. [40CFR60.691, definition of "individual drain system"]</p> <p>b. The loss of a system water seal, for whatever reason, detected by the APCO or his designee shall constitute a violation of this condition with the exception of those components previously identified by Phillips 66 that are awaiting repair. [District-only, Rule 206]</p>

3. Fuel Gas Combustion.

Process	Condition
B-1,C,D-1, D-2,K,O	<p>Each subject process shall be inspected and maintained on a schedule that satisfies the provisions of 40CFR60, subpart J/Ja, <u>Petroleum Refineries</u>. Conditions III.B.2 and III.B.4 to this permit shall respectively govern the timing of periodic inspections and reporting. [40CFR60-J, 40CFR60-Ja for Process O]</p>

4. Floating Roof Tanks.

Process	Condition
A-1,G	a. Single seal tanks shall not be used to store organic liquids with a true vapor pressure of 0.5 psia or greater. [District-only, Rule 206 for Tanks 822 & 823 and District-only, Rule 425 for all others]
	b. Double seal tanks shall not be used to store organic liquids with a true vapor pressure of eleven (11) psia or greater. [SIP Rules 205 & 407.A.2]
	c. There shall be no holes, tears, or other openings in the primary seal, the secondary seal, seal fabric, or seal envelope which allow the emission of volatile organic compounds to the atmosphere, except when the storage tanks are empty and out of service. [District-only, Rule 206 for Tanks 822 & 823 and District-only, Rule 425 for all others]
	d. The secondary seal shall not extend above the top edge of the tank wall. [District-only, Rule 206 for Tanks 822 & 823 and District-only, Rule 425 for all others]
A-1,G	e. All roof openings, except pressure-vacuum relief valves and automatic bleeder vents, shall provide a projection of at least two inches (2") below the stored liquid surface. [District-only, Rule 206 for Tanks 822 & 823 and District-only, Rule 425 for all others]
	f. All openings and fittings shall be covered and shall have gaskets with no visible gaps. [District-only, Rule 206 for Tanks 822 & 823 and District-only, Rule 425 for all others]

Process	Condition
	<p>g. Any excessive seal gap shall be repaired within thirty (30) calendar days. A thirty (30) calendar day extension may be requested from the APCO if repairs cannot be completed within thirty (30) calendar days because they are technically not possible without complete or partial shutdown of the refinery. [District-only, Rule 206]</p>
	<p>h. Each time a storage tank is emptied and degassed, the roof fittings and primary and secondary seals shall be inspected for compliance with this permit. [SIP Rule 205&40CFR60.113b.b.6 for Tank 903 and District-only Rule 206 for all others]</p>
	<p>i. Each time a storage tank roof is refloated after having been on its support legs, the primary and secondary seals shall be inspected for compliance with gap criteria of this permit. If a maintenance activity involves multiple flotation cycles, a single inspection may be performed after the last cycle. [SIP Rule 205 and 40CFR60.113b.b.1.i for Tank 903]</p>
	<p>j. Storage tank seal inspections shall use 1/8", 1/4", 1/2", and 1-1/2" gap measuring rods, at least fifty-four inches (54") in length, constructed with a calibrated cross section in the measuring area to quantify gaps encountered. [SIP Rule 205 and 40CFR60.113b.b.2 for Tank 903]</p> <ol style="list-style-type: none"> 1) The gap measuring technique shall consist of an attempt to insert a rod of a known dimension between the metallic shoe seal or the wiper seal, as appropriate, and the storage tank wall. The rod should be held vertically and inserted with a firm pressure but not with enough force to deflect the seal. If the rod can be inserted its full length without significant resistance, the gap should be considered greater than the rod diameter. If the rod will not go past the seal, or if significant resistance is encountered, the gap should be considered equal to or less than the diameter of the rod. 2) Wherever the 1/8" gap measuring rod passes the seal freely, without forcing or binding against the seal, the gap width and length shall be further evaluated sufficient to determine compliance with the requirements of condition III.E.1.a. For Tanks 822, 823, and 903, the total gap width and perimetrical distance combination shall be determined for the length of the gap such that a square inches of gap per foot of tank perimeter value may be quantified.

5. Domed and Floating Roof Tanks.

Process	Condition
A-1,G,P	<p>a. Potential nuisances caused by excessive odor laden vapor emissions shall be mitigated during open tank work by: [District-only, Rule 206]</p> <ol style="list-style-type: none"> 1) placing materials which are contaminated with stored product, such as seal material, fabric, etc., into closed containers for handling and disposal in accordance with applicable regulations, and 2) generally maintaining clean work areas. 3) Vacuum truck pump discharge gases shall be vented to an emission control device capable of reducing volatile organic compound (VOC) emissions by ninety-five percent (95%) during all tank cleaning material removal. Fresh, activated carbon of sufficient capacity to prevent breakthrough of VOC emissions will be considered to achieve at least ninety-five percent (95%) control for the purposes of this condition. The

	<p>air pollution control device shall be subject to the APCO's approval on a case-by-case basis prior to the beginning of work.</p> <p>4) During tank cleaning, Phillips 66 shall:</p> <ul style="list-style-type: none"> i. adhere to the general Tank Cleaning Plans, and ii. submit a specific tank cleaning plan, which may reference the general Plans, to the APCO for any tank cleaning process that may emit nuisance odors to the atmosphere. That plan shall be submitted to the APCO at least fifteen (15) calendar days prior to cleaning and shall describe the procedures to be employed to minimize potential nuisance odors.
A-1,G	<p>b. All gauging and sampling ports shall remain tightly closed and gas-tight except when gauging or sampling is taking place. [Tanks 100 & 101, District-only, Rule 425.E.3.a; Tanks 800, 801, 900, & 901, District-only, Rule 425.F.4.b; Tanks 550 & 551, SIP Rule 407.A.2: Tanks 822 & 823, District-only, Rule 206, and Tank 903, Rule 425.F.4.b]</p>
A-1,P	<p>c. The lifting of a relief valve except during testing shall be considered an upset under District Rule 107, <u>Breakdown or Upset Conditions and Emergency Variances</u>, and shall be a violation of this condition unless relief is granted in accordance with the provisions of that rule. [District-only, Rule 206]</p>
	<p>d. The pressure regulation, alarm, and relief set-points shall be as follows. [District-only, Rule 206]</p> <ul style="list-style-type: none"> 1) pressure regulation: +0.5 to +1.5 inH₂O 2) audible and visual alarms: 0.0 and +2.5 inH₂O 3) pressure-vacuum valve protection: +3.0 and -1.0 inH₂O respectively. 4) emergency vent manhole lid protection: +4.0 inH₂O.
A-1	<p>e. Testing to determine the vapor pressure of stored materials shall be conducted as directed by the APCO. [District-only, Rule 206]</p>

6. New Source Performance Standard General Provisions

Process	Condition
A-2,B-1, B-2,B-3,C, D-1,D-2, E-1,E-2,G, I,J,K,L,O,P	<p>a. Each subject process shall comply with the notification, recordkeeping, and reporting requirements as specified in 40CFR60.7. All notifications and reports shall be submitted to the APCO with a copy submitted to the EPA Region IX Administrator. Such action shall include the following. [40CFR60.7]</p> <ul style="list-style-type: none"> 1) Written notification of the anticipated date of any physical or operational change that may increase emissions, no less than sixty (60) calendar days prior to that date. 2) Maintaining records of the occurrence and duration of any startup, shutdown, or malfunction, except for fugitive emission components as allowed under 40CFR60.486.k. 3) Maintaining a file of all measurements and performance evaluations for a minimum of five (5) years.
	<p>b. Each subject process shall be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions. [40CFR60.11.d]</p>

7. Fuel Gas System

Process	Condition
B-1,C, D-2,I,J	a. Provisions for extracting refinery fuel gas samples shall be provided and maintained. [SIP Rule 205 for B-62A/B heaters and process units I & J and District-only, Rule 206 for all others]
I,J	b. In the event of a breakdown or upset of either unit, Phillips 66 shall reduce crude oil throughput to a level such that the fuel gas produced by the remaining operating H ₂ S absorption unit will continue to meet the limits of Condition I.B.4. [District-only, Rule 206]

8. Fuel Gas Monitoring

Process	Condition
I,J	a. The instrument for continuously monitoring and recording concentrations of hydrogen sulfide in the fuel gas, AN-603, shall be calibrated, on-line, and operational whenever fuel gas is being combusted, and maintained in accordance with the provisions of 40CFR60, subpart J. [40CFR60.105.a.4]
	b. Except for system breakdowns, repairs, calibration checks, and zero or span adjustments, the AN-603 system shall be in continuous operation. [40CFR60.13.e]
	c. In the event of a breakdown or upset of AN-603, which will last eight (8) hours or longer, a sample of the sweet gas shall be analyzed for hydrogen sulfide by the Drager tube method or other approved method. [District-only, Rule 206]
	d. The instrument for continuously monitoring and recording hourly average gross high heating value in the fuel gas, AN-604, shall be calibrated, on-line, and operational whenever fuel gas is being combusted. [40CFR98.3 and 17CCR 95103(a)]
	e. Except for system breakdowns, repairs, calibration checks, and zero or span adjustments, the AN-604 GHG sampling system shall be in continuous operation, and functioning properly to maintain 5% accuracy. [40CFR98.3.i & 98.34, and 17CCR 95103(a)(9)]
	f. In the event of a breakdown or upset of AN-604 that lasts longer than seven hours, with fuel gas combustion devices still in operation: representative fuel gas samples shall be taken every 8 hours from the amine plant's sampling station and analyzed for HHV. [17CCR 95103(a)(10)(A)]

9. Visible Emissions

Process	Description	Condition
Q, S-3 U (a)	fugitives	a. Visible emissions shall not exceed Ringlemann ½ or ten percent (10%) opacity for a period exceeding three (3) minutes aggregated in any sixty (60) minute period of time. [SIP Rule 205 for process Q and District-only, Rule 206 for all others]
D-1	G-515-3 G-515-4 Sullair 1600H Sullair 900H	b. Visible emissions shall not exceed Ringlemann No. ¼ or five percent (5%) opacity for periods aggregating more than three (3) minutes in any hour. [District-only, Rule 206]

Note: (a) The fall of material from the pelletizer spray shall not be evaluated as visible emissions if it drops to the ground within the staging area.

10. Refinery MACT Standard. All subject processes shall comply with the provisions of 40CFR63, National Emission Standards for Hazardous Air Pollutants, subpart A, General Provisions, and subpart CC, Petroleum Refineries. [40CFR63.640.a and in addition to the references cited below, the following references shall apply to each requirement: 40CFR63.1.c.1 & 63.4.a.1]

- a. For all naphtha stream components, compliance with the requirements of 40CFR60 subpart VV shall be deemed compliance with 40CFR63 subpart CC. [40CFR63.648.a]
- b. Phillips 66 shall implement the APCO approved startup, shutdown, and malfunction (SSM) plan. [40CFR63.6.e.3, except for the need for APCO approval, which is based on SIP Rule 205]
 - 1) During SSM periods for all naphtha stream components, Phillips 66 shall operate and maintain the refinery in accordance with the approved SSM plan.
 - 2) Malfunctions shall be corrected as soon as practicable after their occurrence. [40CFR63.6.e.1.ii]
 - 3) If the SSM plan is revised, the previous version shall be retained for a minimum of five (5) years from the date of revision and shall be made available to the APCO upon request.
 - 4) If it is found that the SSM plan fails to address a malfunction not initially included in that plan, Phillips 66 shall submit a revised plan to the APCO for his approval within forty-five (45) calendar days of that discovery.
- c. The following specific provision shall apply.
 - 1) Phillips 66 shall not fail to report, revise reports, or report source test results as required by 40CFR63, subpart CC. [40CFR63.4.a.2]
 - 2) At all times, including periods of startup, shutdown, and malfunction, Phillips 66 shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40CFR63.6.e.1.i]
 - i. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that Phillips 66 reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices.
 - ii. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require Phillips 66 to achieve emission levels that would be required by 40CFR63, subpart CC, at other times if this is not consistent with safety and good air pollution control practices, nor does it require Phillips 66 to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved.
 - 3) The non-opacity emission standards under 40CFR63, subpart CC, shall apply at all times except during periods of startup, shutdown, and malfunction, and as otherwise specified that subpart. If a startup, shutdown, or malfunction of

one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the non-opacity emission standards set forth in that subpart, then that emission point must still be required to comply with the non-opacity emission standards and other applicable requirements. [40CFR63.6.f.1]

- 4) A copy of all reports submitted to the APCO pursuant to 40CFR63, subparts A and CC, shall be submitted to the EPA Region IX Administrator. [40CFR63.10.a.4.ii]
- 5) Phillips 66 shall identify, either by list or location, equipment in naphtha service less than 300 hours per calendar year. [40CFR63.654.d.5]

11. Diesel Engine Control Measures.

- a. Stationary Diesel Engines. Phillips 66 shall comply with all applicable provisions of 17CCR93115, Airborne Toxic Control Measure for Stationary Compression Ignition Engines. [District-only, 17CCR93115]
 - 1) Any stationary diesel engine rated at ≤ 50 hp that began initial operation after January 1, 2005, shall not emit air contaminants in excess of the current Off-Road Compression-Ignition Engine Standards found in 13CCR2423 for off-road engines of the same maximum rated power. [District-only, Rule 206]
 - 2) An application to install, retrofit, or replace any stationary diesel engine rated at ≥ 50 hp shall be submitted to the APCO no later than sixty (60) calendar days prior to the performance of that work. [District-only, Rule 431.J.3; and Rule 202.A]
 - 3) Stationary diesel engines rated at > 50 hp shall not be operated unless they have a non-resettable, calibrated, on-line, and operational engine run-time hour meter that is maintained in accordance with the manufacturer's recommendations. [District-only, 17CCR93115.10.d]
 - 4)
 - 5) Diesel particulate emissions from the GE-522 water pump shall not exceed 0.0165 grams per brake horsepower hour. Particulate emissions shall be determined by Air Resources Board Test Method 5. For purposes of this emission limit, diesel PM shall be measured only by the probe catch and filter catch and shall not include PM captured in the impinger catch or solvent extract. [District-only, 17CCR93115.7.b.1 and 93115.14.a]
 - i. The GE-522 diesel particulate filter shall employ a backpressure monitor, which shall be calibrated, on-line, operational, and maintained in accordance with the manufacturer's recommendations whenever the engine is in operation. [District-only, 17CCR93115.10.e]
- b. Portable Diesel Engines. Phillips 66 shall comply with all applicable provisions of 17CCR93116, Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater. [District-only, 17CCR93116]
 - 1) The exemption from authority to construct provided in District Rule 201.L.3 for the identical replacement of portable diesel engines rated at ≥ 50 hp is disallowed under section 201.A.1.b of that same rule, because emissions of diesel particulate matter are involved. An application to install, retrofit, or replace any portable diesel engine rated at ≥ 50 hp shall be submitted to the

- APCO no later than sixty (60) calendar days prior to the performance of that work. [District-only, Rule 202.A]
- 2) Portable diesel engines rated at ≥ 50 hp shall not be operated unless they have a non-resettable, calibrated, on-line, and operational engine run-time hour meter that is maintained in accordance with the manufacturer's recommendations. [District-only, Rule 206]
- c. Diesel engines rated at ≥ 50 hp shall only use CARB diesel fuel. [District-only, 17CCR93115.e.1 for stationary engines and 17CCR93116.3.a.1 for portable engines]
- d. Phillips 66 shall comply with all applicable provisions of the federal reciprocating internal combustion engine regulations: Subpart ZZZZ- National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, and Subpart IIII-Standards of Performance for Stationary Compression Ignition Internal Combustion Engines and Subpart JJJJ- Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. [40CFR63.6580, 40CFR60.4200, 40CFR60.4230]
- 1) Engines shall be maintained and operated as specified by the manufacturers, or as listed in these regulations. Records of maintenance and repair shall be maintained for a minimum of five years.
 - 2) Engines equipped with a diesel particulate filter shall have working backpressure monitors and alarms installed to ensure continuous proper operation of the filter.

12. Sulfur Recovery Unit MACT Standard. All subject emission units shall comply with the provisions of 40CFR63, National Emission Standards for Hazardous Air Pollutants, subpart A, General Provisions, and subpart UUU, Petroleum Refineries: Sulfur Recovery Units. [40CFR63.1563.b and, in addition to the references cited below, the following references shall apply to each requirement: 40CFR63.1.c.1 & 63.4.a.1]

- a. The following emission units are subject to this standard.
 - 1) Sulfur Recovery Units A and B, process E-1. [40CFR63.1562.b.3]
 - 2) Sulfur Recovery Unit Bypass Lines to the Hydrocarbon Relief and Recovery System and the B-602A/B Incinerators. [40CFR63.1562.b.4]
 - 3) Tail Gas Unit, process K. [40CFR63.1562.b.3]
- b. Sulfur Recovery Units A & B, process E-1, and Tail Gas Unit, process K
 - 1) The emissions of total reduced sulfur (TRS) compounds from the Tail Gas Unit shall not exceed 300 ppmv, calculated as $SO_2@0\%O_2$ dry, when the B-702 combustor is on low-fire. The averaging period is one-hour for both continuous emissions monitoring instrument results and stack testing. This is a separate requirement from condition I.A.19.c. [40CFR63.1568.a.1, 63.1568.c.1, and subpart UUU, table 29, item 1.b]
 - 2) The emissions of SO_2 from the Tail Gas Unit shall not exceed 100 ppmv @0% O_2 dry when the B-702 combustor is on high-fire. The averaging period is one-hour for both continuous emissions monitoring instrument results and stack testing. This is an intentional duplication of condition I.A.18.a. [SIP Rule 205, 40CFR60.104.a.2.i, 40CFR63.1568.a.1&c.1, and subpart UUU, table 29, item 1.a]

- 3) Operate and maintain the AN-1707/1709 instrument in accordance with condition III.E.10.b and related provisions of this permit. [40CFR63.1568.b.1, 63.1572.a.1, and subpart UUU, table 31, item 1]
 - i. Phillips 66 shall maintain and operate the AN-1707/1709 TRS analyzer in a manner consistent with good air pollution control practices. [40CFR63.8.c.1]
 - (a) The analyzer shall be maintained and operated in accordance with condition III.C.12.g.
 - (b) Phillips 66 shall keep the necessary parts for routine repairs of the analyzer readily available.
 - (c) Phillips 66 shall develop, submit for APCO approval, and implement a written startup, shutdown, and malfunction plan for analyzer as specified in 40CFR63.6.e.3. [SIP Rule 205 for submittal to APCO]
 - ii. The AN-1707/1709 shall be installed such that representative measures of emissions from the tail gas unit are obtained and shall be located according to procedures contained in 40CFR60, performance specification 5. [40CFR63.8.c.2.i]
 - iii. Phillips 66 shall ensure the AN-1707/1709 data indications that are required for compliance with the emission standards contained in conditions I.A and III.C.12.b are readily accessible on site for operational control or inspection by the operator of that analyzer. [40CFR63.8.c.2.ii]
- c. Sulfur Recovery Unit Bypass Lines to the Hydrocarbon Relief and Recovery System and the B-602A/B Incinerators
 - 1) The bypass line blocking valves for each of the two Sulfur Recovery Unit streams leading to the Tail Gas Unit, and the bypass line blocking valves for each of the two acid gas stripper overhead receivers to the Sulfur Recovery Unit process streams, shall remain closed, except as necessary during periods of startup, shutdown, or malfunction. [SIP Rule 205]
 - 2) The bypass line blocking valve for the Sulfur Recovery Unit A to Tail Gas Unit process stream must be maintained in a closed position by a manual locking car seal system and shall be physically connected to vent to the B-602A incinerator when open. [40CFR63.1569.a.1.ii and subpart UUU, table 36, item 2 for the locking system; and SIP Rule 205 for the vent path]
 - 3) The bypass line blocking valve for the Sulfur Recovery Unit B to Tail Gas Unit process stream must be maintained in a closed position by a manual locking car seal system and shall be physically connected to vent to the B-602B incinerator when open. [40CFR63.1569.a.1.ii and subpart UUU, table 36, item 2 for the locking system; and SIP Rule 205 for the vent path]
 - 4) The bypass line blocking valve for the acid gas stripper overhead receiver F-603A to Sulfur Recovery Unit A process stream must be maintained in a closed position, as indicated by an automated electronic valve position monitor, and shall be physically connected to vent to the Hydrocarbon Relief and Recovery System when open. [40CFR63.1569.a.1.i and subpart UUU, table 36, item 1 for the valve position monitor; and SIP Rule 205 for the vent path]
 - 5) The bypass line blocking valve for the acid gas stripper overhead receiver F-603B to Sulfur Recovery Unit B process stream must be maintained in a

closed position, as indicated by an automated electronic valve position monitor, and shall be physically connected to vent to the Hydrocarbon Relief and Recovery System when open. [40CFR63.1569.a.1.i and subpart UUU, table 36, item 1 for the valve position monitor; and SIP Rule 205 for the vent path]

- d. Maintain and operate all subject emission units in accordance with the procedures in the operation, maintenance, and monitoring plan (OMMP) that has been approved by the APCO under 40CFR63.1574.f. Until any requested change to the OMMP is approved, Phillips 66 shall continue to maintain and operate all subject emission units in accordance with the originally approved plan. [40CFR63.1568.a.3, 63.1569.a.3, and 63.1574.f]
- e. Phillips 66 shall implement the APCO approved startup, shutdown, and malfunction (SSM) plan for subject equipment. [40CFR63.6.e.3 and 63.1570.d, except for the need for APCO approval, which is based on SIP Rule 205]
 - 1) During SSM periods, Phillips 66 shall operate and maintain the refinery in accordance with the approved SSM plan. [40CFR63.6.e.3.ii and 63.1570.e]
 - 2) Malfunctions shall be corrected as soon as practicable after their occurrence. [40CFR63.6.e.1.ii]
 - 3) If the SSM plan is revised, the previous version shall be retained for a minimum of five (5) years from the date of revision and shall be made available to the APCO upon request. [SIP Rule 205]
 - 4) If it is found that the SSM plan fails to address a malfunction not initially included in that plan, Phillips 66 shall submit a revised plan to the APCO for his approval within forty-five (45) calendar days of that discovery. [40CFR63.6.e.3.viii]
- f. Phillips 66 shall not fail to report, revise reports, or report source test results as required by 40CFR63, subpart UUU. [40CFR63.4.a.2]
- g. At all times, including periods of startup, shutdown, and malfunction, Phillips 66 shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40CFR63.6.e.1.i and 63.1570.c]
 - 1) During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that Phillips 66 reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices.
 - 2) The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require Phillips 66 to achieve emission levels that would be required by 40CFR63, subpart UUU, at other times if this is not consistent with safety and good air pollution control practices, nor does it require Phillips 66 to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved.
- h. The non-opacity emission standards under 40CFR63, subpart UUU, shall apply at all times except during periods of startup, shutdown, and malfunction, and as

otherwise specified in that subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the non-opacity emission standards set forth in that subpart, then that emission point must still be required to comply with the non-opacity emission standards and other applicable requirements. [40CFR63.6.f.1 and 63.1570.a]

- i. A copy of all reports submitted to the APCO pursuant to 40CFR63, subparts A and UUU, shall be submitted to the EPA Region IX Administrator. [40CFR63.10.a.4.ii]

13. Greenhouse Gas Reporting Requirements

- a. Phillips 66 shall calculate and report greenhouse gas emissions to the Air Resources Board and the U.S. Environmental Protection Agency as required by state and federal greenhouse gas reporting statutes. [17CCR95103 & 40CFR98]
- b. To facilitate the annual compilation of the greenhouse gas emissions data report, Phillips 66 shall maintain a greenhouse gas inventory program that ensures that emission calculations and electricity transaction information is transparent, accurate, and independently verifiable. Phillips 66 shall establish, document, implement, and maintain data acquisition and handling activities for the calculation and reporting of greenhouse gas emissions. Such activities shall include measuring, monitoring, analyzing, recording, processing and calculating the parameters specified in federal and state regulations. [17 CCR 95104.b & 40CFR98]

D. Compliance Testing Conditions

1. Monitoring Procedures and Records.

- a. All testing shall be conducted in accordance with the District's most current Source Test Policy with results being reported to the APCO within forty-five (45) calendar days of testing. [District-only, Rule 210.B.1]
- b. A record of compliance testing shall be maintained and shall include at least the following information. [Rule 216.F.1.c.3 for all "federally-enforceable" conditions and, District-only, Rule 206 for "District-only" enforceable conditions]
 - 1) The date, place as defined in this permit, and time of sampling or measurements;
 - 2) The date(s) analyses were performed;
 - 3) The company or entity that performed the analyses;
 - 4) The analytical techniques or methods used;
 - 5) For combustion devices, those burners that are out-of-service during a compliance test and the reason for that condition; [District-only, Rule 206]
 - 6) The results of such analyses; and
 - 7) The operating conditions as existing at the time of sampling or measurement.

2. **Annual Refinery Compliance Testing.** Phillips 66 shall contract with an independent District-approved, contractor to conduct the following tests at least once each calendar year using methods approved by the District.

Process	Condition
B-1,C, D-1,D-2	a. Determination of oxides of nitrogen (NO _x) emissions, calculated as NO ₂ , oxygen (O ₂), carbon monoxide, and carbon dioxide from the: [SIP Rule 205 for B-506 & B-201A/B NO _x and O ₂ ; and District-only, Rule 206 for all others] B-504 boiler, B-505 boiler, B-506 boiler, [in addition, 40CFR60.48b.g.2 for NO _x & O ₂] B-507 boiler crude heaters (B-2A/B), vacuum heaters (B-62A/B), coker heaters (B-102A/B), and steam superheaters (B-201A/B). cooling tower pump engine (G-51-4)
	b. Determination of total sulfur content of the fuel gas, including hydrogen sulfide, mercaptan, and other related fuel gas constituents, supplied to the: [Rule 216.F.1.c.1] B-504, 506 and B-507 boilers, B-505 boiler, and Coking Unit A and B process heaters.
B-1,C, D-1,D-2	c. Compliance with the heat input limits of this permit during emission compliance testing shall be based on the AN-604 data concurrent with that testing. [District-only, Rule 206]
	d. Determination of sulfur and total HAP content of crude oil feed to refinery on a single day, weight percent basis. [District-only, Rule 210.B.1 for sulfur content and SIP Rule 205 for HAP content]
	e. Determination of the hourly heat input rate to the following heaters and boiler in terms of mmBtuh: [District-only, Rule 210.B.1] B-2A/B, B-62A/B, B-102A/B, and B-505.
	f. The heat input limits in conditions I.B.2.a, b, d, e, and g above may be exceeded during APCO approved testing, but compliance with the emission limits of conditions I.A.1 through 5 shall be shown concurrently.

3. Annual Refinery Performance Audits.

Process	Condition
J,K	Phillips 66 shall conduct or cause to be conducted a performance audit at least once each calendar year for the: [Rule 210.B.1 and 40CFR60.13.c] AN-603 fuel gas H ₂ S monitor, AN-1707/1709 TRS/H ₂ S tail gas monitor, and AN-1600 A/B B602 SO ₂ monitor Such testing shall be conducted in compliance with the requirements of 40CFR60.105(a). Testing of the AN-604 fuel gas monitor shall be conducted as described in Condition III.D.5.a below.

4. Biennial Refinery Compliance Testing.

Process	Condition
B-1,C, D-2,K	<p>At least once every two calendar years, Phillips 66 shall contract with an independent, or other District-approved, laboratory to conduct tests to determine the:</p> <ul style="list-style-type: none"> a. sulfur dioxide emissions in 2014, 2016, and 2018 from the: [District-only, Rule 206 for B-2A/B and SIP Rule 205 for all others] crude heaters (B-2A/B), coker heaters (B-102A/B), and steam superheaters (B-201A/B); b. volatile organic compound emissions in 2014, 2016, and 2018 from the B-505 boiler; [District-only, Rule 210.B.1] c. hydrogen sulfide and reduced sulfur compounds in 2014, 2016, and 2018 in the B-702 stack gas with the combustor on low fire; [CAA 114.a.1.D] d. sulfur dioxide emissions in 2014, 2016, and 2018 in the B-602 A/B incinerators and in the B-702 stack gas with the combustor on high fire; and [CAA 114.a.1.D] e. oxygen levels for at least a three (3) calendar day period in, 2014, 2016, and 2018 at the AN-1707/1709 monitor sampling point. [CAA 114.a.1.D]

5. Fuel Gas Testing

- a. When the refinery is operating normally the fuel gas gross heating value (GHV) shall be determined by the AN-604 analyzer. The laboratory analysis of discrete grab samples shall be performed when requested by the APCO, or when needed as an alternative compliance demonstration. [District-only, Rule 206]
 - 1) The grab samples shall be analyzed for gross heating value (GHV) at 60°F using ASTM D-1946/3588.
 - 2) A log recording grab sample dates and times shall be maintained.
- b. The average of the fuel gas GHV analysis results for the most recent three monthly samples shall be used to determine compliance with all process heater heat input limits of this permit (e.g., the average GHV results for months 1, 2, & 3 shall be used for compliance in month 4). [District-only, Rule 206] All records associated with each fuel gas GHV analysis shall be maintained for a minimum of five (5) years.

6. Verification of Offsets. The coke pile water pump GE-522, the portable air compressor GB-1015, and the Sullair 1600H air compressor shall be tested to verify compliance with the offset requirements of District Rule 204.B at least once every 8,760 hours of operation, not to exceed thirty-six (36) months between verifications. The cooling tower spare circulation pump engine G-51-4 shall be tested annually. The following test methods and procedures shall be used for this testing. [District-only, Rule 204]

- a. NO_x, CO, and VOC emissions, and O₂ content shall be determined by using ARB Method 100. Gaseous pollutant test data point intervals shall be no greater than five (5) minutes and data points shall be averaged over fifteen (15) consecutive minutes.
- b. PM emissions shall be determined by measuring at the outlet of the emission control device using ARB Method 5, excluding condensibles. PM10 emissions shall be deemed equivalent to PM emissions for the purposes of this condition.

- c. The emissions test report for the GE-522 shall include a comparison of Phillips 66' offset liability based on current testing and the offsets provided from ERC certificate number 780-Z1 on May 20, 2004, which were as follows.

tons per year	VOC	CO	NO _x	PM-10	SO ₂
emission offsets	0.20	0.0047	1.72	0.053	0.23

- d. The emissions test report for the GB-1015 shall include a comparison of Phillips 66' offset liability based on current testing and the offsets provided from ERC certificate number 780-Z6 on October 16, 2006, which were as follows.

tons per year	VOC	CO	NO _x	PM-10	SO ₂
emission offsets	0.009	0.002	1.333	0.027	0.004

- e. The emissions test report for the Sullair 1600H air compressor shall include an evaluation of Phillips 66 offset liability based on the most recent test data and annual usage compared to the annual estimated emissions that were calculated when ERC certificate 780-Z7 was issued on April 11, 2012.

tons per year	CO	NO _x	PM-10	SO ₂
emissions	0.043	0.355	0.002	0.001

- f. The emissions test report for the G-51-4 shall include an evaluation of Phillips 66' offset liability based on the most recent test data and annual usage compared to the hourly estimated emissions that were calculated when ERC Certificate 780-Z7 was issued on April 11, 2012:

pounds per hour	VOC	CO	NO _x	PM-10
emissions	0.09	0.10	0.06	0.06

7. **Test Methods.** The following methods shall be used for compliance testing and performance audits. Alternate methods may be used subject to the APCO's approval, except that any alternate method used to support or determine compliance with a federally-enforceable requirement must have previously been approved for inclusion into the SIP by EPA. The most recent version of the list of alternate methods published by ARB at their website http://www.arb.ca.gov/fcaa/tv/tvinfo/accp_mth.htm, which is included here as Appendix A, may be used as a guideline.

Parameters/Requirement	Method
sample and velocity traverses	EPA 1 or ARB 1
velocity and volumetric flowrate	EPA 2 or ARB 2
CO, CO ₂ , O ₂ , excess air, and molecular weight	EPA 3, ARB 3, or ARB 100
moisture content	EPA 4 or ARB 4
particulate matter	ARB 5
SO _x - refinery	ARB 6, 8, or 100
NO _x	EPA 7E or ARB 100
visible emissions	EPA 9
visible emissions from flare	EPA 22
total reduced sulfur	EPA 15A or ARB 15A

Parameters/Requirement	Method
AN-1707/1709 calib. check & relative accuracy	40CFR60.PS-5
H ₂ S	EPA 15 or ARB 15
AN-603 calib. check & relative accuracy	40CFR60.PS-7
H ₂ S in fuel gas – during AN-603 breakdown	length of stain tube [District-only]
total sulfur in fuel gas – weekly check	ARB-16A, Tutweiler option, or SC-307-91
total sulfur in fuel gas – annual check	ASTM D-5504 GC/SCD
total sulfur in crude oil	ASTM D-4294 [District-only]
total HAP in crude oil	ASTM 2892
fuel gas heat content	ASTM D-1946/3588
pH	EPA 150.1
fugitive VOC	EPA 21
total sulfur in green coke - annual check	Phillips 66 AP.6.0
total moisture in green coke - annual check	Phillips 66 AP.1.0
AN-1600 A/B calib check & relative accuracy	40CFR60.PS-2

E. Conditions Specific To The Identified Process

1. Process Unit A-1, Petroleum Tank Farm

- a. Floating roof storage tank seal limits [District-only Rule 206 for Tanks 800 & 801, District-only Rule 425 for Tanks 900 & 901, and federally-enforceable 40CFR60 subpart Kb and Rule 425 for Tank 903]
 - 1) The cumulative length of gaps between the tank shell and the primary seal: [40CFR60.113b.b.4 and Rule 425.G.5.a for Tank 903]
 - i. exceeding one-half inch (½”) shall not be more than ten percent (10%) of the tank circumference, and
 - ii. exceeding one-eighth inch (1/8”) shall not be more than forty percent (40%) of the tank circumference.
 - 2) No gap between the tank shell and the primary seal shall exceed one and one-half inches (1½”) and no continuous gap greater than one-eighth inch (⅛”) shall exceed ten percent (10%) of the tank circumference. [40CFR60.113b.b.4 and Rule 425.G.5.a for Tank 903]
 - 3) The gap between the primary shoe seal and tank wall shall not exceed three inches (3.0”) for a welded tank at any point from the liquid surface to eighteen inches (18.0”) above it. [40CFR60.113b.b.4 and Rule 425.F.7.b for Tank 903]
 - 4) There shall be no visible and measurable gap between the tank shell and the secondary seal, excluding gaps that occur within two inches (2.0”) of a vertical weld seam. No gap within two inches (2.0”) of a vertical weld seam shall exceed one-half inch (½”). [40CFR60.113b.b.4 and Rule 425.G.5.b for Tank 903]
- b. Tanks 900, 901, and 903 shall comply with the construction and maintenance requirements of District Rule 425, Storage of VOC.
 - 1) Tanks 900, 901, and 903 shall utilize: [District-only, Rule 425.F]

- i. both a primary and secondary seal; [40CFR60.112b.a.2 and Rule 425.E.1 for Tank 903 and, District only, Rule 425.E.1 for Tanks 900 & 901]
 - ii. a secondary seal that extends from the roof to the tank shell, is not attached to the primary seal, and is not shoe-mounted;
 - iii. roof openings, except pressure-vacuum relief valves and automatic bleeder vents, which provide a projection at least two inches (2.0") below the liquid surface;
 - iv. openings and fittings that are covered at all times and have gaskets with no visible gap, except when in use; [40CFR60.112b.a.2.ii and Rule 425.F.2 for Tank 903]
 - v. sampling and gauging wells, and similar fixed projections through the floating roof, such as an anti-rotational pipe, which meet the requirements of District Rule 425.F.4 and F.5, except that the seals for the anti-rotation pipe for Tank 903 shall have no visible gap; [40CFR60.112b.a.2.ii and Rule 425.F.4.b for Tank 903]
 - vi. emergency roof drains that drain back to the stored liquid and which utilize a slotted membrane fabric cover, or equivalent, that covers at least ninety percent (90%) of the area of the opening; and
 - vii. a metallic shoe-type seal with one end of the shoe extending at least two inches (2.0") into the stored liquid and the other end extending a minimum vertical distance of twenty-four inches (24") above the liquid surface.
- 2) If a secondary seal is voluntarily removed by Phillips 66, the primary seal shall be made available for inspection at that time. Phillips 66 shall provide notification to the APCO no less than seventy-two (72) hours prior to voluntary removal of a secondary seal. [District-only, Rule 425.G.7.c]
 - 3) Each tank's external floating roof shall be floating on the stored liquid's surface at all times except during maintenance or repair as allowed under Rule 425.C. [District-only, Rule 425.E.1]
 - 4) When each tank's external floating roof is resting on its leg supports, the process of filling, emptying, and refilling shall be continuous. [District-only, Rule 425.C.3.b]

2. Process Unit A-2, Tank Farm Vapor Recovery System

- a. The compressors barrier-fluid seals shall be in-place, maintained, and operated to prevent leakage of the working fluids or gases to the atmosphere. [40CFR60-GGa&VWa]
- b. A spare compressor of equivalent capacity to compressor GB-451, with equivalent seal design, shall be permanently installed. [District-only, Rule 206]
- c. The blanketing gas used for this system shall be pipeline quality natural gas fuel supplied from a California Public Utility Commission regulated company and shall contain less than one (1) gram per 100 cubic foot of sulfur compounds calculated as hydrogen sulfide. [District-only, Rule 206]
- d. The vapor recovery system shall be operated as designed and to recover all VOC emissions vented to it with an efficiency of at least ninety-five percent (95%). [40CFR60.692-5.b]

3. Process Unit B-1, Coking Unit A. Chromium based water treatment chemicals shall not be used in the cooling tower system. [District-only, Rule 413.C.2]

4. Process Unit B-2, Coker Steamout System. [District-only, Rule 206]

- a. Standing oil in water settling Tanks TK-405 and TK-406 shall be minimized at all times.
- b. At least one oil skimmer each for Tanks TK-405 and TK-406 shall be in-place, maintained, and operated at all times to collect floating oil.

5. Process Unit D-1, Boiler Plant

- a. If NOx emissions from boiler B-507 exceed 21 ppmv @ 3% O2 dry, then COP shall submit a written evaluation of the feasibility of installing a NOx Continuous Emission Monitor (CEM) within 30 days. [District-only Rule 206]
- b. The Distributed Control System shall monitor and record the fuel flow and steam production from boilers B-504, B-506 and B-507. All monitoring and recording instruments shall be calibrated and on-line whenever fuel is being combusted in either unit and maintained in good operating order. [SIP Rule 205]
- c. At least two (2) District approved sampling ports located ninety degrees (90°) apart as well as adequate sampling access and services for operating sampling and testing equipment shall be maintained on the boiler plant exhaust stack. [District-only, Rule 206]
- d. Emergency Water Pump Engines, G-515-3 and G-515-4 [District-only, Rule 206]
 - 1) Within 90 days of the applicable calendar year and subject to the APCO's approval, emission offsets or mitigation must be provided for any NOx, VOC, PM10, CO, and SOx emissions resulting from engine operation, including emergency and non-emergency hours, in excess of 100 hours per calendar year per engine. Calculations shall be based on the G-515 emission limits in condition I.A.21 above.

6. Process Unit D-2, Electrical Power Generation Plant. [District-only, Rule 206]

- a. A dedicated APCO approved fuel gas meter shall be calibrated and on-line whenever fuel is being combusted, maintained, and operated on the boiler at all times.
- b. Emission reduction credits in the following amounts were provided for this permit to operate the electrical power generation plant.

VOC	NO _x	SO _x	CO	PM10
5.22 tpy	14.78 tpy	18.25 tpy	47.0 tpy	4.11 tpy

- c. Steam from the B-505 boiler shall not be used to supply steam to the utility plant, unless the combined steam production of the B-504 boiler, B-506 boiler and B-507 boiler is less than 170,000 lb/hr.
- d. The Distributed Control System shall monitor and record the fuel flow and steam production from boiler B-505. All monitoring and recording instruments shall be calibrated and on-line whenever fuel is being combusted and maintained in good operating order.

7/8. Processes E-1 and E-2, Sulfur Recovery Units and Support Units. [District-only, Rule 206]

- a. The instruments for the continuous monitoring and recording of concentrations of sulfur dioxide in the gases discharged to the atmosphere from the B-602 A/B incinerators, AN-1600 A/B, shall be installed such that representative measurements of emissions or process parameters are obtained; shall be in continuous operation, except for instrument breakdowns, repairs, calibration checks, and zero or span adjustments; and shall be calibrated and on-line whenever gas is being emitted from the incinerators; and shall be operated and maintained in accordance with 40CFR60, subpart J. [40CFR60.105.a.5, 60.13.e, and 60.13.f]
- b. Each B-600 reaction furnace shall employ an operating optical pyrometer, for the purposes of monitoring proper combustion, and both audible and visual control room alarms, indicating either high or low temperature.
- c. The AA-601 and AB-601 air demand analyzers, and their associated AI-601 A/B indicator instruments, shall be maintained in good operating condition and shall be calibrated and on-line whenever their respective sulfur recovery unit is on-line. Components from one analyzer may not be used to repair the other analyzer except in situations where the respective sulfur plant for the off-line analyzer is also off-line. Operation of the single tail gas unit H₂S process monitor, AN-1704, properly maintained and calibrated and in good operating condition may be used as an alternative to having the air demand analyzers in operation for each respective sulfur recovery unit.
- d. The sulfur pit vents shall be routed to the B-602 incinerators except during incinerator or sulfur pit vent system maintenance or repair.
- e. The sulfur pit vent system shall be maintained in a leak free condition.

9. Process Unit G, Oily Water Treatment

- a. A preventative maintenance inspection program for Tanks 822 and 823 shall be performed on the schedule identified in section III.B.2 above and which includes the following elements. [District-only, Rule 206]
 - 1) Gap width between the tank wall and primary seal, and at the roof centering device, shall not exceed 1½" at any point. Gap width between the secondary seal and the tank wall shall not exceed ½" at any point. The total gap between the primary or secondary seal and the tank wall shall not exceed 3.2 in²/ft of tank wall perimeter or 0.32 in²/ft of tank wall perimeter respectively. Each tank's circumference shall be considered to be 377 feet for the purposes of this condition. [District-only, Rule 206]
 - i. Any gap that exceeds the amount allowed above shall be repaired within thirty (30) calendar days with the exception of any gap in the secondary seal exceeding ½" which shall be repaired immediately.
 - ii. Adjustments and repairs made to any seal shall be noted in the inspection record.
 - iii. The APCO shall be notified by telephone immediately upon initiation of any repair.
 - 2) Repairs may be delayed if they are technically impossible without complete or partial shutdown of the refinery or process unit. [District-only, Rule 206]

- 3) The general physical condition of the seal and any unusual physical or operational conditions shall be noted during all inspections. [District-only, Rule 206]
 - 4) A gap that exceeds the criteria above detected by the APCO or his designee shall constitute a violation of this condition with the exception of those components previously identified by Phillips 66 that are awaiting repair. [District-only, Rule 206]
- b. The following units shall be continuously vented to Process A-2, Tank Farm Vapor Recovery System:
- 1) three oil-water separators, F-821A,B,&C [SIP Rule 419.D.4.a and 40CFR60.692-3.b];
 - 2) recovered oil surge drum, F-824 [SIP Rule 205 and 40CFR60.692-3.a]; and
 - 3) two recycled solids tank, F-408&9, [SIP Rule 205 and 40CFR60.692-3.a].
- c. Closed vent systems shall be operated and maintained in a leak free condition. [40CFR60.692-5.e.1]
- 1) For the purposes of this condition and compliance with 40CFR60, subpart QQQ, a leak shall be defined as an instrument reading of 500 ppm or more above background. [40CFR60.692-5.e.1]
 - 2) A leak detected by the APCO or his designee shall constitute a violation of this condition with the exception of those components previously identified by Phillips 66 that are awaiting repair. [40CFR60.692-5.e.1 and District-only, Rule 206]

10. Process Unit K, Tail Gas Treating Unit

- a. The instrument for the continuous monitoring and recording of concentrations of total reduced sulfur in the gases discharged to the atmosphere from the tail gas unit, AN-1707/1709, shall be installed such that representative measurements of emissions or process parameters are obtained; shall be in continuous operation, except for breakdowns, repairs, calibration checks, and zero or span adjustments; and shall be calibrated and on-line whenever gas is being processed in the tail gas unit; and shall be operated and maintained in accordance with 40CFR60, subpart J. [40CFR60.105.a.6, 60.13.e, and 60.13.f]
- b. The District approved sampling platform, electrical service, and sampling ports shall be maintained in good condition. [District-only, Rule 210.b.1]

11. Process Unit M, Compressor and Pump Engines. [District-only, Rule 206]

- a. The diesel engines shall be tuned so that particulate emissions are not visible, except during start-up.
- b. Provisions for fuel oil sampling shall be maintained and available upon District request.
- c. The electrically-driven plant air compressor shall be available for use at all times and shall be used preferentially to the internal combustion engine-driven backup compressor to supply instrument air to the facility. [District-only, Rule 206]
- d. Phillips 66 shall maintain and operate the permanently installed air pollution control devices according to the manufacturer's specifications.

- e. In the event that repairs are required for engines equipped with back-end control devices, the engines shall be repaired and returned to service in a timely manner. A comparably-sized unit may be used on a temporary basis as long as the replacement engine meets the latest engine Tier standard, and receives prior APCO approval. Temporary repair is a period of time not to exceed two calendar months. [District-only, Rule 206]

12. Process Unit O, Hydrocarbon Relief and Recovery System

- a. The compressor's barrier-fluid seals shall be in-place and maintained to prevent leakage of the working fluids or gases to the atmosphere. [40CFR60.482-3a(a)]
- b. A spare compressor of equivalent capacity to compressor GB-455, with equivalent seal design, shall be available in storage at the refinery unless the spare compressor is in service. [District-only, Rule 206]
- c. The relief and recovery system shall be on-line whenever gas is present in any line or vessel that is vented to the system, and operated so as to minimize flaring. [District-only, Rule 206]
- d. Phillips 66 shall operate and maintain the flare in accordance with the manufacturer's design, the requirements of 40CFR60 Subpart Ja and the provisions of 40CFR60.18. [40CFR60.18, 40CFR60.100a, and 40CFR60.482-10a(d)]
 - 1) There shall be no visible emission except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours. [40CFR60.18.c.1]
 - 2) A pilot flame at the flare tip shall be maintained at all times as indicated by a minimum flame sensor temperature of 350° F or visible flame. [40CFR60.18.c.2 and 40CFR60.695.a.4]
 - 3) The flare system shall be on-line and in operation at all times when emissions may be vented to it. [40CFR60.18.e]
 - 4) The flare stack mass flow instrument shall be calibrated and on-line at all times when emissions may be vented to the flare system and maintained and operated in accordance with the manufacturer's design. [District-only, Rule 206]
 - 5) Use of the flare gas recovery system obviates the need to continuously monitor and maintain records of hydrogen sulfide in the gas as otherwise required. [40CFR60.105(a)(4) and 60.7]
 - 6) During periodic maintenance required for properly designed and operated flare gas recovery systems, Phillips 66 will take all reasonable measures to minimize emissions while such periodic maintenance is being performed. [40CFR60.103a]
 - 7) The flare gas recovery system may need to be temporarily bypassed in the event of an emergency or in order to ensure safe operation of the refining processes. [District-only, Rule 206]

13. Process Unit Q, Green Coke Handling System. [District-only, Rule 206]

- a. If it is found that the emissions from the equipment or stockpiles covered by this permit are the cause of an excessive concentration of air contaminants anywhere beyond the facility's property line, corrective steps shall be taken to control the emissions.
- b. Phillips 66 will, upon notification by the APCO, provide such information and analysis as will disclose the extent and degree of contamination that the equipment or

stockpiles cause or may cause in the ambient atmosphere, or at the option of the APCO provide facilities for, and allow access to, the equipment by Air Pollution Control District personnel or agents for inspection and/or emission testing.

- c. The actively managed area for open storage of petroleum coke at the Santa Maria Refinery shall not exceed 3,499,349 cubic feet, as specified in Section C of the Memorandum of Agreement for Coke and Sulfur Storage, dated May 11, 2011 or any updated version approved by the APCO.

14. Process Unit S-3, Portable Handling Equipment. [District-only, Rule 206]

- a. The APCO shall be notified before the portable handling equipment is modified or removed from service.
- b. This equipment shall not be used offsite without prior approval of the APCO. Any use offsite may require submittal of an application for modification or change of location.
- c. All hoppers shall be fed by a front-end loader.

15. Process Unit U, Sulfur Pelletizing Plant. The staging area shall be kept free of sulfur to minimize fugitive emissions associated with vehicular traffic around the sulfur pelletizing plant. The staging area shall be defined as any area where equipment and/or trucks operate within the sulfur pelletizing plant area including the roadway to the coke plant. Stockpiles, including a ten foot (10') strip around the base, are not considered the staging area. [District-only, Rule 206]

16. Process Unit W, Diesel Engine Systems.

- a. The electrically-driven carbon plant runoff collection pond pump shall be available for use at all times and shall be used preferentially to the internal combustion engine-driven pump, BK-699, to prevent flooding of areas that are down slope from the collection pond. [District-only, Rule 206]
- b. The Tier 0 welder engines (1485, 7970) shall be replaced no later than January 1, 2017. The replacement engines shall be certified to the most stringent of either the federal or California emission standards for the appropriate class and category of nonroad engine in effect at the time of replacement. [District-only, 17CCR93116.3.b.1.B]

F. Future Effective Conditions

The following conditions will become effective upon completion of the respective Authorities to Construct or upon the date as indicated.

- a. Phillips 66 shall comply with all requirements of 40CFR60 Subpart Ja, Standards of Performance for Petroleum Refineries. Written copies of the Flare Management Plans for main flare C-451 and the temporary use Tank Farm Vapor Recovery flare shall be submitted no later than November 11, 2015.

G. Permit Shield

The following federally-enforceable limits are subsumed by the conditions of this permit. The subsumed limit is listed first and then the permit condition(s) subsuming that limit is listed in [square brackets]. Violation of a streamlined limit, *i.e.*, those in [square brackets], may also trigger enforcement action against a subsumed emission limit to the extent that a violation of that emission limit is documented. Through this action, streamlined

requirements that were previously District-only requirements become federally-enforceable if any subsumed requirement is federally-enforceable. All monitoring, recordkeeping, and reporting requirements that are associated with any subsumed requirement are also subsumed and shall not apply except as identified elsewhere in this permit.

- a. The following storage tank requirements are subsumed and shall not apply.
 - 1) For Tanks 550 and 551, process A-1, the SIP Rule 407.A.2 requirement for a vapor recovery system and that all gauging and sampling ports be maintained gas-tight. [conditions II.B.1.d and III.C.5.b]
 - 2) For Tank 903, process A-1,
 - i. the 40CFR60.113b.b.4 primary and secondary seal gap requirements, [condition III.E.1.a.1]
 - ii. the 40CFR60.112b.a.2 requirement for floating roof with double seals, [condition III.E.1.b.1.i]
 - iii. the 40CFR60.113b.b.1.i and 113b.b.6 seal inspection requirements, and [conditions III.C.4.i & h respectively]
 - iv. the 40CFR60113b.b.2 inspection technique requirements. [condition III.C.4.j]
- b. The 40CFR60.104.a.2.i and 40CFR63.1568.a.1 requirements that the tail gas unit, process K, sulfur dioxide emissions not exceed 250 ppmv (dry) corrected to zero percent (0%) O₂ is subsumed and shall not apply. [condition I.A.17]
- c. The 40CFR60.44b.a.1.ii requirement that the B-506 boiler NO_x emissions not exceed 0.2 lb/mmBtu is subsumed and shall not apply. [condition I.A.1]
- d. The 40CFR60.48b.g.2 requirement for a predictive NO_x program, with the exception of the hourly fuel usage monitoring of 60.49b.c.3, is subsumed and shall not apply. [conditions III.B.1.c, III.B.1.d, III.B.2.i, & III.D.2]

H. **Alternative Operating Scenarios**

Phillips 66 is allowed to operate under the alternative scenario(s) listed below and must maintain a record of all changes in operating scenarios. An Authority to Construct pursuant to District Rule 202 may be required for any given alternative scenario. [Rule 216.G.2]

1. **Tank Farm Vapor Recovery Temporary Flare System**

During common turnarounds when both refinery process lines A and B are shutdown and undergoing maintenance, a temporary flare system may be used to incinerate off-gas from the tank farm vapor recovery system, Process A-2.

- a. Temporary flare system equipment description:
 - 1) SulfaTreat HP scrubber
 - 2) backup scrubber system with activated carbon
 - 3) flared gas H₂S analyzer, AE-457
 - 4) smokeless flare, 4 inch diameter, 555 scfm, natural gas continuous pilot.
- b. Conditions specific to the temporary flare system:

- 1) The temporary flare shall not be used to incinerate gas with a H₂S content greater than 0.10 gr/dscf (160 ppmv), three-hour average and as measured by the AE-457 H₂S analyzer; or with a total sulfur content greater than 0.50 gr/dscf (797 ppmv), as measured by the Tutweiler test. [40CFR60.104.a.1 and SIP Rule 404.e.1]
- 2) The AE-457 instrument for continuously monitoring and recording concentrations of hydrogen sulfide in the flare gas shall be installed such that representative measurements of emissions or process parameters are obtained and shall be calibrated and on-line at all times when emissions may be vented to the flare system and maintained in accordance with the provisions of 40CFR60, subpart J. Except for system breakdowns, repairs, calibration checks, and zero or span adjustments, the AE-457 system shall be in continuous operation. [40CFR60.105.a.4, 60.13.e, and 60.13.f]
- 3) The AE-457 H₂S analyzer shall meet the following specifications.
 - i. span, 425 mg/dscfm H₂S [40CFR60.105.a.4.i]
 - ii. calibration drift, ≤ 21 ppm [40CFR60.PS-7.6.2]
 - iii. relative accuracy - If the average emissions during testing are less than 50% of the emission standard, the applicable emission standard value shall be used in the denominator of the RA equation 2-6 from 40CFR60.PS-2, as it appeared in the federal regulations as published on July 1, 2001, and the RA shall be no greater than 10%. If the average emissions during testing are greater than or equal to 50% of the emission standard, the average reference method value shall be used in the denominator of the equation and the RA shall be no greater than 20%. [40CFR60.PS-2.13.2 & 7.6.3]
- 4) The AE-457 H₂S analyzer shall be calibrated daily in accordance with 40CFR60.PS-7. [40CFR60.13.d.1]
- 5) On a weekly basis, the flared gas shall be sampled for hydrogen sulfide by using the drager tube method and total sulfur content using ARB-16A, Tutweiler option. [SIP Rule 205 and SIP Rule 404.E.1]
- 6) Phillips 66 shall conduct or cause to be conducted a performance audit at least once during each operational period of the temporary flare system for the AE-457 flared gas monitor. Such testing shall be conducted in compliance with the requirements of 40CFR60 subpart 60.105(a) and the most recent version of the District's source test policy. [40CFR60.13.c and District-only Rule 210.B.1]
- 7) AE-457 Unusual Operating Condition, Actions, and Reporting
 - i. Any instantaneous exceedance of 160 ppmv H₂S in the fuel gas shall be reported immediately to the District, and strip charts for periods of exceedance included in the monthly report under condition III.H.1.b.9.i below. [District-only, Rule 206]
 - ii. Any exceedance of 160 ppmv H₂S, averaged over three (3) hours, shall be included with the monthly report under condition III.H.1.b.9.i below and shall include: the magnitude of emissions due to excess H₂S, conversion factors used, and date and time of commencement, and completion of each time period of excess emissions. [40CFR60.105.e.3.ii]

- iii. Specific identification of any exceedance of 160 ppmv H₂S, averaged over three (3) hours, that occurs during start-up, shut-down, or malfunction of the caustic scrubber shall be included with the monthly report under condition III.H.1.b.9.i below and shall include the nature and cause of any malfunction and corrective action taken. [District-only, Rule 206]
 - iv. The date and time identifying each period during which AE-457 was inoperative, other than for daily calibration, and the nature of system repairs and adjustments shall be logged and reported to the APCO in accordance with the provisions of District Rules 107 and 113. A summary report of this information shall be included with the monthly report as required under condition III.H.1.b.9.i below. [40CFR60.7.b&c]
- 8) The following records for the AE-457 H₂S analyzer shall be maintained, then retained for a minimum of five (5) years, and be made available to the APCO upon request. [Rule 216.F.1]
- i. any measurement made; [40CFR60.105.a.4]
 - ii. relative accuracy tests performed in accordance with EPA Method 15; [SIP Rule 205]
 - iii. calibration drift test results as required by 40CFR60.PS-7; [40CFR60.PS-7.6.2]
 - iv. daily records of the calibration including the date, zero and span values, and calibration drift; [40CFR60.13.d.1]
 - v. records of all maintenance: [SIP Rule 205]
 - (a) date, place, and time of maintenance activity;
 - (b) operating conditions at the time of maintenance activity;
 - (c) date, place, name of company or entity that performed the maintenance activity and the methods used; and
 - (d) results of the maintenance; and
 - vi. all data sufficient to report excess emissions and continuous monitoring system (CEMS) downtime as required by 40CFR60.105.e.3.ii and 40CFR60.7.c. [SIP Rule 205]
- 9) All reporting associated with data gathered from the AN-603 analyzer shall apply to the AE-457 analyzer while the temporary flare is in use. A clear distinction shall be drawn in that reporting as to which instrument any given data applies.
- i. On a calendar monthly basis, Phillips 66 shall submit a report to the APCO. That report shall be submitted no later than ten (10) business days after the end of the month and shall include copies of records, including strip charts as identified under condition III.H.1.b.8 above, and an explanation for any unusual event that causes the flared gas sulfur content to exceed an instantaneous value of 160 ppm H₂S. [District-only, Rule 206]
 - ii. On a quarterly basis, Phillips 66 shall submit a report to the APCO, with a copy to the EPA Region IX Administrator. Each report shall be certified to be true, accurate, and complete by a responsible official, and shall include the following data.

- (a) Summary information of the hydrogen sulfide concentration in the flared gas based on records maintained under condition III.H.1.b.8. [SIP Rule 205]
 - (b) Report excess emissions as indicated by, or downtime of, the AE-457 using the summary report form that appears in 40CFR60.7, Figure One (1). If the total duration of excess emissions is less than one percent (1%) and the AE-457 downtime is less than five percent (5%) of the total operating time, only the summary report form, with a statement that no excess emissions and/or no CEMS downtime occurred, need be submitted. If the excess emissions or CEMS downtime exceeds either of those times, the summary report shall be accompanied by a report that includes: [40CFR60.7.c]
 - (1) The magnitude of excess emissions, conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.
 - (2) The process operating time during the reporting period.
 - (3) whether the excess emissions occurred during start-up, shutdown, or malfunction.
 - (4) The nature and cause of any malfunction, the corrective action taken, or preventive measures adopted.
 - (5) The date and time of CEMS downtime, except for zero and span checks, and the nature of system repairs or adjustments.
- 10) Action must be taken to comply with the notification, recordkeeping, and reporting requirements as specified in 40CFR60.7. All notifications and reports shall be submitted to the APCO with a copy submitted to the EPA Region IX Administrator. Such action shall include: [40CFR60.7]
- i. Written notification, of the anticipated date of any physical or operational change that may increase emissions, no less than 60 days prior to that date.
 - ii. Written notification, of the date upon which demonstration of the continuous monitoring system performance commences, no less than 30 days prior to that date.
 - iii. Maintaining records of the occurrence and duration of any startup, shutdown, or malfunction; and any periods when AE-457 is inoperative.
 - iv. Submitting a summary report on a semiannual basis, if the AE-457 is in operation more than 6 months, and upon the end of the temporary flare's operation in accordance with 40CFR60.7(c) and (d).
- 2. Gland Oil Storage System.** This system stores straight run gas oil (SRGO) that is used during the initial phases of a coker startup to flush equipment. This low vapor pressure material is transferred to and from a temporary tank with a vacuum truck.

- a. Temporary gland oil system equipment description:
 - 1) Two 500 barrel fixed roof double walled temporary tanks;
 - 2) Two carbon canisters in series controlling vent of each tank;
 - 3) Vacuum truck equipped with an exhaust vapor control device
- b. Conditions specific to the gland oil storage system: [District-only, Rule 206]
 - 1) Transfer of material to and from the tanks shall only be conducted in a controlled manner such that displaced vapors are routed to a working control system.
 - 2) Provision shall be made for the testing of the carbon canisters' control efficiency.
 - 3) The tank vents shall be connected to a working control system at all times when the tanks are in use.

3. Storage of Process Water in Tank 551. Process water can be stored in Pressure Distillate Tank 551 subject to the conditions of this permit. Reference Condition III.C.1.i for closed vent vapor recovery system requirements that are applicable to this Alternative Operating Scenario.

IV. Compliance Determination Fees

The following fee schedules shall apply to the indicated process units. [Rule 216.F.1.k]

PROCESS		FEE SCHEDULE (Rule 302.E)		EACH
A-1	Tank Farm, TK-100, 101, 550, & 551	20	fixed roof tank (domed)	4
	TK-800, 801, 900, 901, & 903	21	floating roof tank	5
A-2	Tank Farm Vapor Recovery	45	refining process unit	1
	Temporary Flare (when used)	32	miscellaneous	1
B-1	Coking Unit A	44a	refining production line	1
	refinery in general	1	air monitoring oversight	1
	B-201A	4b	small process heater	1
	B-62A	4d	large process heater	1
	B-2A & B-102A	4d	large process heater	2
	atm distillation, vacuum distillation, & coking sections	45	refining process unit	3
	cooling tower recirc pump, G-51-4	28b	additional engine	1
	coke drums (2)	41	petroleum coke production	1
B-2	Coker Steamout	45	refining process unit	1
	TK-405 & 406	21	open top tank	2
B-3	Gland Oil	32	miscellaneous	1
	TK-500	20	fixed roof tank	1
C	Coking Unit B	44a	refining production line	1
	B-201B	4b	small process heater	1
	B-62B	4d	large process heater	1
	B-2B & B-102B	4d	large process heater	2
	atm distillation, vacuum distillation, & coking sections	45	refining process unit	3
D-1	Main Boiler Plant, B-504, 506 and 507	4d	large boiler	3
	emergency water pump engine, G-515-3	28d	emerg, backup engine	1
	emergency water pump engine, G-515-4	28d	emerg, backup engine	1
D-2	Electrical Power Generation Plant	4d	large boiler	1

PROCESS		FEE SCHEDULE (Rule 302.E)		EACH
E	Sulfur Units A & B	43	sulfur recovery unit	2
G	Oily Water Treatment	39	oily water treatment	1
	F-408, 409, & 824	20	fixed roof tank	3
	TK-822 & 823	21	floating roof tank	2
I	Hydrogen Sulfide Absorption Unit A	43	sulfur recovery unit	1
J	Hydrogen Sulfide Absorption Unit B	43	sulfur recovery unit	1
K	Tail Gas Unit	43	sulfur recovery unit	1
L	Product Pumps	32	miscellaneous	1
M	Portable water pump, GE-522	28a	first prime use engine	1
M	Air compressors, GB-1015, Sullair 900H Sullair 1600H	28b	additional engine	3
N	Abrasive Blasting	50	sandblasting	1
O	Hydrocarbon Relief and Recovery	45	refining process unit	1
P	Process Water System	45	refining process unit	1
	process water tank, TK-351	20	fixed roof tank (domed)	1
Q	Green Coke Handling System	32	miscellaneous	1
S-3	Coke Portable Handling	32	miscellaneous	1
U	Sulfur Pelletizing Plant	32	miscellaneous	1
W	Diesel Engine, backup water pump	28d	Emergency standby diesel	1
W	Diesel Engines, backup generators	28d	Emergency standby diesel	4
W	Diesel Engines, portable welders	28e	Portable maint. diesel	3

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Phillips 66, Santa Maria Refinery, 44-52

Appendix A - Approved Alternative Testing Methods

Dated: April 14, 2010

Referenced in Condition: III.D.7



Approved Alternative Monitoring and Test Methods

This page last reviewed April 14, 2010

This file lists U.S. EPA alternative monitoring methods and California test methods that have been determined by the U.S. EPA, Region IX, to be technically acceptable for inclusion into the State Implementation Plan (SIP) or for use in conjunction with SIP approved rules. However, the U.S. EPA reserves the right to determine the appropriateness of any accepted test method for compliance determinations in new or revised rules submitted for incorporation into the SIP. Initial compliance testing for NSPS must be done with U.S. EPA methods.

The links to the following web sites are provided for information only. Although newer versions of some methods may be available at these web sites, only the versions specially approved by EPA can be used to demonstrate compliance with SIP rules.

South Coast AQMD – Laboratory Methods of Analysis for Enforcement Samples
 ARB Test Methods / Procedures

Equivalent Monitoring Methods

The file lists the method number, the title of the test method, the adoption date of the method version approved by the U.S. EPA, Region IX, and the link to the Federal Register notice. There are comments at the end of this list associated with the test methods identified by an asterisk (*).

METHOD#	TITLE
EPA 1	New Equivalent Method for Monitoring PM10 April 8, 2004 Federal Register Notice

Alternative Test Methods

The file lists the regulatory agency (district or ARB), the method number, the title of the test method, and the adoption date of the method version approved by the U.S. EPA, Region IX. There are comments at the end of this list associated with the test methods identified by an asterisk (*). For further information, please contact Stanley Tong at (415) 947-4122 of U.S. EPA, Region IX.

METHOD #	TITLE
ARB 1	Sample and Velocity Traverses for Stationary Sources March 28, 1986
ARB 2	Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube) June 29, 1983
ARB 2A	Direct Measurement of Gas Volume Through Pipes and Small Ducts March 28, 1986
ARB 3	Carbon Dioxide, Oxygen, Excess Air, and Molecular Weight March 28, 1986
ARB 4	Determination of Moisture Content in Stack Gases June 29, 1983
ARB 5*	Determination of Particulate Matter Emissions from Stationary Sources July 28, 1997
ARB 7	Determination of Nitrogen Oxide Emissions from Stationary Sources September 26, 1996
ARB 10	Determination of Carbon Monoxide Emissions from Stationary Sources June 29, 1983
ARB 12	Determination of Inorganic Lead Emissions from Stationary Sources March 28, 1986
ARB 13A	Determination of Fluoride Emissions: SPADNS Zirconium Lake Method March 28, 1986
ARB 17	Particulate Emissions (In-Stack Filtration Method) June 29, 1983
ARB 100	Procedures for Continuous Gaseous Emission Stack Sampling June 28, 1997
ARB 310	Determination of Volatile Organic Compounds (VOC) in Consumer Products and Reactive Organic Compounds in Aerosol Coating Products June 22, 2000.
ARB 401*	Determination of the Weight Percent of VOC in Waste Products March 28, 1986
ARB 422	Exempt Halogenated VOCs in Gases September 12, 1990
ARB 425*	Determination of Total and Hexavalent Chromium Emissions July 28, 1997
ARB 428*	Determination of Polychlorinated Dibenzo-p-Dioxin, Polychlorinated Dibenzofuran, and Polychlorinated Biphenyl Emissions From Stationary Sources July 3, 2004
ARB 431	Determination of Ethyne Oxide Emissions from Stationary Sources November 13, 1998
ARB 432	Exempt Halogenated VOC in Liquids September 12, 1989
ARB 436	Determination of Multiple Metals September 26, 1996
BAAQMD 4A	Determination of Lead Collected on Particulate Filters February 27, 1996
BAAQMD 9	Determination of Compliance Solvents, Coatings, and Related Products December 12, 1990
BAAQMD 10	Determination of Sulfur in Fuel Oil September 2, 1998
BAAQMD 10A	Determination of Sulfur in Petroleum and Petroleum Products May 18, 2005
BAAQMD 13	Determination of the Reid Vapor Pressure of Petroleum Products September 1989
BAAQMD 15A	Standardization and Analysis of Permanent Gases and Methane September 15, 2000
BAAQMD 17	Standardization of Hydrocarbon Calibration Gases September 15, 2000
BAAQMD 21	Compliance for Air-Dried Arch., Water-Based Coatings June 1989, amended May 18, 2005
BAAQMD 22	Compliance, Air-Dried Solvent-Based Coating December 20, 1995, amended May 18, 2005
ASTM D6133-02	Standard Test method for Acetone, p-Chlorobenzotrifluoride, Methyl Acetate or t-Butyl Acetate Content of Solventborne and Waterborne Paints, Coatings, Resins, and Raw Materials by Direct Injection Into a Gas Chromatograph May 12, 2004
BAAQMD 23	Determination of Volatile Emissions from Polyester Resins April 15, 1992

BAAQMD 26	Determination of Volatile Weight Loss of Gel Coats April 15, 1992
BAAQMD 28	Determination of Vapor Pressure of Organic Liquids from Tanks March 22, 1991
BAAQMD 29	Determination of Ethanol in Bakery Effluents December 21, 1988
BAAQMD 31	Determination of Volatile Organic Compounds in Paint Strippers, Solvent Cleaners, and Low Solids Coatings November 1989, amended May 18, 2005
BAAQMD 33	Determination of Dissolved Critical VOCs in Waste Water Separators November 1, 1989, amended May 18, 2005
BAAQMD 35	VOC in Solvent-Based Aerosol Paints January 19, 1994
BAAQMD 36	VOC in Water-Based Aerosol Paints October 3, 1990
BAAQMD 37	Determination of Perchloroethylene in Dry Cleaning Filtration Wastes April 3, 1991
BAAQMD 38	Determination of Petroleum Solvent in Dry Cleaning Filtration Wastes April 3, 1991
BAAQMD 39	Determination of Styrene Monomer Content of Polyester Resins April 15, 1992
BAAQMD 40	Determination of Volatile Organic Compounds in Adhesives Used for Pipes and Fittings June 5, 1996
BAAQMD 41	Determination of Volatile Organic Compounds in Solvent-Based Coatings and Related Materials Containing Parachlorobenzotrifluoride December 20, 1995, amended May 18, 2005
BAAQMD 42	Determination of Ammonia in Coatings, Inks, and Related Materials November 6, 1996
BAAQMD 43	Determination of Volatile Methylsiloxanes in Solvent-Based Coatings, Inks, and Related Materials November 6, 1996, amended May 18, 2005
BAAQMD 45*	Determination of Butanes and Pentanes in Polymeric Materials January 19, 2000, amended May 18, 2005
BAAQMD 46	Determination of the Composite Partial Pressure of Volatile Organic Compounds in Cleaning Products, amended May 18, 2005
BAAQMD ST-1B	Ammonia, Continuous Sampling January 20, 1982
BAAQMD ST-3	Bulk Plants Emission Factor Determination December 21, 1994
BAAQMD ST-7*	Organic Compounds April 15, 1992
BAAQMD ST-27	Gasoline Dispensing Facility - Dynamic Back Pressure December 21, 1994
BAAQMD ST-30	Gasoline Dispensing Facility - Leak Test Procedure December 21, 1994
BAAQMD ST-32	Ethanol, Integrated Sampling December 21, 1988
BAAQMD ST-33	Gasoline Cargo Tanks December 21, 1994
BAAQMD ST-34	Bulk Gasoline Distribution Facilities-ER Unit or C Adsorption December 21, 1994
SCAQMD RO	Protocol for Determination of Particulate and Volatile Organic Compound Emissions from Restaurant Operations November 14, 1997
SCAQMD TE*	Procedure for Testing Spray Equipment Transfer Efficiency May 24, 1989
SCAQMD CS*	Solvent Losses from Spray Gun Cleaning Systems October 3, 1989
SCAQMD CE	Protocol for Determination of VOC Capture Efficiency May 1995
SCAQMD 1.1	Sample and Velocity Traverses for Stationary Sources March 1989
SCAQMD 1.2	Sample and Velocity Traverse for Stationary Sources with Small Stacks March 1989
SCAQMD 2.1	Stack Gas Velocity and Volumetric Flow Rate (S-Type Pitot Tube) March 1989
SCAQMD 2.2	Direct Measurement of Gas Volume Through Pipes and Small Ducts March 1989
SCAQMD 2.3	Gas Velocity and Volumetric Flow Rate from Small Stacks or Ducts March 1989
SCAQMD 3.1	Gas Analysis for Dry Molecular Weight and Excess Air March 1989
SCAQMD 4.1	Determination of Moisture Content in Stack Gases March 1989
SCAQMD 5.1	Determination of Particulate Matter Emissions -- Wet Impingement March 1989
SCAQMD 5.2	Determination of Particulate Matter Emissions -- Heated Probe and Filter March 1989
SCAQMD 5.3	Determination of Particulate Matter Emissions from Stationary Sources Using an In-Stack Filter October 2005
SCAQMD 6.1	Determination of Sulfuric Acid and Sulfur Oxides from Stationary Sources March 1989
SCAQMD 7.1	Determination of NOx Emissions from Stationary Sources March 1989
SCAQMD 9B	Opacity Methods No. 9B October 2005
SCAQMD 10.1	Method 10.1 Carbon Monoxide and Carbon Dioxide by Gas Chromatograph/nondispersive infrared detector (GC/NDIR) - Oxygen by Gas Chromatograph - Thermal Conductivity (GC/TCD), September 24, 2008
SCAQMD 25.1	Total Gaseous Non-Methane Organic Emissions February 1991
SCAQMD 25.3	Determination of Low Concentration Non-Ethane Non-Methane Organic Compound Emissions From Clean-Fueled Combustion Sources March 2000
SCAQMD 100.1	Instrumental Analyzer Procedures for Continuous Gaseous Sampling March 1989
SCAQMD 205.1	Determination of Hexavalent and Total Chromium from Plating August 1991
SCAQMD 300-91	Analysis of Asbestos in Bulk Materials August 1996
SCAQMD 301-91	Identification of Particles by Microscopy August 1996
SCAQMD 302-91	Distillation of Solvents from Paints, Coatings, and Inks February 1993
SCAQMD 303-91	Determination of Exempt Compounds August 1996
SCAQMD 304-91	Determination of VOC in Various Materials February 1996
SCAQMD 305-91	Determination of VOC in Aerosol Applications June 1993
SCAQMD 306-91	Analysis of Pentanes in Expandable Styrene Polymers February 1993
SCAQMD 307-91	Determination of Sulfur in a Gaseous Matrix March 1994
SCAQMD 308-91	Quantitation of Compounds by Gas Chromatography February 1993
SCAQMD 309-91	Determination of Static Volatile Emissions February 1993
SCAQMD 310-91	Determination of Perchloroethylene May 1993
SCAQMD 312-91	Determination of Percent Monomer in Polyester Resins April 1996
SCAQMD 313-91	Determination of VOC by GC / MS June 1993
SCAQMD 314-91	Quantitation of Photochemically Reactive Compounds February 1993
SCAQMD 315-91	Determination of H2S and Mercaptans in Oil and Sludge Samples November 1996
SCAQMD 316B-97	Determination of VOCs in Adhesives Containing Cyanoacrylates August 1997
SCAQMD 316A-92	Determination of VOCs in Materials Used for Pipes And Fittings October 1996

SCAQMD 317-93	Determination of Natural Fibers August 1996
SCAQMD 318-95*	Determination of Weight Percent Elemental Metal in Coatings by X-Ray July 1996
SCAQMD 501.1	Total Non-Methane Vapors from Organic Loading and Storage March 1989
SCAQMD 1146*	Protocol for the Measurement of Nitrogen Oxides, Carbon Monoxide, and Oxygen from Sources Subject to South Coast Air Quality Management District Rule 1146, September 2001
SDAPCD	Raoult's Law Calculation for Vapor Pressure of VOC Mixtures
SDAPCD 24D*	Determination of Density, Total Volatile Matter Content and Weight Solids of Surface Coatings Containing Photosensitive Reactive Diluents July 1993
SDAPCD 100*	Test Procedures for the Determination of Nitrogen Oxides, Carbon Monoxide and Diluent Gases by Continuous Emission Monitoring May 1995
SJVUAPCD LBNL-VP*	Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatography May 2002

* COMMENTS ON ALTERNATIVE CALIFORNIA TEST METHODS

ARB 401	This method cannot be substituted for EPA Method 25D
ARB 425	This method has been approved as an alternative to EPA Method 306 for the purpose of demonstrating compliance with the Chrome Plating ATCM / NESHAP
ARB 428	This method has been approved as an alternative to EPA Method 23 for measuring dioxin/furan emissions from the secondary aluminum facilities in California specified as follows: ALRAYCO, LLC, Adelanto CA; Commonwealth Aluminum Corp., Long Beach, CA; Custom Alloy Light Metals, Inc., City of Industry, CA; Custom Alloy Sales, Lynwood, CA; Custom Alloy Scrap Sales, Oakland, CA; Indalex West Inc., City of Industry, CA; Kaiser Aluminum and Chemical Corp., Commerce, CA; Liston Brick of Corona, Corona, CA; Pechiney Cast Plate, Vernon, CA; Timco Standard Tandem, Fontana, CA; Thorock Metals Company, Compton, CA; Tri Alloy Group LLC, Montclair, CA; United State Marine Corp, Twentynine Palms, CA; and Vista Metals Corp., Fontana, CA; <i>provided they only use high resolution mass spectrometry for sample analysis.</i>
BAAQMD ST-7	This method cannot be used for combustion processes
BAAQMD 22 - ALT. METHOD	This method is not approved for compliance determination with NSPS or NESHAPs
BAAQMD 45	This method is not approved for compliance determination with NSPS or NESHAPs
SCAQMD TE	This method cannot be used for generating TE credits
SCAQMD CS	This method cannot be used for actual emission results
SCAQMD 318-95	Use for metals other than Aluminum requires validation
SCAQMD 1146	SCAQMD Rule 1146 must clarify that SCAQMD 1146 Method is an alternative rather than an equivalent method
SDAPCD 24D	This method is only acceptable for NAPP Systems Inc. in the San Diego APCD
SDAPCD 100	This method does not measure SO ₂
SJVUAPCD LBNL-VP	This method has not been reviewed or approved for use in determining compliance with other programs e.g. the air toxic program. The definition of heavy crude oil in section 3.1.2 should be modified to state it is 26 degrees or less to make this section consistent with Section 1.2.

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