

Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109
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Permit Evaluation and Statement of Basis for Minor Revision of

MAJOR FACILITY REVIEW PERMIT

For

Phillips 66 – San Francisco Refinery Facility #A0016

Facility Address:

1380 San Pablo Avenue
Rodeo, CA 94572

Mailing Address:

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May 2014

Application Engineer: Brian Lusher
Site Engineer: Brian Lusher

Applications: 24692, 25622, 26021

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Title V Statement of Basis

A. Background

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

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

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

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A0016.

Application 24692 a Title V minor revision application was submitted to add some consent decree language to the Title V permit. Two other minor revision applications are being processed along with A24692. Application 25622 is a minor revision application that corresponds to new source review application 25621. Application 26021 is a minor revision application that corresponds to new source review application 26020. The associated engineering evaluations for each new source review application are attached to this statement of basis.

This statement of basis will include all proposed changes to the permit in strikeout/underline format. This statement of basis addresses only the proposed changes to the permit.

The US District Court for the Southern District of Texas entered a consent decree against Conoco Phillips on January 27, 2005 [Consent Decree Case No. 05-0258]. Phillips 66 submitted Application 24692 on July 25, 2012, to incorporate the following provisions:

- All heaters and boilers at the refinery should be subject to NSPS Subparts A and J. Sources S-43, S-44, S-351, S-371/372, S-438 do not have NSPS Subpart A listed as an applicable requirement. NSPS Subpart A should be added for these sources; and
- Although the Sulfur Recovery Units (U-234, U-236, S-238) are currently subject to NSPS Subpart Ja, the facility requests that BAAQMD add NSPS Subpart J applicability in addition to NSPS Ja applicability. Therefore, these SRUs will be subject to NSPS Subpart J and Ja after this amendment.
- Table IV-Ua and IV-Ub should be updated to add condition 18255 part 13 as an applicable requirement for S-1002, S-1003, and S-1010.
- Add NSPS Subpart A as an applicable requirement to the respective Table IVs for the following heaters: S-36, S-43, S-44, S-336, S-337, S-351, S-371, S-372, S-438, and S-461.
- Add 40 CFR Appendix A (Source Test Methods) and F (Quality Assurance Procedures) as applicable requirements to the respective Table IVs for the following sources: S-10, S-13, S-15, S-16, S-17, S-18, and S-19.

Phillips 66 submitted Application 25621 on August 12, 2013 to change the following:

- revise the PM10 limits for S-1010 sulfur recovery unit in conditions 23125, 22962, and 22970.

Phillips 66 submitted Application 26021 on February 7, 2014, to change the following:

- change pressure relief device minimum set pressure contained in condition 23724, part 4a for S-182 Tank 294 from 1.5” inches of water to 1.8” of water.

This revision for Title V application 24692 and new source review applications 25621 (TV A25622), 26020 (TV A26021) is a minor revision of the Major Facility Review permit for the following reasons:

- The changes are not considered a major modification under 40 CFR Parts 51 (NSR) or 52 (PSD).
- The changes are not considered a modification under 40 CFR Parts 60 (NSPS), 61 (NESHAPS), or Section 112 of the Clean Air Act (HAP).
- There is no significant change or relaxation of monitoring.
- No term is established to allow the facility to avoid an applicable requirement.
- No case-by-case determination has been made.
- No facility-specific determination for ambient impacts, visibility analysis, or increment analysis on portable sources has been made.
- The limits are not the incorporation of a requirement promulgated by EPA under the authority of the Clean Air Act.

B. Facility Description

This facility is an oil refinery. For a complete description, see the Statement of Basis for Application 9296.

C. Permit Content

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

I. Standard Conditions

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

Changes to permit

There are no changes to Section I in this action.

II. Equipment

Changes to permit:

None

III. Generally Applicable Requirements

Changes to permit

No changes to this section are proposed in this action.

IV. Source-Specific Applicable Requirements

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

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are “federally enforceable” and a “Y” (yes) indication will appear in the “Federally Enforceable” column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the “Federally Enforceable” column will have a “Y” for “yes”. If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP

version will not be federally enforceable, unless EPA has approved it through another program.

- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

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

Changes to permit:

Section G.110 of the Consent Decree requires that all heaters and boilers at the refinery that are not already subject to 40 CFR 60, Subparts A and J, become "affected facilities" as defined in Section 100. Therefore, these requirements will be added to the Section IV tables for these sources.

The substantive requirements are that the combustion devices may not burn fuel gas with an H₂S content above 0.10 gr/dscf and that the H₂S content of the fuel gas must be continuously monitored. The sources will comply because there is only one source of fuel gas, the fuel gas system. Since other sources at the refinery have been subject to the standard, the refinery maintains all of the fuel gas below the limit and continuously monitors the concentration.

Table IV – A.8
Source-specific Applicable Requirements
S10 – UNIT 240, B-101 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
NSPS 40 CFR 60, Appendix A	Appendix A to Part 60 – Test Methods	Y	
NSPS 40 CFR 60 Appendix F	Quality Assurance Procedures		

Table IV – A.11
Source-specific Applicable Requirements
S13 – UNIT 240, B-301 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
NSPS 40 CFR 60, Appendix A	Appendix A to Part 60 – Test Methods	Y	
NSPS 40 CFR 60 Appendix F	Quality Assurance Procedures		

Table IV – A.13
Source-specific Applicable Requirements
S15 – UNIT 244, B-501 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
NSPS 40 CFR 60, Appendix A	Appendix A to Part 60 – Test Methods	Y	
NSPS 40 CFR 60 Appendix F	Quality Assurance Procedures		

Table IV – A.14
Source-specific Applicable Requirements
S16 – UNIT 244, B-502 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
NSPS 40 CFR 60, Appendix A	Appendix A to Part 60 – Test Methods	Y	
NSPS 40 CFR 60 Appendix F	Quality Assurance Procedures		

Table IV – A.15
Source-specific Applicable Requirements
S17 – UNIT 244, B-503 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
NSPS 40 CFR 60, Appendix A	Appendix A to Part 60 – Test Methods	Y	
NSPS 40 CFR 60 Appendix F	Quality Assurance Procedures		

Table IV – A.16
Source-specific Applicable Requirements
S18 – UNIT 244, B-504 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
NSPS 40 CFR 60, Appendix A	Appendix A to Part 60 – Test Methods	Y	
NSPS 40 CFR 60 Appendix F	Quality Assurance Procedures		

Table IV – A.17
Source-specific Applicable Requirements
S19 – UNIT 244, B-505 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
NSPS 40 CFR 60, Appendix A	Appendix A to Part 60 – Test Methods	Y	
NSPS 40 CFR 60 Appendix F	Quality Assurance Procedures		

Table IV – A.24
Source-specific Applicable Requirements
S36 – UNIT 200, B-102 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 60, Subpart A	General Provisions (1/18/08)		
60.7(b)	Records	Y	
60.7(c)	Notification and recordkeeping for continuous monitoring	Y	
60.7(d)	Summary reports	Y	
60.7(e)	Reduction of frequency of summary reports	Y	
60.7(f)	Records	Y	
60.7(g)	Alternative Notification	Y	
60.7(h)	Specific Provisions	Y	
60.8	Performance Tests	Y	
60.11	Compliance with Standards and Maintenance Requirements	Y	
60.11(a)	Compliance determined by performance tests	Y	
60.11(d)	Control devices operated using good air pollution control practice	Y	
60.13	Monitoring requirements	Y	
60.13(a)	Continuous monitoring systems subject to Appendix B, and Appendix F, (if used to demonstrate compliance with continuous emission limits), of Part 60	Y	
60.13(b)	Continuous monitoring systems and devices operational prior to performance tests required by 60.8	Y	
60.13(d)(1)	Continuous monitoring system zero and span calibration requirements	Y	
60.13(e)	Continuous monitoring system minimum frequency of operation	Y	
60.13(e)(2)	Continuous monitoring system minimum frequency of operation for non-opacity-measuring devices	Y	
60.13(f)	Continuous monitoring system installation location requirement	Y	
40 CFR 60, Subpart A	General Provisions (1/18/08)		
60.13	Monitoring Requirements	Y	
60.13(i)	Approval of Alternative Monitoring	Y	

Table IV – A.25
Source-specific Applicable Requirements
S43 – UNIT 200, B-202 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 60, Subpart A	General Provisions (1/18/08)		
60.7(b)	Records	Y	
60.7(c)	Notification and recordkeeping for continuous monitoring	Y	
60.7(d)	Summary reports	Y	
60.7(e)	Reduction of frequency of summary reports	Y	
60.7(f)	Records	Y	
60.7(g)	Alternative Notification	Y	
60.7(h)	Specific Provisions	Y	
60.8	Performance Tests	Y	
60.11	Compliance with Standards and Maintenance Requirements	Y	
60.11(a)	Compliance determined by performance tests	Y	
60.11(d)	Control devices operated using good air pollution control practice	Y	
60.13	Monitoring requirements	Y	
60.13(a)	Continuous monitoring systems subject to Appendix B, and Appendix F, (if used to demonstrate compliance with continuous emission limits), of Part 60	Y	
60.13(b)	Continuous monitoring systems and devices operational prior to performance tests required by 60.8	Y	
60.13(d)(1)	Continuous monitoring system zero and span calibration requirements	Y	
60.13(e)	Continuous monitoring system minimum frequency of operation	Y	
60.13(e)(2)	Continuous monitoring system minimum frequency of operation for non-opacity-measuring devices	Y	
60.13(f)	Continuous monitoring system installation location requirement	Y	

Table IV – A.26
Source-specific Applicable Requirements
S44 – UNIT 200, B-201 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 60, Subpart A	General Provisions (1/18/08)		
60.7(b)	Records	Y	
60.7(c)	Notification and recordkeeping for continuous monitoring	Y	
60.7(d)	Summary reports	Y	
60.7(e)	Reduction of frequency of summary reports	Y	
60.7(f)	Records	Y	
60.7(g)	Alternative Notification	Y	
60.7(h)	Specific Provisions	Y	
60.8	Performance Tests	Y	
60.11	Compliance with Standards and Maintenance Requirements	Y	
60.11(a)	Compliance determined by performance tests	Y	
60.11(d)	Control devices operated using good air pollution control practice	Y	
60.13	Monitoring requirements	Y	
60.13(a)	Continuous monitoring systems subject to Appendix B, and Appendix F, (if used to demonstrate compliance with continuous emission limits), of Part 60	Y	
60.13(b)	Continuous monitoring systems and devices operational prior to performance tests required by 60.8	Y	
60.13(d)(1)	Continuous monitoring system zero and span calibration requirements	Y	
60.13(e)	Continuous monitoring system minimum frequency of operation	Y	
60.13(e)(2)	Continuous monitoring system minimum frequency of operation for non-opacity-measuring devices	Y	
60.13(f)	Continuous monitoring system installation location requirement	Y	

Table IV – A.29
Source-specific Applicable Requirements
S336 – UNIT 231, B-104 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 60, Subpart A	General Provisions (1/18/08)		
60.7(b)	Records	Y	
60.7(c)	Notification and recordkeeping for continuous monitoring	Y	
60.7(d)	Summary reports	Y	
60.7(e)	Reduction of frequency of summary reports	Y	
60.7(f)	Records	Y	
60.7(g)	Alternative Notification	Y	
60.7(h)	Specific Provisions	Y	
60.8	Performance Tests	Y	
60.11	Compliance with Standards and Maintenance Requirements	Y	
60.11(a)	Compliance determined by performance tests	Y	
60.11(d)	Control devices operated using good air pollution control practice	Y	
60.13	Monitoring requirements	Y	
60.13(a)	Continuous monitoring systems subject to Appendix B, and Appendix F, (if used to demonstrate compliance with continuous emission limits), of Part 60	Y	
60.13(b)	Continuous monitoring systems and devices operational prior to performance tests required by 60.8	Y	
60.13(d)(1)	Continuous monitoring system zero and span calibration requirements	Y	
60.13(e)	Continuous monitoring system minimum frequency of operation	Y	
60.13(e)(2)	Continuous monitoring system minimum frequency of operation for non-opacity-measuring devices	Y	
60.13(f)	Continuous monitoring system installation location requirement	Y	

Table IV – A.30
Source-specific Applicable Requirements
S337 – UNIT 231, B-105 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 60, Subpart A	General Provisions (1/18/08)		
60.7(b)	Records	Y	
60.7(c)	Notification and recordkeeping for continuous monitoring	Y	
60.7(d)	Summary reports	Y	
60.7(e)	Reduction of frequency of summary reports	Y	
60.7(f)	Records	Y	
60.7(g)	Alternative Notification	Y	
60.7(h)	Specific Provisions	Y	
60.8	Performance Tests	Y	
60.11	Compliance with Standards and Maintenance Requirements	Y	
60.11(a)	Compliance determined by performance tests	Y	
60.11(d)	Control devices operated using good air pollution control practice	Y	
60.13	Monitoring requirements	Y	
60.13(a)	Continuous monitoring systems subject to Appendix B, and Appendix F, (if used to demonstrate compliance with continuous emission limits), of Part 60	Y	
60.13(b)	Continuous monitoring systems and devices operational prior to performance tests required by 60.8	Y	
60.13(d)(1)	Continuous monitoring system zero and span calibration requirements	Y	
60.13(e)	Continuous monitoring system minimum frequency of operation	Y	
60.13(e)(2)	Continuous monitoring system minimum frequency of operation for non-opacity-measuring devices	Y	
60.13(f)	Continuous monitoring system installation location requirement	Y	

Table IV – A.31
Source-specific Applicable Requirements
S351 – UNIT 267, B-601/602 HEATERS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 60, Subpart A	General Provisions (1/18/08)		
60.7(b)	Records	Y	
60.7(c)	Notification and recordkeeping for continuous monitoring	Y	
60.7(d)	Summary reports	Y	
60.7(e)	Reduction of frequency of summary reports	Y	
60.7(f)	Records	Y	
60.7(g)	Alternative Notification	Y	
60.7(h)	Specific Provisions	Y	
60.8	Performance Tests	Y	
60.11	Compliance with Standards and Maintenance Requirements	Y	
60.11(a)	Compliance determined by performance tests	Y	
60.11(d)	Control devices operated using good air pollution control practice	Y	
60.13	Monitoring requirements	Y	
60.13(a)	Continuous monitoring systems subject to Appendix B, and Appendix F, (if used to demonstrate compliance with continuous emission limits), of Part 60	Y	
60.13(b)	Continuous monitoring systems and devices operational prior to performance tests required by 60.8	Y	
60.13(d)(1)	Continuous monitoring system zero and span calibration requirements	Y	
60.13(e)	Continuous monitoring system minimum frequency of operation	Y	
60.13(e)(2)	Continuous monitoring system minimum frequency of operation for non-opacity-measuring devices	Y	
60.13(f)	Continuous monitoring system installation location requirement	Y	

Table IV – A.32
Source-specific Applicable Requirements
S371 – UNIT 228, B-520 FURNACE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 60, Subpart A	General Provisions (1/18/08)		
60.7(b)	Records	Y	
60.7(c)	Notification and recordkeeping for continuous monitoring	Y	
60.7(d)	Summary reports	Y	
60.7(e)	Reduction of frequency of summary reports	Y	
60.7(f)	Records	Y	
60.7(g)	Alternative Notification	Y	
60.7(h)	Specific Provisions	Y	
60.8	Performance Tests	Y	
60.11	Compliance with Standards and Maintenance Requirements	Y	
60.11(a)	Compliance determined by performance tests	Y	
60.11(d)	Control devices operated using good air pollution control practice	Y	
60.13	Monitoring requirements	Y	
60.13(a)	Continuous monitoring systems subject to Appendix B, and Appendix F, (if used to demonstrate compliance with continuous emission limits), of Part 60	Y	
60.13(b)	Continuous monitoring systems and devices operational prior to performance tests required by 60.8	Y	
60.13(d)(1)	Continuous monitoring system zero and span calibration requirements	Y	
60.13(e)	Continuous monitoring system minimum frequency of operation	Y	
60.13(e)(2)	Continuous monitoring system minimum frequency of operation for non-opacity-measuring devices	Y	
60.13(f)	Continuous monitoring system installation location requirement	Y	

Table IV – A.33
Source-specific Applicable Requirements
S372 – UNIT 228, B-521 FURNACE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 60, Subpart A	General Provisions (1/18/08)		
60.7(b)	Records	Y	
60.7(c)	Notification and recordkeeping for continuous monitoring	Y	
60.7(d)	Summary reports	Y	
60.7(e)	Reduction of frequency of summary reports	Y	
60.7(f)	Records	Y	
60.7(g)	Alternative Notification	Y	
60.7(h)	Specific Provisions	Y	
60.8	Performance Tests	Y	
60.11	Compliance with Standards and Maintenance Requirements	Y	
60.11(a)	Compliance determined by performance tests	Y	
60.11(d)	Control devices operated using good air pollution control practice	Y	
60.13	Monitoring requirements	Y	
60.13(a)	Continuous monitoring systems subject to Appendix B, and Appendix F, (if used to demonstrate compliance with continuous emission limits), of Part 60	Y	
60.13(b)	Continuous monitoring systems and devices operational prior to performance tests required by 60.8	Y	
60.13(d)(1)	Continuous monitoring system zero and span calibration requirements	Y	
60.13(e)	Continuous monitoring system minimum frequency of operation	Y	
60.13(e)(2)	Continuous monitoring system minimum frequency of operation for non-opacity-measuring devices	Y	
60.13(f)	Continuous monitoring system installation location requirement	Y	

Table IV – A.34
Source-specific Applicable Requirements
S438 – UNIT 110, H-1 FURNACE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 60, Subpart A	General Provisions (1/18/08)		
60.7(b)	Records	Y	
60.7(c)	Notification and recordkeeping for continuous monitoring	Y	
60.7(d)	Summary reports	Y	
60.7(e)	Reduction of frequency of summary reports	Y	
60.7(f)	Records	Y	
60.7(g)	Alternative Notification	Y	
60.7(h)	Specific Provisions	Y	
60.8	Performance Tests	Y	
60.11	Compliance with Standards and Maintenance Requirements	Y	
60.11(a)	Compliance determined by performance tests	Y	
60.11(d)	Control devices operated using good air pollution control practice	Y	
60.13	Monitoring requirements	Y	
60.13(a)	Continuous monitoring systems subject to Appendix B, and Appendix F, (if used to demonstrate compliance with continuous emission limits), of Part 60	Y	
60.13(b)	Continuous monitoring systems and devices operational prior to performance tests required by 60.8	Y	
60.13(d)(1)	Continuous monitoring system zero and span calibration requirements	Y	
60.13(e)	Continuous monitoring system minimum frequency of operation	Y	
60.13(e)(2)	Continuous monitoring system minimum frequency of operation for non-opacity-measuring devices	Y	
60.13(f)	Continuous monitoring system installation location requirement	Y	

Table IV – A.35
Source-specific Applicable Requirements
S461 – UNIT 250, B-701 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 60, Subpart A	General Provisions (1/18/08)		
60.7(b)	Records	Y	
60.7(c)	Notification and recordkeeping for continuous monitoring	Y	
60.7(d)	Summary reports	Y	
60.7(e)	Reduction of frequency of summary reports	Y	
60.7(f)	Records	Y	
60.7(g)	Alternative Notification	Y	
60.7(h)	Specific Provisions	Y	
60.8	Performance Tests	Y	
60.11	Compliance with Standards and Maintenance Requirements	Y	
60.11(a)	Compliance determined by performance tests	Y	
60.11(d)	Control devices operated using good air pollution control practice	Y	
60.13	Monitoring requirements	Y	
60.13(a)	Continuous monitoring systems subject to Appendix B, and Appendix F, (if used to demonstrate compliance with continuous emission limits), of Part 60	Y	
60.13(b)	Continuous monitoring systems and devices operational prior to performance tests required by 60.8	Y	
60.13(d)(1)	Continuous monitoring system zero and span calibration requirements	Y	
60.13(e)	Continuous monitoring system minimum frequency of operation	Y	
60.13(e)(2)	Continuous monitoring system minimum frequency of operation for non-opacity-measuring devices	Y	
60.13(f)	Continuous monitoring system installation location requirement	Y	

Table IV – Ua
Source-specific Applicable Requirements
S1002 – SULFUR PLANT UNIT 236
S1003 – SULFUR PLANT UNIT 238, S301 – MOLTEN SULFUR PIT 234
S302 – MOLTEN SULFUR PIT 236 AND S303 – MOLTEN SULFUR PIT 238

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Condition 18255			
Part 13	Tail Gas Root Cause Analysis [Basis: Consent Decree Case No. 05-0258, paragraph 152]	Y	
NSPS 40 CFR 60 Subpart J	Standards of Performance for Petroleum Refineries (9/21/06)		
60.104	Standards for Sulfur Oxides	Y	
60.104(a)(2)(i)	Sulfur dioxide (SO ₂) less than 250 ppm at 0% excess air	Y	
60.105	Monitoring of Emissions and Operations	Y	
60.105(a)	Continuous Monitoring systems	Y	
60.105(a)(5)	SO ₂ and O ₂ monitors	Y	
60.105(a)(5)(i)	Span values: 500 ppm SO ₂ and 25% O ₂	Y	
60.105(a)(5)(ii)	The performance evaluations for this SO ₂ monitor under §60.13(c) shall use Performance Specification 2. Methods 6 or 6C and 3 or 3A shall be used for conducting the relative accuracy evaluations	Y	
60.105(e)(4)	Periods excess emissions	Y	
60.105(e)(4)(i)	12-hour period where concentration exceeds average of 250 ppm, dry, at 0% O ₂ .	Y	
60.106	Test methods and procedures	Y	
60.106(a)	Methods in Appendix A	Y	
60.106(f)	Determination of compliance with SO ₂ limit	Y	
60.106(f)(1)	Methods to determine SO ₂ concentration	Y	
60.106(f)(3)	Methods to determine O ₂ concentration	Y	
60.107	Reporting and recordkeeping requirements	Y	
60.107(d)	Data availability	Y	
60.107(e)	Semi-annual reports	Y	
60.107(f)	Signed certifications	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Condition 18255			
Part 13	Tail Gas Root Cause Analysis [Basis: Consent Decree Case No. 05-0258, paragraph 152]	Y	

V. Schedule of Compliance

Changes to permit

None

VI. Permit Conditions

The changes to the permit conditions (A25621, TV A25622) will be presented in the following order:

- S45, Unit 246 B-801A/B, Heater
- S1010, Sulfur Recovery Unit

CONDITION 22962

Source 45, U246 B-801 A/B Heater

1. The owner/operator of the S45 heater shall fire only refinery fuel gas and/or natural gas at this unit. [BACT, Cumulative Increase]
2. Based on refinery gas HHV, the owner/operator of S45 shall not exceed the following firing rates:
 - a. 85 MMbtu/hr
 - b. 744,600 MMbtu in any consecutive 12-month period. [Cumulative Increase]
3. The owner/operator of S45 shall abate emissions from S45 at the A47 SCR system whenever S45 is operated, except that S45 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S45 NOx emission rate whenever S45 operates without abatement. All emission limits applicable to S45 shall remain in effect even if it is operated without SCR abatement. [BACT, Cumulative Increase]
4. The owner/operator of S45 shall not exceed the following emission concentrations or rates from S45/A47 except during startups and shutdowns. Startups and

shutdowns shall not exceed 48 consecutive hours. The 48 consecutive-hour startup period is in addition to heater dryout/warmup periods, which shall not exceed 24 consecutive hours.

- a. NOx: 5 ppmv @ 3% oxygen (3 hr average) [BACT, Cumulative Increase]
- b. CO: 28 ppmv @ 3% oxygen (3 hr average) when operating under 30 MMbtu/hr [BACT, Cumulative Increase, 40 CFR 63.52(a)]
- c. POC: 5.5 lb/MM ft³ [Cumulative Increase]
- d. PM10: 7.6 lb/MM ft³ [BACT, Cumulative Increase]
- e. CO: 10 ppmv @ 3% oxygen (3 hr average) when operating over 30 MMbtu/hr [BACT, Cumulative Increase, 40 CFR 63.52(a)]

If the heater operates at rates below and above 30 MMbtu/hr in any 3-hour period, the CO limit shall be a weighted average.

- 5. *The owner/operator of S45 shall not exceed the following emission rate from S45/A47 except during startups and shutdowns. Startups and shutdowns shall not exceed 48 consecutive hours. The 48 consecutive-hour startup period is in addition to heater dryout/warmup periods, which shall not exceed 24 consecutive hours.

Ammonia: 15 ppmv @ 3% oxygen (8 hr average) [Regulation 2, Rule 5]

- 6. The owner/operator of S45 shall not exceed the following annual emission rates from S45/A47 including startups, shutdowns, and malfunctions.
 - a. NOx: 2.3 tons/yr [BACT, Cumulative Increase]
 - b. CO: 2.8 tons/yr [BACT, Cumulative Increase]
 - c. POC: 1.5 tons/yr [Cumulative Increase]
 - d. PM10: ~~2.1~~ 1.9 tons/yr [BACT, Cumulative Increase]
 - e. SO₂: 4.7 tons/yr [BACT, Cumulative Increase]Year is defined as every consecutive 12-month period. Month is defined as calendar month.
- 7. The owner/operator shall equip S45 with a District-approved continuous fuel flow monitor and recorder in order to determine fuel consumption. A parametric monitor as defined in Regulation 1-238 is not acceptable. The owner/operator shall keep continuous fuel flow records for at least five years and shall make these records available to the District upon request. [Cumulative Increase]
- 8. The owner/operator shall install, calibrate, maintain, and operate District-approved continuous emission monitors and recorders for NO_x and O₂. The owner/operator shall keep NO_x and O₂ data for at least five years and shall make these records available to the District upon request. [BACT, Cumulative Increase]
- 9. The owner/operator shall conduct District-approved source tests two times per year to determine compliance with the CO limit. The tests shall be no less than 4 months apart and no more than 8 months apart. The source tests shall be performed on the heater in an as-found condition. CO source tests performed by the District may be substituted for semi-annual CO source tests. If the heater exceeds the limits in parts 4b or 4e more than once in any 3-year period, the owner/operator shall install,

calibrate, maintain, and operate a District-approved continuous emission monitor and recorder for CO within the time period specified in the District Manual of Procedures after the second exceedance of the limits in parts 4b or 4e. The owner/operator shall keep CO data for at least five years and shall make these records available to the District upon request.

For tests conducted by the owner/operator, the owner/operator shall conduct the source tests in accordance with Part 17. The owner/operator shall submit the source test results to the Director of Compliance and Enforcement, the Source Test Manager, and the Manager of Permit Evaluation at the District no later than 60 days after the source test.

[BACT, Cumulative Increase]

10. The owner/operator shall use only refinery fuel gas and/or natural gas at S45 that does not exceed 100 ppmv total sulfur, averaged over a calendar month. [BACT, Cumulative Increase]
11. The owner/operator shall test refinery fuel gas prior to combustion at S45 to determine total sulfur concentration by GC analysis or with a total sulfur analyzer (Houston Atlas or equivalent) at least once per 8-hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. [BACT, Cumulative Increase]
12. To demonstrate compliance with Part 10, the owner/operator shall measure and record the daily average sulfur content. The owner/operator shall keep records of sulfur content in fuel gas for at least five years and shall make these records available to the District upon request. [BACT, Cumulative Increase]
13. Deleted Application 13427.
14. The owner/operator shall record the duration of all startups, shutdowns, and heater dryout/warmup periods to determine compliance with parts 4 and 5. The owner/operator shall keep the records for at least five years and shall make these records available to the District upon request. [2-6-503]
15. Prior to the commencement of construction, the owner/operator shall submit plans to the District's Source Test Manager to obtain approval of the design and location of the source test ports. The sample ports shall be installed in accordance with Manual of Procedures, Volume 4, Section 1.2.4. (basis: Regulation 1-501)
16. No later than 90 days from the startup of S45, the owner/operator shall conduct District-approved source tests to determine initial compliance with the limits in Part 4 for NO_x, CO, POC, PM₁₀ and ammonia, and the emission rate of sulfuric acid mist. For PM₁₀, USEPA Methods 201 and 202 with the back-half ammonium sulfate subtracted shall be used. The owner/operator shall conduct the source tests in accordance with Part 17. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. [BACT, Cumulative Increase, Regulation 2, Rule 5]

17. The owner/operator shall comply with all applicable requirements for source tests specified in Volume IV of the District's Manual of Procedures and all applicable testing requirements for continuous emissions monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Manager, in writing, of the source test protocols and projected test dates at least 7 days prior to testing. [BACT, Cumulative Increase, Regulation 2, Rule 5]

CONDITION 22970

A. CFEP Project Mass Emission Limits

1. Following are the sources that are subject to Condition 22970, parts A2, A4, and A.5:
S45, Heater (U246 B-801 A/B)
S434, U246 High Pressure Reactor Train (Cracking)
S1010, U235 Sulfur Recovery Unit
[Cumulative increase, PSD]
2. The owner/operator shall ensure that the annual emissions of the above sources do not exceed the following annual emission limits, including startup, shutdown, malfunction, and upset emissions.
 - a. NOx 13.5 tpy [Cumulative increase]
 - b. SO2 34.4 tpy [Cumulative increase]
 - c. PM10 ~~2.52.9~~ tpy [Cumulative increase, PSD]
 - d. POC 1.9 tpy [Cumulative increase]
 - e. CO 40.72 tpy [Cumulative increase]
 - f. Sulfuric acid mist 6.01 tpy [PSD]
 - *g. Ammonia 6.35 tpy [BAAQMD Regulation 2, Rule 5]
3. The owner/operator shall ensure that the daily emissions of the CFEP, including source S2 at Facility B7419, do not exceed the following daily emission limit, including startup, shutdown, malfunction, and upset emissions.
 - a. Sulfuric acid mist 38 lb/day [PSD]
4. The owner/operator shall determine whether the emissions are below the allowable emissions in Part A.2, as shown below. The owner/operator shall calculate and report the emissions of NOX, SO2, PM10, POC, CO, and sulfuric acid mist on an annual basis in the following manner.
 - a. For Source S45, Heater
 - i. Use the mass emissions data generated by the NOx CEM at S45.
 - ii. Use the emissions rates determined by semi-annual source tests for CO at S45.
 - iii. Use the emissions rates determined by initial source test for POC, PM10, and sulfuric acid mist at S45.
 - iv. *Use the emissions rates determined by initial source test for ammonia at S45.
 - v. Use the sulfur analysis of fuel required by Condition 22862, part 11 at

- S45.
[Cumulative increase, PSD, BAAQMD Regulation 2, Rule 5]
- b. For Source S1010, Sulfur Recovery Unit
- i. Use the mass emissions data generated by the SO₂ and CO CEMs at S1010.
 - ii. Use the emissions rates determined by annual source tests for NO_x and sulfuric acid mist at S1010.
 - iii. *Use the emissions rates determined by annual source test for ammonia at S1010.
 - iv. Use the emissions rates determined by initial source test for POC and PM₁₀ at S1010.
[Cumulative increase, PSD, BAAQMD Regulation 2, Rule 5]
- c. For the refinery flare S296
- i. Calculate any emissions caused by venting the contents of any part of the sulfur recovery unit including S1010, A48, and A424 to the refinery flare.
 - ii. Calculate any emissions caused by venting the contents of any part of S434 to a refinery flare.
 - iii. The owner/operator shall calculate any emissions caused by venting the feed to Facility B7419, sources S1 or S2 to the refinery flare.
[Cumulative increase, PSD, BAAQMD Regulation 2, Rule 5]
5. If the annual emissions, as determined in part 4, are above the allowable emissions in part A.2, the owner/operator shall supply additional offsets, where applicable, and perform additional analysis for PSD, if necessary. The results of the analysis shall be submitted to the Director of Compliance and Enforcement on an annual basis on the anniversary of the startup of S1010 or S434, whichever is earlier.
[Offset, PSD]
6. The annual emissions of the following sources shall not exceed ~~16.3~~16.7 tons PM₁₀/yr: S45, S434, and S1010 at Facility A0016, and S2 and S3 at Facility B7419. If the emissions exceed ~~16.3~~16.7 tons per year, the owners/operators of Facilities A0016 and B7419 shall provide contemporaneous offsets of PM₁₀ that comply with BAAQMD Regulations 2-2-201 and 2-2-605. The owners/operators shall use the following data to calculate the annual PM₁₀ emissions:
- a. The emissions rate of PM₁₀ determined by the initial source tests at S45 and S1010 at Facility A0016
 - b. The emissions rate of PM₁₀ determined by the initial source test at S2 at Facility B7419
 - c. The emissions rate of PM₁₀ calculated for venting the contents of any part of S434 to a refinery flare
 - d. The emissions rate of PM₁₀ calculated for venting the contents of any part of S1010, A48, and A424 to a refinery flare
 - e. The emissions rate of PM₁₀ calculated for operation of S3, Hydrogen Plant Flare, at Facility B7419
- The results of the analysis shall be submitted to the Director of Compliance and Enforcement on an annual basis on the anniversary of the startup of S1010 or S434 at Facility A0016 or S2 at Facility B7419, whichever is earlier. [1-104,

2-2-304]

B. Contemporaneous Offset Conditions

1. The owner/operator shall submit an offset report to the Director of Compliance and Enforcement and the Manager of Permit Evaluation at the end of every quarter after the initial date of startup of any of the new CFEP sources below. The report shall contain the detail of banked and contemporaneous offsets provided for each source to show compliance with the provision in BAAQMD Regulation 2-2-410 that offsets must commence no later than the initial operation of a new source or within 90 days after initial operation of a modified source. After all of the offsets required are provided, the owner/operator may submit the final report, even if all of the sources in the CFEP project are not built.

New CFEP Sources

Plant B7419, S1, Hydrogen Plant
Plant B7419, S2, Hydrogen Plant Furnace
Plant B7419, S3, Hydrogen Plant Flare
Plant A0016, S45, Heater
Plant A0016, S434, U246 High Pressure Reactor Train
Plant A0016, S1010, U235 Sulfur Recovery Unit

Contemporaneous Offset Sources

Plant A0016, S1007, Dissolved Air Flotation Unit (DAF)
Plant A0016, S8, Unit 240 B-1
Plant A0016, S352 – S357, Steam Power Plant Gas Turbines and HRSGs
Plant A0022, S2, Kiln K-2
[2-1-403, 2-2-410]

CONDITION 23125

Source S1010, U235 Sulfur Recovery Unit, S503, Sulfur Storage Tank, S504, Sulfur Degassing Unit, S505, Sulfur Truck Loading Rack

For the purposes of this condition, total reduced sulfur shall mean dimethyl disulfide, dimethyl sulfide, hydrogen sulfide, and methyl mercaptan; and reduced sulfur compounds shall mean hydrogen sulfide, carbonyl sulfide, and carbon disulfide.

1. The owner/operator shall ensure that the throughput of molten sulfur at S1010 does not exceed 200 long tons/day. [Cumulative Increase]
2. The owner/operator shall ensure that the throughput of molten sulfur at S503 does not exceed 471 long tons/day. [Cumulative Increase]
3. The owner/operator shall ensure that S1010 is abated at all times of operation by A48, SRU Tail Gas Treatment Unit, and A424, Incinerator. [Cumulative Increase]

4. The owner/operator shall ensure that S503, Sulfur Storage Tank, S504, Sulfur Degassing Unit, and S505, Sulfur Truck Loading Rack, are controlled at all times of operation by the Claus reaction furnace at S1010 or S1003, Sulfur Recovery Units. [Cumulative Increase, 2-1-305]
5. All pressure relief devices on S1010 shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%. [8-28-302, BACT]
6. The owner/operator shall ensure that the supplemental fuel used at A424, Tail Gas Incinerator, is PUC quality natural gas. [BACT]
7. The owner/operator shall not exceed the following emission concentrations from S1010/A48/A424:
 - a. SO₂ 50 ppmv, dry, @ 0% O₂, 24-hour basis. [BACT]
 - b. CO 75 ppmvd, dry, @ 7% O₂, 1-hour basis. [BACT]
 - c. NO_x 42.2 ppmv, dry, @ 7% O₂, 1-hour basis. [BACT]
- *8. The owner/operator shall not exceed the following emission concentrations from S1010/A48/A424:
 - a. NH₃ 12.5 ppmv @ 7% O₂, 24-hour basis [Regulation 2, Rule 5]
 - b. H₂S: 2.5 ppmv @ 0% O₂, 24-hour basis [Regulation 2, Rule 5]
9. The owner/operator shall not exceed the following hourly limits from S1010/A48/A424:
 - a. NO_x: 8.0 lb/hr [2-1-305]
 - *b. H₂S: 0.23 lb/hr [Regulation 2, Rule 5]
 - *c. NH₃: 0.88 lb/hr [Regulation 2, Rule 5]
10. The owner/operator shall ensure that daily emissions, including startups, shutdowns, upsets, and malfunctions, from S1010/A48/A424 do not exceed the following limits:
 - a. Sulfuric acid mist: 31 lb/day [PSD]
 - b. PM₁₀: ~~3.36~~9.5 lb/day [2-1-301]
11. The owner/operator shall ensure that that annual emissions, including startups, shutdowns, upsets, and malfunctions, from S1010/A48/A424, do not exceed the following limits per any consecutive 12-month period:
 - a. SO₂: 29.7 tons [BACT, Cumulative Increase]
 - b. NH₃: 3.85 tons [Regulation 2, Rule 5]
 - c. CO: 37.9 tons [BACT, Cumulative Increase]
 - d. NO_x: 11.2 tons [BACT, Cumulative Increase]
 - e. POC: 0.43 tons [Cumulative Increase]
 - f. PM₁₀: ~~0.59~~1.19 tons [Cumulative Increase]
 - g. Sulfuric acid mist: 5.65 tons [2-1-301]
 - *h. H₂S: 0.975 tons [Regulation 2, Rule 5]
 - i. Total Reduced Sulfur: 10 tons [PSD]
 - j. Reduced Sulfur Compounds: 10 tons [PSD]
 - k. H₂S: 10 tons [PSD]

12. Prior to the commencement of construction, the owner/operator shall submit plans to the District's Source Test Division to obtain approval of the design and location of the source test ports. The sample ports shall be installed in accordance with Manual of Procedures, Volume 4, Section 1.2.4. Ports for filterable particulate and PM10 testing shall be installed. [basis: Regulation 1-501]

13. No later than 90 days from the startup of S1010, the owner/operator shall conduct District-approved source tests to determine (1) initial compliance with the limits in Parts 7, 8, 9, and 13 for NO_x, CO, POC, PM10, SO₂, sulfuric acid mist, H₂S, ammonia, (2) the BAAQMD Regulation 6 requirements below, and (3) the emission rates in lbs/dry standard cubic foot of NO_x, POC, PM10, sulfuric acid mist, NH₃, H₂S, and reduced sulfur compounds. The owner/operator shall conduct the source tests in accordance with Part 19. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. During the source test, the owner/operator shall determine the temperature required to achieve an outlet concentration of 2.5 ppmv H₂S @ 0% O₂, mass emissions of 0.23 lb/hr of H₂S, mass emissions of 2.2 lb/hr of reduced sulfur compounds, and 2.2 lb/hr of total reduced sulfur, while meeting all other limits. The temperature shall become an enforceable limit.
 - a. BAAQMD Regulation 6-1-310 and SIP Regulation 6-310: 0.15 gr PM/dscf
 - b. BAAQMD Regulation 6-1-311 and SIP Regulation 6-311: PM emissions based on Process Rate Weight
 - c. BAAQMD Regulation 6-1-330 and SIP Regulation 6-330: SO₃ and H₂SO₄ limitCompliance with the 24-hour H₂S and NH₃ concentration limits shall be shown using three 30-minute runs as provided by the test method, unless the owner/operator chooses to run the test for 24 hours. If the rate of reduced sulfur compounds, including H₂S, exceeds 2.2 lb/hr, or if the rate of total reduced sulfur, including H₂S, exceeds 2.2 lb/hr, the District reserves the right to require additional PSD analysis or to impose a higher temperature limit for S424, Incinerator, to control total reduced sulfur and reduced sulfur compounds. [BACT, Cumulative Increase; Regulation 2, Rule 5; BAAQMD Regulation 6; PSD, 40 CFR 64.6(d)]

14. After the initial source test required in part 13 of this condition, the owner/operator shall ensure that the minimum temperature shall not be lower than 1496 F. [Offsets, 40 CFR 64]

15. To determine compliance with the temperature limit in part 14, A48, Thermal Oxidizer, shall be equipped with a temperature measuring device capable of continuously measuring and recording the temperature in A48. The temperature monitor shall be installed prior to startup. The owner/operator shall install, and maintain in accordance with manufacturer's recommendations, a temperature measuring device that meets the following criteria: the minimum and maximum measurable temperatures with the device are (TBD) degrees F and (TBD) degrees F, respectively, and the minimum accuracy of the device over this temperature range shall be 1.0 percent of full-scale. [Regulation 1-521, 40 CFR 64.6(d)]

16. The temperature limit in part 14 shall not apply during an “Allowable Temperature Excursion”, provided that the temperature controller setpoint complies with the temperature limit. For the purposes of parts 16 and 17 of this condition, a temperature excursion refers only to temperatures below the limit. An Allowable Temperature Excursion is one of the following:
- a. A temperature excursion not exceeding 20 degrees F; or
 - b. A temperature excursion for a period or periods which when combined are less than or equal to 15 minutes in any hour; or
 - c. A temperature excursion for a period or periods which when combined are more than 15 minutes in any hour, provided that all three of the following criteria are met.
 - i. the excursion does not exceed 50 degrees F;
 - ii. the duration of the excursion does not exceed 24 hours; and
 - iii. the total number of such excursions does not exceed 12 per calendar year (or any consecutive 12 month period).

Two or more excursions greater than 15 minutes in duration occurring during the same 24-hour period shall be counted as one excursion toward the 12 excursion limit. [Regulation 2-1-403]

17. For each Allowable Temperature Excursion that exceeds 20 degrees F and 15 minutes in duration, the Permit Holder shall keep sufficient records to demonstrate that they meet the qualifying criteria described above. Records shall be retained for a minimum of five years from the date of entry, and shall be made available to the District upon request. Records shall include at least the following information:
- a. Temperature controller setpoint;
 - b. Starting date and time, and duration of each Allowable Temperature Excursion;
 - c. Measured temperature during each Allowable Temperature Excursion;
 - d. Number of Allowable Temperature Excursions per month, and total number for the current calendar year; and
 - e. All strip charts or other temperature records. [Regulation 2-1-403]

18. For the purposes of parts 16 and 17 of this condition, a temperature excursion refers only to temperatures below the limit. (Basis: Regulation 2-1-403)

19. The owner/operator shall submit protocols for all source test procedures to the District’s Source Test Section at least three weeks prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emissions monitors as specified in Volume V of the District’s Manual of

Procedures. The owner/operator shall notify the District's Source Test Section, in writing, of the projected test dates at least 7 days prior to testing.

[BACT, Cumulative Increase; Regulation 2, Rule 5]

20. The owner/operator shall perform an annual District-approved source test to verify compliance with the following requirements. A copy of the source test results shall be provided to the District Director of Compliance and Enforcement within 60 days of the test.
 - a. BAAQMD Regulation 6-1-310 and SIP Regulation 6-310: 0.15 gr PM/dscf
 - b. BAAQMD Regulation 6-1-311 and SIP Regulation 6-311: PM emissions based on Process Rate Weight
 - c. BAAQMD Regulation 6-1-330 and SIP Regulation 6-330: SO₃ and H₂SO₄ limit
 - d. Emission rates in parts 7c, 8a, 8b, 9a, 9b, and 9c of this condition.
 - e. Emission rates of sulfuric acid mist, total reduced sulfur, and reduced sulfur compounds

Compliance with the 24-hour H₂S concentration limit shall be shown using three 30-minute runs as provided by the test method, unless the owner/operator chooses to run the test for 24 hours. [BACT; BAAQMD Regulation 6, Rule 1 ; SIP Regulation 6; PSD; Regulation 2, Rule 5; Cumulative increase]

21. The owner/operator shall install, calibrate, maintain, and operate a District-approved continuous emission monitor (CEM) and recorder for exhaust gas flowrate, SO₂ and O₂. The CEM shall be installed prior to startup. The owner/operator shall keep exhaust gas flow, SO₂ and O₂ data for at least five years and shall make these records available to the District upon request. The owner/operator shall measure SO₂ concentration and mass emissions on a clock-hour basis. The monitors shall comply with the requirements of 40 CFR 60.105, 40 CFR 63.1572, and the District's Manual of Procedures, Volume 5. [BACT, Cumulative Increase, 40 CFR 60.105a; 40 CFR 64.6(c)(1), (c)(3), and (d); 40 CFR 63.1568(a)(1)(i)]
22. The owner/operator shall install, calibrate, maintain, and operate a District-approved continuous emission monitor (CEM) and recorder for exhaust gas flow and CO. The CEM shall be installed prior to startup. The CEM shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. The owner/operator shall keep flow and CO data for at least five years and shall make these records available to the District upon request. The owner/operator shall measure CO concentration and mass emissions on a clock-hour basis. The monitors shall comply the requirements of the District's Manual of Procedures, Volume 5. [BACT, Cumulative Increase; 40 CFR 64.6(c)(1) and (d)]
23. Deleted Application 13427
24. The owner/operator shall keep throughput records for sources S1010 and S503 on a daily basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

25. The owner/operator shall use the source tests required in parts 13 and 20 to determine compliance with the daily limit in part 10 and the annual limits in parts 11b, 11d, 11e, 11f, 11h, and 11i. At the end of every month, the owner/operator shall summarize the exhaust gas flow in dry standard cubic feet for the month and shall calculate the estimated emissions of each pollutant for the previous consecutive 12-month period and for H₂S for each day of the month using the emission rate determined in the last source test. The summaries and calculations shall be completed within 60 days of the end of each month. Alternately, the owner/operator may establish a daily and monthly exhaust gas flow level after each source test that will ensure compliance with the daily and annual limits. In this case, the owner/operator will log the daily and monthly exhaust gas flows from S1010/A48/A424. [Cumulative increase; Regulation 2, Rule 5; Cumulative Increase, PSD]
26. The Owner/Operator shall perform a visible emissions check on Source S1010 on a monthly basis. The visible emissions check shall take place while the equipment is operating and during daylight hours. If any visible emissions are detected, the owner/operator shall have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures outlined in the CARB manual, “Visible Emissions Evaluation” for six (6) minutes within three (3) days and record the results of the reading. If the reading is in compliance with the Ringelmann 1.0 limit in BAAQMD Regulation 6-1-301, the reading shall be recorded and the owner/operator shall continue to perform a visible emissions check on a monthly basis. If the reading is not in compliance with the Ringelmann 1.0 limit in BAAQMD Regulation 6-1-301, the owner/operator shall take corrective action and report the violation in accordance with Standard Condition 1.F of the Title V permit. The certified smoke-reader shall continue to conduct the Method 9 or CARB Visible Emission Evaluation on a daily basis until the daily reading shows compliance with the applicable limit or until the equipment is shut down. Records of visible emissions checks and opacity readings made by a CARB-certified smoke reader shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: BAAQMD Regulations 6-1-301, 2-1-403; SIP Regulation 6]

Additional CAM conditions:

27. The owner/operator shall develop specifications for the location and installation of the temperature monitor to ensure that the temperature data is representative of the concentration of H₂S, reduced sulfur compounds, and total reduced sulfur. [40 CFR 64.3(b)(1)]
28. The owner/operator shall develop verification procedures to confirm the operational status of the temperature monitoring prior to the date that monitoring must be conducted. [40 CFR 64.3(b)(2)]
29. The owner/operator shall develop quality assurance and control practices for the temperature monitoring. [40 CFR 64.3(b)(3)]

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30. The owner/operator shall record the temperature at least 4 times per hour in a computerized data acquisition system, except during times of temperature monitor malfunction that comply with BAAQMD Regulation 1-523. [40 CFR 64.3(b)(4)]
31. The owner/operator shall determine that an exceedance of the temperature limit has occurred when the temperature drops below the limit set in accordance with part 13 of this condition; except that a limited number of excursions may occur without penalty in accordance with parts 16 through 18 of this condition. [40 CFR 64.6(c)(2)]

Changes to permit (A26020, TV A26021)

The pressure relief valve on S-182 Tank 294 was changed from an 8” valve to a 10” valve. The Refinery has requested that the minimum set point for the valve be changed from 1.5” of water to 1.8” of water (See part 4a of condition 23724).

CONDITION 23724

For Sources S135 (Tank 200), S137 (Tank 202), S139 (Tank 204), S140 (Tank 205), S168 (Tank 269), S173 (Tank 280), S174 (Tank 281), S175 (Tank 284), S182 (Tank 294), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285), S506 (Tank 257), Tank 235, and Tank 236.

This condition was imposed by Application 13424 and amended by Application 16940 in January 2008, and Application 13427 in 2009.

- 1a. The owner/operator shall ensure that all sources subject to this permit condition are abated by A7, Vapor Recovery System at all times of operation except for the following sources, which shall be controlled according to the schedule below:
 1. S168
 2. S173
 3. S174
 4. S506

S168 shall be abated by A7 and subject to the terms of this condition prior to the startup of S434.

S173 and S174 shall be abated when blanketing is required to preserve product or feed.

S506 shall be abated by A7 and subject to the terms of this condition upon the date of startup.

[Basis: Regulation 2-1-403]
- 1b. The owner/operator shall ensure that a fourth compressor is added to A7, Odor Abatement System, before more than two of the following sources are controlled by A7: S168, S173, S174, S175, S506. [Basis: Regulation 2-1-301, 2-1-305, 2-1-403, CEQA]
- 1c. The new odor abatement compressor, or a dedicated compressor, shall be designed and installed to supplement G-503, Flare Gas Recovery Compressor. [CEQA]
2. The owner/operator shall ensure that all tanks subject to this permit condition are blanketed by utility-grade natural gas. [Basis: Regulation 2-1-403]
3. By July 5, 2009, the owner/operator shall equip all tanks subject to this permit condition except S506 with District-approved pressure monitoring devices. Upon startup, the owner/operator shall equip S506 with a District-approved pressure-monitoring device. [Basis: Regulation 2-1-403]
4. After the pressure monitoring devices are installed, the owner/operator shall ensure that tanks listed below operate at all times below their respective minimum set pressures, as shown in 4a and 4b of this condition. Any recorded pressure in excess of the minimum pressure shall be reported to the District's Enforcement and Engineering Divisions within 10 days of the pressure excess. The owner/operator must conduct an investigation of the incident to determine if the pressure excess resulted in the pressure/vacuum (PV) valve lifting to atmosphere and if so, why there was a pressure excess that resulted in the PV valve lifting to atmosphere.

Results of the investigation must be reported to the District’s Enforcement and Engineering Division within 30 days of the initial report. Any recorded pressure in excess of the minimum set pressure shall be considered an indication of a valve lift to atmosphere unless a District approved tell-tale indicator on the PV valve shows that the valve did not lift, or the owner/operator demonstrates to the satisfaction of the APCO that the recorded pressure excess was the result of a monitoring, recording or other malfunction.

The minimum set pressure for each storage tank, except S139, S140, S182, S360, S445, S449, must be submitted in a report to the District’s Enforcement and Engineering Divisions within 21 months of issuance of the Authority to Construct.

a. Source Number	Minimum Set Pressure (inches H2O)
135	1.7
137	1.7
139	1.9
140	1.9
168	1.8
182	1.85
360	1.9
445	1.9
449	1.5
506	2.2

The owner/operator shall submit an accelerated permit application to include any change to any of the pressures above. Any amendment to the Title V permit to include the pressures above shall be submitted as a minor revision to the Title V permit.

[Basis: Regulation 8, Rule 5]

b. Source Number	Minimum Set Pressure (inches H2O)
173	1.8
174	1.8
175	1.3
Tank 235	2.2
Tank 236	2.2

The owner/operator shall submit an accelerated permit application to include any change to any of the pressures above. Any amendment to the Title V permit to include the pressures above shall be submitted as a minor revision to the Title V permit.

[Basis: Regulation 2-1-403]

5. The owner/operator shall ensure that each pressure relief valve for each tank must be set at or above its nominal set pressure listed in Part 4 of this permit condition. [Basis: Regulation 2-1-403]

6. Corrective Plan

The corrective plan is a means for Phillips 66 to correct occasional exceedances, to stay within the working pressure limits and thus to remain in compliance with District

Regulations. If a PV valve has been determined to have lifted three times in a 12 month period, Phillips 66 shall implement abatement measures to prevent the recurrence of the type of incident which caused the valve to lift. This plan is intended to provide a mechanism for bringing Phillips 66 back into compliance should a temporary exceedance occur. This plan does not constitute an alternative means of compliance. [Basis: Regulation 2-1-403]

a. If, during any consecutive 12-month period, more than three instances of a PV valve release to atmosphere attributed to a storage tank subject to this permit condition are reported, Phillips 66 shall propose a method to correct the exceedance and to ensure compliance with District regulations and permit conditions. The proposed method is subject to approval by the Air Pollution Control Officer. Potential methods include but are not limited to increasing the nominal set pressure of the pressure/vacuum valve, bladder tank(s) for additional short-term vapor storage capacity, dedicated vapor recovery flare, pilot control on pressure relief valves, flow meters on vapor recovery tanks to monitor blanket gas flows, replacement of tanks, and naphtha degassers. [Basis: Regulation 2-1-403]

7. To determine compliance with the above conditions, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including, but not necessarily limited to the following information:

a. Pressure measurements from tanks listed in part 4 of this condition. Pressure shall be recorded at least for one-minute interval for each tank, except as allowed in BAAQMD Regulation 1-523 for parametric monitors. The owner/operator shall maintain a reasonable stock of spare parts for the components of the monitoring system to ensure that repairs are completed as quickly as possible.

All records shall be retained on site for five years, from the date of entry and made available for inspection by the District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District regulation. [Basis: Regulation 2-1-403]

8. The requirement to report pressures in excess of the minimum pressure as described in part 4 of this permit condition, shall start on July 5, 2009 for all tanks in this condition except S139, S140, S182, S360, S445, S449. The requirement to report pressures in excess of the minimum pressure as described in part 4 of this permit condition, shall start on January 5, 2008 for the following tanks: S139, S140, S182, S360, S445, S449. [Basis: 2-1-403]

9. The permit to operate is contingent upon compliance with Regulation 1-301, Standard for Public Nuisance, and Regulation 7, Odorous Substances. Upon receipt of a violation for either of these regulations, the Air Pollution Control Officer may require the owner/operator to install additional emission control measures as stated in Part 6 of this permit condition. [Basis: Regulations 1-301, 7-301, 7-302]

VII. Applicable Limits and Compliance Monitoring Requirements

Changes to permit:

The changes to Section VII will be presented in the following order:

- S45, Unit 246 B-801A/B, Heater (A25621/A25622)
- S1010, Sulfur Recovery Unit (A25621/A25622)
- S182, Tank 294 (A26020/A26021)

**Table VII – A.36
 Applicable Limits and Compliance Monitoring Requirements
 S45 – UNIT 246 B-801 A/B, HEATER**

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
PM10	BAAQMD Condition 22962, Part 6d	Y		2.1 <u>1.9</u> tons/yr	None	N	None
PM10	BAAQMD Condition 22970, Part A.2.c	Y		2.5 <u>2.9</u> tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4.a.iii	P/A	calculations
PM10	BAAQMD Condition 22970, Part A.6	Y		16.3 <u>16.7</u> tons per any consecutive 12 months for S45, S434, and S1010 at Facility A0016 and S2 and S3 at Facility B7419, combined	BAAQMD Condition 22970, Part A.6	P/A	Source tests, and calculations

Table VII – Na
Applicable Limits and Compliance Monitoring Requirements
S304 –U-229 LIGHT NAPHTHA HYDROTREATER;
S305 – U-230 PREFRACTIONATOR / NAPHTHA HYDROTREATER;
S307 – U-240 UNICRACKING UNIT; S309 – U-248 UNISAR UNIT;
S318 – U-76 GASOLINE / MID-BARREL BLENDING UNIT;
S319 – U-215 GASOLINE FRACTIONATING UNIT;
S322 – U-40 RAW MATERIALS RECEIVING; S339, U80 REFINED OIL SHIPPING UNIT;
S434, U246 HIGH PRESSURE REACTOR TRAIN (CRACKING);
S435 – REFORMATE SPLITTER; S436 – DEISOPENTANIZER;
S460 – U-250 ULSD HYDROTREATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
PM10 (S434 only)	BAAQMD Condition 22970, Part A.2.c	Y		2.5 2.9 tons per any consecutive 12 months for S45, S434, and S1010 combined	None	N	None
PM10 (S434 only)	BAAQMD Condition 22970, Part A.6	Y		16.3 16.7 tons per any consecutive 12 months for S45, S434, and S1010 at Facility A0016 and S2 and S3 at Facility B7419, combined	BAAQMD Condition 22970, Part A.6	P/A	Source tests and calculations

Table VII – Ub
Applicable Limits and Compliance Monitoring Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
PM10	BAAQMD Condition 22970, Part A.2.c	Y		2.5 2.9 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4.b.iv	P/A	Calculations
PM10	BAAQMD Condition 22970, Part A.6	Y		16.3 16.7 tons per any consecutive 12 months for S45, S434, and S1010 at Facility A0016 and S2 and S3 at Facility B7419, combined	BAAQMD Condition 22970, Part A.6	P/A	Source tests and calculations

Table VII – Ub
Applicable Limits and Compliance Monitoring Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
PM10	BAAQMD Condition 23125, part 10b			3.369.5 lb/day	None	N	None
PM10	BAAQMD Condition 23125, part 11f	Y		0.591.19 tons per any consecutive 12 months	None	N	None

Table VII – BB.15a
Applicable Limits and Compliance Monitoring Requirements
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
S139 (Tank 204), S140 (Tank 205), S168 (Tank 269),
S182 (Tank 294)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	Condition #23724, part 4a	Y	7/5/09	Applies to S182 1.85 inches of water	Condition #23724, part 3	C	Pressure monitoring

VIII. Test Methods

Changes to permit

No

IX. Permit Shield:

Changes to permit:

No

X. Revision History

The revision history will be updated when the revision is issued.

XI. Glossary

Changes to permit:

This action proposes no changes to the glossary.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

APPENDIX A

GLOSSARY

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority that allows the District to impose requirements.

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CEM

Continuous Emission Monitor

CEQA

California Environmental Quality Act

CFR

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

CO

Carbon Monoxide

Cumulative Increase

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

District

The Bay Area Air Quality Management District

dscf

Dry Standard Cubic Feet

EPA

The federal Environmental Protection Agency.

Federally Enforceable, FE

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

FP

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

MOP

The District's Manual of Procedures.

NAAQS

National Ambient Air Quality Standards

NESHAPS

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

NH3

Ammonia

NOx

Oxides of nitrogen.

NSPS

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

NSR

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

Offset Requirement

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

POC

Precursor Organic Compounds

PM

Particulate Matter

PM10

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

PSD

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

SCR

Selective Catalytic Reduction

SIP

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

SO2

Sulfur dioxide

Title V

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

TRMP

Toxic Risk Management Plan

VOC

Volatile Organic Compounds

Units of Measure:

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

APPENDIX B

NSR Application 25621

ENGINEERING EVALUATION

Phillips 66 Company; PLANT # 21359; APPLICATION # 25621

Background

Phillips 66 Company (Phillips) has requested a Change of Conditions to their Permit to Operate that will increase the daily and annual PM₁₀ emissions for the S-1010 Unit 235 Sulfur Recovery Unit (U235). Recent source test results indicate that the PM₁₀ emissions from U235 are higher than originally calculated during the original permitting process for the source in 2007.

U235 was permitted as part of the Clean Fuels Expansion Project (CFEP), Application# 13424. The unit began operation in the 4th quarter of 2009. U235 is subject to daily and annual individual PM₁₀ limits in Permit Condition # 23125 Parts 10b and 11f. In addition, U235 is also included in a combined emissions limit in Permit Condition # 22970 Parts 2 and 6.

Phillips has requested an increase of the daily and annual PM₁₀ limits at U235 (S-1010) from 3.36 to 9.5 lb/day (Part 10 of Condition # 23125) and 0.59 tpy to 1.19 tpy (Part 11 of Condition # 23125 tpy). In addition, they have requested that for S-45, U246 B-801/B-802 Heater (U246), the annual emissions limit of PM₁₀ be reduced from 2.1 to 1.9 TPY (Part 2 of Condition # 22962). U246 (S-45) was also permitted as part of the CFEP.

To paraphrase Reg. 2-1-234, a modified source is a source which undergoes a change that will result in an increase in *daily* or *annual* emissions, relative to one the following:
The emission level approved in an Authority to Construct (2-1-234.1);
The emission level in a permit condition (2-1-234.2); or
The emission level based on the capacity of a grandfathered source (2-1-234.3)

Because there will be a daily and annual emissions increase at U235, S-1010 is a modified source. Because there will only be a decrease of annual emissions at U246, S-45 is not a modified source.

Emissions

As described in the prior section, the PM₁₀ emissions from U235 (generated from the combustion of natural gas in the tail gas incinerator) are higher than originally permitted. Based on recent 2013 source test results, Phillips 66 requests that their daily emission limit for S-1010 be increased from 3.36 to 9.5 lb/day (from Part 10b of Condition # 23125) and their annual limit be increased from 0.59 to 1.19 TPY (from Part 11 of Condition # 23125). In addition, they have requested that for S-45, the annual emissions limit of PM₁₀ be reduced from 2.1 to 1.9 TPY (Part 2 of Condition # 22962).

In accordance with Regulation 2-2-604 and 2-2-605, the emission increase for S-1010 is the difference between the old and new permit limits because S-1010 was fully offset when originally permitted (Application # 13424):

$$\begin{aligned} \text{S-1010 PM}_{10} \text{ Daily Increase} &= 9.5 - 3.36 \text{ lb/day} = 6.14 \text{ lb/day} \\ \text{S-1010 PM}_{10} \text{ Annual Increase} &= 1.19 - 0.59 \text{ TPY} = 0.60 \text{ TPY} \end{aligned}$$

Similarly, the emission decrease for S-45 is the following:

$$\text{S-45 PM}_{10} \text{ Annual Decrease} = 2.1 - 1.9 \text{ TPY} = 0.2 \text{ TPY}$$

The resulting cumulative increase of this application is the following:

Source	Annual Emissions Change (TPY)
S-45	-0.2
S-1010	0.60
Cumulative Increase (PM ₁₀)	0.40

Statement of Compliance

Applicable District Regulations

U235 is subject to and in compliance with Regulation 6-1, 9-1, and 9-2. Part 26 of Condition 23125 requires monthly visible emission monitoring. Parts 7 and 9 of Condition # 23125 limits SO₂ and H₂S emissions. Annual source testing is required in Part 20 of Condition # 23125 to demonstrate compliance with Regulation 6-1, 9-1 and 9-2.

BACT

BACT is not triggered because the emissions for U235 (S-1010) shall not exceed 10 pounds per day.

Water's Bill

The project is not within 1000 feet from the nearest school. Therefore, this application is not subject to the public notification requirements of Regulation 2-1-412.

Toxics Risk Screening

There is no increase of toxics estimated as a result of this permit condition change. Source S-1010 does not trigger a health screening analysis.

Offsets

Offsets are triggered for the 0.4 TPY cumulative increase in PM₁₀ emissions. Contemporaneous offsets and banked offsets of PM₁₀ can be used at a 1.0:1.0 ratio. Phillips 66 will provide contemporaneous offsets from the shutdown of S-14, the U240

B-401 heater. S-14 was shutdown as part of Application No. 22904 and the total remaining contemporaneous reductions of PM₁₀ calculated by BAAQMD are 7.62 TPY, which are valid until March 2017. This amount is sufficient to provide the required offsets for the cumulative increase of 0.4 TPY.

PSD

The CFEP Project (Application # 13424) did not trigger PSD because the PM₁₀ emissions from the total project for PSD applicability were calculated to be 14.5 tpy, which is below the trigger of 15 tpy. From Page 11 of the evaluation report of Application #13424, the following were the estimated emissions of the project emissions (which included S-1010 and S-45):

	Tons per Year				
	NOx	SO2	PM ₁₀	POC	CO
ConocoPhillips Refinery ¹	-25.1	35.6	0.7	-25	-2.5
Hydrogen Plant	30.9	5.0	13.8	13.9	46.2
ConocoPhillips Carbon Plant		-42.0			
Total	5.8	-1.4	14.5	-11.1	43.7

¹Locomotives are not included in the PSD total.

With the requested annual emissions limit increase of 0.4TPY at S-1010, the total CFEP emissions will increase will increase to 14.9 TPY, which is still below 15 TPY. As a result, S-1010 and the other sources of the CFEP still do not trigger PSD requirements.

CEQA

CEQA is not triggered for this proposed Change of Condition application because it is an exempt project per Regulation 2-1-312.11. An Appendix H form has been completed for this proposed change.

NSPS, Subpart J

S45, Heater, S465, Sulfur Pit, and S1010, U235 Sulfur Recovery Unit, are subject to 40 CFR 60, Subpart J, Standards of Performance for Petroleum Refineries.

S45, Heater, is subject to the H2S limit for fuel in Section 60.104(a)(1) of 0.10 gr/dscf or approximately 160 ppm. S45 complies because it will burn either refinery fuel gas that has been processed by the Merichem Unit or natural gas. The outlet of the Merichem Unit is tested for H2S three times per day by an H2S analyzer. The Merichem Unit is subject to an alternative monitoring plan in place of the continuous monitoring required by Section 60.105(a)(4).

S-1010, U235 Sulfur Recovery Unit, is subject to the SO2 limit in Section 60.104(a)(2)(i) of 250 ppm SO2 at zero percent excess air. Compliance will be assured by the continuous SO2 monitoring required by Section 60.105(a)(5).

NESHAPS, Subpart UUU

S1010, U235 Sulfur Recovery Unit, is subject to 40 CFR 63, Subpart UUU. This standard is essentially equivalent to the SO2 standard in 40 CFR 60, Subpart J. The unit will comply with the SO2 standard and with the requirement for continuous SO2 monitoring in Section 60.105(a)(5).

Permit Conditions

I recommend that Condition # 23125 Parts 10 and 11 be amended as follows:

[strikethroughs indicate deletions while underlines indicate additions]

10. The owner/operator shall ensure that daily emissions, including startups, shutdowns, upsets, and malfunctions, from S1010/A48/A424 do not exceed the following limits:

- a. Sulfuric acid mist: 31 lb/day [PSD]
- b. PM10: ~~3.369.5~~ 3.369.5 lb/day [2-1-301]

11. The owner/operator shall ensure that that annual emissions, including startups, shutdowns, upsets, and malfunctions, from S1010/A48/A424, do not exceed the following limits per any consecutive 12-month period:

- a. SO2: 29.7 tons [BACT, Cumulative Increase]
- b. NH3: 3.85 tons [Regulation 2, Rule 5]
- c. CO: 37.9 tons [BACT, Cumulative Increase]
- d. NOx: 11.2 tons [BACT, Cumulative Increase]
- e. POC: 0.43 tons [Cumulative Increase]
- f. PM10: ~~0.591.19~~ 0.591.19 tons [Cumulative Increase]
- g. Sulfuric acid mist: 5.65 tons [2-1-301]
- *h. H2S: 0.975 tons [Regulation 2, Rule 5]
- i. Total Reduced Sulfur: 10 tons [PSD]
- j. Reduced Sulfur Compounds: 10 tons [PSD]
- k. H2S: 10 tons [PSD]

I recommend that Condition # 22962 Part 6 be amended as follows: [strikethroughs indicate deletions while underlines indicate additions]

6. The owner/operator of S45 shall not exceed the following annual emission rates from S45/A47 including startups, shutdowns, and malfunctions.

- NOx: 2.3 tons/yr [BACT, Cumulative Increase, PSD]
- CO: 2.8 tons/yr [BACT, Cumulative Increase]
- POC: 1.5 tons/yr [Cumulative Increase]
- PM10: ~~2.41.9~~ 2.41.9 tons/yr [BACT, Cumulative Increase, PSD]
- SO2: 4.7 tons/yr [BACT, Cumulative Increase]

Summary of changes to Condition ID# 22970

Part 2 limits annual emissions of criteria pollutants from S-1010, 45 and 434

PM10 limit will be increase from 2.5 to 2.9 TPY

S-434 does not emit PM10, so increasing this limit does not allow an increase of PM10 at S-434.

Part 6 limits annual PM10 emissions from S-1010, 45 and 434 at Phillips66 and S-2 and 3 at Plant B7419 (Air Liquide Hydrogen Plant)

PM10 limit will be increase from 16.3 to 16.7 TPY

Air Liquide sources S-2 and 3 also have a combined PM10 limit of 13.8 TPY, per Condition ID# 23181, Part 2, for Plant B7419.

The PM10 limit in the Air Liquide permit will not change, so increasing the PM10 limit in Cond. 22970, Part 6 will not result in an emission increase as Sources S-2 and 3 at Air Liquide.

I recommend that Condition # 22970 Parts 2 and 6 be amended as follows:
[strikethroughs indicate deletions while underlines indicate additions]

2. The owner/operator shall ensure that the annual emissions of the above sources do not exceed the following annual emission limits, including startup, shutdown, malfunction, and upset emissions.
 - a. NOx 13.5 tpy [Cumulative increase]
 - b. SO2 34.4 tpy [Cumulative increase]
 - c. PM10 ~~2.5~~2.9 tpy [Cumulative increase, PSD]
 - d. POC 1.9 tpy [Cumulative increase]
 - e. CO 40.72 tpy [Cumulative increase]
 - f. Sulfuric acid mist 6.01 tpy [PSD]
 - *g. Ammonia 6.35 tpy [BAAQMD Regulation 2, Rule 5]

6. The annual emissions of the following sources shall not exceed ~~16.3~~16.7 tons PM10/yr: S45, S434, and S1010 at Facility A0016, and S2 and S3 at Facility B7419. If the emissions exceed ~~16.3~~16.7 tons per year, the owners/operators of Facilities A0016 and B7419 shall provide contemporaneous offsets of PM10 that comply with BAAQMD Regulations 2-2-201 and 2-2-605. The owners/operators shall use the following data to calculate the annual PM10 emissions:
 - a. The emissions rate of PM10 determined by the initial source tests at S45 and S1010 at Facility A0016
 - b. The emissions rate of PM10 determined by the initial source test at S2 at Facility B7419
 - c. The emissions rate of PM10 calculated for venting the contents of any part of S434 to a refinery flare
 - d. The emissions rate of PM10 calculated for venting the contents of any part of S1010, A48, and A424 to a refinery flare
 - e. The emissions rate of PM10 calculated for operation of S3, Hydrogen Plant Flare, at Facility B7419 The results of the analysis shall be submitted to the Director of

Permit Evaluation and Statement of Basis: Site A0016, Phillips 66 – San Francisco Refinery
1380 San Pablo Ave, Rodeo, CA 94572
Application 24692

Compliance and Enforcement on an annual basis on the anniversary of the startup of S1010 or S434 at Facility A0016 or S2 at Facility B7419, whichever is earlier.
[1-104, 2-2-304]

A copy of the full text of Condition # 23125, 22962, and 22970 are provided at the end of this report.

Recommendation

I recommend that Condition # 23125, 22962, and 22970 be amended as indicated in the Permit Conditions.

By: (signed by M.K. Carol Lee) _____ 04/09/2014 _____

M.K. Carol Lee Date
Senior Air Quality Engineer

PERMIT CONDITION # 23125 (with Proposed Change)

COND# 23125 -----

Source S1010, U235 Sulfur Recovery Unit, S503, Sulfur Storage Tank, S504, Sulfur Degassing Unit, S505, Sulfur Truck Loading Rack This condition was amended by Application 13424 in October, 2007 and Application 25621 in April, 2014.

For the purposes of this condition, total reduced sulfur shall mean dimethyl disulfide, dimethyl sulfide, hydrogen sulfide, and methyl mercaptan; and reduced sulfur compounds shall mean hydrogen sulfide, carbonyl sulfide, and carbon disulfide.

1. The owner/operator shall ensure that the throughput of molten sulfur at S1010 does not exceed 200 long tons/day. [Cumulative Increase]
2. The owner/operator shall ensure that the throughput of molten sulfur at S503 does not exceed 471 long tons/day. [Cumulative Increase]
3. The owner/operator shall ensure that S1010 is abated at all times of operation by A48, SRU Tail Gas Treatment Unit, and A424, Incinerator. [Cumulative Increase]
4. The owner/operator shall ensure that S503, Sulfur Storage Tank, S504, Sulfur Degassing Unit, and S505, Sulfur Truck Loading Rack, are controlled at all times of operation by the Claus reaction furnace at S1010 or S1003, Sulfur Recovery Units. [Cumulative Increase, 2-1 -305]
5. All pressure relief devices on S1010 shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%. [8-28-302, BACT]
6. The owner/operator shall ensure that the supplemental fuel used at A424, Tail Gas Incinerator, is PUC quality natural gas. [BACT]
7. The owner/operator shall not exceed the following emission concentrations from S1010/A48/A424: a. SO₂ 50 ppmv @ 0% O₂, 24-hour basis. [BACT] b. CO 75 ppmvd @ 7% O₂, 1-hour basis. [BACT] c. NO_x 42.2 ppmv @ 7% O₂, 1-hour basis. [BACT]
8. The owner/operator shall not exceed the following emission concentrations from

S1010/A48/A424: a. NH3 12.5 ppmv @ 7% O2, 24-hour basis [Regulation 2, Rule 5] b. H2S: 2.5 ppmv @ 0% O2 [Regulation 2, Rule 5]

9. The owner/operator shall not exceed the following hourly limits from S1010/A48/A424: a. NOx: 8.0 lb/hr [2-1-305] b. H2S: 0.23 lb/hr [Regulation 2, Rule 5] c. NH3: 0.88 lb/hr [Regulation 2, Rule 5]
10. The owner/operator shall ensure that daily emissions, including startups, shutdowns, upsets, and malfunctions, from S1010/A48/A424 do not exceed the following limits: a. Sulfuric acid mist: 31 lb/day [PSD] b. PM10: ~~3.369.5~~ 1.19 lb/day [2-1-301]
11. The owner/operator shall ensure that that annual emissions, including startups, shutdowns, upsets, and malfunctions, from S1010/A48/A424, do not exceed the following limits per any consecutive 12-month period: a. SO2: 29.7 tons [BACT, Cumulative Increase] b. NH3: 3.85 tons [Regulation 2, Rule 5] c. CO: 37.9 tons [BACT, Cumulative Increase] d. NOx: 11.2 tons [BACT, Cumulative Increase] e. POC: 0.43 tons [Cumulative Increase] f. PM10: ~~0.59~~ 1.19 tons [Cumulative Increase] g. Sulfuric acid mist: 5.65 tons [2-1-301] h. H2S: 0.975 tons [Regulation 2, Rule 5] i. Total Reduced Sulfur: 10 tons [PSD] j. Reduced Sulfur Compounds 10 tons [PSD]
12. Prior to the commencement of construction, the owner/operator shall submit plans to the District's Source Test Division to obtain approval of the design and location of the source test ports. The sample ports shall be installed in accordance with Manual of Procedures, Volume 4, Section 1.2.4. Ports for particulate testing shall be installed. [basis: Regulation 1-501]
13. No later than 90 days from the startup of S1010, the owner/operator shall conduct District-approved source tests to determine (1) initial compliance with the limits in Parts 7, 8, 9, and 13 for NOx, CO, POC, PM10, SO2, sulfuric acid mist, H2S, ammonia, (2) the BAAQMD Regulation 6 requirements below, and (3) the emission rates in lbs/dry standard cubic foot of NOx, POC, PM10, sulfuric acid mist, NH3, H2S, and reduced sulfur compounds. The owner/operator shall conduct the source tests in accordance with Part 19. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. During the source test, the owner/operator shall determine the temperature required

to achieve an outlet concentration of 2.5 ppmv H₂S @ 0% O₂, while meeting all other limits. The temperature shall become an enforceable limit.

- a. BAAQMD Regulation 6-1-310: 0.15 gr PM/dscf
- b. BAAQMD Regulation 6-1-311: PM emissions based on Process Rate Weight
- c. BAAQMD Regulation 6-1-330: SO₃ and H₂SO₄ limit

If the rate of reduced sulfur compounds, including H₂S, exceeds 2.2 lb/hr, or if the rate of total reduced sulfur, including H₂S, exceeds 2.2 lb/hr, the District reserves the right to require additional PSD analysis or to impose a higher temperature limit for S424, Incinerator, to control total reduced sulfur and reduced sulfur compounds. [BACT, Cumulative Increase; Regulation 2, Rule 5; BAAQMD Regulation 6; PSD]

14. After the initial source test required in part 13 of this condition, the owner/operator shall ensure that the minimum temperature shall not be lower than 1496 F. [Offsets]
15. To determine compliance with the temperature limit in part 14, A48, Thermal Oxidizer, shall be equipped with a temperature measuring device capable of continuously measuring and recording the temperature in A48. The owner/operator shall install, and maintain in accordance with manufacturer's recommendations, a temperature measuring device that meets the following criteria: the minimum and maximum measurable temperatures with the device are (TBD) degrees F and (TBD) degrees F, respectively, and the minimum accuracy of the device over this temperature range shall be 1.0 percent of full-scale. [Regulation 1-521]
16. The temperature limit in part 14 shall not apply during an "Allowable Temperature Excursion", provided that the temperature controller setpoint complies with the temperature limit. For the purposes of parts 16 and 17 of this condition, a temperature excursion refers only to temperatures below the limit. An Allowable Temperature Excursion is one of the following:
 - a. A temperature excursion not exceeding 20 degrees F;
 - or b. A temperature excursion for a period or periods which when combined are less than or equal to 15 minutes in any hour; or c. A temperature excursion for a period or periods which when combined are more than 15 minutes in any hour, provided that all three of the following criteria

are met.

- i. the excursion does not exceed 50 degrees F; ii. the duration of the excursion does not exceed 24 hours; and
- iii. the total number of such excursions does not exceed 12 per calendar year (or any consecutive 12 month period).

Two or more excursions greater than 15 minutes in duration occurring during the same 24-hour period shall be counted as one excursion toward the 12 excursion limit. [Regulation 2-1-403]

17. For each Allowable Temperature Excursion that exceeds 20 degrees F and 15 minutes in duration, the Permit Holder shall keep sufficient records to demonstrate that they meet the qualifying criteria described above. Records shall be retained for a minimum of five years from the date of entry, and shall be made available to the District upon request. Records shall include at least the following information:

- a. Temperature controller setpoint; b. Starting date and time, and duration of each Allowable Temperature Excursion; c. Measured temperature during each Allowable Temperature Excursion; d. Number of Allowable Temperature Excursions per month, and total number for the current calendar year; and e. All strip charts or other temperature records.
- [Regulation 2-1-403]

18. For the purposes of parts 16 and 17 of this condition, a temperature excursion refers only to temperatures below the limit. (Basis: Regulation 2-1-403)

19. The owner/operator shall submit protocols for all source test procedures to the District's Source Test Section at least three weeks prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emissions monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section, in writing, of the projected test dates at least 7 days prior to testing. [BACT, Cumulative Increase; Regulation 2, Rule 5]

20. The owner/operator shall perform an annual District-approved source test to verify compliance with the following requirements. A copy of the source test results shall be provided to the District Director of Compliance and Enforcement within 60 days of the test.
 - a. BAAQMD Regulation 6-1-310: 0.15 gr PM/dscf
 - b. BAAQMD

Regulation 6-1-311: PM emissions based on Process Rate Weight c. BAAQMD Regulation 6-1-330: SO₃ and H₂SO₄ limit
d. Emission rates in parts 7c, 8a, 8b, 9a, 9b, and 9c of this condition. e. Emission rates of sulfuric acid mist, total reduced sulfur, and reduced sulfur compounds [BACT, Regulation 6, PSD; Regulation 2, Rule 5; Cumulative increase]

21. The owner/operator shall install, calibrate, maintain, and operate a District-approved continuous emission monitor and recorder for exhaust gas flowrate, SO₂ and O₂. The owner/operator shall keep exhaust gas flow, SO₂ and O₂ data for at least five years and shall make these records available to the District upon request. The owner/operator shall measure SO₂ concentration and mass emissions on a clock-hour basis. The monitors shall comply the requirements of 40 CFR 60.105, 40 CFR 63.1572, and the District's Manual of Procedures, Volume 5. [BACT, Cumulative Increase, 40 CFR 63.1568(a)(1)(i)]
22. The owner/operator shall install, calibrate, maintain, and operate a District-approved continuous emission monitor and recorder for exhaust gas flow and CO. The owner/operator shall keep flow and CO data for at least five years and shall make these records available to the District upon request. The owner/operator shall measure CO concentration and mass emissions on a clock-hour basis. The monitors shall comply the requirements of the District's Manual of Procedures, Volume 5. [BACT, Cumulative Increase]
23. The owner/operator will ensure that S1010, SRU, complies with all applicable provisions of 40 CFR 60, Subpart J, and 40 CFR 63, Subpart UUU. This provision will be deleted when the applicable citations from these standards are incorporated into the Major Facility Review permit. [40 CFR 60, Subpart J; 40 CFR 63, Subpart UUU]
24. The owner/operator shall keep throughput records for sources S1010 and S503 on a daily basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]
25. The owner/operator shall use the source tests required in parts 13 and 20 to determine compliance with the daily limit in part 10 and the annual limits in parts 11b, 11d, 11e, 11f, 11h, and 11i. At the end of every month, the owner/operator shall summarize the exhaust gas flow in dry standard cubic feet for the month and shall calculate the estimated emissions of each

pollutant for the previous consecutive 12-month period and for H₂S for each day of the month using the emission rate determined in the last source test. The summaries and calculations shall be completed within 60 days of the end of each month. Alternately, the owner/operator may establish a daily and monthly exhaust gas flow level after each source test that will ensure compliance with the daily and annual limits. In this case, the owner/operator will log the daily and monthly exhaust gas flows from S1010/A48/A424. [Cumulative increase; Regulation 2, Rule 5; Cumulative Increase, PSD]

26. The Owner/Operator shall perform a visible emissions check on Source S1010 on a monthly basis. The visible emissions check shall take place while the equipment is operating and during daylight hours. If any visible emissions are detected, the owner/operator shall have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures outlined in the CARB manual, "Visible Emissions Evaluation" for six (6) minutes within three (3) days and record the results of the reading. If the reading is in compliance with the Ringelmann 1.0 limit in BAAQMD Regulation 6-1-301, the reading shall be recorded and the owner/operator shall continue to perform a visible emissions check on a monthly basis. If the reading is not in compliance with the Ringelmann 1.0 limit in BAAQMD Regulation 6-1-301, the owner/operator shall take corrective action and report the violation in accordance with Standard Condition 1.F of the Title V permit. The certified smoke-reader shall continue to conduct the Method 9 or CARB Visible Emission Evaluation on a daily basis until the daily reading shows compliance with the applicable limit or until the equipment is shut down. Records of visible emissions checks and opacity readings made by a CARB-certified smoke reader shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis:
Regulations 6-301, 2-1-403]

PERMIT CONDITION # 22962 (with Proposed Change)

COND# 22962 -----

This condition was amended by Application 13424 in October, 2007 and Application 25621 in April, 2014.

Source 45, U246 B-801/B-802 Heater

1. The owner/operator of the S45 heater shall fire only refinery fuel gas and/or natural gas at this unit. [BACT, Cumulative Increase]
2. Based on refinery gas HHV, the owner/operator of S45 shall not exceed the following firing rates:
 - a. 85 MMbtu/hr
 - b. 744,600 MMbtu in any consecutive 12-month period. [Cumulative Increase]
3. The owner/operator of S45 shall abate emissions from S45 at the A47 SCR system whenever S45 is operated, except that S45 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S45 NOx emission rate whenever S45 operates without abatement. All emission limits applicable to S45 shall remain in effect even if it is operated without SCR abatement. [BACT, Cumulative Increase]
4. The owner/operator of S45 shall not exceed the following emission concentrations or rates from S45/A47 except during startups and shutdowns. Startups and shutdowns shall not exceed 48 consecutive hours. The 48 consecutive-hour startup period is in addition to heater dryout/warmup periods, which shall not exceed 24 consecutive hours.
 - a.NOx: 5 ppmv @ 3% oxygen (3 hr average) [BACT, Cumulative Increase]
 - b.CO: 28 ppmv @ 3% oxygen (3 hr average) when operating under 30 MMbtu/hr [BACT, Cumulative Increase, 40 CFR 63.52(a)]
 - c.POC: 5.5 lb/MM ft3 [Cumulative Increase]
 - d.PM10: 7.6 lb/MM ft3 [BACT, Cumulative Increase]
 - e.CO: 10 ppmv @ 3% oxygen (3 hr average) when operating over 30 MMbtu/hr [BACT, Cumulative Increase, 40 CFR 63.52(a)]If the heater operates at rates below and above 30 MMbtu/hr in any 3-hour period, the CO limit shall be a weighted average.
5. *The owner/operator of S45 shall not exceed the following emission rate from S45/A47 except during startups and

shutdowns. Startups and shutdowns shall not exceed 48 consecutive hours. The 48 consecutive-hour startup period is in addition to heater dryout/warmup periods, which shall not exceed 24 consecutive hours.

Ammonia: 15 ppmv @ 3% oxygen (8 hr average)
[Regulation 2, Rule 5]

6. The owner/operator of S45 shall not exceed the following annual emission rates from S45/A47 including startups, shutdowns, and malfunctions.

NOx: 2.3 tons/yr [BACT, Cumulative Increase, PSD]

CO: 2.8 tons/yr [BACT, Cumulative Increase]

POC: 1.5 tons/yr [Cumulative Increase]

PM10: ~~2.4~~ 1.9 tons/yr [BACT, Cumulative Increase, PSD]

S02: 4.7 tons/yr [BACT, Cumulative Increase]

Year is defined as every consecutive 12-month period. Month is defined as calendar month.

7. The owner/operator shall equip S45 with a District-approved continuous fuel flow monitor and recorder in order to determine fuel consumption. A parametric monitor as defined in Regulation 1-238 is not acceptable. The owner/operator shall keep continuous fuel flow records for at least five years and shall make these records available to the District upon request. [Cumulative Increase]

8. The owner/operator shall install, calibrate, maintain, and operate District-approved continuous emission monitors and recorders for NOx and O2. The owner/operator shall keep NOx and O2 data for at least five years and shall make these records available to the District upon request. [BACT, Cumulative Increase]

9. The owner/operator shall conduct District-approved source tests two times per year to determine compliance with the CO limit. The tests shall be no less than 4 months apart and no more than 8 months apart. The source tests shall be performed on the heater in an as-found condition. CO source tests performed by the District may be substituted for semi-annual CO source tests. If the heater exceeds the limits in parts 4b or 4e more than once in any 3-year period, the owner/operator shall install, calibrate, maintain, and operate a District-approved continuous emission monitor and recorder for CO within the time period specified in the District Manual of Procedures after the second exceedance of the limits in parts 4b or 4e. The owner/operator shall keep CO data for at least five years and shall make these records available to the District upon request.

For tests conducted by the owner/operator, the

owner/operator shall conduct the source tests in accordance with Part 17. The owner/operator shall submit the source test results to the Director of Compliance and Enforcement, the Source Test Manager, and the Manager of Permit Evaluation at the District no later than 60 days after the source test.

[BACT, Cumulative Increase]

10. The owner/operator shall use only refinery fuel gas and/or natural gas at S45 that does not exceed 100 ppmv total sulfur, averaged over a calendar month. [BACT, Cumulative Increase]

11. The owner/operator shall test refinery fuel gas prior to combustion at S45 to determine total sulfur concentration by GC analysis or with a total sulfur analyzer (Houston Atlas or equivalent) at least once per 8-hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. [BACT, Cumulative Increase]

12. To demonstrate compliance with Part 10, the owner/operator shall measure and record the daily average sulfur content. The owner/operator shall keep records of sulfur content in fuel gas for at least five years and shall make these records available to the District upon request. [BACT, Cumulative Increase]

13. For the purpose of demonstrating compliance with the H₂S limit in 40 CFR 60.104(a)(1), the owner/operator shall test refinery fuel gas prior to combustion at S45 to determine total H₂S concentration at least once per 8 hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. Records of H₂S monitoring shall be kept for at least five years after the date the record was made. The owner/operator shall submit a semi-annual report regarding this monitoring to the District and to EPA. The reporting periods shall start on January 1st and July 1st of each year. The reports shall be submitted by January 31st and July 31st of each year. If the limit has not been exceeded during the reporting period, this information shall be stated in the report. If the limit has been exceeded, the owner/operator shall report the date and time that the exceedance began and the date and time that the exceedance ended. The owner/operator shall estimate and report the excess emissions during the exceedance. [40 CFR 60.13(i)]

14. The owner/operator shall record the duration of all startups, shutdowns, and heater dryout/warmup periods to determine compliance with parts 4 and 5. The owner/operator shall keep the records for at least five years and shall

make these records available to the District upon request.
[2-6-503]

15. Prior to the commencement of construction, the owner/operator shall submit plans to the District's Source Test Manager to obtain approval of the design and location of the source test ports. The sample ports shall be installed in accordance with Manual of Procedures, Volume 4, Section 1.2.4. (basis: Regulation 1-501)

16. No later than 90 days from the startup of S45, the owner/operator shall conduct District-approved source tests to determine initial compliance with the limits in Part 4 for NOx, CO, POC, PM10 and ammonia. For PM10, USEPA Methods 201 and 202 with the back-half ammonium sulfate subtracted, shall be used. The owner/operator shall conduct the source tests in accordance with Part 17. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. [BACT, Cumulative Increase, Regulation 2, Rule 5]

17. The owner/operator shall comply with all applicable requirements for source tests specified in Volume IV of the District's Manual of Procedures and all applicable testing requirements for continuous emissions monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Manager, in writing, of the source test protocols and projected test dates at least 7 days prior to testing. [BACT, Cumulative Increase, Regulation 2, Rule 5]

18. The owner/operator will ensure that S45, Heater, complies with all applicable provisions of 40 CFR 60, Subpart J. (This part will be deleted when the applicable citations from this standard are incorporated into the Major Facility Review permit.) [40 CFR 60, Subpart J]

PERMIT CONDITION # 22970 (with Proposed Change)

COND# 22970 -----

This condition was amended by Application 25621 in April, 2014.

A. CFEP Project Mass Emission Limits

1. Following are the sources that are subject to Condition 22970, parts A2, A4, and A.5:
S45, Heater (U246 B-801 A/B)
S434, U246 High Pressure Reactor Train (Cracking)
S1010, U235 Sulfur Recovery Unit
[Cumulative increase, PSD]

2. The owner/operator shall ensure that the annual emissions of the above sources do not exceed the following annual emission limits, including startup, shutdown, malfunction, and upset emissions.

- a. NOx 13.5 tpy [Cumulative increase]
- b. SO2 34.4 tpy [Cumulative increase]
- c. PM10 2.52.9 tpy [Cumulative increase, PSD]
- d. POC 1.9 tpy [Cumulative increase]
- e. CO 40.72 tpy [Cumulative increase]
- f. Sulfuric acid mist 6.01 tpy [PSD]
- *g. Ammonia 6.35 tpy [BAAQMD Regulation 2, Rule 5]

3. The owner/operator shall ensure that the daily emissions of the CFEP, including source S2 at Facility B7419, do not exceed the following daily emission limit, including startup, shutdown, malfunction, and upset emissions. a. Sulfuric acid mist 38 lb/day [PSD]

4. The owner/operator shall determine whether the emissions are below the allowable emissions in Part A.2, as shown below. The owner/operator shall calculate and report the emissions of NOX, SO2, PM10, POC, CO, and sulfuric acid mist on an annual basis in the following manner.

a. For Source S45, Heater

- i. Use the mass emissions data generated by the NOx CEM at S45.
- ii. Use the emissions rates determined by semi-annual source tests for CO at S45.
- iii. Use the emissions rates determined by initial source test for POC, PM10, and sulfuric acid mist at S45.
- iv. *Use the emissions rates determined by initial source test for ammonia at S45.
- v. Use the sulfur analysis of fuel required by Condition 22862, part 11 at S45.

[Cumulative increase, PSD, BAAQMD Regulation 2, Rule 5]

b. For Source S1010, Sulfur Recovery Unit

- i. Use the mass emissions data generated by the SO2 and CO CEMs at S1010.
- ii. Use the emissions rates determined by annual source tests for NOx and sulfuric acid mist at S1010.
- iii. *Use the emissions rates determined by

- annual source test for ammonia at S1010.
- iv. Use the emissions rates determined by initial source test for POC and PM10 at S1010. [Cumulative increase, PSD, BAAQMD Regulation 2, Rule 5]
- c. For the refinery flare S296
 - i. Calculate any emissions caused by venting the contents of any part of the sulfur recovery unit including S1010, A48, and A424 to the refinery flare.
 - ii. Calculate any emissions caused by venting the contents of any part of S434 to a refinery flare.
 - iii. The owner/operator shall calculate any emissions caused by venting the feed to Facility B7419, sources S1 or S2 to the refinery flare. [Cumulative increase, PSD, BAAQMD Regulation 2, Rule 5]
5. If the annual emissions, as determined in part 4, are above the allowable emissions in part A.2, the owner/operator shall supply additional offsets, where applicable, and perform additional analysis for PSD, if necessary. The results of the analysis shall be submitted to the Director of Compliance and Enforcement on an annual basis on the anniversary of the startup of S1010 or S434, whichever is earlier. [Offset, PSD]
6. The annual emissions of the following sources shall not exceed ~~16.3~~16.7 tons PM10/yr: S45, S434, and S1010 at Facility A0016, and S2 and S3 at Facility B7419. If the emissions exceed ~~16.3~~16.7 tons per year, the owners/operators of Facilities A0016 and B7419 shall provide contemporaneous offsets of PM10 that comply with BAAQMD Regulations 2-2-201 and 2-2-605. The owners/operators shall use the following data to calculate the annual PM10 emissions:
- a. The emissions rate of PM10 determined by the initial source tests at S45 and S1010 at Facility A0016
 - b. The emissions rate of PM10 determined by the initial source test at S2 at Facility B7419
 - c. The emissions rate of PM10 calculated for venting the contents of any part of S434 to a refinery flare
 - d. The emissions rate of PM10 calculated for venting the contents of any part of S1010, A48, and A424 to a refinery flare

- e. The emissions rate of PM10 calculated for operation of S3, Hydrogen Plant Flare, at Facility B7419 The results of the analysis shall be submitted to the Director of Compliance and Enforcement on an annual basis on the anniversary of the startup of S1010 or S434 at Facility A0016 or S2 at Facility B7419, whichever is earlier.

[1-104, 2-2-304]

B. Contemporaneous Offset Conditions

1. The owner/operator shall submit an offset report to the Director of Compliance and Enforcement and the Manager of Permit Evaluation at the end of every quarter after the initial date of startup of any of the new CFEP sources below. The report shall contain the detail of banked and contemporaneous offsets provided for each source to show compliance with the provision in BAAQMD Regulation 2-2-410 that offsets must commence no later than the initial operation of a new source or within 90 days after initial operation of a modified source. After all of the offsets required are provided, the owner/operator may submit the final report, even if all of the sources in the CFEP project are not built.

New CFEP Sources

Plant B7419, S1, Hydrogen Plant
Plant B7419, S2, Hydrogen Plant Furnace
Plant B7419, S3, Hydrogen Plant Flare
Plant A0016, S45, Heater
Plant A0016, S434, U246 High Pressure Reactor Train
Plant A0016, S1010, U235 Sulfur Recovery Unit

Contemporaneous Offset Sources

Plant A0016, S1007, Dissolved Air Flotation Unit (DAF)

Plant A0016, S8, Unit 240 B-1
Plant A0016, S352 - S357, Steam Power Plant Gas Turbines and HRSGs
Plant A0022, S2, Kiln K-2
[2-1-403, 2-2-410]

APPENDIX C

NSR Application 26021

ENGINEERING EVALUATION
Phillips 66 – San Francisco Refinery
Rodeo, CA
Application #26020 - Plant #21359

I. BACKGROUND

Phillips 66 Refinery has applied for a change of conditions under the accelerated permit program for the following equipment:

S-182 Tank 294

Fixed roof tank, 1575K gallon capacity, White, Oil/water mixture, 82 ft diameter

The Refinery has requested to increase the pressure set point on the safety and emergency pressure relief device that opens to atmosphere on S-182 from 1.5 inches of water to 1.8 inches of water. The change is necessary since the Refinery is changing the relief valve from 8" to 10". This tank is vapor controlled and has a pressure relief valve that opens to the vapor control system any time the pressure exceeds 0.2 psi. The operation of the vapor control system will remain unchanged. If the pressure inside S-182 ever reaches 1.8 inches of water, then the emergency and safety pressure relief device would open to atmosphere. Previously, the emergency and safety pressure relief device opened to atmosphere at 1.5 inches of water.

On March 27, 2014, the District issued a temporary permit to operate under the accelerated permit program in accordance with 2-1-106. The installation of a new pressure relief valve and the change in pressure set point from 1.5" to 1.8" is consistent with all of the requirements of the accelerated permit program.

II. EMISSION CALCULATIONS

S-182 operates on a vapor control system. The tank is designed to operate at a pressure of 0.2 inches of water. The tank is equipped with a pressure relief valve that opens to the vapor control system any time the pressure inside the tank reaches 0.2 psi. This application does not affect the vapor control system.

This application is to change the minimum pressure set point on the emergency and safety pressure relief device that opens to atmosphere. Increasing the set point pressure from 1.5 inches of water to 1.8 inches of water should reduce the number of events where the atmospheric valve would actually open. There is no increase in emissions associated with this application.

III. PLANT CUMULATIVE INCREASE SINCE 4/5/1991

The cumulative increase is shown below.

	Existing Post 4/91 (TPY)	New (TPY)	Total (TPY)
POC	1.168	0.000	1.168

The existing cumulative increase is associated with application 24526. The applicant elected to defer the offsets until the time of renewal in accordance with Regulation 2-2-421.

IV. OFFSETS

Offsets are not required per Regulation 2-2-302 because there is no increase in emissions associated with this application.

V. TOXIC SCREENING ANALYSIS

There is no emissions increase associated with this application and a health risk screening analysis is not required under Regulation 2, Rule 5.

VI. BEST AVAILABLE CONTROL TECHNOLOGY

There is no emission increase associated with this application and BACT is not triggered for any pollutant.

VII. STATEMENT OF COMPLIANCE

S-182 is expected to remain in compliance with Regulation 1 requirements including Section 523 for parametric monitoring of the vapor recovery system pressure.

S-182 is expected to continue to comply with Regulation 8, Rule 5 requirements including: Section 301 requirements for tanks with approved emission control systems, Section 303 requirements for pressure vacuum valves, Section 306 approved emission control systems, Section 307 tank requirements, Section 328 tank degassing requirements, Section 331 tank cleaning, and Section 332 sludge handling. Regulation 8, Rule 5 also requires ongoing inspection and compliance demonstrations along with the appropriate recordkeeping requirements.

S-182 is expected to continue to comply with 40 CFR Part 60 Subpart K Standards of Performance for Storage Vessels for Petroleum Liquids for which construction, reconstruction, or modification commenced after June 11, 1973, and prior to May 19, 1978 (10/17/2000).

S-182 is expected to continue to comply with 40 CFR Part 60 Subpart FF National Emission Standards for Benzene Waste Operations.

S-182 is expected to continue to comply with the requirements of revised condition 23724 part 4a.

This permit application is not subject to CEQA review because the evaluation is considered a ministerial action conducted using the fixed standards and objective measurements outlined in the Permit Handbook Chapter 4.

The proposed project is also considered to meet the requirements for other categories of exempt projects under 2-1-312.1 (as shown below).

2-1-312 Other Categories of Exempt Projects: In addition to ministerial projects, the following categories of projects subject to permit review by the District will be exempt from the CEQA review, either because the category is exempted by the express terms of CEQA (subsections 2-1-312.1 through 312.9) or because the project has no potential for causing a significant adverse environmental impact (subsections 2-1-312.10 and 312.11). Any permit applicant wishing to qualify under any of the specific exemptions set forth in this Section 2-1-312 must include in its permit application CEQA-related information in accordance with subsection 2-1-426.1. In addition, the CEQA-related information submitted by any permit applicant wishing to qualify under subsection 2-1-312.11 must demonstrate to the satisfaction of the APCO that the proposed project has no potential for resulting in a significant environmental effect in connection with any of the environmental media or resources listed in Section II of Appendix I of the State CEQA Guidelines.

312.1 Applications to modify permit conditions for existing or permitted sources or facilities that do not involve any increases in emissions or physical

modifications.

This application does not involve any increase in emissions and meets the requirements of Regulation 2-1-312.1. A valve is being replaced, but since there is no impact on emissions, the exemption is still valid.

This project is greater than 1,000 ft from the nearest public school and therefore is not subject to the public notification requirements of Regulation 2-1-412.

PSD review is not triggered under this application.

BACT, Offsets, NSPS, and NESHAPS review are not triggered under this application.

VIII. CONDITIONS

Permit condition 23724 is attached which includes the revision to part 4a to change the minimum pressure set point of the atmospheric relief device installed on S-182 (Tank 294) from 1.5 inches of water to 1.8 inches of water.

IX. RECOMMENDATION

I recommend that Phillips 66 be allowed to increase the minimum pressure set point of the atmospheric relief device installed on S-182 (Tank 294) from 1.5 inches of water to 1.8 inches of water. This will require a change of conditions for permit condition 23724 part 4a.

By: _____
Brian Lusher
Senior Air Quality Engineer

Date

Permit Evaluation and Statement of Basis: Site A0016, Phillips 66 – San Francisco Refinery
1380 San Pablo Ave, Rodeo, CA 94572
Application 24692

Attachment

Permit Conditions

Permit Evaluation and Statement of Basis: Site A0016, Phillips 66 – San Francisco Refinery
1380 San Pablo Ave, Rodeo, CA 94572
Application 24692

The revised condition text for S-182 is shown below. Please see part 4a for the change in minimum set point pressure.

COND# 23724 -----

For Sources S135 (Tank 200), S137 (Tank 202), S139 (Tank 204), S140 (Tank 205), S168 (Tank 269), S173 (Tank 280), S174 (Tank 281), S175 (Tank 284), S182 (Tank 294), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285), S506 (Tank 257), Tank 235, and Tank 236.

This condition was imposed by Application 13424 and amended by Application 16940 in January 2008, Application 13427 in 2009, and Application 21706 in 2010.

- 1a. The owner/operator shall ensure that all sources subject to this permit condition are abated by A7, Vapor Recovery System at all times of operation except for the following sources, which shall be controlled according to the schedule below:
1. S168
 2. S173
 3. S174
 4. S506

S168 shall be abated by A7 and subject to the terms of this condition prior to the startup of S434. S173 and S174 shall be abated when blanketing is required to preserve product or feed. S506 shall be abated by A7 and subject to the terms of this condition upon the date of startup.
[Basis: Regulation 2-1-403]

- 1b. The owner/operator shall ensure that a fourth compressor is added to A7, Odor Abatement System, before more than two of the following sources are controlled by A7: S168, S173, S174, S175, S506. [Basis: Regulation 2-1-301, 2-1-305, 2-1-403, CEQA]

- 1c. The new odor abatement compressor, or a dedicated compressor, shall be designed and installed to supplement G-503, Flare Gas Recovery Compressor. [CEQA]

2. The owner/operator shall ensure that all tanks subject to this permit condition are blanketed

by utility-grade natural gas. [Basis: Regulation 2-1-403]

3. By July 5, 2009, the owner/operator shall equip all tanks subject to this permit condition except S506 with District-approved pressure monitoring devices. Upon startup, the owner/operator shall equip S506 with a District-approved pressure-monitoring device. [Basis: Regulation 2-1-403]

4. After the pressure monitoring devices are installed, the owner/operator shall ensure that tanks listed below operate at all times below their respective minimum set pressures, as shown in 4a and 4b of this condition. Any recorded pressure in excess of the minimum pressure shall be reported to the District's Enforcement and Engineering Divisions within 10 days of the pressure excess. The owner/operator must conduct an investigation of the incident to determine if the pressure excess resulted in the pressure/vacuum (PV) valve lifting to atmosphere and if so, why there was a pressure excess that resulted in the PV valve lifting to atmosphere. Results of the investigation must be reported to the District's Enforcement and Engineering Division within 30 days of the initial report. Any recorded pressure in excess of the minimum set pressure shall be considered an indication of a valve lift to atmosphere unless a District approved tell-tale indicator on the PV valve shows that the valve did not lift, or the owner/operator demonstrates to the satisfaction of the APCO that the recorded pressure excess was the result of a monitoring, recording or other malfunction.

The minimum set pressure for each storage tank, except S139, S140, S182, S360, S445, S449, must be submitted in a report to the District's Enforcement and Engineering Divisions within 21 months of issuance of the Authority to Construct.

a. Source Number	Minimum Set Pressure (inches H2O)
135	1.7
137	0.8
139	1.9
140	1.9

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168	1.8
182	1.85
360	1.9
445	1.9
449	1.5
506	2.2

The owner/operator shall submit an accelerated permit application to include any change to any of the pressures above. Any amendment to the Title V permit to include the pressures above shall be submitted as a minor revision to the Title V permit. [Basis: Regulation 8, Rule 5]

b. Source Number	Minimum Set Pressure (inches H2O)
173	1.8
174	1.8
175	1.3
Tank 235	2.2
Tank 236	0.9

The owner/operator shall submit an accelerated permit application to include any change to any of the pressures above. Any amendment to the Title V permit to include the pressures above shall be submitted as a minor revision to the Title V permit. [Basis: Regulation 2-1-403]

5. The owner/operator shall ensure that each pressure relief valve for each tank must be set at or above its nominal set pressure listed in Part 4 of this permit condition. [Basis: Regulation 2-1-403]

6. Corrective Plan

The corrective plan is a means for ConocoPhillips To correct occasional exceedances, to stay within the working pressure limits and thus to remain in compliance with District Regulations. If a PV valve has been determined to have lifted three times in a 12 month period, ConocoPhillips shall implement abatement measures to prevent the recurrence of the type of incident which caused the valve to lift. This plan is intended to provide a mechanism for bringing ConocoPhillips back into compliance should a Temporary exceedance occur. This plan does not constitute an alternative means of compliance. [Basis: Regulation 2-1- 403]

- a. If, during any consecutive 12-month period, more than three instances of a PV valve release to atmosphere attributed to a storage tank subject to this permit condition are reported, ConocoPhillips shall propose a method to correct the exceedance and to ensure compliance with District regulations and permit conditions. The proposed method is subject to approval by the Air Pollution Control Officer. Potential methods include but are not limited to increasing the nominal set pressure of the pressure/vacuum valve, bladder tank(s) for additional short-term vapor storage capacity, dedicated vapor recovery flare, pilot control on pressure relief valves, flow meters on vapor recovery tanks to monitor blanket gas flows, replacement of tanks, and naphtha degassers. [Basis: Regulation 2-1-403]
7. To determine compliance with the above conditions, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including, but not necessarily limited to the following information:
 - a. Pressure measurements from tanks listed in part 4 of this condition. Pressure shall be recorded at least for one-minute interval for each tank, except as allowed in BAAQMD Regulation 1-523 for parametric monitors. The owner/operator shall maintain a reasonable stock of spare parts for the components of the monitoring system to ensure that repairs are completed as quickly as possible.

All records shall be retained on site for five years, from the date of entry and made available for inspection by the District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District regulation. [Basis: Regulation 2-1-403]

8. The requirement to report pressures in excess of the minimum pressure as described in part 4 of this permit condition, shall start on July 5, 2009 for all tanks in this condition except

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S139, S140, S182, S360, S445, S449. The requirement to report pressures in excess of the minimum pressure as described in part 4 of this permit condition, shall start on January 5, 2008 for the following tanks:
S139, S140, S182, S360, S445, S449. [Basis: 2-1-403]

9. The permit to operate is contingent upon compliance with Regulation 1-301, Standard for Public Nuisance, and Regulation 7, Odorous Substances. Upon receipt of a violation for either of these regulations, the Air Pollution Control Officer may require the owner/operator to install additional emission control measures as stated in Part 6 of this permit condition. [Basis: Regulations 1-301, 7-301, 7-302]