

<b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <i>ENGINEERING &amp; COMPLIANCE</i>  <b>APPLICATION PROCESSING AND CALCULATIONS</b>	PAGES 18	PAGE 1
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	PROCESSED BY: Cynthia Carter	CHECKED BY

**PERMIT TO CONSTRUCT  
MODIFICATION**

**COMPANY NAME, LOCATION ADDRESS:**

Phillips 66 CO ID 171107  
1660 W. Anaheim Street  
Wilmington, CA 90744

**EQUIPMENT DESCRIPTION:**

Additions or modifications to the equipment description are underlined and **bolded**. Deletions to the equipment description and conditions are noted in ~~strikeouts~~.

**Section H of Phillips 66 CO Facility Permit, ID# 171107**

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
<b>Process 17: AIR POLLUTION CONTROL (FLARES)</b>					
<b>System 7: VAPOR RECOVERY SYSTEM (SOUTH)</b>					S13.6, S13.13, S15.16, S18.2, S18.10, <b><u>S31.3</u></b>
COMPRESSOR, GB-152, WITH 400-HP MOTOR A/N: <del>535573</del> <b><u>536443</u></b> Permit to Construct Issued: <del>12/15/11</del> <b><u>TBD</u></b>	C733				
POT, DRAIN, F-1A, SOUTH RECOVERY SYSTEM, LENGTH: 12 FT; DIAMETER: 4 FT A/N: <del>535573</del> <b><u>536443</u></b> Permit to Construct Issued: <del>12/15/11</del> <b><u>TBD</u></b>	D834				
POT, DRAIN, F-1B, SOUTH RECOVERY SYSTEM, LENGTH: 12 FT; DIAMETER: 4 FT A/N: <del>535573</del> <b><u>536443</u></b> Permit to Construct Issued: <del>12/15/11</del> <b><u>TBD</u></b>	D835				
<b><u>POT, DRAIN, F-1C, SOUTH RECOVERY SYSTEM, LENGTH 8 FT, DIAMETER: 3FT</u></b> <b><u>A/N 536443</u></b> <b><u>Permit to Construct Issued: TBD</u></b>	<b><u>DNEW</u></b>				

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Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
<b>Process 17: AIR POLLUTION CONTROL (FLARES)</b>					
KNOCK OUT POT, F-155, SOUTH RECOVERY SYSTEM, LENGTH: 40 FT; DIAMETER: 13 FT 6 IN A/N: <del>535573</del> <b>536443</b> Permit to Construct Issued: <del>12/15/11</del> <b>TBD</b>	D837				
KNOCK OUT POT, F-152, HEIGHT: 5FT ; DIAMETER: 1 FT 6 IN A/N: <del>535573</del> <b>536443</b> Permit to Construct Issued: <del>12/15/11</del> <b>TBD</b>	D726				
POT, DRAIN, F-1, HEIGHT: 8 FT ; DIAMETER: 3 FT 6 IN A/N: <del>535573</del> <b>536443</b> Permit to Construct Issued: <del>12/15/11</del> <b>TBD</b>	D727				
TANK, SURGE, F-154, JACKET WATER, DIAMETER: 8 IN A/N: <del>535573</del> <b>536443</b> Permit to Construct Issued: <del>12/15/11</del> <b>TBD</b>	D730				
COMPRESSOR, GB151, DRIVEN BY AN ICE DEVICE ID D732 A/N: <del>535573</del> <b>536443</b> Permit to Construct Issued: <del>12/15/11</del> <b>TBD</b>	D1554				
KNOCK OUT POT, F-156, PACKER VENT A/N: <del>535573</del> <b>536443</b> Permit to Construct Issued: <del>12/15/11</del> <b>TBD</b>	D734				
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: <del>535573</del> <b>536443</b> Permit to Construct Issued: <del>12/15/11</del> <b>TBD</b>	D1826				

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**CONDITIONS:**

The following permit conditions shall apply to the subject equipment in order to comply with all applicable District, State, and Federal standards. Additions and deletions to the conditions are noted in underlines and strikeouts, respectively.

S13.6 All devices under this system are subject to the applicable requirements of the following rules or regulations:

<b>Contaminant</b>	<b>Rule</b>	<b>Rule/Subpart</b>
<b>VOC</b>	District Rule	1123

[RULE 1123, 12-7-1990]

[Systems subject to this condition: Process 1, System 2; Process 2, System 1, 2, 3, 4, 5; Process 3, System 1, 3; Process 4, System 1, 2; Process 5, System 1; Process 6, System 1; Process 8, System 1; Process 9, System 3, 4, 5, 6; Process 10, System 1, 2, 4, 5; Process 17, System 6, 7; Process 18, System 1, 2]

S13.13 All devices under this system are subject to the applicable requirements of the following rules or regulations:

<b>Contaminant</b>	<b>Rule</b>	<b>Rule/Subpart</b>
<b>VOC</b>	District Rule	1173

[RULE 1173, 5-13-1994; RULE 1173, 2-6-2009]

[Systems subject to this condition: Process 17, System 7]

S15.16 The vent gases from all affected devices of this process/system shall be vented as follows:  
All emergency vent gases shall be directed to the blowdown flare system.

S18.2 All affected devices listed under this process/system shall be used only to receive, recover and/or dispose of vent gases routed from the system(s) or process(es) listed below, in addition to specific devices identified in the "connected to" column:

- FCCU (Process: 1, System: 1 & 2)
- Hydrotreating (Process: 2, System: 1, 2, 3, 4 & 5)
- Catalytic Reforming (Process: 3, System: 1 & 3)
- Hydrogen Production (Process: 4, System: 1 & 2)
- Hydrocracking (Process: 5, System: 1)
- Alkylation (Process: 6, System: 1)
- Blending (Process: 8, System: 1 & 2)
- Butane Loading/Unloading (Process: 11, System: 1)
- Butane Storage Tanks (Process: 13, System: 6)
- Isomerization (Process: 18, System: 1 & 2)

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Ammonia (Aqueous) Transfer & Storage System [*only Device D701*] (Process 16, System 9)

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2)-Offset, 5-10-1996]**

[Systems subject to this condition: Process 17, System 1 , 2 , 5 , 6 , 7]

S18.10 All affected devices listed under this process/system shall be used only to receive, recover and/or dispose of vent gases routed from the system(s) or process(es) listed below, in addition to specific devices identified in the "connected to" column:

Butane Loading/Unloading (Process: 11, System: 1)  
Pressurized Storage Tanks (Process: 13, System: 4 & 6)

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2)-Offset, 5-10-1996]**

[Systems subject to this condition : Process 17, System 6 , 7]

**S31.3**            **THE FOLLOWING BACT REQUIREMENTS SHALL APPLY TO VOC**  
**NEW**             **SERVICE FUGITIVE COMPONENTS ASSOCIATED WITH THE DEVICES**  
**THAT ARE COVERED BY APPLICATION NUMBER(S) 536443:**

Requirements        **All open-ended lines shall be equipped with cap, blind flange, plug, or a second valve.**

Requirements        **All pressure relief valves shall be connected to a closed vent system.**

Bellow seal  
Requirement  
And exceptions        **All new valves in VOC service, except those specifically exempted by Rule 1173 and those in heavy liquid service as defined in Rule 1173, shall be bellows seal valves, except as approved by the District, in the following applications: heavy liquid service, control valve, instrument piping/tubing, applications requiring torsional valve stem motion, applications where valve failure could pose safety hazard, retrofits/special applications with space limitations, and valves not commercially available.**

Identification  
Requirement        **All new valves and major components in VOC service as defined by Rule 1173, except those specifically exempted by Rule 1173 and those in heavy liquid service as defined in Rule 1173, shall be distinctly identified from other components through their tag numbers (e.g., numbers ending in the letter "N"), and shall be noted in the records.**

Monitoring  
Requirement:  
Qtr: All  
components  
Monthly:  
Valves &  
Flanges                **All new components in VOC service as defined in Rule 1173, except valves and flanges, shall be inspected quarterly using EPA reference Method 21. All new valves and flanges in VOC service, except those specifically exempted by Rule 1173, shall be inspected monthly using EPA Method 21.**

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Converting from Monthly to Qtr @ 500ppm leak rate limit (valves & flanges) **If 98.0 percent or greater of the new (non-bellows seal) valves and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate less than 500 ppmv for two consecutive months, then the operator may change to a quarterly inspection program with the approval of the District.**

Back to Qtr if fail limit rate @ 500ppm leak rate limit (valves & flanges) **The operator shall revert from quarterly to monthly inspection program if less than 98.0 percent of the new (non-bellows seal) valves and the new flange population inspected is found to leak gaseous liquid organic compounds at a rate more than 500 ppm.**

Leak rate limit **All new components in VOC service, a leak greater than 500 ppm measured as methane above background as measured using EPA Method 21, shall be repaired within 7 calendar days of detection or pursuant to Rule 1173 repair period, whichever is more stringent.**

Provide recalculation, P & IDs **The operator shall provide to the District, no later than 90 days after initial startup:**  
**a) A recalculation of the fugitive emissions based on actual components installed and removed from service. The valves and flanges shall be categorized by size and service. The operator shall submit a listing of all new non-bellows seal valves which shall be categorized by tag no., size, type, application, and reasons why bellows seal valves were not used; and**  
**b) A complete, as built, piping and instrumentation diagram(s) and copies of requisition data sheets for all non-leakless type valves with a listing of tag numbers.**

Components definition **Components shall be defined as any valve, fitting, pump, compressor, pressure relief valve, diaphragm, hatch, sight-glass, and meter, which are not exempted by Rule 1173.**

Recordkeeping **The operator shall keep records of the monthly inspection (quarterly where applicable), subsequent repair, and reinspection, in a manner approved by the District.**  
**[RULE 1303(a)(1)-BACT, 5-10-1996; 1303(a)(1)-BACT, 12-6, 2002]**  
**[Systems subject to this condition : Process 1, System 1, 2]**

*Note: New condition to reflect Rule 1173's leak standard of 500 ppm*

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**BACKGROUND:**

Phillips 66 Los Angeles Refinery operates a refinery as two separate locations in the city of Carson and Wilmington. At the Carson Plant crude oil is processed in the crude unit where it is heated and distilled into various hydrocarbon components which are further processed downstream at the Wilmington Plant. The Wilmington Plant is a major producer of fuel products, including gasoline for Southern California. This evaluation is for the Wilmington Plant where it is part of the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM Program. In addition, Wilmington's initial Title V permit was issued on July 1, 2009.

This evaluation covers an application to install, modify, and upgrade several fugitive components to the South Vapor Recovery system (VRS). The purpose of this project is to improve the system's liquid removal capability from the pipes and to improve reliability of the system's compressor. The proposed modifications are as follows:

- Install a new drain tank and modify piping for the suction line
- Install a new pump
- Modify pump G-154 discharging location
- Revise the vapor recovery compressor controls
- Improve temperature control
- Upgrade instrumentation

There is an overall increase in emissions of about 2.03 lb/day of VOC for the project. The submitted applications are listed in Table 1.

**Table 1- Submitted Applications**

A/N	Date Received	Equipment	Device ID	Requested Action	PC Issue Date	Previous A/N
536443	05/08/12	VRS	P17S1	<ul style="list-style-type: none"> <li>• Modify vapor recovery system</li> </ul>	12/15/11	511896 (C/O 535573)
536445	05/08/12	Title V Facility Permit Revision	P17S1	<ul style="list-style-type: none"> <li>• Revise Title V Permit</li> </ul>	--	--

**Compliance with Existing Permit Conditions**

Condition S13.6	This project will not affect the ability to comply with this condition.
Condition S13.13	This project will not affect the ability to comply with this condition.
Condition S15.16	This project will not affect the ability to comply with this condition.
Condition S18.2	This project will not affect the ability to comply with this condition.
Condition S18.10	This project will not affect the ability to comply with this condition.

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### PERMIT HISTORY

The previous Permit to Operate (M24858) of the South Flare (both the vapor recovery system and flare) was issued to Unocal, the previous owner of this refinery facility (ID# 23417), on June 03, 1982. Unocal had completed two modifications to the process.

On November 14, 1990, Unocal submitted a Permit-to-Construct application no. 241245 to modify the South Flare. This modification removed the spare stack, added a knock-out drum and replaced the liquid seal drum. Permit to Construct was granted to Unocal under A/N 241245 on February 01, 1991.

On January 27, 1995, Unocal submitted a Permit-to-Construct application no. 294986 for an additional modification to the South Flare. This application was canceled as the result of another application submitted by Unocal for more modifications to the South Flare.

On June 20, 1996, Unocal submitted a Permit-to-Construct application no. 294013. In order to comply with CAAs and CARB requirements for reformulated gasoline, Unocal installed new units and alter existing units to produce gasoline meeting the mandated specifications. A/N 294013 was submitted for the routing of the emergency relief system for Isomerization Section Unit 60 and Fractionation Section Unit 80 to the existing South Flare. A Permit to Construct was granted to Unocal in form of facility permit on 1/09/97.

On March 10, 1997, Tosco Refining Company (Facility Id# 800363), the new owner of this refinery facility, submitted application no. 326164 for a change of ownership of the South Flare.

On November 18, 1997, Tosco submitted AN 334427, a Permit to Construct application, for a modification to the South Flare. Tosco has installed a new Butamer Unit 60 to meet the RFG requirements. Some new fugitive components were be added as the result. Tosco has tied in the emergency relief device for the new components of Butamer Unit 60 to the South Flare. A Permit to Construct was granted to Tosco in form of facility permit on 1/28/98.

It should be noted that application no. 334427 has remained active even after this application was submitted. In order to be consistent with the North Flare system, the South Flare system was divided into two permit units: the flare and its vapor recovery system. Under AN 326164 the South Flare system was divided into two permit units: the flare and its vapor recovery system.

AN 365149 was submitted as an administrative change of permit description for a vapor recovery compressor on March 1, 2000.

AN 511896 was submitted to connect the facility's ammonia storage tank F-218 (device ID D701) pressure relief devices (PRD) to the refinery vapor recovery system. The permit to construct was issued on 12/15/11.

On June 12, 2012, the District issued Phillips 66' change of ownership permit to Phillips 66. Process 17 System 7 change of ownership application was A/N 535573.

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**COMPLIANCE RECORD REVIEW:**

As of July 17, 2012 a check of the AQMD Compliance Database for the past two years showed that this facility was issued 3 Notice of Violations (NOVs) However, all the NOVs are back into compliance.

**FEE EVALUATION:**

The fees paid for the submitted applications are as follows:

**Table 2-Application Fees Submitted**

A/N	Equipment	BCAT/ CCAT	Type	Status	Fee Schedule FY 11-12	Fee Required, \$	Fees Paid, \$
536443	Vapor Recovery System	59	50	20	E	\$5,330.66	\$5,330.66
	Expedited Permit Processing fee	--	--	--	--	**	\$2,665.33
536445	Title V Facility Amendment Fee	555009	86	20	--	\$1,747.19	\$1,747.19
**expedited fees were not accepted					Total:	\$7,077.85	\$9,743.17
					Net Fee Due:		Refund \$2,665.33

**PROCESS DESCRIPTION:**

The Wilmington refinery operates their three flares (North, Hydrocracking, and South) as a single system. Each flare has seal drums that have a variable sealing height. The seal drums are designed to promptly reseal after a flaring incident. With the seal drums, the resealing time is reduced, minimizing flaring periods and maximizing flare gas recovery. The flare headers operate at a higher and more constant back pressure, enabling the vapor recovery compressors to be more utilized.

During heavy relief flows, the integrated system utilizes the total smokeless capacity of the three flare tips. The blowdown gases are controlled by the relative heights of the liquid seals in each drum. Heavy relief flow from any unit(s) are directed first to the in-service flare with the greatest smokeless capacity. If a heavy flow event exceeds the first flare's smokeless capacity, excess flow will successively spill over to the second and third flare.

The integrated flare system enhances the use of the vapor recovery capacity. The South Flare system has two vapor recovery compressors. The North and Hydrocracking flare systems have a common vapor recovery compressor. The operating flares as one integrated system allows the three vapor recovery compressors to serve all operating units.

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**EMISSIONS:**

The fugitive emissions calculations are based on emission factors derived from the *correlation equation method*<sup>a</sup>. The fugitive components count before and after modifications as submitted by Phillips 66 are located in [Attachment I](#).

The following Table 5 shows a summary of all the affected permit units' pre and post modifications emissions with an increase of VOC of 2.03 lb/day.

**Table 3: Pre and Post-Modification *Fugitive* VOC Emissions**

A/N	Equipment	VOC Emissions						
		Pre-Modification		Post-Modification		Change from Pre-Modification and Post-Modification		
		lb/yr	lb/day	lb/yr	lb/day	lb/yr	lb/day	lb/hr
536443	South VRS	1578.09	4.38	2308.97	6.41	730.87	2.03	0.08

Source Unit		Service	No. of New Components to be Installed
Valves	Sealed Bellows	All	45
	SCAQMD Approved I & M Program	Gas / Vapor	7
		Light Liquid (3)	12
		Heavy Liquid (4)	0
Pumps	Sealless Type	Light Liquid (3)	1
	Double Mechanical Seals or Equivalent Seals	Light Liquid (4)	0
	Single Mechanical Seals	Heavy Liquid (4)	0
Compressors		Gas / Vapor	0

<sup>a</sup> SCAQMD's Guidelines for Fugitive Emissions Calculations June 2003

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<b>Connectors</b>	<b>All</b>	0
<b>Flanges (ANSI 16.5-1988)</b>	<b>All</b>	87
<b>Pressure Relief Valves</b>	<b>All</b>	1
<b>Process Drains with P-Trap or Seal Pot</b>	<b>All</b>	0
<b>Other (including fittings, hatches, sight-glasses, and meters)</b>	<b>All</b>	4

The number of non-bellows valves installed is as follows: 7 gas/vapor service, 12 light liquid service. The reason 19 non-bellows valves were installed is as follows:

- 2 instrument root valves (gas/vapor) - Exempt
- 4 instrument root valves (light liquid) - Exempt
- 3 control valves (gas vapor) - Exempt
- 2 control valves (light liquid) - Exempt
- 2 not commercially available (gas/vapor) – Exempt (See Note 1)
- 5 not commercially available (light liquid) – Exempt (See Note 1)

**Note 1:** According to the facility, plug valves were chosen because flare gas systems are notoriously dirty, and gate valves in dirty service will have poor reliability and would create a safety issue if they don't hold when isolating equipment for repairs. (See Attachment II P&ID)

**RULES EVALUATION:**

**PART 1 STATE REGULATIONS**

<b>California Environmental Quality Act (CEQA)</b>	
	<p>CEQA requires that the environmental impacts of proposed projects be evaluated and that feasible methods to reduce, avoid or eliminate identified significant adverse impacts of these projects be considered. The CEQA Applicability Form (400-CEQA) indicates that the project does not have any impacts which trigger the preparation of a CEQA document.</p> <p>A significant project<sup>b</sup> is one associated with the emissions levels listed below, during the operation phase of the project:</p> <p style="text-align: center;">CO     550 lbs/day</p>

<sup>b</sup> Source: SCAQMD CEQA Handbook (SCAQMD, 1993)

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	VOC 55 lbs/day NOx 55 lbs/day SOx 150 lbs/day PM10 150 lbs/day
The expected impacts of the project on the environment are not significant: therefore a CEQA analysis is not required.	

## PART 2 SCAQMD REGULATIONS

<b>Rule 212</b>	<b>Standards for Approving Permits</b>	<b>November 14, 1997</b>
	<p>This modification meets all criteria in Rule 212 for permit approval. The connection of the pressurized ammonia storage tank to the refinery's vapor recovery system does not affect the operation without emitting air contaminants in violation of Division 26 of the State Health and Safety Code or in violation of AQMD's rules and regulations.</p> <p>This modification does not constitute a significant project because (1) the modified permit unit is not located within 1000 feet of a school; (2) the emissions increase does not exceed the daily maximum specified in subdivision (g) of this rule (30 lbs/day); and (3) the modified permit unit does not have an increased cancer risk greater than, or equal to, one in a million (<math>1 \times 10^{-6}</math>) during a lifetime of 70 years or pose a risk of nuisance.</p>	

<b>Rule 401</b>	<b>Visible Emissions</b>	<b>November 9, 2001</b>
(b)(1)	No visible emissions have been reported and are not expected under normal operating conditions. Continued compliance is expected with proper operation and maintenance.	

<b>Rule 402</b>	<b>Nuisance</b>	<b>May 7, 1976</b>
	No nuisance complaints have been reported and are not expected provided that the operation is conducted according to design. Continued compliance with Rule 402 is expected.	

<b>Rule 467:</b>	<b>Pressure Relief Devices</b>	<b>March 5, 1982</b>
	<p>This rule requires refineries not to use PRV's in VOC service unless it is vented to a VRS or disposal system or inspected.</p> <p>This project installs one new PRD's in VOC service, which will be part of the VRS and be inspected; therefore, continued compliance with Rule 467 is expected.</p>	

<b>Rule 1173</b>	<b>Fugitive Emissions of Volatile Organic Compounds</b>	<b>February 6, 2009</b>
	This rule applies to fugitive VOC components at refineries, chemical plants, oil, and gas production fields, natural gas process plants and pipeline transfer stations. This rule specifies leak control, identification, operator inspection, maintenance, and recordkeeping requirements for valves pumps, compressors, pressure relief valves, and other components from which fugitive VOC emissions may emanate.	

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	<p>The modification to the VRS will incorporate new fugitive components that will be subject to Rule 1173. The fugitive components will be subject to the leak, identification, operator inspection, maintenance and recordkeeping and reporting requirements. Phillips 66 shall include the new components into their inspection and repair/maintenance (I &amp;M) program.</p> <p>Phillips 66 is expected to continue to comply with Rule 1173.</p>
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**Regulation XIII: NEW SOURCE REVIEW**

This subdivision lists the requirements for a Permit to Construct for any new or modified source which results in a net emission increase of any non-attainment air contaminant at a facility. The new construction proposed in this project will cause an emission increase of a non attainment pollutant (ROG). The new proposed construction in this project will cause an emissions increase emissions of 1.8 lb/day (30-day average) of VOCs. The emission increases due to fugitives are shown in Table 3. The following is a discussion of each requirement in NSR.

***RULE 1303: Requirements, Amended December 6, 2002***

1303(a)(1) Best Available Control Technology (BACT)

BACT is to be utilized for any project that results in an emissions increase. District policy requires BACT to be utilized for any emissions increase that is greater than 1 lb/day.

BACT is required for fugitive emission control and has been included in the design of the proposed project as follows:

- **Valves:** Bellow-sealed valves are required for 12-inch and smaller valves, with the following exemptions which must included in the approved I&M program,
  1. Heavy liquid service (i.e., streams with a vapor pressure <0.1 psia @ 100 °F (kerosene) based on the most volatile class present > 20% by volume)
  2. Control valve
  3. Instrument tubing application
  4. Applications requiring torsional valve stem motion
  5. Applications where valve failure could pose safety hazard (e.g., drain valves with valve stem in horizontal position)
  6. Retrofit/special applications with space limitation (special applications such as skid mounted standard packaged systems)
  7. Valves not commercially available (e.g., valves sizes greater than 12 inches)
- **Relief Valves:** All relief valves will be connected to a closed vent system or in this case a flare.
- **Process Drain:** Process drains shall be equipped with p-traps or seal pots and included in an approved I&M program. According to the provided Fugitive Counts, no new process drains will be added.

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- **Pumps:** Pumps in light liquid service will be equipped with double or tandem seals vented to a closed system with a leak rate less than 500 ppm by EPA Method 21 and included in an approved I&M program. Pumps in heavy liquid service will include single mechanical seals with a leak rate less than 100 ppm by EPA Method 21 and included in an approved I&M program.
- **Flanges:** All flanges must meet ANSI/API standards and included in an approved I&M program. New flanges will be subject to a leak rate of less than 500 ppmv by EPA Method 21 and an approved I&M program.
- **Compressors:** All compressors shall be vented to a closed vent system. According to the provided Fugitive Counts, no new compressors will be added.

**1303(b)** A permit condition (**S31.3**) will be added to ensure continued compliance with this rule. 03(b) specifies that a Permit to Construct for any new or modified source which results in a net emission increase of any nonattainment air contaminant at a facility shall be denied unless the requirements specified in 1303(b)(1) through (b)(5) are met:

**(b)(1) Modeling** There will be no increase in NO<sub>x</sub>, CO, and PM<sub>10</sub>; therefore, modeling is not required. Although there is an increase in VOC, modeling for VOC is not required.

**(b)(2) Emissions Offsets** This project will result in increase of VOC emissions of 2.03 x 1.2 ≈ 2.0 lbs/day. Phillips 66 has provided an ERC Certificate AQ012375 for 2.0 lbs/day of VOC, which will be utilized to offset the increase of VOC increase.

**(b)(3) Sensitive Zone Requirements** Phillips 66 is in Zone 1 and has obtained an ERC that was originated in Zone 1. Therefore, the facility complies with this requirement.

**(b)(4) Facility Compliance** As of June 19, 2012, Phillips 66 has no outstanding NOV's/NCs. The facility is expected to comply with all applicable Rules and Regulations of the AQMD.

**(b)(5) Major Polluting Facilities** A new major polluting facility or major modification at an existing major polluting facility shall comply with the requirements of this paragraph. This refinery is not a new major polluting facility, but the project is a major modification. Rule 1302(r) defines (in part) a major modification as any modification at an existing major polluting facility that will cause;

(1) an increase of one pound per day or more, of the facility's potential to emit NO<sub>x</sub> or VOCs.

There is an emission increase of more than 11lb/day of VOCs. Therefore, the requirements in this subparagraph apply.

(A) Since a CEQA analysis is not required, this project is exempt from requiring an Alternative Analysis per Rule 1303(b)(5)(D)(i).

(B) The facility provided a Statewide Compliance Letter (See [Attachment III](#) for the letter)

(C) This project does not have a net emission increase of 15 tons/yr of PM<sub>10</sub> or 40 tons/year of NO<sub>x</sub>. Therefore, this requirement does not apply.

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(D) The expected impacts of the project on the environment are not significant; therefore a CEQA analysis is not required.

Therefore, the facility has satisfied the requirements of this regulation and is expected to comply.

<b>Rule 1401</b>	<b>New Source Review of Toxic Air Contaminants</b>	<b>March 7, 2008</b>																													
<p>This rule requires permit applicants to assess the cancer risks due to the cumulative emission impacts of new/modified sources in their facility. Requirements- Rule 1401 contains the following requirements:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">MICR, without T-BACT:</td> <td style="width: 50%; text-align: right;">≤ 1 in 1 million (1.0 x 10<sup>-6</sup>)</td> </tr> <tr> <td>MICR, with T-BACT:</td> <td style="text-align: right;">≤ 10 in 1 million (1.0 x 10<sup>-5</sup>)</td> </tr> <tr> <td>Cancer Burden:</td> <td style="text-align: right;">≤ 0.5</td> </tr> <tr> <td>Maximum Chronic Hazard Index:</td> <td style="text-align: right;">≤ 1.0</td> </tr> <tr> <td>Maximum Acute Hazard Index:</td> <td style="text-align: right;">≤ 1.0</td> </tr> </table> <p>Since the permit unit is being modified, a health risk assessment was calculated. The unit passed Tier 1, but since AQMD's R1401 spreadsheet calculates MICR, HIC, and HIA in Tier 2, the table below shows the results. The nearest residential (735 m) and commercial distances (175 m) were taken from the center of the project. See <a href="#">Attachment IV</a> for the Health Risk Assessment Report. The results of the health risk assessment are summarized below:</p> <p style="text-align: center;"><b>Tank Health Risk Assessment Results</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th></th> <th>MICR</th> <th>ΣHIC</th> <th>ΣHIA</th> </tr> </thead> <tbody> <tr> <td rowspan="2" style="text-align: center;"><b>South Vapor Recovery System</b></td> <td style="text-align: center;"><b>Residential</b></td> <td style="text-align: center;">8.87E-09</td> <td style="text-align: center;">&lt;1</td> <td style="text-align: center;">&lt;1</td> </tr> <tr> <td style="text-align: center;"><b>Commercial</b></td> <td style="text-align: center;">2.00 E-08</td> <td style="text-align: center;">&lt;1</td> <td style="text-align: center;">&lt;1</td> </tr> <tr> <td></td> <td style="text-align: center;"><b>RESULT</b></td> <td style="text-align: center;">PASS</td> <td style="text-align: center;">PASS</td> <td style="text-align: center;">PASS</td> </tr> </tbody> </table> <p>1401(d)(1)(A):Based on Tier 2 results, the MICR values are less than one in a million.  1401(d)(1)(B): Not applicable.  1401(d)(1)(C): Since the MICR is not greater than one in a million, the cancer burden is not greater than 0.5.  1401(d)(2): Based on Tier 2 results, the Chronic Hazard Index is less than 1.0.  1401(d)(3): Based on Tier 2 results, the Acute Hazard Index is less than 1.0.  1401(d)(4): Since the residential MICR value is below than one in a million, the risk per year is less than 1/70<sup>th</sup> of this value.  1401(d)(5): Not applicable since the permit conditions are not pursuant to Rule 1401.  1401(d)(6): Pursuant to Section 112(g) of the federal Clean Air Act (CAA),</p>			MICR, without T-BACT:	≤ 1 in 1 million (1.0 x 10 <sup>-6</sup> )	MICR, with T-BACT:	≤ 10 in 1 million (1.0 x 10 <sup>-5</sup> )	Cancer Burden:	≤ 0.5	Maximum Chronic Hazard Index:	≤ 1.0	Maximum Acute Hazard Index:	≤ 1.0			MICR	ΣHIC	ΣHIA	<b>South Vapor Recovery System</b>	<b>Residential</b>	8.87E-09	<1	<1	<b>Commercial</b>	2.00 E-08	<1	<1		<b>RESULT</b>	PASS	PASS	PASS
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	no person shall Others (connectors, hatches, drains, sight-glasses, meters, etc.)begin <u>construction</u> or <u>reconstruction</u> of a major stationary source emitting hazardous air pollutants listed in Section 112(b) of the CAA, unless the source is constructed with T-BACT and complies with all other applicable requirements, including definitions and public noticing. The modification to the VRS is not considered construction or reconstruction of a major stationary source. Therefore, the requirements of Federal New Source Review for Toxics will not apply.
	Compliance is expected.

<b>Regulation XVII</b>	<b>PREVENTION OF SIGNIFICANT DETERIORATION (PSD)</b>
	As of July 25, 2007, the USEPA signed a new Limited PSD Delegation agreement with SCAQMD. SCAQMD now has the PSD responsibility for all new PSD sources and all modifications to existing PSD sources where the applicant is requesting to use SCAQMD's existing Regulation XVII to determine PSD applicability for a modification (and not the recent calculation methodology adopted by EPA as part of the NSR Reform). A PSD is not applicable for this proposed project since the District is not in attainment for Ozone of which VOC is a reactant and a pollutant from this modification. Therefore, Regulation 17 is not triggered.

<b>Regulation XX</b>	<b>RECLAIM</b>	<b>May 6, 2005</b>
	Phillips 66 is a RECLAIM facility. Therefore, it is subject to Reg XX. Since this permit action will not result in an emission increase in RECLAIM pollutants, there are no RECLAIM requirements applicable to the VRS.	

<b>Regulation XXX</b>	<b>Title V</b>												
	Phillips 66 has been designated as a Title V facility. On July 1, 2009, the initial permit became effective.  This project is considered to be a "De Minimis Significant Permit Revision". Meaning that the cumulative emission increase is not greater than the following threshold:												
	<table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;"><u>Air Contaminant</u></th> <th style="text-align: left;"><u>Daily Maximum in Pounds Per Day</u></th> </tr> </thead> <tbody> <tr> <td>HAP</td> <td>30</td> </tr> <tr> <td>VOC</td> <td>30</td> </tr> <tr> <td>NO<sub>x</sub></td> <td>40</td> </tr> <tr> <td>PM-10</td> <td>30</td> </tr> <tr> <td>SO<sub>x</sub></td> <td>60</td> </tr> </tbody> </table>	<u>Air Contaminant</u>	<u>Daily Maximum in Pounds Per Day</u>	HAP	30	VOC	30	NO <sub>x</sub>	40	PM-10	30	SO <sub>x</sub>	60
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	CO <span style="float: right;">220</span>								
	The emission increase is 2.06 lb/day of VOC; therefore the revision will be applicable to a 45-day EPA review, but not public participation.								
	Facility <i>De Minimis</i> Emissions Accumulation (as of Initial Title V Issuance, 11/7/2008)								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><u>Air Contaminant</u></th> <th style="text-align: center;"><u>Existing</u></th> <th style="text-align: center;"><u>Additional due to this project</u></th> <th style="text-align: center;"><u>Total</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">VOC</td> <td style="text-align: center;">0 lb/day</td> <td style="text-align: center;">2.03 lb/day</td> <td style="text-align: center;">2.03 lb/day</td> </tr> </tbody> </table>	<u>Air Contaminant</u>	<u>Existing</u>	<u>Additional due to this project</u>	<u>Total</u>	VOC	0 lb/day	2.03 lb/day	2.03 lb/day
<u>Air Contaminant</u>	<u>Existing</u>	<u>Additional due to this project</u>	<u>Total</u>						
VOC	0 lb/day	2.03 lb/day	2.03 lb/day						
	Therefore, the requirements of this regulation have been met and Phillips 66 is expected to continue to comply.								

### PART 3      FEDERAL REGULATIONS

<b>40CFR Part 60 Subpart GGa</b>	<b>NEW SOURCE PERFORMANCE STANDARDS (NSPS)</b> Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries
<b>§60.590a Applicability and designation of affected Facility</b>	This regulation is applicable to affected facilities in refineries that begin construction after November 7, 2006. The following are affected facilities under this subpart: <ul style="list-style-type: none"> <li>• Compressors</li> <li>• The group of all equipment within a process unit</li> </ul> Since the compressor is not being modified nor is the vapor recovery system considered a process unit, the requirements of this regulation do not apply.

<b>40CFR Part 63 Subpart CC</b>	<b>NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES</b>
<b>§63.640 Applicability and designation of affected source.</b>	Applicability: Phillips 66 Wilmington Refinery meets both criteria of subparagraph (a)(1) and (a)(2) of this regulation. Basically, this refinery emits 25 tons or more of hazardous air pollutants (HAP) and is considered a major source as defined in section 112(a) of the Clean Air Act. Secondly, this refinery does emit some of HAP listed in table 1 of this regulation.
	Per 63.640(d)(5), the vapor recovery system is not subject to this subpart. Therefore, the requirements of this regulation do not apply.

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**CONCLUSION:**

Based on the above evaluation Phillips 66 is in compliance with all required rules and regulations and is expected to continue to comply. Phillips 66 is also in accord with the permit equipment and conditions. Therefore, the following is recommended:

A/N	Recommendation
536445	Title V Revision
536443	Issue Permit to Construct with conditions listed in the Conditions Section

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## Attachments

- I. AQMD Fugitive Emissions Calculations
- II. Phillips 66 P & ID VRS
- III. Phillips 66 Statewide Compliance Letter
- IV. Phillips 66 Health Risk Assessment Report