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**PERMIT TO CONSTRUCT EVALUATION
Modification**

COMPANY NAME, LOCATION ADDRESS:

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

EQUIPMENT DESCRIPTION:

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

Section H of Phillips 66 Facility Permit, ID# 171107

(Please note that permits for the following equipment under Process 11, System 1, will be moved from Section D to Section H of the facility permit.)

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
Process 11: LOADING/UNLOADING					P13.2
System 1: <u>PROPANE</u> /BUTANES/PENTANES					S15.2, S15.6, S31.6
LOADING AND UNLOADING ARM, TANK CAR, C3 , C4 AND C5, 8 TOTAL; DIAMETER: 4 IN A/N: 535400 547792 Permit to Construct Issued: tbd	D458	D1673		VOC: 0.08 LBS/1000 GAL ORGANIC LIQUID (5) [RULE 462, 5-14-1999]	C1.52, C1.55
LOADING AND UNLOADING ARM, TANK CAR, BUTANE/BUTENE, 2 TOTAL; DIAMETER: 4 IN A/N: 535400 547792 Permit to Construct Issued: tbd	D459	D1673		VOC: 0.08 LBS/1000 GAL ORGANIC LIQUID (5) [RULE 462, 5-14-1999]	C1.53, C1.56
VESSEL, DEPRESSURING, F-114, VENTED TO REFINERY VAPOR RECOVERY SYSTEM, HEIGHT: 6 FT; DIAMETER: 2 FT A/N: 535400 547792 Permit to Construct Issued: tbd	D1673	D458 D459 D709			
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: 535400 547792 Permit to Construct Issued: tbd	D1605				H23.2

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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.

PROCESS CONDITIONS

P13.2 All devices under this process are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
HAPs	40CFR61, SUBPART	FF

[40CFR61 Subpart FF, 12-4-2003]

[Processes subject to this condition: 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 14]

SYSTEM CONDITIONS

S15.2 The vent gases from all affected devices of this process/system shall be vented as follows:

All emergency vent gases shall be directed to a vapor recovery system or and blowdown flare system except Devices IDs D1, D7, D210, D213, D214, D219, D644, D645, D646, D773, D775 TO D785, D1367, D1370, D1673 that vent to the atmosphere and Device ID D772 that normally vents to heater D1349 when hydrogen is being produced and vents to atmosphere when hydrogen is not produced.

This process/system shall not be operated unless the above air pollution control equipment is in full use and has a valid permit to receive vent gases from this system.

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

[Systems subject to this condition: Process 1, System 1, 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, System1; Process 8, System 1, 2; Process 11, System 1; Process 13, System 4, 6; Process 18, System 1, 2]

S15.6 The vent gases from all affected devices of this process/system shall be vented as follows:

All vent gases under normal operating conditions shall be directed to a flare gas recovery system.

This process/system shall not be operated unless the above air pollution control equipment is in full use and has a valid permit to receive vent gases from this system.

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

[Systems subject to this condition: Process 11, System 1; Process 13, System 4, 6]

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S31.6
NEW

THE FOLLOWING BACT REQUIREMENTS SHALL APPLY TO VOC SERVICE FUGITIVE COMPONENTS ASSOCIATED WITH THE DEVICES THAT ARE COVERED BY APPLICATION NUMBER(S) 547792:

- 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 Converting from Monthly to Qtr **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.**
- Back to Qtr if fail limit rate **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.**
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.**

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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 3, System 1]

Note:

New condition added to Permit System to ensure compliance with the BACT Fugitive components.

DEVICE CONDITIONS

C. Throughput or Operating Parameter Limits

C1.52 The operator shall limit the unloading rate to no more than 360000 barrel(s) in any one calendar month.

This limit shall be based on the total combined limit for equipment D458.

[RULE 1303(b)(2)-Offset, 5-10-1996]

[Devices subject to this condition: D458]

C1.53 The operator shall limit the unloading rate to no more than 165000 barrel(s) in any one calendar month.

This limit shall be based on the total combined limit for equipment D459.

[RULE 1303(b)(2)-Offset, 5-10-1996]

[Devices subject to this condition: D459]

C1.55 The operator shall limit the loading rate to no more than 360000 barrel(s) in any one calendar month.

This limit shall be based on the total combined limit for equipment D458.

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[RULE 1303(b)(2)-Offset, 5-10-1996]
 [Devices subject to this condition: D458]

C1.56

The operator shall limit the loading rate to no more than 165000 barrel(s) in any one calendar month.

This limit shall be based on the total combined limit for equipment D459.

[RULE 1303(b)(2)-Offset, 5-10-1996]
 [Devices subject to this condition: D459]

H. Applicable Rules

H23.17 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1173

[**RULE 1173, 5-13, 1994**; RULE 1173, 6-1, 2007]

[Devices subject to this condition: D872, D1310, D1312, D1314, D1317, D1318, D1319, D1321, D1323, D1325, D1331, D1333, D1334, D1336, D1337, D1338, D1339, D1340, D1341, D1343, D1344, D1345, D1346, D1347, D1348, D1354, D1355, D1357, D1358, D1365, D1366, D1367, D1368, D1369, D1370, D1418, D1442]

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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 SCAQMD's NO_x and SO_x RECLAIM Program. In addition, Wilmington's initial Federal Title V permit was issued on July 1, 2009.

This evaluation covers an application to allow the addition of propane as a listed commodity to the existing rail car loading operations to device ID D458. There is an overall increase in emissions of about 1.14 lb/day of VOC for the project. The submitted applications are listed in Table 1.

Table 1 provides a summary of Phillips 66's requested changes.

Table 1-SCAQMD Applications Submitted

A/N	Date Received	Equipment	Device ID	Requested Action	Previous A/N
547792	03/1/2013	Bulk Load/Unload	P11S1	<ul style="list-style-type: none"> • Modification <ul style="list-style-type: none"> ○ To allow the addition of propane 	535400
549297	04/05/13	Title V/RECLAIM Facility Permit Amendment	N/A	<ul style="list-style-type: none"> • Revise TV/RECLAIM permit 	N/A

PERMIT HISTORY:

Tables 2 lists the permitting history submitted along with the modifications. The history also shows the permit unit to be considered pre-NSR. With this modification, it is now a post-NSR unit.

Table 2-Permit History

Permit to Construct		Permit to Operate		Description of Modification
A/N	Issue Date	Permit #	Issue Date	
535400	--	G18009	5/3/2012	<ul style="list-style-type: none"> • Change of Ownership from ConocoPhillips to Phillips 66
387300	1/31/02	G9978	9/14/2010	<ul style="list-style-type: none"> • Modification to change loading/unloading rack commodity from butane only to mixed pentanes and butane and connect to Tank 465 (D1367) as part of CARB Phase II project
375968	5/8/01	--	--	<ul style="list-style-type: none"> • Modification to replace three transfer pumps and increase butane loading/unloading capacity (doubling) to meet CARB Phase II gasoline specs.
326221	--	F6660	4/18/97	<ul style="list-style-type: none"> • Change of ownership from Union Oil to Tosco/ConocoPhillips

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Permit to Construct		Permit to Operate		Description of Modification
252650		D40053		<ul style="list-style-type: none"> Modification for CARB Phase I project (reduced gasoline vapor pressure) to add loading spots and parking and a new transfer pump for increased export of Butane

COMPLIANCE RECORD REVIEW:

As of July 5, 2013, a check of the AQMD Compliance Database for the past year (Phillips 66 Change of Ownership started May 2012) showed that this facility was issued 1 Notices of Violations (NOVs) and 1 Notices to Comply (NCs). However, all the NOVs and NCs are back into compliance.

FEE EVALUTION:

The fees paid for the submitted applications are as follows:

Table 3- Application Fees Submitted

A/N	Equipment	BCAT	Type	Status	Fee Schedule FY 12-13	Fee Required, \$	Fees Paid, \$
547792	Railcar Load/Unload	299113 *	60	20	C	\$3,440.06	\$3,440.06
	Expedited Permit Processing pursuant to Rule 301(v)	--	--	--	--	\$1,720.03	\$1,720.03
549297	Title V/ RECLAIM Permit Revision	555009	--	--	n/a	\$1,789.12	\$1,7289.12
Total						\$6,949.21	\$6,949.21
Net Due							\$0.00

*New BCAT because R301 has a specific category for this equipment (Railcar Load/Unload) versus Bulk Loading.

PROCESS DESCRIPTION:

Currently, the rack loads/unloads butane and pentanes via rail cars. The proposed project will add liquid propane to the loading rack. The propane will be transferred from their Alkylation Unit 110's three permitted pressurized storage tanks (TK-345, TK-371, TK- 380) to the existing railcar loading rack in the same manner as butane and pentane. The rack is connected to the refinery's flare gas vapor recovery system. New fugitive components and piping will be constructed.

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EMISSIONS:

There is an emission increase of 1.14 lb/day (30-day average) of VOCs. The increase in emissions will arise from installing new fugitive components as described and itemized in Appendix A. The fugitive emissions calculations are based on emission factors derived from the *correlation equation method*^a. The fugitive components count before and after modification as submitted by Phillips 66 is the same table in Appendix A.

The throughput will remain the same and because the molecular weight of propane is lower than butane and pentane, no increase in loading losses are expected
The following table shows a summary of the pre and post modifications emissions.

Table 4: 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
547792	Rail Car Loading	8703.58	24.18	9113.25	25.13	+409.67	+1.14

*NSR update needs to be done. Phillips 66 submitted an updated fugitive count during this evaluation. The previous project was REG XIII exempt due to CARB Phase III.

For New Source Review (NSR) purposes the net emissions increase is calculated pursuant to Rule 1306(b), which is the post-modification potential to emit (PTE) minus the permitted pre-modification PTE. In this case the PTE limit comes from BACT’s emission rating at 500 ppm.

This permit unit, which is now post NSR, is subject to offsets and BACT applicability. Referring to Table 4 above, it is estimated that the increase of VOC emissions is +1.14 lbs/day. Thus, offsets are required and 1lb/day (1.14 x 1.2 = 1.38 lb/day) ERC will be used. This increase exceeded the limit of 1.0 lbs/day for BACT applicability 1306(b)(2); therefore, BACT does apply and the facility will install BACT Fugitive Components to comply with this requirement.

BACT Analysis

The facility plans to install two bellow sealed valves. The rest of the proposed valves are plug type. Plug valves were chosen for tight shut-off on a safety and operational/engineering basis.

^a SCAQMD’s Guidelines for Fugitive Emissions Calculations June 2003

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Compliance with Existing Permit Conditions

Condition P13.2	This project will not affect the ability to comply with this condition.
Condition S15.2	This project will not affect the ability to comply with this condition.
Condition C.1.52	The operator stated no unloading activity has occurred within the last six months. The facility is expected to continue to comply.
Condition C1.53	The operator stated no unloading activity has occurred within the last six months. The facility is expected to continue to comply.
Condition C1.55	The operator provided records and it expected to continue to comply.
Condition C1.56	The operator provided records and it expected to continue to comply.
Condition H23.17	The operator provided records and it expected to continue to comply.

RULES EVALUATION:

PART 1 STATE REGULATIONS

California Environmental Quality Act (CEQA)

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 proposed project does not have any impacts which trigger the preparation of a CEQA document.

A significant project^b is one associated with the emissions levels listed below, during the operation phase of the project:

CO	550 lbs/day
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; this project is simply to fugitive components to the railcar loading system: therefore a CEQA analysis is not required.

PART 2 SCAQMD REGULATIONS

Rule 212 Standards for Approving Permits November 14, 1997

This modification meets all criteria in Rule 212 for permit approval. The addition of propane does not affect the operation of the Rail Car Loading Rack that would violate Division 26 of the State Health and Safety Code or AQMD's rules and regulations.

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

^b Source: SCAQMD CEQA Handbook (SCAQMD, 1993)

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- Rule 212 Standards for Approving Permits November 14, 1997**
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 (1×10^{-6}) during a lifetime of 70 years or pose a risk of nuisance.
- Rule 401 Visible Emissions November 9, 2001**
(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.
- Rule 402 Nuisance May 7, 1976**
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.
- Rule 404 Particulate Matter-Concentration February 7, 1986**
This rule requires particulate matter discharged into the atmosphere be less than the standard listed in Table 404(a) of this rule. The loading rack is not expected to have PM emissions. Therefore, compliance is expected.
- Rule 462 Organic Liquid Loading May 14, 1999**
This rule applies to facilities that load organic liquids with a vapor pressure 1.5psia into any tank truck, trailer, or railroad tank car.
Therefore, the loading requirements of Rule 462 apply only during pentane loading (propane and butane are exempt liquids [(b)(11)]). In addition, per rule 462(i)(2), the loading arms are exempt from R462(d)(1)(A) [CARB certification or AQMD approval] and (d)(1)(B) [CMS requirement] during pentane loading which were permitted previously without any issues. Continued compliance is expected.
- Rule 467 Pressure Relief Devices March 5, 1982**
The operator of a refinery or chemical plant shall not use any pressure relief device on any equipment handling volatile organic compounds unless the pressure relief device is vented to a vapor recovery or disposal system or inspected and maintained in accordance with the requirements of this rule.

One additional pressure relief device will be installed. The loading rack is connected to the flare gas vapor recovery system. Therefore, compliance is expected.
- Rule 1173 Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants February 6, 2009**
This rule applies to fugitive VOC components at refineries, chemical plants, oil, and gas production fields, natural gas process plants and pipeline transfer stations. It specifies

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Rule 1173 Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants

February 6, 2009

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.

The modification to the loading rack 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 &M) program.

Phillips 66 is expected to continue to comply with Rule 1173.

Regulation XIII New Source Review

December 6, 2002

Application Deem Complete Year: 2013

The Loading Rack Unit will now be a post-NSR unit because of this modification. The new construction proposed in this project will cause an estimated emission increase of 1.14 lb/day. See Table 4 for the emission summary. Therefore the requirements of this regulation apply.

1303(a) The proposed project will install Best Available Control Technology (BACT) fugitive components.

BACT is required since the VOC emissions are 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)

The facility plans to install two bellow sealed valves. The rest of the proposed valves are plug type. Plug valves were chosen for tight shut-off on a safety

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Regulation XIII

New Source Review

December 6, 2002

Application Deem Complete Year: 2013

and operational/engineering basis. Valves installed where Bellow-sealed valves are not available will be subject to a leak rate of less than 500 ppmv by EPA Method 21 and an approved I&M program.

- **Relief Valves:** There will be one new relief valve being added and it will be vented to the vapor recovery system. None of the existing pressure relief valve settings will be changed.
- **Process Drain:** To anticipate any design changes, process drains have been included in this evaluation and system condition. According to the provided Fugitive Counts, no new process drains will be added, but if Phillips 66 decides to install process drains, they shall be equipped with p-traps or seal pots and included in an approved I&M program.
- **Pumps:** According to the provided Fugitive Counts, no new pumps will be added.
- **Flanges:** All flanges must meet ANSI/API standards and included in an approved I&M program.
- **Compressors:** According to the provided Fugitive Counts, no new compressors will be added.

A permit condition (**S31.6**) will be added to ensure continued compliance with this rule.

1303(b)

Rule 1303(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**
- (b)(2) **Emissions Offsets**
- (b)(3) **Sensitive Zone Requirements**
- (b)(4) **Facility Compliance**
- (b)(5) **Major**

- There will be no increase in NOx, CO, and PM10; therefore, modeling is not required. Although there is an increase in VOC, modeling for VOC is not required.
- This project will result in increase of VOC emissions of 1.14 x 1.2 ≈ 1.0 lbs/day. Phillips has provided an ERC #AQ 012387 Certificate of 1 lbs/day of VOC, which will be utilized to offset the increase of VOC increase.
- Phillips 66 is in Zone 1 and has obtained an ERC that was originated in Zone 1. Therefore, the facility complies with this requirement.
- As of July 5, 2013, Phillips 66, Wilmington has no outstanding NOV/NCs. The facility is expected to comply with all applicable Rules and Regulations of the AQMD.
- 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

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**Regulation XIII
Polluting Facilities**

New Source Review

December 6, 2002

Application Deem Complete Year: 2013

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 NOX 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 I](#) for the letter)
- (C) This project does not have a net emission increase of 15 tons/yr of PM₁₀ or 40 tons/year of NO_x. Therefore, this requirement does not apply.
- (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.

Regulation XIV

New Source Review of Toxic Air Contaminants

March 7, 2008

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:

- MICR, without T-BACT: ≤ 1 in 1 million (1.0×10^{-6})
- MICR, with T-BACT: ≤ 10 in 1 million (1.0×10^{-5})
- Cancer Burden: ≤ 0.5
- Maximum Chronic Hazard Index: ≤ 1.0
- Maximum Acute Hazard Index: ≤ 1.0

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Regulation XIV **New Source Review of Toxic Air Contaminants** **March 7, 2008**
Rule 1401 Analysis

The estimated VOC annual emissions increase from the Loading Rack Unit is **409.67 lbs/yr (1.14 lb/day)**. The total estimated VOC annual emissions from this unit is **9113.25 lb/yr (25.31 lb/day)**. Rule 1401 (f) specifies the toxic risk assessment be based on each permit unit.

Pursuant to 1401(f)(3), MICR and Chronic Hazard Index values are determined from an increase in emissions based from the *difference* of emissions of post and pre permitted modifications. Pursuant to 1401(f)(4), the Acute Hazard Index is determined from the *total* emissions for the post modifications.

Assuming worst case scenario from all of the permit unit’s listed commodities (butane, pentane, and propane) propane has the highest concentration of toxic air contaminants (TACs). Propane has one R1401 TAC, Propylene. According to the MSDS, propane can contain up to 20% concentration of Propylene. Propylene does not have an acute hazard index, so calculating the HIA is not applicable.

The distance to the nearest offsite worker (commercial) and residential is 65 and 250 meters. The proposed modification passes the Tier 1 cancer/chronic screening since the estimated emissions are less than the Table 1A Screening Levels. Propylene does not have an acute hazard index.

Using conservative Tier 1 screening emission levels at 50 meters, the Loading Rack unit’s risk assessment for only cancer/chronic is as follows:

The results of the screening emission levels, which are based on
 $1.14 \text{ lb/day} \times 20\% = 0.228 \text{ lb/day}$
are summarized below in Table 5. For the R1401 Risk assessment report, see [Attachment I](#).

Table 5-Tier 1 Screening Levels for Cancer/Chronic

Chemical or Chemical Category	Actual Emissions		Screen Level (50 Meter)	
	lb/day	lb/hr	lb/day	lb/hr
Propylene	0.228	0.0095	712.54	29.69
RESULT:			PASS	

Since the emission rates from this project are much below the screening level, it may be assumed that the cancer risk is less than one in one million and no further screening is necessary.

Therefore, this permit unit is expected to comply within the allowable risk of toxic emissions.

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Regulation XIV New Source Review of Toxic Air March 7, 2008

- (d)(1)(A) Since the emission rates from this project are much below the screening level, the MICR values are less than one in a million.
- (d)(1)(B) Not applicable.
- (d)(1)(C) Since the MICR is not greater than one in a million, the cancer burden is not greater than 0.5.
- (d)(2) Since the emission rates from this project are much below the screening level, the Chronic Hazard Index is less than 1.0.
- (d)(3) Since the emission rates from this project are much below the screening level, the Acute Hazard Index is less than 1.0.
- (d)(4) Since the residential MICR value is below than one in a million, the risk per year is less than 1/70th of this value.
- (d)(5) Not applicable since the permit conditions are not pursuant to Rule 1401.
- (d)(6) Pursuant to Section 112(g) of the federal Clean Air Act (CAA), no person shall begin construction or reconstruction 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 Railcar Loading/Unloading Rack is not considered construction or reconstruction of a major stationary source. Therefore, the requirements of Federal New Source Review for Toxics will not apply. Therefore, the facility has satisfied the requirements of this regulation and is expected to comply.

REG XVII Prevention of Significant Deterioration (PSD)

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). The South Coast Air Basin is currently in attainment for NO₂, SO₂, CO, and lead.

This equipment does not emit air contaminants that are subject to this regulation; therefore, this application is not applicable to this regulation.

Regulation XX RECLAIM May 6, 2005

Phillips 66 is a RECLAIM facility. Therefore, it is subject to Regulation XX. Since this permit action, will not result in an emission increase in RECLAIM pollutants, there are no RECLAIM applicable requirements.

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**Regulation Title V
XXX**

Phillips 66 has been designated as a Federal 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:

<u>Air Contaminant</u>	<u>Daily Maximum in Pounds Per Day</u>
HAP	30
VOC	30
NO _x	40
PM-10	30
SO _x	60
CO	220

The emission increase is 1.14 lb/day of VOC; therefore the revision will be applicable to a 45-day EPA review, but not public participation.

Facility *De Minimis* Emissions Accumulation
(as of Initial Title V Issuance, 7/1/2009)

<u>Air Contaminant</u>	<u>Existing</u>	<u>Additional due to this project</u>	<u>Total</u>
VOC	0.36 lb/day	1.14 lb/day	1.50 lb/day

Therefore, the requirements of this regulation have been met and Phillips 66 is expected to continue to comply.

PART 3 FEDERAL REGULATIONS

**40CFR Part 60
Subpart
GGGa
§60.590a
Applicability
and
designation of
affected
Facility**

NEW SOURCE PERFORMANCE STANDARDS (NSPS)

Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

This regulation is applicable to affected facilities in refineries that begin construction after November 7, 2006. The following are affected facilities under this subpart:

- Compressors
- The group of all equipment within a process unit

GGGa does not apply because components associated with material loading or unloading are not part of a process unit.

Therefore, the requirements of this regulation do not apply.

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40CFR Part 63 Subpart CC National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries

This provision is for gasoline loading racks. Subpart CC refers to Subpart R. Since the loading arms do not load gasoline, the requirements of this regulation do not apply.

CONCLUSION:

Based on the above evaluation, it recommended that the following be issued:

A/N	Recommendation
547792	Issue Permit to Construct with conditions listed in the Conditions Section
549297	Issue Title V/RECLAIM Permit Revision

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Appendices:
A: SCAQMD Calculated Fugitive Emissions



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Appendix A: SCAQMD Calculated Fugitive Emissions

Fugitive Component Count

Process Unit: P11S1 Propane/Butanes/Pentanes Loading/Unloading Rack (AN 547792)

Source Unit	Service	No. Of Existing Components (1)	Modifications			Emission Factor from Correlation Equations(5) (lbs/year)	Pre emissions (lb/yr)	Post emissions (lb/yr)	Δ Emissions Change (lbs/year)
			No. of New Components to be Installed (2)	No. of Components to be Removed	Net change				
Valves	Sealed Bellows	All	61	2	63	0.00	0.00	0.00	0.00
	SCAQMD Approved I & M Program	Gas / Vapor	101		101	4.55	459.12	459.12	0.00
		Light Liquid (3)	326	18	344	4.55	1481.91	1563.73	81.82
		Heavy Liquid (4)	0		0	4.55	0.00	0.00	0.00
		> 8 inches	0		0	4.55	0.00	0.00	0.00
Pumps	Sealless Type	Light Liquid (3)	0		0	0.00	0.00	0.00	0.00
	Double Mechanical Seals or Equivalent Seals	Heavy Liquid (4)	5		5	46.83	234.13	234.13	0.00
		Single Mechanical Seals	Heavy Liquid (4)	0		0	46.83	0.00	0.00
Compressors	Gas / Vapor	0		0	9.09	0.00	0.00	0.00	
Connectors	All	943		0	2.86	2698.28	2698.28	0.00	
Flanges (ANSI 16.5-1988)	All	427	43	470	6.99	2984.81	3285.39	300.58	
Pressure Relief Valves	All	25	1	26	0.00	0.00	0.00	0.00	
Process Drains with P-Trap or Seal Pot	All	0		0	9.09	0.00	0.00	0.00	
Other (including fittings, hatches, sight-glasses, and meters)	All	93	3	1039	9.09	845.33	872.60	27.27	



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Emission Increase							8703.58	9113.25	409.67001	
									+	1.14 lb/day

- (1) Any component currently installed prior to the modification.
- (2) Any new component proposed to be installed due to the modification; this also includes new components to be installed to replace existing components.
- (3) Light liquid and gas/liquid streams: Liquid or gas/liquid stream with a vapor pressure greater than that of kerosene (>0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.
- (4) Heavy Liquid: streams with a vapor pressure equal to or less than that of kerosene (< 0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.
- (5) Correlation Equations based on Screening Value (SV) of 500ppmv

Note: All new source units are subject to SCAQMD BACT and EPA NSPS with monthly inspection and maintenance (I&M) and ≤500 ppm by OVA.



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Attachments

- I. Phillips 66 Statewide Compliance Letter**
- I. SCAQMD Calculated Risk assessment report**