

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b> <b>ENGINEERING &amp; COMPLIANCE DIVISION</b>  APPLICATION PROCESSING AND CALCULATIONS	APPL. NO. <b>471540</b>	DATE 10/23/09	PAGE 1 of 14
	PROCESSED BY Janice West	CHECKED BY	

**PERMIT TO OPERATE**

SUMMARY: Conversion of a Permit to Construct (A/N 471540 issued 7/18/07) to a Permit to Operate for the Crude Distillation Unit (P1S1). The permit modifications for A/N 471540 included the replacement of three vessels with three new vessels; the removal of D58 from the permit; and establishing a new desalter Process/System for the existing permit unit (P1S8-A/N338062). In addition, the facility also requested a correction to Condition S15.3 to add D1, which has always vented to the atmosphere in an emergency. No VOC emission offsets were provided with the PC, but the final emissions estimate requires one lb/day of offsets; thus, one lb/day of VOC offsets should be provided by the facility.

**COMPANY INFORMATION**

Company Name: ConocoPhillips Company, Facility ID No. 800362  
 Mailing Address: 1520 E. Sepulveda Blvd, Carson, CA 90745  
 Equipment Location: 1520 E. Sepulveda Blvd, Carson, CA 90745  
 Contact Person: Marshall G. Waller, (310) 952-6240

**EQUIPMENT DESCRIPTION**

Table 1 shows the proposed Section D permit description for Process 1, System 1. Additions to the description are noted in underlines and deletions are noted in ~~strikeouts~~.

**Table 1. Permit Equipment Description**

**SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS**

<b>Equipment</b>	<b>ID No.</b>	<b>Connected To</b>	<b>RECLAIM Source Type/ Monitoring Unit</b>	<b>Emissions * And Requirements</b>	<b>Conditions</b>
<b>Process 1 : CRUDE DISTILLATION</b>					P13.2
<b>System 1 : CRUDE DISTILLATION UNIT</b>					S13.5, S15.1, S15.3, S15.4, S15.11, S31.4
TANK, FLASH, DU-1, SPENT SODA, HEIGHT: 53 FT 6 IN; DIAMETER: 3 FT A/N: 471540 <del>Permit to Construct Issued: 12/04/07</del>	D1				
COLUMN, PRIMARY, DU-3, CRUDE OIL, HEIGHT: 112 FT; DIAMETER: 12 FT A/N: 471540 <del>Permit to Construct Issued: 12/04/07</del>	D2				



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
ENGINEERING & COMPLIANCE DIVISION**

APPLICATION PROCESSING AND CALCULATIONS

APPL. NO.  
**471540**

DATE  
10/23/09

PAGE  
2 of 14

PROCESSED BY  
Janice West

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<b>Equipment</b>	<b>ID No.</b>	<b>Connected To</b>	<b>RECLAIM Source Type/ Monitoring Unit</b>	<b>Emissions * And Requirements</b>	<b>Conditions</b>
COLUMN, FIRST SIDE CUT STRIPPER, DU-4, HEIGHT: 47 FT; DIAMETER: 5 FT A/N: 471540 Permit to Construct Issued: 12/04/07	D3				
COLUMN, SECONDARY, DU-5; CRUDE OIL, HEIGHT: 174 FT 6 IN; DIAMETER: 16 FT A/N: 471540 Permit to Construct Issued: 12/04/07	D4				
COLUMN, 2ND & 3RD SIDE CUT STRIPPERS, DU-6, HEIGHT: 40 FT 6 IN; DIAMETER: 5 FT A/N: 471540 Permit to Construct Issued: 12/04/07	D5				
ACCUMULATOR, V-2142, PRIMARY COLUMN OVERHEAD, HEIGHT: 23 FT 10 IN; DIAMETER: 5 FT 6 IN A/N: 471540 Permit to Construct Issued: 12/04/07	D6				
VESSEL, TREATER, 1ST STAGE SODA, V-2147, PRIMARY COLUMN OVERHEAD, HEIGHT: 29 FT; DIAMETER: 6 FT A/N: 471540 Permit to Construct Issued: 12/04/07	D8				
ACCUMULATOR, V-3043, SECONDARY COLUMN OVERHEAD, HEIGHT: 30 FT; DIAMETER: 9 FT 6 IN A/N: 471540 Permit to Construct Issued: 12/04/07	D9				
VESSEL, SWEETNER, V-2197, PRIMARY COLUMN TOPS, HEIGHT: 19 FT; DIAMETER: 7 FT 6 IN A/N: 471540 Permit to Construct Issued: 12/04/07	D11				
VESSEL, SEPARATOR, SECONDARY COLUMN THIRD STAGE, V-3047, HEIGHT: 6 FT; DIAMETER: 4 FT A/N: 471540 Permit to Construct Issued: 12/04/07	D16				
VESSEL, SEPARATOR, SECONDARY COLUMN SECOND STAGE, V-3046B, HEIGHT: 7 FT; DIAMETER: 4 FT A/N: 471540 Permit to Construct Issued: 12/04/07	D953				
VESSEL, SEPARATOR, SECONDARY COLUMN FIRST STAGE, V-3045B, HEIGHT: 7 FT 9 IN; DIAMETER: 4 FT 6 IN A/N: 471540 Permit to Construct Issued: 12/04/07	D954				

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b> <b>ENGINEERING &amp; COMPLIANCE DIVISION</b>	APPL. NO. <b>471540</b>	DATE 10/23/09	PAGE 3 of 14
	PROCESSED BY Janice West		CHECKED BY
APPLICATION PROCESSING AND CALCULATIONS			

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
VESSEL, SEPARATOR, SECONDARY COLUMN FIRST STAGE, V-3044B, HEIGHT: 7 FT 9 IN; DIAMETER: 4 FT 6 IN A/N: 471540 Permit to Construct Issued: 12/04/07	D955				
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: 471540 Permit to Construct Issued: 12/04/07	D832			HAP: (10) [40CFR 63 Subpart CC, #5A, 6-23-2003]	H23.22

### **COMPLIANCE RECORD REVIEW**

A query of the AQMD Compliance Database for the past two years (10/1/07 to 10/26/09) identified two NC's and 13 NOV's that were issued to the ConocoPhillips Carson Refinery (Facility ID 800362). None of these NOV's or NC's were related to the crude distillation unit (P1S1); thus the compliance database indicates that the equipment in Process 1, System 1 is currently in compliance with applicable rules and regulations.

### **FEE EVALUATION**

The BCAT for this permit unit is 000517 (Crude Oil Distillation), Schedule E. Appropriate fees were paid with both the PC application and the administrative change of condition application. No additional fees are required for converting this Permit to Construct to a Permit to Operate.

### **BACKGROUND/HISTORY**

The ConocoPhillips Carson Refinery is a Title V facility, as well as a NOx and SOx RECLAIM facility. A summary of the permitting history for this permit unit is provided in Table 2 below.

**Table 2. Permitting History for Crude Unit (P1S1)**

A/N	Permit #	Facility ID	Description	A/N Type	A/N Status	BCAT	Permit Issue Date
471540	-	800362	Modification to replace three vessels with new vessels, remove D58, and also to specify that D1 vents to atm (Condition S15.3). Permit unit split to create new desalter unit (P1S8, see A/N 486779)	50	26	517	12/4/07
471585	-	800362	Change of condition to remove pumps from permit (application cancelled and incorporated in 471540)	63	52	517	-



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
ENGINEERING & COMPLIANCE DIVISION**

APPL. NO.  
**471540**

DATE  
10/23/09

PAGE  
4 of 14

APPLICATION PROCESSING AND CALCULATIONS

PROCESSED BY  
Janice West

CHECKED BY

A/N	Permit #	Facility ID	Description	A/N Type	A/N Status	BCAT	Permit Issue Date
472816	-	800362	Change of condition to remove D58 from permit (application cancelled and incorporated in 471540)	63	52	517	-
417660	F62410 (Active)	800362	Change of condition to correct vessel dimensions	63	31	517	8/1/03
393103	F49705	800362	Change of condition for removal of D7, due to changed commodity (commercial grade caustic) that meets Rule 219 exemption criteria	63	31	517	3/7/02
338062	-	800362	Modification for the addition of 2nd stage desalter vessels; permit unit split; new permit unit created [separate system (P1S8) later created for desalter equipment during processing of A/N 471540]	50	26	517	5/14/98
325616	F6856	800362	Change of ownership from Unocal to Tosco	40	31	517	4/25/97
302070	D90155	89780	Modification to add one new pump, include 4 existing pumps, and remove 2 pumps	20	31	517	4/24/95
264885	D52809	89780	Modification to replace two exchangers and install 1 new exchanger (PO no PC) (transferred from facility ID 88892 to 89780)	50	31	231300	5/4/92 7/8/92
257925	D45732	89780	Change of ownership from Shell to Unocal (transferred from facility ID 88892 to 89780)	40	31	231300	12/9/91
138226	RM-57783	6035	Modification to replace vessels, heat exchanger and pumps; venting to allow H2S removal (response to NOV Z18635)	10	31	231300	12/9/87
121299	-	6956	Modification of permit unit to prevent high sulfur in fuel gas	30	51	231300	
C14671	-	6035	Modification to change primary column sweetener from solid to liquid Merox	50	51	231300	
C21491	-	6035	Modification for refinery modernization; increased capacity, added third desalter, replaced 4 heaters with one heater	50	51	231300	5/27/80
C03250	M01644	6035	Modification to add Merox pot, add pumps, and connect devices to flare system	0	31	231300	11/21/77
A59719	P49044		Modification to add second desalter, add pumps, remove spent soda tank 75, and use coker water for desalting (see A/N A63583)				5/27/70
A46628	P28290		Modification to install scraper blades on desalter and increase rating from 200 kVA to 300 kVA				11/6/67
A21392	P9141	6035	Modification to replace primary column, heat exchanger; add pumps and compressor	0	31		6/4/64
A17559	-		Modification to install heat exchangers, condenser and pumps				5/8/63

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b> <b>ENGINEERING &amp; COMPLIANCE DIVISION</b>	APPL. NO. <b>471540</b>	DATE 10/23/09	PAGE 5 of 14
	APPLICATION PROCESSING AND CALCULATIONS	PROCESSED BY Janice West	CHECKED BY

A/N	Permit #	Facility ID	Description	A/N Type	A/N Status	BCAT	Permit Issue Date
A9011	-		Modification to install booster pump for No. 1 stripper column				8/1/60
A8434	-		Modified two-stage air-soda treating units to allow treatment of primary and secondary column tops				5/13/60
A6207	A7290		Modification; Debutanizer section altered and made a separate permit unit				
A2734	A1600		Modification to add 2nd stage soda treater to primary column tops				3/26/58
A2603	A1739		Modification to add desalter				
23460	34751		Modification to add absorption column #7				
6192	9667		Original construction				12/22/52

The crude unit has been split into a crude unit and desalting equipment unit since A/N 338062 was issued in 1998. A/N 471540 is associated with the existing crude unit (P1S1), and A/N 338062 is assigned to the desalting equipment (P1S8). During processing of this permit application, a separate system (P1S8) was created for the desalting equipment, and the first stage desalting equipment was added to this new system and existing permit unit. Please see A/N 338062 for the engineering evaluation of the desalting equipment.

Two PC applications were submitted since the last PO was issued, but they were cancelled before PCs were issued. The final construction drawings and fugitive component counts for A/N 471540 were submitted on 8/6/08, then revised and re-submitted on 2/9/09.

An engineering field evaluation was conducted at the ConocoPhillips Carson Refinery on December 4, 2008, which verified that the equipment described in the Permit to Construct (A/N 471540) was installed and being operated according to the equipment description and permit conditions.

The request made in administrative application A/N 486779 is being incorporated into the permit as part of the PC/PO conversion. A/N 486779 requested the addition of D1 to Condition S15.3, which allows emergency venting to the atmosphere (via the use of an atmospheric PRD). This application is being used to finalize changes to the BCAT and baseline emissions for the desalting unit.

D1 (DU-1, formerly C-11) is a spent soda flash tank. The history of this device is shown in Table 3. The facility provided a P&ID showing that D1 has an atmospheric PRD. This device (D1, DU-1) was originally permitted as a sour water oxidizer (C-11) in 1953 (A/N 6192). As part of a field report conducted 12/7/53, it was noted that the sour water oxidizer (C-11) had a relief valve to the atmosphere and a 1" vent line to the firebox of heater F-2. Thus, this device has always had an atmospheric PRD; the PRD is not new and thus is not subject to BACT.

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b> <b>ENGINEERING &amp; COMPLIANCE DIVISION</b>	APPL. NO. <b>471540</b>	DATE 10/23/09	PAGE 6 of 14
	APPLICATION PROCESSING AND CALCULATIONS		PROCESSED BY Janice West CHECKED BY

In 1968 (A/N A46628), the description of C-11 (D1) was changed from ‘sour water oxidizer’ to ‘caustic neutralizer’. As part of A/N 138226, the device description was changed to ‘spent soda flash column DU-1’. In A/N 264885, the permit description was modified to reflect that this device vented to the flare header. Currently, D1 is subject to the system conditions of the crude distillation unit (P1S1), which include venting sour gases to the sour gas treatment system (S15.1 S15.4), venting normal gases to the flare (S15.11), and venting emergency gases to the flare (S15.3). Modifying S15.3 to include the existing D1 PRD was the objective of administrative application A/N 486779, which is being incorporated into this A/N 471540 PC/PO conversion.

Based on the history of this device, including the presence of an atmospheric PRD at initial construction, D1 should be added to Condition S15.3

**Table 3. D1 (DU-1) Spent Soda Flash Tank History**

Type	Date	A/N	Permit Description/Field Report Information
Facility PC	6/12/09	471540	D1, DU-1 Spent Soda Flash Tank, Height: 53 ft 6 in; Diameter: 3 ft
PO	7/92	264885	DU-1 Spent Soda Flash Column, 3’D X 53’-6”H., (vented to flare header)
PO	12/9/87	138226	DU-1 Spent Soda Flash Column , 3”D. X 53’-6” H., (vented to firebox of Heater DU-255)
PO	11/21/77	C-03250	C-11 Caustic Neutralizer 3’-0” Dia. X 53’-6” H., (vented to firebox of Heater No. 21, via vessel V-2135)
Eng. Field Report	2/2/72	A-59719	C-11 Caustic Neutralizer 3’-0” Dia. X 53’-6” H., (vented to firebox of Heater No. 21, via vessel V-2135)
Eng. Field Report	4/19/65	A-21392	“Change C-11 from sour water oxidizer No. 1 to caustic neutralizer, 3’0” Dia. X 53’ 6; H. (venting to firebox of heater No. 21 or 22)”. “Subsequent to this inspection is has been determined that the spent-soda surge tank No. 75A and the column (C-11) now utilized as a caustic neutralizer should properly be a part of D.U. 5. Col. C-11 formerly utilized as sour water oxidizer no. 1.”
Eng. Field Report	12/7/53	6192	Sour Water Oxidizer C-11, 3’ diameter x 40’ high. “...This oxidizer has a relief valve to the atmosphere and a 1” vent line to the firebox of heater F-2.

## **EMISSIONS**

The modifications associated with A/N 471540 are detailed in the original engineering evaluation for the Permit to Construct. In summary, this project was expected to result in an increase in ROG emissions of less than 0.01 lb/hr; thus, no ROG offsets were provided as part of the Permit to Construct. The final construction drawings and fugitive component counts were submitted on 8/6/08, then revised and re-submitted on 2/9/09. This information included changes to the number of non-bellows seal valves installed that led to a slight increase in ROG emissions, as shown in Table 4 below. No offsets were provided with the PC. Due to the change in emissions identified with the final fugitive count, one additional pound of ROG offsets is needed. The facility is providing the additional offset in accordance with 1313(c), which requires that

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b> <b>ENGINEERING &amp; COMPLIANCE DIVISION</b>	APPL. NO. <b>471540</b>	DATE 10/23/09	PAGE 7 of 14
	APPLICATION PROCESSING AND CALCULATIONS		PROCESSED BY Janice West CHECKED BY

additional offsets be provided within 90 days if it is determined that actual emissions are greater than previously calculated when the Permit to Construct was issued.

**Table 4. Calculation of pre- and post-project VOC emissions based on the number of fugitive components (#), showing the number of VOC offsets required for conversion to PO**

Source Unit	Service	Emission Factor (lb/yr/# of components)	Previous #	Previous Total Emissions (lb/yr)	# added	# re-moved	Net change in #	Final Total #	Final Total Emissions (lb/yr)
Valves	Sealed bellows	All	0	142	0	3	3	145	0
	SCAQMD approved I&M Program	Gas/Vapor	23	798	18354	3	3	801	18423
		Light Liquid	19	1394	26486	6	6	1400	26600
		Heavy Liquid	3		0		0	0	0
		> 8 inches	19		0		0	0	0
Pumps	Sealless type	Light Liquid	0	0			0	0	0
	Double mechanical seals or equivalent	Heavy Liquid	104	20	2080		0	20	2080
		Single mechanical seals	Heavy Liquid	80	18	1440		0	18
Compressors	Gas/Vapor	514		0			0	0	0
Flanges (ANSI 16.5-1988)	All	1.5	2364	3546	18		18	2382	3573
Pressure Relief Valves	All	0	29	0			0	29	0
Process Drains with P-trap or seal pot	All	80	161	12880			0	161	12880
Other (including fittings, hatches, sight-glasses, and meters)	All	1.5	4640	6960	6		6	4646	6969
Previous Total Emissions (lb/yr)				71746	Final Total Emissions (lb/yr)				71965
Previous Total Emissions (lb/day)				199.2944	Final Total Emissions (lb/day)				199.9028
Previous Total Emissions (lb/hr)				8.303935	Final Total Emissions (lb/hr)				8.329282

Difference in emissions (lb/day)	0.6
Offsets required (difference*1.2)	1
Offsets provided with PC	0
Offsets required with PO	1

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b> <b>ENGINEERING &amp; COMPLIANCE DIVISION</b>	APPL. NO.	DATE	PAGE
	471540	10/23/09	8 of 14
APPLICATION PROCESSING AND CALCULATIONS	PROCESSED BY	CHECKED BY	
	Janice West		

## **RULES EVALUATION**

### **PART 1: SCAQMD REGULATIONS**

- Rule 401 Visible Emissions (Amended 11/09/01)**  
 Operation of this crude distillation equipment is not expected to result in a visible emissions. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.
- Rule 402 Nuisance (Adopted 05/07/76)**  
 Operation of this crude distillation equipment is not expected to result in a public nuisance. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.
- Rule 1123 Refinery Process Turnarounds (Amended 12/07/90)**  
 Per Condition S13.5, the equipment in the Crude Distillation Unit (P1S1) is subject to the requirements of Rule 1123. This rule requires that during refinery process turnarounds, the vapors released from process vessels are collected and contained for disposal until the vessel pressure is below 5 psig (or within 10% above the minimum gauge pressure of vapor collection, whichever is lower).
- If inert gas displacement or vacuum eduction is used for the process turnaround, a plan is required to be submitted to the Executive Officer describing the procedure, disposition of displaced or educed gases, and the identifiable criteria for the stage of the procedure where the disposition is changed from a control facility to atmospheric venting. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.
- Rule 1173 Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants (Amended 02/06/09)**  
 Per Condition H23.36, the miscellaneous fugitive components (D832) in the Crude Distillation Unit are subject to the requirements of Rule 1173. The facility has an approved Inspection and Maintenance (I&M) program for monitoring and repairing fugitive components. All new and existing fugitive components are tagged with Rule 1173 and are monitored according to ConocoPhillips' Rule 1173 leak detection and repair plan. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.
- Reg XIII New Source Review**  
**Rule 1303 Requirements (Amended 12/6/02)** New Source Review requirements apply to new, modified or relocated sources. The requirements of this regulation were imposed when the Permit to Construct was issued. Offsets were not required for the Permit to Construct because the preliminary emissions estimate

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b> <b>ENGINEERING &amp; COMPLIANCE DIVISION</b>	APPL. NO.	DATE	PAGE
	471540	10/23/09	9 of 14
APPLICATION PROCESSING AND CALCULATIONS	PROCESSED BY	CHECKED BY	
	Janice West		

showed no emissions increase. The final counts of fugitive components indicated that one pound of offsets is required.

BACT was required for miscellaneous fugitive components. The final fugitive component count identified the nine non-bellows seal valves and provided a reason (allowed per Condition S31.3) why a bellows-seal valve was not used in each case. The reasons provided for the exemptions from the bellows-seal valve requirements are a) safety (3 valves); and b) instrument piping/tubing service (6 valves) (see 8/6/08 submittal from facility). Note that the submittal lists additional exemption notations, but only no torsional motion valves or 'not commercially available' valves were used in this permit unit.

**Reg XIV Toxics and Other Non-Criteria Pollutants**

**Rule 1401: New Source Review of Toxic Air Contaminants (Amended 06/05/09)**

Rule 1401 applies to new, modified or relocated permit units that emit Toxic Air Contaminants (TAC). The requirements of this rule were imposed when the Permit to Construct was issued. No additional requirements apply.

**Reg XXX Title V Permits**

**Rule 3002 Requirements (Amended 11/14/97)** ConocoPhillips was issued a final Title V operating permit on 11/07/08. This application is part of a minor permit revision as defined in 3000(b)(12)(A). This Title V permit revision (A/N 503016) includes both A/N 464152, with its 1 lb/day VOC increase, and this application (A/N 471540), which has a 1 lb/day VOC decrease. The net change in emissions is  $0 + 1 + -1 = 0$ . Thus, this permit revision has no net increase in emissions, and is classified as a minor permit revision. Minor permit revisions must meet all of the criteria in Rule 3000(b)(12)(A)(i) – (ix). The Title V permit revision that includes this application has no net increase in emissions and thus meets the specific 3000(b)(12)(A)(vi) requirements. This revision also meets all of the other minor revision criteria.

Rule 3000(b)(12): MINOR PERMIT REVISION means any Title V permit revision that:

- (A) (i) does not require or change a case-by-case evaluation of: reasonably available control technology (RACT) pursuant to Title I of the federal Clean Air Act; or maximum achievable control technology (MACT) pursuant to 40 CFR Part 63, Subpart B;
- (ii) does not violate a regulatory requirement;
- (iii) does not require any significant change in monitoring terms or conditions in the permit;
- (iv) does not require relaxation of any recordkeeping, or reporting requirement, or term, or condition in the permit;

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b> <b>ENGINEERING &amp; COMPLIANCE DIVISION</b>	APPL. NO.	DATE	PAGE
	471540	10/23/09	10 of 14
APPLICATION PROCESSING AND CALCULATIONS	PROCESSED BY	CHECKED BY	
	Janice West		

- (v) does not result in an emission increase of RECLAIM pollutants over the facility starting Allocation plus nontradeable Allocations, or higher Allocation amount which has previously undergone a significant permit revision process;
- (vi) does not result in an increase in emissions of a pollutant subject to Regulation XIII - New Source Review or a hazardous air pollutant;
- (vii) does not establish or change a permit condition that the facility has assumed to avoid an applicable requirement;
- (viii) is not an installation of a new permit unit subject to a New Source Performance Standard (NSPS) pursuant to 40 CFR Part 60, or a National Emission Standard for Hazardous Air Pollutants (NESHAP) pursuant to 40 CFR Part 61 or 40 CFR Part 63; and,
- (ix) is not a modification or reconstruction of an existing permit unit, resulting in new or additional NSPS requirements pursuant to 40 CFR Part 60, or new or additional NESHAP requirements pursuant to 40 CFR Part 61 or 40 CFR Part 63

Minor permit revisions are exempt from public participation per 3006(b) but are required to be submitted to the EPA per 3003(j)(1)(A).

## PART II: STATE REGULATIONS

### CEQA

#### **California Environmental Quality Act (Amended 01/01/05)**

The requirements of CEQA were imposed when the Permit to Construct was issued. No additional requirements apply.

## PART III: FEDERAL REGULATIONS

### 40CFR60

#### **Subpart GGG Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced after January 4, 1983, and on or before November 7, 2006 (Amended 06/02/08)**

The Crude Distillation Unit is subject to 40CFR60 Subpart GGG requirements, as stated in Condition H23.22. 40CFR60 Subpart GGG primarily refers to Subpart VV for specific requirements. The Crude Distillation Unit contains valves, pumps, compressors, flanges, pressure relief valves, process drains, and other fugitive components. Rule requirements apply to each of these categories, and vary from requirements on the specifications of the equipment to monthly monitoring for leaks and timely leak repair. The facility has implemented an LDAR program to monitor and repair leaks in fugitive components. The facility is currently in compliance with this rule and is expected to continue to operate in compliance with this rule.

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b> <b>ENGINEERING &amp; COMPLIANCE DIVISION</b>	APPL. NO.	DATE	PAGE
	471540	10/23/09	11 of 14
APPLICATION PROCESSING AND CALCULATIONS	PROCESSED BY	CHECKED BY	
	Janice West		

**Subpart GGGa Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced after November 7, 2006 (Amended 06/02/08)**

This permit unit is subject to the requirements of Subpart GGG. As stated in §60.590a(d), facilities subject to Subpart GGG are excluded from Subpart GGGa.

**40CFR61 Subpart FF National Emission Standard for Benzene Waste Operations (Amended 12/4/03)**

The facility is required to identify benzene-containing streams and limit the amount of uncontrolled benzene emitted. The Consent Decree (Section H, Paragraph 212) requires that the facility sample End-of-Line streams and other streams with significant contributions to total annual benzene (TAB) in accordance with the “Benzene Waste Operations Revised Sampling Plan (6BQ Compliance Option)” dated 2/26/09. Sampling results were provided in the Consent Decree Semiannual Progress Report (July 2009). The ‘Influent to DU5 CPI’ is one of the End-of-Line sampling points. The most recent results show an average benzene concentration of 243.33 mg/kg at this location. The benzene emissions are included in the facility’s total annual benzene (TAB). The quarterly BWON report dated 7/15/09, indicates that the facility is projected to emit less than the 6 Mg/yr limit of uncontrolled benzene. The facility is currently in compliance with this regulation and is expected to continue to operate in compliance with this regulation.

**40CFR63 Subpart CC National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries (Amended 10/28/09)**

The miscellaneous fugitive emissions in the Crude Distillation Unit (D832) are subject to the requirements of 40CFR63 Subpart CC. Petroleum refining process units with equipment leaks containing HAPs are subject to Subpart CC requirements per § 63.640(c)(4). Equipment leak standards are included in § 63.648, which refers to the requirements of 40CFR60 Subpart VV.

The Crude Distillation Unit is subject to Subpart GGG, which also refers to Subpart VV requirements.

The facility is currently in compliance with Subpart CC and is expected to continue to operate in compliance with this regulation.

**RECOMMENDATIONS**

Based on the above evaluation, it is recommended that the Permit to Construct be converted to a Permit to Operate. It is also recommended that D1 be added to condition S15.3 to reflect to the presence of the existing D1 atmospheric PRD. It is recommended that the Permit to Operate be issued with the following conditions.

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b> <b>ENGINEERING &amp; COMPLIANCE DIVISION</b>  APPLICATION PROCESSING AND CALCULATIONS	APPL. NO. <b>471540</b>	DATE 10/23/09	PAGE 12 of 14
	PROCESSED BY Janice West	CHECKED BY	

## CONDITIONS

### 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
Benzene	40CFR61, SUBPART	FF

**[40CFR 61 Subpart FF, 12-4-2003]**

[Processes subject to this condition : 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

### SYSTEM CONDITIONS

S13.5 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1123

**[RULE 1123, 12-7-1990]**

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

S15.1 The vent gases from all affected devices of this process/system shall be vented as follows:

All sour gases under normal operating conditions shall be directed to the sour gas treating unit(s) located in the Vacuum Flash Unit (Process 1, System 4).

This process/system shall not be operated unless the fuel gas treating unit(s) 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(a)(1)-BACT, 12-6-2002; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]**

[Systems subject to this condition : Process 1, System 1, 7, 8]

S15.3 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 blowdown flare system or flare gas recovery system except Devices IDs D1, D2, D4, D58, D65, D60, D69, D95-D97, D816, D175, D188, D202, D803, D479, D896 that vent to the atmosphere.

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.

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b> <b>ENGINEERING &amp; COMPLIANCE DIVISION</b>	APPL. NO. <b>471540</b>	DATE 10/23/09	PAGE 13 of 14
	APPLICATION PROCESSING AND CALCULATIONS		PROCESSED BY Janice West CHECKED BY

[**RULE 1303(a)(1)-BACT, 5-10-1996**; **RULE 1303(a)(1)-BACT, 12-6-2002**; **RULE 1303(b)(2)-Offset, 5-10-1996**; **RULE 1303(b)(2)-Offset, 12-6-2002**]

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

S15.4 The vent gases from all affected devices of this process/system shall be vented as follows:

All sour gases under normal operating conditions shall be directed to the sour gas treating unit(s).

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(a)(1)-BACT, 12-6-2002**; **RULE 1303(b)(2)-Offset, 5-10-1996**; **RULE 1303(b)(2)-Offset, 12-6-2002**]

[Systems subject to this condition : Process 1, System 1, 4, 8; Process 2, System 1, 3; Process 3, System 1]

S15.11 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 except device IDs D175, D188, D202, and D896 that vent to atmosphere.

This process/system shall not be operated unless the above air pollution control equipment (consisting of two compressors operating independently or concurrently at any given time) 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(a)(1)-BACT, 12-6-2002**; **RULE 1303(b)(2)-Offset, 5-10-1996**; **RULE 1303(b)(2)-Offset, 12-6-2002**]

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

S31.4 The following BACT requirements shall apply to VOC service fugitive components associated with the devices that are covered by application number(s) 471540:

The operator shall provide to the District, no later than 90 days after initial startup, 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.

The operator shall provide to the District, no longer than 90 days after initial startup, 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.

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

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b> <b>ENGINEERING &amp; COMPLIANCE DIVISION</b>	APPL. NO.	DATE	PAGE
	471540	10/23/09	14 of 14
APPLICATION PROCESSING AND CALCULATIONS	PROCESSED BY	CHECKED BY	
	Janice West		

applications with space limitations, and valves not commercially available.

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.

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.

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 or liquid volatile organic compounds at a rate less than 500 ppmv.

All new components in VOC service with a leak greater than 500 ppmv but less than 1,000 ppmv, as methane, measured above background using EPA Method 21 shall be repaired within 14 days of detection. 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.

The operator shall keep records of the monthly inspection (quarterly where applicable), subsequent repair, and reinspection, in a manner approved by the District. Records shall be kept and maintained for at least two years, and shall be made available to the Executive Officer or his authorized representative upon request.

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

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

All new light liquid pumps shall utilize double seals and be connected to a closed vent system.

All compressors shall be equipped with a seal system with a higher pressure barrier fluid.

[**RULE 1303(b)(2)-Offset, 5-10-1996**; **RULE 1303(b)(2)-Offset, 12-6-2002**]

[Systems subject to this condition : Process 1, System 1]

## DEVICE CONDITIONS

H23.22. This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1173
VOC	40CFR60, SUBPART	GGG

[**RULE 1173, 5-13-1994**; **RULE 1173, 2-6-2009** ~~RULE 1173, 6-1-2007~~; **40CFR 60 Subpart GGG, 6-2-2008**]

[Devices subject to this condition : D832]