

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING &amp; COMPLIANCE DIVISION</b> APPLICATION PROCESSING AND CALCULATIONS	PAGES 16	PAGE 1
	APPL. NO. 501727	DATE 11/3/09
	PROCESSED BY Jon Uhl	CHECKED BY

<b>PERMIT TO CONSTRUCT/OPERATE (PC-PO)</b>
<b>ALTERATION – Add Geodesic Dome</b>

**COMPANY NAME, LOCATION ADDRESS:**  
 ConocoPhillips Company, SCAQMD ID # 800363  
 1660 W. Anaheim Street  
 Wilmington, CA 90748-0758

**EQUIPMENT DESCRIPTION:**

Changes from the Permit to Operate (AN 326313): Additions to the equipment description are underlined and bolded. New conditions are underlined and bolded. Deletions to the equipment description and conditions are noted in strikeouts.

**Section D of ConocoPhillips - Wilmington Facility Permit, ID# 800363**

*Note: Add to Section D, Process 13, System 8  
 Remove from Section D, Process 13, System 3*

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
<b>Process 13: STORAGE TANKS</b>					P13.1, P13.2
<b>System 8: DOME COVERED EXTERNAL FLOATING ROOF TANKS</b>					S13.8
STORAGE TANK, <b><u>DOMED</u></b> EXTERNAL FLOATING ROOF, NO. 66, WITH A MIXER, 82000 BBL, DIAMETER: 117 FT, HEIGHT: 42-FT <b><u>45 FT WITH</u></b>  A/N: <del>326313</del> 501727  Permit to Construct Issued: tbd  <b><u>DOME COVER, GEODESIC</u></b>  FLOATING ROOF, PONTOON, RIVETED SHELL  PRIMARY SEAL, CATEGORY A, METALLIC SHOE  SECONDARY SEAL, CATEGORY B OR BETTER PER RULE 219(C)(4), WIPER TYPE  <b><u>GUIDEPOLE, GASKETED SLIDING COVER, WITH WIPER, UNSLOTTED</u></b>	D555			BENZENE: (10) [40CFR 61 SUBPART FF_01, 12-4-2003];  HAP: (10) [40CFR 63 SUBPART CC, #3A, 6-23-2003]	H23.9, <del>K67.7,</del> <b><u>K67.11,</u></b> <b><u>K171.x</u></b>

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING &amp; COMPLIANCE DIVISION</b> <b>APPLICATION PROCESSING AND CALCULATIONS</b>	PAGES 16	PAGE 2
	APPL. NO. 501727	DATE 11/3/09
	PROCESSED BY Jon Uhl	CHECKED BY

**CONDITIONS:**

The following permit conditions shall apply to the storage tank 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**

P13.1 All devices under this process are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	463

[**RULE 463, 5-6-2005**]

[Processes subject to this condition: 13]

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

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

[Processes subject to this condition: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 18]

**SYSTEM CONDITIONS**

S13.8 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	463
VOC	District Rule	1178
VOC	District Rule	1149

For Rule 463 applicability, only subdivision (d) in the March 11, 1994 amendment, or equivalent requirements in the future amendments, shall apply to domed external floating roof tanks. This does not preclude any requirements specified in Rule 1178.

[**RULE 1149, 7-14-1995; RULE 1149, 5-2-2008; RULE 1178, 4-7-2006; RULE 463, 5-6-2005**]

[Systems subject to this condition: Process 13, System 3, 8]

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING &amp; COMPLIANCE DIVISION</b> APPLICATION PROCESSING AND CALCULATIONS	PAGES 16	PAGE 3
	APPL. NO. 501727	DATE 11/3/09
	PROCESSED BY Jon Uhl	CHECKED BY

**DEVICE CONDITIONS**

**H. Applicable Rules**

H23.9 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	40CFR60, SUBPART	Kb
Benzene	40CFR61, SUBPART	FF

[40CFR 60 Subpart Kb, 10-15-2003; 40CFR 61 Subpart FF, 12-4-2003]

[Devices subject to this condition: D546, D549, D555, D556, D602, D612, D630, D633]

**K. Recordkeeping/Reporting**

K67.7 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

Throughput and vapor pressure of stored liquid.

[RULE 1178, 4-7-2006; RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997; RULE 463, 5-6-2005]

[Devices subject to this condition: ..., D555, ...]

K67.11 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

- Tank throughput in barrels.
- Commodity stored and its time period.
- True vapor pressure, in psia at actual storage temperature, of each commodity stored.
- Hydrocarbon concentration measurements of the vapor space above the floating roof of the tank.
- Other records that are required to comply with the applicable requirements of Rule 463(d), 1149, 1178, and 40CFR63 Subpart CC.

[RULE 1149, 7-14-1995; RULE 1149, 5-2-2008; RULE 1178, 4-7-2006; RULE 1301, 12-7-1995; RULE, 463, 5-6-2005; 40CFR 63 Subpart CC, 6-23-2003]

[Devices subject to this condition: D555]

K171.x The operator shall provide to the District the following items:

- Final drawings and/or specifications of the geodesic dome cover, slotted/unslotted guidepole, wiper and other tank appurtenances upgrades to be installed/constructed shall be submitted to the district within 60 days after construction.

[RULE 1178, 4-7-2006]

[Devices subject to this condition: D555]

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING &amp; COMPLIANCE DIVISION</b> <b>APPLICATION PROCESSING AND CALCULATIONS</b>	PAGES 16	PAGE 4
	APPL. NO. 501727	DATE 11/3/09
	PROCESSED BY Jon Uhl	CHECKED BY

**COMPLIANCE WITH PERMIT CONDITIONS - RECORDS:**

**Storage Tank #66, [D555]**

Condition S13.8: The Rule 463\1178 tank inspection report dated 8/24/2009 is included in Attachment 2. Tank #66 is in compliance.

There is no restriction on the products stored in this tank.

Tank contents are limited to a TVP less than 11 psia (Rule 463(d)(4)). ConocoPhillips submitted a summary of RVP records for 2004 through 2009 (51 samples). The maximum RVP was 7.39 psia. Since the temperature of Tank 6 is less than 100 °F (tank inspection report dated 9/15/2009 shows 84 °F), the TVP is less than the RVP. RVP summary is included in Attachment 2. Complies.

There is no limit on the tank throughput.

Condition H23.9: The tank inspection and reporting requirements for 40CFR Part 60 Subpart Kb, 40CFR Part 61 Subpart FF and 40CFR Part 63 Subpart CC are met by the Rule 463\1178 tank inspection report dated 8/24/2009 (included in Attachment 2).

Condition K67.7: ConocoPhillips submitted records of tank throughput and vapor pressure of stored liquids for 2008 and YTD 2009. Complies.

**REVIEW OF COMPLIANCE DATABASE:**

On 10/2/2009, the AQMD Compliance Database shows two (2) outstanding Notices of Violation since January 1, 2007 (see Attachment 4). The NOV's do not apply to this storage tank.

**BACKGROUND:**

ConocoPhillips operates this refinery in the city of Wilmington. The facility is a NOx and SOx RECLAIM facility. The Title V permit was issued July 1, 2009.

**Storage Tank #66, [D555]**

Storage Tank No. 66 [D555] is an external floating roof tank used to store "recovered oil", which is oil recovered from the API wastewater separators, oil collected in the flare knock-out drums and other waste oil from the process units. Tank was first permitted in 1952, when an existing tank was converted to an external floating roof tank. A secondary seal was added in 1981 to comply with Rule 463. This is a pre-NSR tank with a NSR balance of 0 lb/day VOC.

On September 1, 2009, ConocoPhillips submitted A/N 501727 to add a geodesic dome by 12/31/2010, in accordance with their revised Rule 1178 compliance plan (A/N 457557).

ConocoPhillips also requested a correction to the tank height (from 42' to 45') based on the original tank reconstruction drawing #W-355-F-071 SH94, dated 4/14/1952. No physical change in the tank height.

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING &amp; COMPLIANCE DIVISION</b> <b>APPLICATION PROCESSING AND CALCULATIONS</b>	PAGES 16	PAGE 5
	APPL. NO. 501727	DATE 11/3/09
	PROCESSED BY Jon Uhl	CHECKED BY

**Permitting History – Tank #66**

A/N	Date	A/N Status	Permit	Permit Action
501727	(current)	20		Alteration — add geodesic dome for Rule 1178 compliance
326313	7/3/1997	31	Active F6614	Change of ownership from Unocal to Tosco
C24049	12/21/1981	31	Inactive M19180	Alteration – add secondary seal for Rule 463 compliance
5367	9/5/1952	31	Inactive 6246	Alteration – convert existing tank to external floating roof

**FEE EVALUATION**

**Table 1 - Applications Submitted to AQMD**

A/N	Date Submitted	Equipment	Device ID	Requested Action	Active P/O
501727	September 1, 2009	Storage Tank # 66 with External Floating Roof Tank	D555	<ul style="list-style-type: none"> <li>• Add dome</li> <li>• Correction to tank height from 42' to 45'</li> </ul>	F6714 A/N 326313
501730	September 1, 2009	Title V/RECLAIM Permit Revision	n/a	<ul style="list-style-type: none"> <li>• Minor revision to Title V permit</li> </ul>	n/a

The fees paid for the applications are:

**Table 2 – Application Fees Paid**

A/N	Equipment	BCAT	Type	Status	Fee Schedule	Fees Required, \$	Fees Paid, \$
501727	Storage Tank #66	251904	50	20	C	3,244.91	3,244.91
	Expedited Processing Fee					1,622.46	1,622.46
501730	T5/RECLAIM Minor Permit Revision	555009	85	21		1,687.63	1,687.63

**TANK SPECIFICATIONS**

Tables 3 lists the pre-modification and post-modification storage tank specifications; changes include:

- Add geodesic dome
- Correct tank height to 45'



**Table 3 – Storage Tank No. 66 (D555) Specifications**

	<b>External Floating Roof Tank Pre-Modification A/N 326313 (F6714)</b>	<b>Domed External Floating Roof Tank Post-Modification A/N 501727</b>
<b>Tank Dimensions</b>		
Diameter, feet	117.	117.
Volume, gallons (barrels)	3,444,000 (82,000)	3,444,000 (82,000)
Throughput, barrels per year	No limit*	No limit*
Turnovers	No limit*	No limit*
<b>Paint Characteristics</b>		
Internal Shell Condition	Light Rust	Light Rust
Shell Color/Shade	Gray/Light	Gray/Light
Shell Condition	Good	Good
<b>Tank Construction and Rim-Seal System</b>		
Construction:	Riveted	Riveted
Primary Seal:	Mechanical Shoe	Mechanical Shoe
Secondary Seal:	Rim-mounted	Rim-mounted
<b>Liquid Contents</b>		
Mixture/Component	Recovered Oil, max vapor pressure: 11 psia	Recovered Oil, max vapor pressure: 11 psia
<b>Roof Characteristics</b>		
Type	Pontoon	Pontoon with Domed Roof
Deck Fittings/Status	<ul style="list-style-type: none"> <li>• 1-Access Hatch (24-in Dia.)/Bolted Cover, Gasketed</li> <li>• 1-Gauge-Hatch/Sample Well (8-in Dia.)/Weighted Mech. Actuation, Gasketed</li> <li>• 16-Roof Leg (3-in Dia.)/Adjustable, Pontoon Area, Sock</li> <li>• 12-Roof Leg (3-in Dia.)/Adjustable, Center Area, Sock</li> <li>• 1- Unslotted Guidepole/Well/Gasketed Sliding Cover, Wiper</li> <li>• 1-Vacuum Breaker (10 in Dia.)/ Weighted Mech. Actuation, Gasketed</li> <li>• 1-Automatic Gauge Float Well/Bolted Cover, Gasketed</li> <li>• 1-Roof Drain (3-in Dia.)/90% Closed</li> </ul>	<ul style="list-style-type: none"> <li>• 1-Access Hatch (24-in Dia.)/Bolted Cover, Gasketed</li> <li>• 1-Gauge-Hatch/Sample Well (8-in Dia.)/Weighted Mech. Actuation, Gasketed</li> <li>• 16-Roof Leg (3-in Dia.)/Adjustable, Pontoon Area, Sock</li> <li>• 12-Roof Leg (3-in Dia.)/Adjustable, Center Area, Sock</li> <li>• 1- Unslotted Guidepole/Well/Gasketed Sliding Cover, Wiper</li> <li>• 1-Vacuum Breaker (10 in Dia.)/ Weighted Mech. Actuation, Gasketed</li> <li>• 1-Automatic Gauge Float Well/Bolted Cover, Gasketed</li> <li>• 1-Roof Drain (3-in Dia.)/90% Closed</li> </ul>
Other	• Tank mixer	• Tank Mixer

\* There is no condition limit on tank throughput; this is a pre-NSR tank.

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING &amp; COMPLIANCE DIVISION</b> <b>APPLICATION PROCESSING AND CALCULATIONS</b>	PAGES 16	PAGE 7
	APPL. NO. 501727	DATE 11/3/09
	PROCESSED BY Jon Uhl	CHECKED BY

**EMISSIONS CALCULATIONS:**

This application proposes to add an external geodesic dome roof to comply with Rule 1178, which is a modification of a source installed prior to October 8, 1976, resulting from the addition of air pollution controls installed solely to reduce the issuance of air contaminants. The change in VOC emissions due to the tank modification was calculated per Rule 1306(f) using the EPA TANKS 4.0 software package, and the storage tank specifications provided by the applicant. Adding the dome cover will reduce the estimated VOC emissions. Table 4 is a summary of the emission decrease:

**Table 4 – Summary of VOC Emissions Decrease**

A/N	Storage Tank #		VOC Losses for each tank				
			Rim Seal, lbs/year	Withdrawal, lbs/year	Roof Fitting, lbs/year	Total	
						lbs/year	lbs/day*
501727	66 (D555)	External floating roof tank emissions (Pre-Modification)	15,567.62	44.98	1,751.10	17,363.69	48.23
		Domed external floating roof tank emissions (Post-Modification)	2,897.57	44.98	1,169.61	4,112.16	11.42

\* 30-day average

Since the modification of the storage tanks (addition of dome roof) is expected to decrease the VOC emission, a decrease in toxic health risk is also expected.

1. Pre-Modification Emissions from External Floating Roof based on:

Tank throughput = 25,000,000 gal/year as given on Form 400-E-18

TVP = 11 psia

Tank specifications shown in Table 3

w/o dome

2. Post-Modification Emissions from Domed External Floating Roof based on:

Tank throughput = 25,000,000 gal/year as given on Form 400-E-18

TVP = 11 psia

Tank specifications shown in Table 3

With external geodesic dome added

A copy of the TANKS 4.0 Emission Report is included in Attachment 3.

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING &amp; COMPLIANCE DIVISION</b> APPLICATION PROCESSING AND CALCULATIONS	PAGES 16	PAGE 8
	APPL. NO. 501727	DATE 11/3/09
	PROCESSED BY Jon Uhl	CHECKED BY

**RULES EVALUATION:**

**PART 1 STATE REGULATIONS**

<b>California Environmental Quality Act (CEQA)</b>	
	These modifications are not a significant project.

**PART 2 SCAQMD REGULATIONS**

<b>Rule 212</b>	<b>Standards for Approving Permits</b>	<b>November 14, 1997</b>
	These modifications meet all the criteria in Rule 212 for permit approval. Rule 212 public notice is not required.	
212(a)	The modifications were designed so the tank can operate 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.	
212(b)	Does not apply; this is an application for a Permit to Construct.	
212(c)(1)	The tank is not located within 1000 feet of a school.	
212(c)(2)	The emission increase does not exceed the daily maximum specified in subdivision (g) of this rule (30 lbs/day VOC).	
212(c)(3)	The tank does not have an increased cancer risk greater than, or equal to, one in a million ( $1 \times 10^{-6}$ ) during a lifetime of 70 years or pose a risk of nuisance.	

<b>Rule 401</b>	<b>Visible Emissions</b>	<b>November 9, 2001</b>
	Visible emissions are not expected under normal operation.	

<b>Rule 402</b>	<b>Nuisance</b>	<b>May 7, 1976</b>
	Nuisance complaints are not expected under normal operating conditions.	

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING &amp; COMPLIANCE DIVISION</b> <b>APPLICATION PROCESSING AND CALCULATIONS</b>	PAGES 16	PAGE 9
	APPL. NO. 501727	DATE 11/3/09
	PROCESSED BY Jon Uhl	CHECKED BY

<b>Rule 463</b>	<b>Organic Liquid Storage</b>	<b>May 6, 2005</b>
	This rule applies to any above-ground tank with capacity 19,815 gallons or greater for storing organic liquids. This tank stores organic liquids with a true vapor pressure greater than 0.5 psia under actual storage conditions.	
463(c)(1)	The domed external floating roof tank is subject to Rule 463(c)(1). The Tank #66 has a pontoon external floating roof. The roof has a mechanical shoe primary seal and a rim-mounted secondary seal. Roof openings project below the liquid surface and are kept covered except during maintenance/inspection. There is one pressure-vacuum valve which is set to 10% of the roof maximum working pressure. Roof drain is provided with 9/10 of total area coverage.	
	The domed external floating roof tank is subject to the requirements of Rule 463(d) - Other Performance Requirements:	
463(d)(1)	Tank capacity is greater than 19,815 gallons. Therefore, this paragraph does not apply.	
463(d)(2)	The external floating roof is designed to float on the organic liquid at all times (i.e., free of the roof leg supports) except when the tank is being completely emptied for cleaning, or repair.	
463(d)(3)	The external floating roof shall be refloated with water or equivalent method approved by the District whenever the tank is gas-freed or refilled by gasoline.	
463(d)(4)	The tank will not store organic liquids having a true vapor pressure of 11 psia or greater under actual storage conditions. The compliance records submitted show less than 11 psia.	
463(d)(5)	Replacement seals on the tank will only be chosen from the current list of seals approved by District.	
	Compliance with Rule 463 is expected with proper recordkeeping and inspections. The Rule 463 inspection and maintenance plan will be updated to reflect installation of the dome roof cover.	

<b>Rule 1149</b>	<b>Storage Tank Cleaning and Degassing</b>	<b>May 2, 2008</b>
	The tank will continue to be subject to the tank cleaning and degassing requirements of this rule. Compliance is expected.	

<b>Rule 1178</b>	<b>Further Reduction of VOC Emissions from Storage Tanks at Petroleum Facilities</b>
1178(b)	Applicability. This rule applies to all aboveground storage tanks with capacity greater than 19,815 gallons, and used to store organic liquids with true vapor pressure greater than 0.1 psi, and located at any petroleum facility emitting more than 20 tons per year of VOC in any emission inventory year starting with emission inventory year 2000. This tank stores organic liquids with a TVP greater than 0.1 psia and is therefore subject to Rule 1178.

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING &amp; COMPLIANCE DIVISION</b> APPLICATION PROCESSING AND CALCULATIONS	PAGES 16	PAGE 10
	APPL. NO. 501727	DATE 11/3/09
	PROCESSED BY Jon Uhl	CHECKED BY

**Rule 1178 Further Reduction of VOC Emissions from Storage Tanks at Petroleum Facilities**

1178(d)(1) External Floating Roof Tanks. For tanks containing organic liquids with a true vapor pressure less than 3 psia for the emission inventory year 2000, each tank shall be equipped with the fittings specified in this paragraph.  
  
This tank stores organic liquids with a TVP which may exceed 3 psia. The tank is subject to the fittings requirements of Rule 1178(d)(1) for domed external floating roof tanks.

1178(d)(2) Domed External Floating Roof Tanks. For this Phase II tank at a facility choosing to comply with Rule 1178(d)(2)(A)(iv), containing organic liquids greater than 3 psia, the dome roof is required to be installed by 12/31/2010. See the revised Rule 1178 compliance plan (AN 457557).  
  
Rule 1178(j)(7) provides an exemption from the doming requirements of paragraph (d)(2)(A) and (d)(2)(B) if the tank is permitted to contain more than 97% by volume crude oil and complies with all the remaining applicable requirements of this rule.

Specifications:	Tank #66 [D555]
Contains more than 97%vol crude oil?	No
Maximum vapor pressure: psia	11.0

1178(d)(2)(D) The external floating roof tank has been equipped with all roof openings in accordance with the specifications listed in subparagraph (d)(1)(A):

- |   |     |
|---|-----|
| (i) Equip each access hatch and gauge float well with a cover that is gasketed and bolted. The cover shall be closed at all times, with no visible gaps, except when the hatch or well must be opened for access.   | Yes |
| (ii) Equip each gauge hatch/sample well with a cover that is gasketed. The cover shall be closed at all times, with no visible gaps, except when the hatch or well must be opened for access.   | Yes |
| (iii) Gasket or cover each adjustable roof leg with a VOC impervious sock at all times when the roof is floating.   | Yes |
| (iv) Gasket each rim vent. Rim vents shall be closed at all times, with no visible gaps, when the roof is floating; and shall be set to open only when the roof is being floated off the roof leg supports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting | N/A |
| (v) Gasket each vacuum breaker. Vacuum breakers shall be closed at all times, with no visible gaps, when the roof is floating; and shall be set to open only when the roof is being floated off or is being landed on the roof leg supports.  | Yes |
| (vi) Equip each open floating roof drain with a slotted membrane fabric cover or other device with an equivalent control efficiency that covers at least 90 percent of the area of the opening.   | Yes |

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING &amp; COMPLIANCE DIVISION</b> <b>APPLICATION PROCESSING AND CALCULATIONS</b>	PAGES 16	PAGE 11
	APPL. NO. 501727	DATE 11/3/09
	PROCESSED BY Jon Uhl	CHECKED BY

**Rule 1178 Further Reduction of VOC Emissions from Storage Tanks at Petroleum Facilities**

Specifications:	Tank #66 [D555]
(vii) Equip each unslotted guidepole well with a gasketed sliding cover and a flexible fabric sleeve or wiper	Yes
(viii) Equip each unslotted guidepole with a gasketed cover at the end of the pole. The cover shall be closed at all times, with no visible gaps, except when gauging or sampling.	Yes
(ix) Equip each slotted guidepole with a gasketed cover, a pole wiper and a pole sleeve. The pole sleeve shall be extended into the stored liquid	N/A
(x) Equip each slotted guidepole having a pole float with a gasketed cover, a pole wiper, and a pole float wiper. The wiper or seal of the pole float shall be at or above the height of the pole wiper.	N/A
(xi) Cover each slotted guidepole opening with a gasketed cover at all times, with no visible gaps, except when the cover must be opened for access.	N/A
(xii) Maintain the pole float in a condition such that it floats within the guidepole at all times except when it must be removed for sampling or when the tank is empty.	N/A
(xiii) Except for vacuum breakers and rim vents, ensure that each opening in the external floating roof shall provide a projection below the liquid surface.	Yes
(xiv) Except for vacuum breakers, rim vents, roof drains, and leg sleeves, equip all other openings in the roof with a gasketed cover or seal which is closed at all times, with no visible gaps, except when the cover or seal must be opened for access.	Yes
1178(d)(2)(E) The external floating roof tank has been equipped with seals in accordance with the specifications listed in subparagraph (d)(1)(B):	
(i) The primary seal shall be a mechanical shoe or liquid mounted.	Yes mechanical shoe
(ii) The secondary seal shall be rim mounted and shall not be attached to the primary seal.	Yes
1178(d)(2)(F) The concentration of organic vapor in the vapor space above the external floating roof shall not exceed 30% LEL. Dome not yet installed.	
Compliance with Rule 1178 is expected.	



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING & COMPLIANCE DIVISION  
APPLICATION PROCESSING AND CALCULATIONS**

PAGES 16	PAGE 12
APPL. NO. 501727	DATE 11/3/09
PROCESSED BY Jon Uhl	CHECKED BY

**REG XIII      New Source Review (NSR)      December 6, 2002**  
**Application Deemed Complete: 2009**

Tank #66 was constructed in the 1920's and converted to an external floating roof tank in 1952. The initial APCD permit to operate was issued on 9/5/1952. A secondary roof seal was added in 1981 to comply with Rule 463; no NSR balance was established. This is a pre-NSR tank with a NSR balance of 0 lb/day VOC.

This application proposes to add an external geodesic dome roof to comply with Rule 1178, which is a modification of a source installed prior to October 8, 1976, resulting from the addition of air pollution controls installed solely to reduce the issuance of air contaminants. The change in VOC emissions due to the tank modification was calculated per Rule 1306(f) using the EPA TANKS 4.0 software package. Adding the dome cover will reduce the estimated VOC emissions. Emission calculations are included as Attachment 3. The NSR baseline is entered as 11.42 lb/day VOC.

**Rule 1303(a):  
BACT &  
Rule 1303(b)**

The requirements of Rules 1303(a) and 1303(b) do not apply to this equipment modification since there is no emission increase [calculated per the Rule 1306(f) method] with the addition of the dome roof cover. Note that this tank will be equipped with current BACT: domed roof cover and compliance with Rule 1178.

No VOC offsets are required.

	NSR VOC Emissions Calculated	
	Pre-mod	Post-mod
	A/N 326313	A/N 501727
Tank #66	48.23 lb/day	11.42 lb/day (baseline emission for this tank)



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING & COMPLIANCE DIVISION**  
**APPLICATION PROCESSING AND CALCULATIONS**

PAGES  
16

PAGE  
13

APPL. NO.  
501727

DATE  
11/3/09

PROCESSED BY  
Jon Uhl

CHECKED BY

<b>Rule 1401</b>	<b>New Source Review of Toxic Air Contaminants</b>	<b>June 5, 2009</b> <b>Application Deemed Complete: October 1, 2009</b>
	<p>This application proposes to add an external geodesic dome roof cover to comply with Rule 1178, which is a modification of a source installed prior to October 8, 1976, resulting from the addition of air pollution controls installed solely to reduce the issuance of air contaminants.</p>	
	<p>MICR, cancer burden and chronic HI are calculated per Rule 1401(f)(3)(C). There is no permit condition which limits the emissions; emissions are to be calculated from:</p> <ul style="list-style-type: none"> <li>(i) the maximum rated capacity; and</li> <li>(ii) the maximum proposed daily hours of operation; and</li> <li>(iii) the physical characteristics of the materials processed.</li> </ul> <p>There is no increase in the maximum rated capacity, maximum possible annual hours of operation or the physical characteristics of the materials processed; therefore, there is no increase in the emissions of TAC's from this tank. The dome roof cover will decrease TAC emissions. Therefore, there is no increase in the cancer burden, maximum individual cancer risk (MICR) or chronic (HIC) health indices at any receptor location due to the tank modification.</p>	
	<p>Acute HI is calculated per Rule 1401(f)(4). There is no permit condition which limits the emissions; emissions are to be calculated from:</p> <ul style="list-style-type: none"> <li>(A) the maximum rated capacity;</li> <li>(B) the maximum hourly emissions; and</li> <li>(C) the physical characteristics of the materials processed.</li> </ul> <p>There is no increase in the maximum rated capacity, maximum hourly emissions or the physical characteristics of the materials processed; therefore, there is no increase in the emissions of TAC's from this tank. The dome roof cover will decrease TAC emissions. Therefore, there is no increase in the acute (HIA) health index at any receptor location due to the tank modification.</p>	
	<p>This tank modification is exempt from the requirements of Rule 1401(d) in accordance with Rule 1401(g)(1)(B): Exemptions-Modification with No Increase in Risk.</p> <p>Federal NSR for toxics does not apply since this is not considered a reconstruction per 40CFR63, Subpart A, §63.2.</p>	

<b>REG XX</b>	<b>RECLAIM</b>	<b>May 6, 2005</b>
	<p>ConocoPhillips-Wilmington has been designated as a RECLAIM facility. This tank does not emit NO<sub>x</sub> or SO<sub>x</sub>; therefore, RECLAIM requirements do not apply.</p>	



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING & COMPLIANCE DIVISION  
APPLICATION PROCESSING AND CALCULATIONS**

PAGES 16	PAGE 14
APPL. NO. 501727	DATE 11/3/09
PROCESSED BY Jon Uhl	CHECKED BY

<b>REG XXX</b>	<b>Title V</b>	<b>March 16, 2001</b>
<p>ConocoPhillips-Wilmington was issued a Title V permit effective July 1, 2009. This is a <b>minor permit revision</b> as defined in Rule 3000(b)(12).</p>		
Rule 3000 (b)(12)(A)(i)	<p>This revision 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.</p>	
(b)(12)(A)(ii)	<p>This revision does not violate a regulatory requirement.</p>	
(b)(12)(A)(iii)	<p>This revision does not require any significant change in monitoring terms or conditions in the permit.</p>	
(b)(12)(A)(iv)	<p>This revision does not require relaxation of any recordkeeping, or reporting requirement, or term, or condition in the permit.</p>	
(b)(12)(A)(v)	<p>This revision does not result in an emission increase of RECLAIM pollutants.</p>	
(b)(12)(A)(vi)	<p>This revision does not result in an increase in emissions of a pollutant subject to Regulation XIII – New Source Review or a hazardous air pollutant.</p>	
(b)(12)(A)(vii)	<p>This revision does not establish or change a permit condition that the facility has assumed to avoid an applicable requirement.</p>	
(b)(12)(A)(viii)	<p>This revision 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.</p>	
(b)(12)(A)(ix)	<p>This revision 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.</p>	
<p>A minor permit revision is subject to a <b>45-day EPA review</b>, Rule 3003(j) and not subject to public participation requirements, Rule 3006(b).</p>		

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING &amp; COMPLIANCE DIVISION</b> <b>APPLICATION PROCESSING AND CALCULATIONS</b>	PAGES 16	PAGE 15
	APPL. NO. 501727	DATE 11/3/09
	PROCESSED BY Jon Uhl	CHECKED BY

**PART 3 FEDERAL REGULATIONS**

<b>40CFR Part 60 Subpart Kb</b>	<b>Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commences after July 23, 1984</b>
§60.110b(a)	Applicability – This tank will continue to be subject to Subpart Kb in order to meet the requirements of Subpart FF by §61.351(a)(2) – Alternative standards for tanks: An external floating roof meeting the requirements of 40CFR Part 60 Subpart Kb.
§60.110b(a)(2)	This tank has a pontoon roof which rests on the liquid surface.
§60.110b(a)(2)(i)	This tank has two seals, one above the other. The primary seal is a mechanical shoe seal, which completely covers the annular space between the roof and the tank wall. The secondary seal is rim-mounted and completely covers the annular space between the roof and the tank wall.
§60.110b(a)(2)(ii)	The roof fitting requirements are met by the SCAQMD Rule 1178 requirements.
§60.110b(a)(2)(iii)	The external roof is designed to float on the product.
§60.113b & §60.115	Tank inspection, reporting & recordkeeping are met by SCAQMD Rule 463/1178 requirements.
	This tank complies with the tank design/control requirements of this regulation. The tank inspection program will be updated to reflect the installation of the dome roof cover. These tanks will continue to be subject to Subpart Kb per Condition H23.9.
<b>40CFR Part 61 Subpart FF</b>	<b>National Emission Standard for Benzene Waste Operations</b>
	Per §61.340, ConocoPhillips-Wilmington is subject to this regulation. This tank stores “recovered oil” which is oil recovered from the API wastewater separators, oil collected in the flare knock-out drums and other waste oil from the process units. This storage tank meets the Subpart FF definition for a tank given in §61.341: a stationary waste management unit that is designed to contain an accumulation of waste prior to being recycled.
	The tank meets the requirements of Subpart FF by §61.351(a)(2) – Alternative standards for tanks: An external floating roof meeting the requirements of 40CFR Part 60 Subpart Kb.

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING &amp; COMPLIANCE DIVISION</b> <b>APPLICATION PROCESSING AND CALCULATIONS</b>	PAGES 16	PAGE 16
	APPL. NO. 501727	DATE 11/3/09
	PROCESSED BY Jon Uhl	CHECKED BY

<b>40CFR Part 63 Subpart CC</b>	<b>National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries</b>
§60.640(a)	Applicability – This storage tank is located at a site that is a major source as defined in section 112(a) of the Clean Air Act [This refinery emits 25 tons or more of hazardous air pollutants (HAPs)]. This tank emits one or more HAPs listed in table 1 of this subpart.
§60.640(c)(2)	This storage tank is part of the wastewater treatment operations associated with petroleum refining process units.
§60.643	<p>This storage tank is a Group 1 storage vessel at an existing source, with:</p> <ul style="list-style-type: none"> <li>• Tank capacity <math>\geq 177 \text{ m}^3</math> (46,758 gal)</li> <li>• Maximum TVP <math>\geq 10.4 \text{ kPa}</math> (1.5 psia)</li> <li>• Annual average TVP <math>\geq 8.3 \text{ kPa}</math> (1.2 psia)</li> <li>• Annual average total HAPs liquid concentration <math>\geq 4\% \text{wt}</math></li> </ul> <p>The facility has indicated that the tank contents exceed 4%wt HAPs, and this tank will continue to be designated as Group 1 tanks.</p>
§60.640(n)(1)	Per Condition H23.9, this Group 1 tank is subject to 40CFR60 Subpart Kb. A Group 1 tank that is part of an existing source and also subject to 40CFR60 Subpart Kb is required to comply only with the requirements of Subpart Kb.

**CONCLUSION**

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

A/N	Recommendation
501727	Issue Permit to Construct/Operate (PC-PO) with conditions listed in the Conditions Section
501730	Approve Plan (Title V Minor Permit Revision)

**List of Attachments**

1. ConocoPhillips – Wilmington Facility Permit (ID 800363), Sections D
2. Tank No. 66 Compliance Information submitted by ConocoPhillips
  - Rule 1178 tank inspection report (8/24/2009)
  - Vapor pressure measurements (2004-2009)
  - Tank throughput (2008 & 2009)
3. Tanks 4.0 Emission Calculations
4. AQMD Compliance Database (10/2/2009)