



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

STATIONARY SOURCE COMPLIANCE DIVISION

APPLICATION PROCESSING AND CALCULATIONS

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APPL. NO.
435990

DATE
9-07-07

PROCESSED BY
E. Ruivivar

CHECKED BY

**PERMIT TO OPERATE
- (PO NO PC) -**

COMPANY NAME: Chevron Products Company

MAILING ADDRESS: 324 W. El Segundo Blvd.
El Segundo, CA 90245

EQUIPMENT LOCATION: 324 W. El Segundo Blvd.
El Segundo, CA 90245

EQUIPMENT DESCRIPTION:

Additions to the equipment description are noted in bold & underlines. Deletions are noted in strikeouts

Description	ID No.	Connected To	RECLAIM Source Type	Emissions and Requirements	Conditions
Process 16: STORAGE TANKS					P13.1
System 10: DOMED EXTERNAL FLOATING ROOF TANK					S13.9, S31.15
STORAGE TANK, DOMED EXTERNAL FLOATING ROOF, NO. 186, WELDED SHELL , WITH A TWO MIXERS , 157596 BBL; DIAMETER: 150 FT; HEIGHT: 53 FT 6.88 IN, WITH DOME COVER, GEODESIC FLOATING ROOF, DOUBLE DECK PONTON , WELDED SHELL PRIMARY SEAL, CATEGORY A, METALLIC SHOE SECONDARY SEAL, CATEGORY A, RIM MOUNTED , WIPER TYPE GUIDEPOLE, SLOTTED, WITH GASKETED SLIDING COVER, POLE SLEEVE, AND POLE WIPER A/N: 411324 435990	D1362			HAP: (10) [40CFR 63 Subpart CC, #3A, 6-23-2003]	H23.37 H23.24 K67.53 K67.54

PROCESS CONDITIONS



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P13.1 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, 11, 12, 13, 14, 16]

SYSTEM CONDITIONS

S13.9 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	1149
VOC	District Rule	1178

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, 5-2-2008; RULE 1178, 4-7-2006; RULE 463, 5-6-2005]

[Systems subject to this condition: Process 16, System 10]

S31.15 The following BACT requirements shall apply to VOC service fugitive components associated with the devices that are covered by application number(s) 378811, 380595, 380596, 380597, 380611, 385371, 385372, 385373, and 385374:

The operator shall provide to the District, no later than 60 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, operating temperature, operating pressure, body material, application, and reasons why bellows seal valves were not used.

All new valves in VOC service, except those specifically exempted by 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 (e.g., drain valves with valve stems in horizontal position), retrofits/special 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



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heavy liquid service as defined in R1173, 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.

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

[Systems subject to this condition: Process 1, System 18; Process 3, System 5; Process 4, System 3 , 4; Process 7, System 7; Process 8, System 8; Process 14, System 28; Process 16, System 8, 10]

DEVICE CONDITIONS

H23.37 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	463

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 463, 5-6-2005]



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[Devices subject to this condition: ~~D1362~~, D1378, D1424]

Note: This condition is already covered by System Cond. S13.9 above

H23.24 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	40CFR60, Subpart	Kb

[**40CFR 60 Subpart Kb, 10-15-2003**]

[Devices subject to this condition: D1293, D1305, D1329, D1330, D1337, ~~D1362~~, D1371, D1373, D1390, D1399, D1423, D1429, D1432, D1450, D1452, D1453,]

K67.53 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

Tank throughput in barrels per calendar month.

Commodity/product stored and time period of its storage.

Actual vapor pressure, in psia, of each commodity/product stored.

Hydrocarbon concentration measurements done in the vapor space above the floating roof of the tank.

Other records that may be required to comply with the applicable requirements of District Rules 463(d), 1149, 1178, 40CFR60 Subpart Kb, and 40CFR63, Subpart CC.

[**RULE 1149, 5-2-2008; RULE 1178, 4-7-2006; RULE 463, 5-6-2005; 40CFR 60 Subpart Kb, 10-15-2003; 40CFR 63 Subpart CC, 6-23-2003**]

[Devices subject to this condition: ~~D1362~~, D1432]

K67.54 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/product stored and time period of its storage.

Actual vapor pressure, in psia, of each commodity/product stored.

Other records that may be required to comply with the applicable requirements of District Rules 463, 1149, 1178, and 40CFR63, Subpart CC.

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

[Devices subject to this condition: D1324, D1351, D1356, D1357, D1360, D1361, ~~D1362~~, D1363, D1366, D1378, D1421, D1422, D1424, D1426, D1428, D1430, D1436, D1437, D1440, D1445, D1446, D1447, D1449, D1451]

BACKGROUND:



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Chevron Products Company (ID 800030) submitted AN 435990 on October 15, 2004 as a change of condition application to “correct” the equipment description by adding an additional “existing” mixer and changing the roof type to “pontoon” from “double deck” for Tank No. 186 (D1362).

The District permitting records only support the existence of one mixer on the subject tank. Chevron is not able to support the existence of the second mixer prior to the year 2002. Addition of a mixer to a tank is a modification of the tank. Since the mixer was installed without a permit, a 50% penalty is imposed per District Rule 301(c)(1)(D). The application type was changed from “change of condition” to “modification”. Chevron submitted the additional fee for the change in application type and for the 50% penalty.

The proposed change to the equipment description is shown by underline and strikethrough text in the equipment description above. A copy of the current permit is shown in **Appendix A**.

PERMIT HISTORY:

The permitting history for this tank is shown in the following table. Documentation is contained in **Appendix B**.

Permit History for Tank 186 (D1362)

Permit to Construct		Permit to Operate		Description of Modification
No.	Issue Date	No.	Issue Date	
	~1950			Original construction.
A22639	1964	P5306		First permit. Permit is for an EFR with a pontoon roof with a single seal.
C17414	4/19/78	M13440	3/23/81	Installation of a secondary seal for compliance with R463.
411324	3/07/03	F74407	3/28/05	Installation of a dome cover (geodesic type) for compliance with R1178.
435990	na.	na.	na.	Current application to permit an existing mixer and change the roof type from “double deck” to “pontoon”, etc.

COMPLIANCE RECORD REVIEW:

There is no record of compliance problem related to the operation of the subject storage tank.

PROCESS DESCRIPTION:

A description of Tank No. 186 (D1362) is contained in the equipment description above. There are no existing permit conditions that limit the type, throughput, or vapor pressure of commodities stored in this tank.

CALCULATION:



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The only emission increase from the modification is the fugitive emissions from the tank mixer that was added. Fugitive emissions from a tank mixer are assumed to be similar to fugitive emissions from pumps. As used in past evaluations, the emissions are about 80 lbs VOC/yr for heavy liquid and 100 lbs VOC/yr for light liquids.

Since the materials handled in the subject tank are light liquids (see e-mail dated 1-3-06), the emission factor of 100 lbs VOC/yr is used. Therefore, the emission increase in lb VOC/day is equal to 0.28 lb/day. This fugitive emission may be considered negligible and should not significantly affect the total emissions from the tank after modification. The current emissions from the tank, which average 4.1 lbs VOC/day based on a two-year data in **Appendix C**, are expected to remain the same because it's operating parameters on throughput, vapor pressure and kinds of commodities handled would not change. Therefore, for practical purposes, the emission data currently reported in the NSR (see **Appendix D**) would remain the same with the modification.

Rule 1401 Analysis:

The max. benzene content reported by Chevron in its AER is 0.77%w (0.77%w in 04-05 AER and 0.67%w in 03-04 AER). Therefore, annual benzene emission is (0.77/100) (100 lbs/yr) = 0.77 lb benzene/yr. Rule 1401 screening threshold for benzene is 8.91 lbs/yr (at 100 meters). The tank is reported to be located about 213 meters to the nearest fence line; therefore, the benzene emission of 0.77 lb/yr is well below its screening threshold of 8.91 lbs/yr.

EVALUATION AND RULE REVIEW:

As indicated above, the modification done to the subject tank did not result in any significant emission increase. On this basis, no operating limits on the type, throughput, or vapor pressure of commodities would continue to be imposed on the tank.

The requested change of the floating roof type from double deck to pontoon is considered administrative in nature because it does not require further engineering analysis [Note: The last permit issued for the tank on 3/17/03 under AN411324 was evaluated with the floating roof type being pontoon, see **Appendix E**), and the change is only for the purpose of correcting the error as supported by documentation in **Appendix F**. Other changes requested that are considered administrative include the deletion of the word "shell" from the "welded shell" description in the floating roof type, the addition of "welded shell" in the main tank description, and the addition of the description "rim mounted" for the secondary seal. These changes are for accuracy and clarity only.

With the modification completed, continued compliance with the following District Rules and Regulations is expected:

California Environmental Quality Act (CEQA)

According to the District's CEQA Guidelines, the net emission increase threshold for significant effect for the pollutant expected from the project is:

ROG: 55 lbs/day

CEQA analysis is not required for the modification because its expected emission increase of less than 1lb ROG/day is well below the above threshold. Also, Chevron has declared in the Form



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400-CEQA they have submitted that the said modification is exempt from further CEQA action. For these reasons, CEQA does not apply.

Rule 212: Standards for Approving Permits

This modification does not require public notification for the following reasons:

1. 212(c)(1) – the subject equipment is not within 1000 feet of the outer boundary of a school
2. 212(c)(2) – the estimated emission increase does not exceed any of the following net emission increase thresholds that are specified in 212(g):

CO: 220 lb/day
 NOx: 40 lb/day
 Pb: 3 lb/day
 ROG: 30 lb/day
 PM10: 60 lb/day
 SOx: 30 lb/day

3. 212(c)(3) – expected increase in MICR due to the modification is very insignificant.

Rule 401: Visible Emissions

The subject equipment is expected to comply with visible emission limits. No increase in visible emission is expected with the modification.

Rule 402: Nuisance

No nuisance complaints are expected from this equipment. No complaints or violations have been recorded for the previous five years of operation of this tank. Compliance with this rule is expected.

Rule 463: Storage of Organic Liquids

This tank is subject to the requirements of this rule since it has a storage volume of greater than 19,815 gallons and stores organic liquids, which are liquids containing VOCs. Domed External Floating Roof Tanks are subject only to the requirements in Rule 463(d). Compliance with these requirements is expected.

Reg. IX: Standards of Performance for New Stationary Sources:

40CFR60, Subpart K (*Construction, Reconstruction or Modification after 6-1-73 and prior to 5-19-78*)

40CFR60, Subpart Ka (*Construction, Reconstruction or Modification after 5-18-78 and prior to 7-23-84*)

40CFR60, Subpart Kb (*Construction, Reconstruction or Modification after 7-23-84*)

40CFR60.14(a): Modification - “Except as provided under paragraphs (e) and (f) of this section, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies”.

The modification to the subject tank was completed after 7-23-84 and resulted in an emission increase, although less than 1 lb VOC/day; therefore, it is subject to 40CFR60, Subpart Kb .

The subject tank complies with this subpart because it is provided with emission controls like Category A double seals and a dome roof cover. Chevron also has a program for their storage



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tanks to meet the monitoring/testing, inspection, recordkeeping and reporting requirements of this subpart.

Regulation X: National Emission Standards for Hazardous Air Pollutants (NESHAPS)

40CFR63: Subpart CC: National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries

The equipment is subject to this regulation because of its potential to emit hazardous air pollutants (HAP) including benzene. The subject tank is declared to belong to Grp 1 (**Appendix G**) under this subpart. Since the tank is subject to and complies with 40 CFR 60, Subpart Kb, it is then considered complying with this Subpart CC.

Rule 1149: Storage Tank Degassing

Compliance with tank cleaning and degassing requirements of this rule is expected.

Rule 1173: Fugitive Emissions of Volatile Organic Compounds

The only new fugitive emission source associated with the tank modification is the additional mixer. Compliance to this rule would be maintained since the applicant has a maintenance and inspection program required by this rule.

Rule 1178: Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities

The subject domed external floating roof tank is expected to comply with all the applicable requirements of this rule by the use of Category A double seals, use of gasketed fittings and covers and providing its new slotted guidepole with gasketed sliding cover, pole sleeve and wiper.

Reg. XIII: New Source Review

Emission Increase: Emission increase from the modification is minimal, less than 0.28 lb VOC/day; therefore, no BACT or emission offset is required.

Modeling: There is no VOC dispersion modeling required under R1303(b)(1), Appendix A.

Sensitive Zone Requirements – Not applicable because no ERC is required for this application.

Facility Compliance - The facility complies with all applicable rules and regulations of the District.

Rule 1401: New Source Review of Toxic Air Contaminants

From the Rule 1401 analysis above, the incremental increase in health risk from the modification is very minimal requiring no further health risk analysis.

Regulation XX: Regional Clean Air Incentive Market (RECLAIM)



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RECLAIM rules do not apply since the modification does not affect NOx and SOx emissions from the facility. The facility, however, is covered by a RECLAIM Permit that would incorporate this change.

Regulation XXX: Title V Permits

The permit issued for this tank will be issued as a revision of Chevron’s Title V permit. Permit revisions are categorized into the following four types: *administrative, minor, de minimis significant and significant*. The review and distribution requirements for each revision type are summarized in the following table.

Title V Permit Revisions: Review and Distribution Requirements

Revision Type	Permit Review and Distribution Requirements		
	EPA Review (45-day)	Public Notice (30-day)	Send Final Permit to EPA
Administrative	No	No	Yes
Minor	Yes	No	Yes
De Minimis Significant	Yes	No	Yes
Significant	Yes	Yes	Yes

As defined in Rule 3000, a minor Title V permit revision is any revision that:

- (1) 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;
- (2) does not violate a regulatory requirement;
- (3) does not require any significant change in monitoring terms or conditions in the permit;
- (4) does not require relaxation of any recordkeeping, or reporting requirement, or term, or condition in the permit;
- (5) 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;
- (6) does not result in an increase in emissions of a pollutant subject to Regulation XIII - New Source Review or a hazardous air pollutant;
- (7) does not establish or change a permit condition that the facility has assumed to avoid an applicable requirement;
- (8) 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,
- (9) 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; or,
- (10) incorporates an existing general permit, as defined in subdivision (e) of Rule 3004, and its associated requirements, into another Title V permit.

A de minimis significant Title V permit revision meets all of the requirements above with the exception that it does result in an increase in the emission of HAP, CO, VOC or PM10 that is not greater than the respective threshold below and the total cumulative emission increase of HAP,



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CO, VOC or PM10 for all de minimis Title V revisions during the term of the Title V permit is not greater than the respective threshold:

- HAP: 30 lb/day
- CO: 220 lb/day
- VOC: 30 lb/day
- PM10: 30 lb/day

Once the cumulative emission increase of HAP, CO, VOC or PM10 for all de minimis revisions issued during the term of the Title V permit exceeds the respective threshold above, all subsequent Title V permit revisions, with an increase of HAP, CO, VOC or PM10, issued during the term of the Title V permit will be significant revisions. Therefore, the cumulative increase in HAP, CO, VOC and PM10 emissions for de minimis revisions must be tracked for each 5-year Title V permit term. The term of the current Title V permit is from October 12, 2009 until October 11, 2014.

The proposed revision meets all of the minor TV revision specifications listed above except that the proposed modification causes an increase in estimated VOC emissions of 0.28 lb/day. Therefore, it qualifies as a de minimis significant revision. The table below contains a summary of the HAP, CO, VOC and PM10 emission increases for all de minimis significant revisions issued (or soon to be issued) during the term of the current Chevron El Segundo Refinery Title V Permit.

Emission Increases for De Minimis Significant Revisions of Chevron Title V Permit

Equipment Permit Appl. No.	Title V Revision Appl. No.	Emission Increase (lb/day)			
		HAP	CO	VOC	PM10
511207	511206	0	0	1.0	0
435990 (1)	516647	0	0	0.3	0
437429 (1)	516647	0	0	0.4	0
516645 (1)	516647	0	0	0.7	0
Cumulative (2)		0	0	2.4	0

- (1) These permits are all being issued in a de minimis significant Title V revision under A/N 516647.
- (2) Cumulative emissions increase for all de minimis significant Title V permit revisions since issuance of the initial Title V permit on October 12, 2009.

Since the cumulative emission increase of HAP, CO., VOC and PM10 for all de minimis significant revisions issued during the current term of the Chevron Title V permit is less than respective threshold, this revision of the Title V permit is a de minimis significant revision. The Title V revision, which will be sent to EPA for a 45-day review, is being processed under Title V revision application no. 516647. Public notice is not required.

RECOMMENDATION:



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Based on the foregoing evaluation, the operation of the subject tank after the modification would continue to comply with all the applicable District Rules and Regulations. It is, therefore, recommended that a Permit to Operate without Permit to Construct be issued for the subject storage tank modification subject to all the conditions on pages 2 to 4.

Emmanuel Ruivivar

A.Q. Engr. II

[**Note:** This evaluation was updated for consistency with the current Title V permit and revised in response to supervisors comments – Bob Sanford 1/13/11]