



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

STATIONARY SOURCE COMPLIANCE DIVISION

APPLICATION PROCESSING AND CALCULATIONS

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APPL. NO.
437451

DATE
02/28/08

PROCESSED
BY ERuivivar

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BY

**PERMIT TO OPERATE
- Modification (POnoPC) -**

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:

APPLICATION NO. 437451

Additions/new are noted in bold & underlines while deletions in strikeouts

Description	ID No.	Connected To	RECLAIM Source Type	Emissions and Requirements	Conditions
Process 16: STORAGE TANKS					P13.1 (existing)
System 3: EXTERNAL FLOATING ROOF TANK					S13.3 (existing)
STORAGE TANK, EXTERNAL FLOATING ROOF, NO. 752, WELDED SHELL , WASTEWATER, RECOVERED HYDROCARBONS, 15,000 BBL; DIAMETER: 48 FT; HEIGHT: 48 47 FT 8 IN , WITH FLOATING ROOF, PONTOON DOUBLE DECK , WELDED SHELL , PRIMARY SEAL, CATEGORY A, METALLIC SHOE, SECONDARY SEAL, CATEGORY B OR BETTER PER RULE 219(C)(4) , RIM MOUNTED, WIPER TYPE, GUIDEPOLE, UNSLOTTED, WITH GASKETED SLIDING COVER AND POLE WIPER	D1401			BENZENE: (10) [40CFR61 Subpart FF, #2, 12-4-2003]; HAP: (10) [40CFR 63 Subpart CC, #2, 6-23-2003]	C1.10 (removed), C1.153 (new) , D90.34 (removed) E71.68 (new) , H23.17 (existing) K67.56 (added)
A/N: 263554 437451					



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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
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

S13.3 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1149
VOC	District Rule	463
VOC	District 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 1, 2, 3, 5]

DEVICE CONDITIONS

~~**C1.10** The operator shall limit the number of turnovers to no more than 10 in any one calendar year.~~

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

[Devices subject to this condition: ~~D1401~~, D1402]

C1.153 The operator shall limit the throughput to no more than 12,500 barrel(s) in any one calendar month.

The operator shall calculate the throughput, in barrels, by the following equation: $0.14 \times D \times D \times L$, where D is the diameter of the tank in feet based on the tank strapping chart and L is the total vertical one-way roof travel in feet per month.

The operator shall install and maintain an automatic tank level gauge (ATLG) and recorder to continuously record the vertical movement of the roof. For the purpose of this condition, continuous recording is defined as once per hour.

The operator shall calculate the total one-way roof movement, in feet, on a daily and monthly basis.

The ATLG installed shall be verified once per quarter by comparing against a manual tank level measurement. If the ATLG differs from the manual tank level measurement by more than 1.0 inch or 0.8%,



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whichever is greater, the ATLG shall be repaired and put back into service within 10 days. While the ATLG is being repaired, the throughput shall be determined by the hourly tank level data averaged from the previous 30 days prior to the discovery of the discrepancy.

In the event of a failure or routine maintenance of the ATLG, the ATLG shall be repaired (if necessary) and put back into service within 10 days of the time that the ATLG failed or was removed from service for maintenance. While the ATLG is being repaired or maintained, the throughput shall be determined by the hourly tank level data averaged from the previous 30 days prior to time that the ATLG went out of service.

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

[Devices subject to this condition: D1401]

D90.34 The operator shall install and maintain an automatic tank level gauge (ATLG) and recorder to continuously measure and record the liquid surface level movement. For the purpose of this condition, continuous recording is defined as once per hour.

For cylindrical tanks, the throughput, in barrels, shall be calculated using the following equation: $0.14 \times D \times D \times L$, where D is the diameter of the tank in feet based on the tank strapping chart and L is the total vertical one-way liquid surface level travel in feet per month.

For non-cylindrical tanks, the throughput, in barrels, shall be calculated using an appropriate equation that utilizes the liquid surface level movement.

Records of throughput shall be retained for a period of five years and made available to the Executive Officer upon request.

[RULE 1303(b)(2)-Offset, 5-10-1996; RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]

[Devices subject to this condition: D1269, D1284, D1300, D1305, D1319, D1321, D1323, D1326, D1330, D1336, D1337, D1338, D1348, D1365, D1368, D1374, D1376, D1380, D1385, D1386, D1387, D1392, D1398, D1399, ~~D1401~~, D1402, D1408, D1413, D1414, D1415, D1419, D1455, D1458, D1467, D2164]

E71.68 The operator shall only use this equipment for the storage of materials with true vapor pressures less than 3 psia at actual storage conditions. The purpose of this condition is to ensure that this equipment operates in such a manner that it complies with R1178.

[RULE 1178, 4-7-2006]

[Devices subject to this condition: D1401]



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

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

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

[Devices subject to this condition: D1327, D1335, D1348, D1374, D1394, **D1401**, D1402, D1413, D1414, D1415, D1459, D1465, D1473, D4119, D4121, D4123, D4125, D4127, D4129, D4131, D4133, D4135, D4137, D4139, D4141, D4143, D4145, D4147, D4149, D4151, D4153, D4155, D4157, D4159, D4161, D4163, D4165, D4167, D4169, D4171, D4173, D4175, D4177, D4179, D4181, D4183, D4185, D4187, D4189, D4191, D4193, D4195, D4197]

K67.56 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.

Other records that may be required to comply with the applicable requirements of District Rules 463, 1149, 1178, 40CFR60, Subpart Kb, 40CFR61, Subpart FF, 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 61 Subpart FF, 12-4-2003; 40CFR 63 Subpart CC, 6-23-2003]**

[Devices subject to this condition: D1348, **D1401**, D1402]

BACKGROUND:

Chevron Products Company (ID 800030) submitted AN 437451 on Dec. 1, 2004 as an administrative change of condition to “correct” the equipment description of Tank No. 752 (Dev. D1401) by changing its roof type from “pontoon” to “double deck” (see **Appendix A** for submitted documentation), correcting the tank height from 48 feet to 47 feet 8 inches based on its strapping chart (see copy in **Appendix B**), and deleting the unnecessary phrase “PER RULE 219(C)(4)” for the tank secondary seal.

The District permitting records, however, do not indicate that the permit applied for or issued could support the change of the roof description requested (see **Appendix C**). Chevron was then advised that the application submitted could not be accepted as an administrative change but as a permit modification without a Permit to Construct. As requested, Chevron submitted the appropriate fee for a modification application plus a 50% penalty per District Rule 301(c)(1)(D) for a modification without a permit to construct.

The proposed change to the equipment description is shown by bold & underline and strikethrough text in the equipment description on page 1 above.



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PERMIT HISTORY:

The subject tank No. 752 (D1401) is currently covered by P/C-P/O D59138 issued on 7/23/92 under Appl. 263554 (see fac. permit copy in **Appendix D** & command & control permit in **Appendix E**). This permit was issued for the conversion of the subject tank, which was originally installed as a fixed roof (without floating roof) in 1946 (see declaration in **Appendix F** and District records in **Appendix G**) and did not have any permit, to a pontoon type external floating roof. The AN263554 was subject to NSR because of the change in design. ERCs amounting to 10 lbs VOC/day were provided to offset the calculated emission increase of about 8 lbs VOC/day. On this basis, a throughput permit limit of 10 turnovers/yr was specified for stored materials with vapor pressure up to 11 psia as allowed under Rule 463.

COMPLIANCE RECORD REVIEW:

District records do not indicate any outstanding compliance problem with the operation of the subject storage tank.

PROCESS DESCRIPTION:

The subject tank is used for the storage of hydrocarbon product and/or wastewater recovered from subsurface hydrocarbon recovery wells. Based on annual emissions reported for 2003-2006 (see copy in **Appendix H**), the calculated VOC emissions ranged from 283.5 lbs VOC/yr to 413.9 lbs VOC/yr or 0.78 to 1.13 lbs VOC/day which is well below its NSR emission baseline of about 8 lbs VOC/day (see **Appendix I**). For the new permit application, no change is expected or requested on the kind of materials being stored in the tank, the tank fittings as listed in **Appendix J**, and the current permit limits of 10 tank turnovers per year and max vapor pressure of up to 11 psia.

CALCULATIONS

The calculation used in the previous AN263554 NSR analysis as shown in **Appendix K** is obsolete and needs to be revised using EPA's Tanks 4.0 program in order that comparison with the new scenario (the change from pontoon roof to double deck roof) could be made on the same calculation basis.

For the "before" scenario case (before change with pontoon roof or as permitted), the vapor pressure of 8.3 psia was used (the current permit condition allows storage of materials up to 11 psia) in the analysis so that the resulting calculated emission using the Tanks 4.0 program amounts to the same NSR emission baseline of 8 lbs VOC/day (see calculations in **Appendix L**) using the same throughput limit of 10 tank turnovers per year or 525,000 gals/mon.

The "after" or new scenario tank calculation (see **Appendix M**), all the calculation parameters used such as throughput of 525,000 gals/mon, the number and types of tanks fittings (except double deck roof legs instead of pontoon area legs) were used except that the roof type changed to double deck and the max vapor pressure reduced to less than 3.0 psia to meet Rule 1178 for external floating roof tanks without dome cover.



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Shown below in the table is a comparison of the two scenarios described above:

Operating Parameter	Before Modification	After Modification
Type of roof	Pontoon	Double Deck
Tank throughput	525,000 gals/mon (12,500 bbls/mon)	525,000 gals/mon (12,500 bbls/mon)
True vapor pressure of material	Up to 11 psia	Less than 3 psia for Rule 1178 compliance)
Roof fittings list	See Appendix J , with pontoon roof legs	See Appendix J , with double deck roof legs
Commodity	Petroleum product	Petroleum product

The emissions using the above parameters in the calculations shown in the **Appendices L** (before modification) and **M** (after modification) are summarized as follows:

Before Modification: R2 = 2,933.21 lbs ROG/yr; 8.03 lbs ROG/day

After Modification: R2 = 749.55 lbs ROG/yr; 2.05 lbs ROG/day

Net emission change: (2.05 – 8.03) lbs ROG/day = -5.98 lbs ROG/day

EVALUATION AND RULE REVIEW:

Based on the above emission estimates, the completed modification (the change of tank roof from “pontoon” to “double deck”) on the subject storage tank did not result in any emission increase and therefore, such modification is not subject to the provisions of NSR or new NSPS requirements as further explained below. The other changes requested or update on the equipment description as shown on page 1 are merely administrative in nature and should not affect the tank emissions. The tank is not expected to be provided with a domed roof and therefore, a vapor pressure limit of less than 3 psia need to be imposed as a permit condition to ensure compliance with Rule 1178.

The operation of the subject tank after the modification should be expected to continue to comply with the following District Rules and Regulations:

Rule 212: No public notice is required because there is no emission increase from the modification. There is also no increase in toxic health risk and the equipment is not located within a 1,000-ft. of a school.

Rule 401: No visible emission is expected.

Rule 402: No nuisance problem is expected.

Rule 463: 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 is



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any liquid containing VOCs. Continued compliance with the requirements of this rule is expected with the use of double seals on the tank.

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*)

Although no emission increase is expected from the subject tank modification, the tank would continue to be subject to Subpart Kb as determined under the previous AN263554. Continued compliance with this subpart is expected with its emission controls like double tank seals in place.

**40CFR63,
Subpart CC**

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 2 under this subpart (see Appendix F). Since the tank is subject to and complies with 40 CFR 60, Subpart Kb, it is then considered complying with this Subpart CC.

Reg. X: National Emission Standards for Hazardous Air Pollutants :

The subject tank was identified by the applicant (see Appendix F) as being subject to 40 CFR 61, Subpart FF because it stores waste materials containing benzene. The proposed modification would not change the applicability of this regulation. Compliance with the applicable requirements of this subpart is expected.

Rule 1149 Compliance with tank cleaning and degassing requirements of this rule is expected.

Rule 1173 There was no new fugitive component associated with the tank modification. The applicant has maintenance and inspection program required by this rule.

Rule 1178 The subject external floating roof tank is expected to comply with all the applicable requirements of this rule by limiting the vapor pressure of stored materials to less than 3 psia because it is not provided with a dome cover and also the use of double tank seals, use of gasketed fittings and covers, and providing its unslotted guidepole with gasketed sliding cover and wiper.

Reg. XIII: New Source Review

Emission Increase: No emission increase resulted from the modification. Therefore, no BACT or emission offset is required.



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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 - Not applicable since there is no emission increase from the modification.

Rule 1401: There is no incremental increase in health risk from the modification. since there is no increase in toxic emissions.

CEQA: The proposed modification is not a significant project or part of a significant project requiring a CEQA document.

Reg. XX: 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.

Reg. XXX: 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;



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- (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.

The revision related to this tank application meets all of the requirements above so it would be a minor Title V permit revision. The permit revisions proposed under this application will be combined into a de minimis significant Title V permit revision that is being proposed under Title V permit revision application number 516647. The de minimis significant Title V revision will be sent to EPA for a 45-day review. Public notice is not required.

RECOMMENDATION:

Based on the foregoing evaluation and considering that compliance with all the applicable District Rules and Regulations is expected with the modification, it is recommended that a Permit to Construct and Operate be issued for the subject storage tank 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]