

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 23262 **ISSUED BY** _____
 ADY R. SANTOS

DATE ISSUED: APRIL XX, 2012

DATE EXPIRES: APRIL XX, 2014

ISSUED TO: THE PROCTER & GAMBLE MANUFACTURING CO.

LOCATION: 8201 FRUITRIDGE RD., SACRAMENTO, CA 95826

DESCRIPTION: MODIFICATION OF METHYL ESTER AND GLYCERINE MANUFACTURING PROCESS (P/O 22270) — REPLACEMENT OF TANK NO. 532
 • TANK NO. 532 (*NEW*), EMISSION SOURCE ID 1019, 8,400 GALLONS CAPACITY, 26,250,000 LB/QUARTER GLYCERINE THROUGHPUT
 REFER TO **APPENDIX 'A'**-- METHYL ESTER AND GLYCERINE MFG PROCESS EQUIPMENT

AUTHORITY TO CONSTRUCT CONDITIONS

START-UP REQUIREMENTS

- S1. Upon installation of the equipment authorized in this Authority to Construct, the owner/operator shall contact the Sacramento Metropolitan Air Quality Management District (SMAQMD) at 916/874-4858 to arrange for a start-up inspection.
[Basis: SMAQMD Rule 201, Section 405]
- S2. This Authority to Construct shall serve as a temporary permit to operate provided that:
- The SMAQMD has been notified for a start-up inspection,
 - The equipment installed matches the equipment authorized in the Authority to Construct, and
 - The equipment is operated in compliance with all conditions listed within the Authority to Construct.
- [Basis: SMAQMD Rule 201, Section 405]**
- S3. **The owner or operator of a stationary source shall submit to the Air Pollution Control Officer a complete Title V permit application for Minor Title V permit modification prior to commencing operation associated with the Minor Title V permit modification.**
[Basis: SMAQMD Rule 207, Section 301.6]

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GENERAL

1. The equipment shall be properly maintained and operated in accordance with the manufacturer's recommendations at all times.
[Basis: SMAQMD Rule 201, Section 405]
2. The Air Pollution Control Officer and/or authorized representatives, upon the presentation of credentials, shall be permitted:
 - A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this authority to construct, and
 - B. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct, and
 - C. To inspect any equipment, operation, or method required in this Authority to Construct, and
 - D. To sample emissions from the source or require samples to be taken.
[Basis: SMAQMD Rule 201, Section 405]
3. This Authority to Construct does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the California Health and Safety Code or the Rules and Regulations of the SMAQMD.
[Basis: SMAQMD Rule 201, Section 405]
4. The equipment shall not discharge such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
[Basis: SMAQMD Rule 402, Section 301]
5. A legible copy of this Authority to Construct shall be maintained on the premises with the equipment.
[Basis: SMAQMD Rule 201, Section 401]

EMISSION LIMITATIONS

6. The process shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.
[Basis: SMAQMD Rule 401, Section 301]

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7. Emissions from the process and emissions unit shall not exceed the following limits:
[Basis: SMAQMD Rule 214, Section 410.2 and Rule 207, Section 305.1]

Emissions Unit (Emission Source ID)	Pollutant	Maximum Allowable Emissions	
		(lb/day)	(lb/quarter)
Tank 532 (ID 1019)	VOC	0.01 (A)	1 (B)

- (A) Daily emission limit is based on the quarterly limit and 92 operating days per quarter.
 (B) Refer to **Appendix 'IT' — Methyl Ester and Glycerine Manufacturing Process Emissions.**

Process	Pollutant	Maximum Allowable Emissions	
		(lb/day)	(lb/quarter)
Methyl Ester & Glycerine Mfg Process	VOC	55.8 (A)	5,131 (B)

- (A) Daily emission limit is based on the quarterly limit and 92 operating days per quarter.
 (B) Refer to **Appendix '13' — Methyl Ester and Glycerine Manufacturing Process Emissions.**

8. Fugitive VOC emissions from equipment leaks shall not exceed the following limits:
[Basis: SMAQMD Rule 214, Section 410.2 and Rule 207, Section 305.1]

Equipment Type	Quantity	Service	Emission Factor (A) kg/hr/source	Maximum Allowable ^{VOC} Emissions (B) (lb/quarter)
Valves	382	Gas	0.000131	242
Valves	3,101	Light Liquid	0.000165	2,470
Valves	3,306	Heavy Liquid	0.00023	3,671
Pump Seals	79	Light Liquid	0.00187	713
Pump Seals	147	Heavy Liquid	0.00210	1,490
Agitator Seals	15	Light Liquid	0.00187	135
Agitator Seals	65	Heavy Liquid	0.00187	587
Compressor Seals	0	Gas	0.0894	0
Pressure Relief Valves	17	Gas	0.0447	3,669

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Equipment Type	Quantity	Service	Emission Factor (A) kg/hr/source	Maximum Allowable VOC Emissions (B) (lb/quarter)
Connectors	20,768 (C)	All	0.0000810	8,122
Open-ended Lines	901	All	0.00150	6,525
Total				27,624

(A) Emission factors are from *Protocol for Equipment Leak Emission Estimates*, EPA-453/R-95-017, November 1995, Table 2-5, SOCMI screening ranges emission factors, <10,000 ppmv (assuming all TOC is VOC).

(B) Potential to emit is based on 2,190 hours/quarter of operation.

(C) Includes estimated connectors in heavy liquid service.

9. The contents or products associated with each device shall not deviate from those identified in the permit application including changes in constituent mass fractions or operating temperatures that would result in an increase in the VOC composite partial vapor pressure at the actual operating conditions of the emissions unit.

[Basis: SMAQMD Rule 201, Section 406]

EMISSION OFFSETS

10. Procter & Gamble shall provide sufficient emission reduction credits (ERC) to fully offset the following VOC emissions increase in the Methyl Ester & Glycerine Manufacturing Process:

[Basis: SMAQMD Rule 214, Section 3021]

Permit No. — Process	Emission Offsets (VOC) (lb/quarter)			
	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
A/C 23262 — Methyl Ester & Glycerine Mfg. Process	497	497	497	497

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11. Emission reduction credits have been provided by Procter & Gamble to fully offset the amounts specified in Condition No. 10:
[Basis: SMAQMD Rule 214, Section 302]

Permit No.	Emission Reduction Credits (VOC)				
	Certificate No.	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
NC 23262	09-01055 (A)	497	497	497	497

(A) The ERC certificate was surrendered by Procter & Gamble in the preceding permit action in P/0 22006.

EQUIPMENT STANDARDS

12. Emissions from all equipment specified in the table below shall comply with either the maximum uncontrolled emission limits or the control system requirements:
[Basis: SMAQMD Rule 464, Sections 301 - 304]

Equipment	Maximum Uncontrolled VOC Emissions or Control System Requirement
Reactor, distillation column, crystallizer, evaporator or enclosed centrifuge	15 lb/day or VOC capture and control system with a combined system efficiency ? . 85% by weight and a control efficiency 90% by weight
If a VOC capture and control system controls more than two process vents from reactors, distillation columns, crystallizers, evaporators or enclosed centrifuges	Combined VOC emissions from all process vents reduced to < 33 lb/day or Overall combined system efficiency 85% by weight and an overall control efficiency 90% by weight
Centrifuge, rotary vacuum filter or other device having an exposed liquid surface where the liquid contains VOC with a VOC composite partial vapor pressure ? . 26 mm Hg @ 20°C	5 15 lb/day or A VOC capture and control system with a combined system efficiency 85% by weight and a control efficiency 90% by weight

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Equipment	Maximum Uncontrolled VOC Emissions or Control System Requirement
Dryer or other production equipment exhaust system	A. If maximum uncontrolled roc emissions is 330 lb/day, a VOC capture and control system with a combined system efficiency 85% by weight and a control efficiency 90% by weight B. If maximum uncontrolled roc emissions is < 330 lb/day, reduce roc emissions to < 33 lb/day
Process tank containing material with a VOC composite partial vapor pressure > 26 mm Hg @ 20°C	A. A closed container, which is kept tightly covered at all times except when accessing the container B. Maximum uncontrolled VOC emissions 5- 15 lb/day or VOC capture and control system with a combined system efficiency 85% by weight and a control efficienq ?. 90% by weight



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Equipment	Maximum Uncontrolled VOC Emissions or Control System Requirement
<p>Equipment transferring liquid with a VOC composite vapor pressure > 26 mm Hg @ 20°C into any truck, trailer, railroad tank car or storage tank of 2,000 gallons capacity or greater</p>	<p>Vapor balance system with all of the following components:</p> <ul style="list-style-type: none"> A. A permanent submerged fill pipe which discharges at not more than six inches from the bottom of the tank; and B. A submerged fill pipe which discharges at not more than six inches from the bottom of the tanker truck <u>or</u> rail car; and C. A vapor return line which transfers at least 90% by weight of the displaced VOC vapor from the stationary storage tank being filled back to the mobile or stationary supply tank; and D. A pressure/vacuum relief valve with relief settings of not less than ± 0.03 psig. <p style="text-align: center;">or</p> <p>VOC capture and control system with a combined system efficiency of ≥ 85% by weight and a control efficiency of 90% by weight</p> <p style="text-align: center;">or</p> <p>An internal or external floating roof which complies with the procedures described in 40 CFR 63, Sections 119(b), (c), (d) and 63.120.</p>
<p>Storage tanks with capacities >:40,000 gallons</p>	<p>Compliance with SMAQMD Rule 446 — Storage of Petroleum Products.</p>
<p>Storage tank with a capacity > 55 gallons and ≤ 40,000 gallons containing material with a VOC composite partial vapor pressure of > 78 mm Hg @ 20°C</p>	<p>A pressure/vacuum relief valve with a relief setting of not less than ± 0.03 psig or an equivalent control method permitted under SMAQMD Rule 201 — General Permit Requirements, on all vents of any storage tank.</p>
<p>Storage tank with a capacity ≤ 55 gallons containing material with a VOC composite partial vapor pressure of > 78 mm Hg @ 20°C</p>	<p>Closed container, which is kept tightly covered at all times except when accessing the container.</p>

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EQUIPMENT OPERATION

13. The facility shall not exceed the following raw material and product process rate limitations wherein the Ester Dryer emissions are vented to the APC Thermal Oxidizer [North Thermal Oxidizer (NTO)]:

[Basis: SMAQMD Rule 201, Section 302]

Material	Maximum Allowable Processing Rate (pounds/quarter)
Crude Vegetable Oil	147,500,000

Product	Maximum Allowable Processing Rate (A) (pounds/quarter)
Esters	138,230,000

(A) Product throughput is monitored from the oil flow to ester reactor flowmeter plus the bottoms flow to ester reactor flowmeter.

14. The facility shall use closed containers for the storage and disposal of cloth, paper, or sponges used for solvent cleanup.

[Basis: SMAQMD Rule 464, Section 308.1]

15. The facility shall store fresh and spent cleanup solvent materials in closed containers.

[Basis: SMAQMD Rule 464, Section 308.2]

16. The facility shall not use a cleanup Material to perform in-line solvent cleaning of process units and pipings unless either:

- A. The emissions are vented to a VOC capture and control system which has a combined system efficiency of at least 85% by weight and a control efficiency of at least 90% by weight; or
- B. The solvent complies with a VOC content limit of 200 grams/liter and a vapor pressure limit of less than 45 mm hg @ 20°C.

[Basis: SMAQMD Rule 464, Section 308.3]

17. Except for laboratory equipment cleaning exempt pursuant to Rule 464, Section 115, the facility shall not use a solvent to perform maintenance solvent cleaning, including but not limited to mechanical parts and work areas, unless the solvent complies with a VOC content limit of 25 grams/liter (0.21 pounds/gallon).

[Basis: SMAQMD Rule 464, Section 308.4]

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FUGITIVE EMISSIONS MONITORING REQUIREMENTS

18. The facility shall not use any affected device or flange, as defined in Rule 443, Sections 201 and 208, in the process for handling volatile organic compounds unless such affected device or flange does not allow the volatile organic compound being handled to leak into the atmosphere.

[Basis: SMAQMD Rule 443, Section 301.1]

19. Each affected device located at the end of a pipe or line containing volatile organic compounds shall be sealed with a blind flange, plug, or cap when not in use, except for any of the following:

- A. Valves on product sampling lines
- B. Safety pressure relief valves
- C. Bleeder valves in double block and bleeder valve systems
- D. Water drain valves
- E. Loading spouts

[Basis: SMAQMD Rule 443, Section 301.2]

20. Each affected device or flange which has been discovered to be leaking shall be affixed with a weatherproof, brightly colored, readily visible tag bearing the date the leak was discovered. The tag shall remain in place until the leaking affected device or flange is repaired or replaced, reinspected, and found to be in compliance with the requirements of Rule 443.

[Basis: SMAQMD Rule 443, Section 301.3]

21. Each affected device or flange handling volatile organic compounds shall be inspected for leaks according to the following schedule:

[Basis: SMAQMD Rule 443, Section 302, Rule 464, Section 305 and Rule 202, Section 301]

Affected Device	Service	Leak Definition	Inspection Frequency	Inspection Method
Pressure Relief Devices	Gas	Improper reset	Within 24 hours after every over-pressure relief	Visual or manual
Pumps	Light. liquid	Visible leak	Weekly	Visual
Pumps	All	500 ppmv	Quarterly	Portable hydrocarbon detection instrument measured 1 cm from the source

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Affected Device	Service	Leak Definition	Inspection Frequency	Inspection Method
Compressors	All	500 ppmv	Quarterly	Portable hydrocarbon detection instrument measured 1 cm from the source
Valves, flanges, pressure relief devices, connections, and miscellaneous devices	All	100 ppmv	Quarterly (A)	Portable hydrocarbon detection instrument measured 1 cm from the source

(A) Quarterly inspections of valves may be reduced to annual inspections if less than 2% of all valves associated with a process unit are found to be leaking for five consecutive quarterly inspections. Quarterly inspections must be resumed if during the annual inspection, more than 2% of the valves are found to be leaking.

22. Each leaking affected device or flange shall be repaired within two working days after detection of such leak, except as provided in Rule 443, Section 303.2. The repairs shall be such that there will be a no leak condition.
[Basis: SMAQMD Rule 443, Section 303.1]
23. For each essential affected device or flange found to be leaking that cannot be brought into compliance with Rule 443, Section 303.1, the following actions shall be taken:
- A. If, after efforts to repair in accordance with Rule 443, Section 303.1 without shutting down are completed and the leak rate is less than 10 drops per minute, or the detectable hydrocarbon concentration is less than 10,000 ppm (expressed as methane), but more than the leak definition value as measured within 1 centimeter of the source, all of the following actions shall be taken:
 - i. Within two working days of discovery of non-repairability, the Air Pollution Control Officer shall be given notice of the date the essential affected device or flange will be repaired; and
 - ii. Within two working days of repair, the air pollution control officer shall be notified of the date of repair; and
 - iii. Inspection of such essential affected device or flange shall be made monthly until such essential affected device or flange is returned to a no leak condition; and
 - iv. Repairs to bring such essential affected device or flange to a no leak condition shall be completed at the next process turnaround or plant shutdown or within six months, whichever is the shorter length of time.
 - B. If, after efforts to repair in accordance with Rule 443, Section 303.1 without shutting down are completed and the leak rate is 10 drops per minute or greater, or appearance of a visible mist

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continues, or the detectable hydrocarbon emissions are 10,000 ppm (expressed as methane) or greater, measured within 1 centimeter of the source, one of the following actions shall be taken:

- i. Leak minimization repairs shall be made within two days which reduces the leakage rate to the rate stated in Rule 443, Subsection 303.2.a and such essential affected device shall be subject to the provisions of Rule 443, Subsection 303.2.a; or
- ii. The emissions from the leak shall be reduced by 90% within two working days by the use of an emission control device, as determined by the methods specified in Rule 443, Section 501.3 and 501.4; or
- iii. A petition for a variance shall be filed in accordance with Rule 602, *Breakdown Conditions Emergency Variance*.

[Basis: SMAQMD Rule 443, Section 303.2]

24. If complying with Rule 443, Sections 303.1, 303.2.a, 303.2.b.1, and 303.2.b.2, the facility shall be exempt from the provisions of Rule 602, *Breakdown Conditions Emergency Variances*.

[Basis: SMAQMD Rule 443, Section 303.3]

25. Inaccessible affected devices and flanges shall be exempt from the provisions of Rule 443, Section 302, provided:

- A. The number of inaccessible affected devices and flanges subject to this section does not exceed 5% of the total number of affected devices or flanges associated with a process unit subject to Rule 443, Section 302; and
- B. A list of the inaccessible affected devices and flanges, including location, subject to this section is made available to the Air Pollution Control Officer upon request; and
- C. The reason why the affected device or flange is inaccessible is provided with the list prepared pursuant to Rule 443, Section 304.2; and
- D. The inaccessible affected devices or flanges are inspected annually.

[Basis: SMAQMD Rule 443, Section 304]

26. Any leak originally identified by the Air Pollution Control Officer shall constitute a violation of Rule 443.

[Basis: SMAQMD Rule 443, Section 401]

27. Unless otherwise stated, the performance tests for demonstrating compliance with the requirements of this Permit to Operate shall be the following:

- A. **VOC Mass Emission Rate and Control Efficiency:** Except where otherwise specified, the VOC mass emission rate and control efficiency shall be determined in accordance with EPA Method 18, 25 or 25A; EPA Method 1 or 1A; EPA Method 2, 2A, 2B or 2C; EPA Method 3; and EPA Method 4 (whichever combination is most applicable).

Capture/Collection Efficiency: Capture/collection shall be determined by using EPA *Guidelines for Developing Collection Efficiency Protocols*, 55 Federal Register 26865, June 29, 1990. Individual collection efficiency test runs subject to the EPA Technical Guidelines shall be determined by:

- i. EPA methods 204, 204A, 204B, 204C, 204E and/or 204F; or

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- ii. The South Coast Air Quality Management District "Protocol for Determining Volatile Organic Compound (VOC) Capture Efficiency"; or
- iii. Any other method approved in writing by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- C. **VOC Concentration in Wastewater:** The total VOC concentration in wastewater shall be determined in accordance with EPA Method 305 or Method 25D.
- D. **Vapor Pressure:** Vapor pressure of a VOC shall be determined in accordance with ASTM Method D2879-86 or may be obtained from the most current edition of standard reference texts, including, but not limited to:
 - i. *The Vapor Pressure of Pure Substances*, Boublik, Fried, and Hala; Elsevier Scientific Publishing Company, New York
 - ii. *Perry's Chemical Engineer's Handbook*, McGraw-Hill Book Company
 - iii. *CRC Handbook of Chemistry and Physics*, Chemical Rubber Publishing Company
- E. **VOC Content:** VOC weight percent of process fluids shall be determined by ASTM Method E-168, E-169, E-260 or EPA Method 24.
- F. **Leak Detection:** EPA Method 21 shall be used to determine the existence of a leak.
- G. **Determination of Exempt Perfluorocarbon Compounds:** if any of the perfluorocarbons are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.

[Basis: SMAQMD Rule 443, Section 501 and SMAQMD Rule 464, Section 5021

28. The facility shall notify the Air Pollution Control Officer at least one week in advance of the date and time of any fugitive emissions monitoring performed for the purposes of satisfying Condition No 21.

[Basis: SMAQMD Rule 201, Section 4051

EMISSION TESTING

29. The facility shall perform the following source test(s) at least once during each calendar year, under the following conditions:

- A. VOC mass emissions shall be determined for the following emission point(s):

Emission Source ID	Emission Point	Test Methods
1020	Glycerine evaporator condenser	EPA Methods 1 — 4 & EPA Method 18 or Method 25

- B. For the above streams that are known by the owner or operator to contain methanol, VOC mass emissions shall be calculated by one of the following methods:
 - i. If Method 25 is performed, methanol shall also be measured using either Method 18 or Method 308. A molecular weight of 32 shall be used for methanol and a molecular weight of 16 shall be used for non-methanol VOC in all calculations.

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- ii. If Method 18 is performed, VOC mass emissions shall be calculated using the individual molecular weights of each VOC identified in the analysis. Unidentified or tentatively identified compounds shall be accounted for in the calculation using the best data available from the laboratory.
- C. A source test plan shall be submitted to the Air Pollution Control Officer for written approval at least 30 days before the scheduled date of the source test. The source testing required by this condition shall not be performed without prior approval of the SMAQMD. The source test plan shall include, but not be limited to, the proposed operating conditions during the source test, the specific protocol being used, and a description of all sampling and analytical procedures to be used.
- D. Source tests shall be performed between May 15 and September 30. If the source test is conducted outside of this time period, source test runs shall be conducted while the outside ambient temperature is 80°F or higher.
- E. Source test runs shall coincide with the worst case operating scenario approved by the district. For batch processes or equipment venting batch processes, the duration of test runs shall be the time from the start to the completion of the batch cycle, unless the test run is conducted under an absolute or hypothetical worst case scenario as described in SMAQMD Rule 464, Section 411.3. For a batch cycle or test period greater than 3 hours, a single test run conducted over the duration of the batch cycle or test period used for the emission determination. For batch cycles or test periods less than or equal to 3 hours, testing shall include at a minimum, 3 one-hour runs.
- F. The Air Pollution Control Officer shall be notified at least 7 days prior to the actual source test date and start time.
- G. A written source test report shall be submitted to the Air Pollution Control Officer within 60 days after completion of the source test. The source test report shall include any total resource effectiveness (TRE) calculations used to show compliance with the 40 CFR 60, Subparts NNN and RRR.

[Basis: SMAQMD Rule 207, Section 305.1(f) (4)]

RECORDKEEPING

30. The facility shall recalculate the total resource effectiveness (TRE) index value for any unit subject to the 40 CFR 60 Subparts NNN and RRR whenever process changes are made accordingly. Examples of process changes include: changes in production capacity, feedstock-type or catalyst-type, or whenever there is a replacement, removal or addition of recovery equipment. The TRE shall be recalculated based on test data or on best engineering estimate of the effects of the change to the recovery system.

[Basis: 40 CFR 60.664(f)]

31. The following records shall be continuously maintained on-site for the most recent five-year period and shall be made available to the Air Pollution Control Officer upon request. Quarterly records as specified in the table below shall be made available for inspection within 30 days following the end of the preceding quarter.

[Basis: SMAQMD Rule 207, Section 502.3]

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Frequency	Information to be Recorded
At all times	A. Changes in production capacity, feedstock type, or catalyst type, or any replacement, removal or addition of recovery equipment for a distillation unit or reactor subject to 40 CFR 60 Subparts NNN or RRR. B. Any recalculation of the THE index value required by 40 CFR 60 Subparts NNN or RRR. C. Source test reports. D. Fugitive emission monitoring reports including: <ul style="list-style-type: none"> i. Identity of each affected device or flange ii. Date of inspection iii. Leak rate
Daily	E. Types and amounts of organic compounds used and produced by each organic chemical manufacturing process unit.
When leak is detected during an inspection required by Condition no. 21.	F. Identity of each affected device or flange. G. Date of detection of leak. H. Leak rate. I. Date of repair. J. Leak rate after repair. K. Date when leak free. L. Date when device or flange returns to regular inspection schedule. M. Date and time leak reported to the air pollution control officer (for wastewater individual drain covers and wastewater oil-water separators only).
Quarterly	N. Throughput of each device listed in the table referenced in Condition no 7. For process tanks containing materials with a VOC composite vapor pressure greater than or equal to 26 mm Hg @ 20°C, the throughput shall be measured by instrumentation. The instrumentation may be located at the process tank or another upstream or downstream location that is in series with the process tank.

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Your application for this air quality Authority to Construct was evaluated for compliance with Sacramento Metropolitan Air Quality Management District (SMAQMD), state and federal air quality rules. The following listed rules are those that are most applicable to the operation of your equipment. Other rules may also be applicable.

<u>SMAQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
214	FEDERAL NEW SOURCE REVIEW
301	PERMIT FEES — STATIONARY SOURCE
401	RINGELMANN CHART
402	NUISANCE
406	SPECIFIC CONTAMINANTS
420	SULFUR CONTENT OF FUELS
443	LEAKS FROM SYNTHETIC ORGANIC CHEMICAL AND POLYMER MANUFACTURING
464	ORGANIC CHEMICAL MANUFACTURING OPERATIONS
40 CFR 60 SUBPART W	STANDARDS OF PERFORMANCE FOR EQUIPMENT LEAKS OF VOC IN THE SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY
40 CFR 60 SUBPART NNN	STANDARDS OF PERFORMANCE FOR VOLATILE ORGANIC COMPOUND EMISSIONS FROM SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY DISTILLATION OPERATIONS
40 CFR 60 SUBPART RRR	STANDARDS OF PERFORMANCE FOR VOLATILE ORGANIX COMPOUND EMISSIONS FROM SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY REACTOR PROCESSES
40 CFR 63 SUBPART FFFF	NATIONAL EMISSION STANDARDS FRO HAZARDOUS AIR POLLUTANTS: MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING

In addition, the conditions on this Authority to Construct may reflect some, but not all, requirements of these rules. There may be other conditions that are applicable to the operation of your equipment. Future changes in prohibitory rules may establish more stringent requirements which may supersede the conditions listed here.

For further information, please consult your SMAQMD rulebook or contact the SMAQMD for assistance.

Appendix 'A'

METHYL ESTER & GLYCERINE MFG PROCESS
EQUIPMENT DESCRIPTION

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THE PROCTER & GAMBLE MANUFACTURING CO.

METHYL ESTER AND GLYCERINE MANUFACTURING PROCESS

NC NO.	EQUIPMENT DESCRIPTION
23262	<p>METHYL ESTER AND GLYCERINE MANUFACTURING PROCESS CONSISTING OF THE FOLLOWING:</p> <p>A. SODIUM METHOXIDE CATALYST MAKING PROCESS</p> <ol style="list-style-type: none">1. METHANOL ANALYSIS TANK2. SODIUM METHOXIDE INTERCHANGE3. SODIUM METHOXIDE ANALYSIS TANKS4. SODIUM METHOXIDE PUMP5. SODIUM METHOXIDE COLUMN6. SODIUM METHOXIDE REBOILER7. DRY METHANOL FINAL CONDENSER <p>B. ESTER MAKING, FLASHING, WASHING AND DRYING PROCESS</p> <ol style="list-style-type: none">1. ESTERIFICATION 1ST, 2ND AND 3RD SETTLER MIXERS2. ESTERIFICATION REACTOR3. ESTERIFICATION 1ST, 2ND AND 3RD SETTLERS4. ESTER PUMP5. ESTER FLASH INTERCHANGER6. ESTER FLASH PREHEATER7. ESTER FLASH TANK8. ESTER FLASH COOLER9. ESTER FLASH PUMP10. ESTER WASH WATER COOLER11. FOUR (4) ESTER WASH COLUMNS12. ESTER DRYER13. ESTER DRYER PUMP14. ESTER DRYER CONDENSER15. ESTER DRYER VACUUM SYSTEM16. ESTER DRYER METHANOL CONDENSER17. ESTER DRYER CONDENSATE PUMP <p>C. LIGHT CUT ESTER FRACTIONATION PROCESS</p> <ol style="list-style-type: none">1. LIGHT CUT ESTER PREHEATER2. LIGHT CUT ESTER STILL3. LIGHT CUT ESTER CONDENSER4. LIGHT CUT ESTER VENT CONDENSER5. SINGLE STAGE EJECTOR6. LIGHT CUT ESTER PUMPS7. LIGHT CUT ESTER PRODUCT COOLER8. LIGHT CUT ESTER REBOILER9. LIGHT CUT ESTER POT PUMPS <p>D. INTERMEDIATE ESTER FRACTIONATION PROCESS</p> <ol style="list-style-type: none">1. INTERMEDIATE ESTER STILL2. INTERMEDIATE ESTER CONDENSER3. INTERMEDIATE ESTER VENT CONDENSER4. HEAVY CUT ESTER DISTILLATE RECEIVER5. INTERMEDIATE ESTER DISTILLATE PUMP6. INTERMEDIATE ESTER COOLER7. INTERMEDIATE ESTER REBOILER8. INTERMEDIATE ESTER POT PUMPS

METHYL ESTER AND GLYCERINE MANUFACTURING PROCESS

A/C NO.	EQUIPMENT DESCRIPTION
	9. THREE (3) ESTER BOTTOMS TANKS
	10. ESTER BOTTOMS TO REFINERY TANKS
	11. TWO (2) ESTER FEED TO REFINERY TANKS
	12. ESTER SCALE TANK
	13. TWO (2) ESTER SWING TANKS
	14. WCE BOTTOMS TANKS
	E. ESTER FRACTIONATION PROCESS
	1. ESTER STILL
	2. ESTER CONDENSER
	3. ESTER VENT CONDENSER
	4. ESTER DISTILLATE RECEIVER
	5. ESTER DISTILLATE PUMP
	6. ESTER COOLER
	7. ESTER REBOILER
	8. ESTER POT PUMPS
	9. FIVE (5) ESTERS TO SCALES TANKS
	10. THREE (3) ESTERS TO HFA
	11. ESTER TO HFA TANK
	12. TVVO (2) ESTERS LCFA TANKS
	13. FOUR (4) ESTERS TO LCFA/SCALES TANKS
	F. METHANOL CONCENTRATOR PROCESS
	1. METHANOL CONCENTRATOR FEED/BOTTOMS INTERCHANGER
	2. METHANOL CONCENTRATOR
	3. METHANOL CONCENTRATOR BOTTOM PUMP
	4. METHANOL CONCENTRATOR REBOILER
	G. METHANOL RECOVERY/DRYING PROCESS
	1. ESTER VENT SEAL TANK
	2. METHANOL DRYER FEED TANK
	3. METHANOL DRYER FEED PUMP
	4. METHANOL DRYER INTERCHANGE
	5. METHANOL DRYER PUMP
	6. METHANOL DRYER
	7. WEST VENT CONDENSER
	8. WEST VENT FINAL CONDENSER
	9. METHANOL STORAGE TANK
	10. METHANOL CONDENSER
	11. METHANOL DISTILLATE TANK
	12. METHANOL DISTILLATE PUMP
	H. GLYCERINE COLUMN PROCESS
	1. DRY GLYCERINE TANK
	2. DRY GLYCERINE FEED PUMP
	3. GLYCERINE COLUMN
	4. GLYCERINE COLUMN PUMP
	5. GLYCERINE COLUMN REBOILER
	6. GLYCERINE INTERCHANGER
	7. GLYCERINE BOTTOMS COOLER

METHYL ESTER AND GLYCERINE MANUFACTURING PROCESS

A/C NO.	EQUIPMENT DESCRIPTION
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I. GLYCERINE ACIDULATION AND NEUTRALIZATION PROCESS

1. GLYCERINE ACIDULATION MIXER
2. GLYCERINE ACIDULATION REACTOR/SETTLER
3. ACIDULATED GLYCERINE PUMP
4. DILUTE CAUSTIC PUMP
5. GLYCERINE NEUTRALIZATION MIXER
6. ACIDULATED SOAPSTONE SURGE TANK
7. ACIDULATED SOAPSTONE SURGE PUMP

J. GLYCERINE CONCENTRATION FEED TANK

1. GLYCERINE EVAPORATOR FEED TANK
2. GLYCERINE EVAPORATOR
3. GLYCERINE EVAPORATOR REBOILER
4. GLYCERINE EVAPORATOR PUMP
5. GLYCERINE PRODUCT PUMP
6. GLYCERINE EVAPORATOR CONDENSER
7. GLYCERINE EVAPORATOR CONDENSER PUMP
8. 3-STAGE EJECTOR
9. GLYCERINE TO SHIPMENT TANK

Appendix B'

METHYL ESTER & GLYCERINE MFG PROCESS
PROCESS EMISSIONS

NC 23262

THE PROCTER & GAMBLE MANUFACTURING CO.

METHYL ESTER AND GLYCERINE MANUFACTURING PROCESS EMISSIONS

EMISSION SOURCE ID	EQUIPMENT ID	EMISSIONS UNIT NAME	CAPACITY (GAL)	SOCMI DEVICE TYPE	CONTENTS PRODUCTS	VENT	MAXIMUM ALLOWABLE THROUGHPUT OR PRODUCTION (LB/QUARTER)	MAXIMUM ALLOWABLE VOC EMISSIONS	
								LB/DAY	LB/QUARTER
0300	70-E-8604 70-E-8506A 70-E-8506B	OVERHEAD (FIN FAN) CONDENSER	NA	CONDENSER	VAPOR	TO FIRE PIT VIA RELIEF DEVICE	NO LIMIT	NO LIMIT	0
0301	25-C-8800	GLYCERINE EVAPORATOR	470	PROCESS TANK	GLYCERINE	TO DEVICE 1020	NO LIMIT [A]	NO LIMIT	0
0302	40-E-7762	ESTERS BOILING WATER CONDENSER	125	PROCESS TANK	WATER	NO VENT	NO LIMIT	NO LIMIT	0
0303	73-C-1211	ESTERS BOILING WATER CONDENSER CONDENSATE TANK	411	PROCESS TANK	WATER	NO VENT	NO LIMIT	NO LIMIT	0
0304	40-E-7763	ESTERS COLDWATER CONDENSER		PROCESS TANK	WATER	NO VENT	NO LIMIT	NO LIMIT	0
1002	40-D-7821	TANK 671	10,842	PROCESS TANK	ESTERS	6" PVVV	5,000,000	NO LIMIT	136
1004	40-0-338	TANK 672	34,595	PROCESS TANK	ESTERS	8" PVVV	120,200,000	NO LIMIT	104
1005	40-D-339	TANK 673	34,595	PROCESS TANK	ESTERS	8" PVVV	120,000,000	NO LIMIT	105
1006	40-0-8909	TANK 607	385,437	PROCESS TANK	ESTERS	4" PVVV	138,750,000	NO LIMIT	202
1007	90-G-8908	TANK 724	454,334	PROCESS TANK	ESTERS	4' PVVV	138,750,000	NO LIMIT	762
1007.1	40-D-8904	TANK 726	454,334	PROCESS TANK	ESTERS	4° PVVV	120,200,000	NO LIMIT	202
1008	90-0-7406	TANK 725 AKA TANK 605	455,557	PROCESS TANK	ESTERS	6" PVVV	120,200,000	NO LIMIT	732
1010	20-0-817	TANK 595	8,122	PROCESS TANK	ESTERS	3" VENT	145,000,000	NO LIMIT	177
1010.1	20-13-818	TANK 596	7,638	PROCESS TANK	ESTERS	3" VENT	145,000,000	NO LIMIT	169
1012	20-D-7538	ESTER DRYER	1,946	DRYER	ESTERS	APC THERMAL OXIDIZER (NTO)	138,230,000 [B]	NO LIMIT	1,400
1019	71-D-305	TANK 532 (NEW)	8,400	REACTOR	GLYCERINE	4" VENT	26,250,000	NO LIMIT	1
1020	25-E-8820	GLYCERINE EVAPORATOR CONDENSER	423	PROCESS VENT	WATER/ VAPOR	2° DRAIN	6,750,000	NO LIMIT	1,104
1021	65-0-312	TANK 554	2,879	PROCESS TANK	GLYCERINE	4" VENT	23,000,000	NO LIMIT	21
1022	30-C-4029	TANK 567	1,625	PROCESS TANK	ESTERS	2.5" VENT	4,500,000	NO LIMIT	0.3
1041	40-0-7357	ESTER EJECTOR CONDENSATE TANK	3,069	PROCESS TANK & PROCESS VENT	ESTERS/ WATER	4" VENT	6,000,000	NO LIMIT	7.9
1067	71-0-521	TANK 521	16,076	PROCESS TANK	VEGETABLE OIL	4" VENT	10,000,000	NO LIMIT	1
1070	71-D-306	TANK 531	1,028	PROCESS TANK	WATER! GLYCERINE	4" VENT	5,000,000	NO LIMIT	0

METHYL ESTER AND GLYCERINE MANUFACTURING PROCESS EMISSIONS

EMISSION SOURCE ID	EQUIPMENT ID	EMISSIONS UNIT NAME	CAPACITY (GAL)	SOCMI DEVICE TYPE	CONTENTS OR PRODUCTS	VENT	MAXIMUM ALLOWABLE THROUGHPUT OR PRODUCTION (LBIQUARTER)	MAXIMUM ALLOWABLE VOC EMISSIONS	
								LB/DAY	LBIQUARTER
1071	71-D-319	TANK 544	21,152	PROCESS TANK	GLYCERINE	4" VENT	26,250,000	NO LIMIT	0
1072	71-D-318	TANK 545	21,152	PROCESS TANK	GLYCERINE	4" VENT	26,250,000	NO LIMIT	0
1077	15-O-7559	BOTTOMS FROM CENTRIFUGE	20	PROCESS TANK	ESTERS	12° OPEN TOP	500,000	NO LIMIT	0
1093	90-D-7409	TANK 609	108,403	PROCESS TANK	ESTERS	8" PVVV	10,000,000	NO LIMIT	2.9
1304	15-D-301	TANK 542	3,948	PROCESS TANK	NaOH SOLUTION	VENT	NO LIMIT	NO LIMIT	0
1310	30-C-4016	TANK 606	24,690	PROCESS TANK	METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1311	30-C-7833	ESTER FLASH TANK	1,128	PROCESS TANK	ESTERS	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [A]	NO LIMIT	0
1313	40-C-1208	ESTERS DISTILLATE RECEIVER	47	PROCESS TANK	ESTERS	TO DEVICE 1041	NO LIMIT [A]	NO LIMIT	0
1314	40-C-1210	ESTERS STILL DISTILLATE RECEIVER	202	PROCESS TANK	ESTERS	TO DEVICE 1041	NO LIMIT [A]	NO LIMIT	0
1316	40-C-1215	ESTERS STILL DISTILLATE RECEIVER	212	PROCESS TANK	ESTERS	TO DEVICE 1041	NO LIMIT [A]	NO LIMIT	0
1317	40-C-308	ESTERS STILL	4,791	DISTILLATION COLUMN	ESTERS	TO DEVICE 1041	NO LIMIT [A]	NO LIMIT	0
1318	40-C-7315	ESTERS STILL AKA TANK 638	10,364	DISTILLATION COLUMN	ESTERS	TO DEVICE 1041	NO LIMIT [A]	NO LIMIT	0
1319	40-C-7324	ESTERS STILL	11,685	DISTILLATION COLUMN	ESTERS	TO DEVICE 1041	NO LIMIT [A]	NO LIMIT	0
1320	40-C-7766	ATMOSPHERIC FLASH TANK		PROCESS TANK	WATER	VENT	NO LIMIT	NO LIMIT	0
1375	60-C-4503	TANK 601	42474 9,000	PROCESS TANK	METHANOL/ SODIUM METHOXIDE	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1376	60-C-709	TANK 582	12,976	PROCESS TANK (OUT OF SERVICE)	OUT OF SERVICE	NO VENT	0	0	0
1377	60-C-8756	TANK 588	3,760	PROCESS TANK	METHANOL/ SODIUM METHOXIDE	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1378	65-C-823	GLYCERINE COLUMN	1,904	DISTILLATION COLUMN	GLYCERINE	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [13,	NO LIMIT	0
1380	70-C-4416	TANK 578	185	PROCESS TANK	METHANOL/ WATER	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1381	70-C-576	TANK 576	200	PROCESS TANK	METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0

METHYL ESTER AND GLYCERINE MANUFACTURING PROCESS EMISSIONS

EMISSION SOURCE ID	EQUIPMENT ID	EMISSIONS UNIT NAME	CAPACITY (GAL)	SOCMI DEVICE TYPE	CONTENTS PRODUCTS	VENT	MAXIMUM ALLOWABLE THROUGHPUT OR PRODUCTION (LB/QUARTER)	MAXIMUM ALLOWABLE VOC EMISSIONS	
								LB/DAY	LB/QUARTER
1382	70-C-701	TANK 572	8,367	PROCESS TANK	METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1383	70-C-702	TANK 573	8,335	PROCESS TANK	METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1384	70-C-705	TANK 592	6,639	PROCESS TANK	METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1385	70-C-706	TANK 593	6,639	PROCESS TANK	METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1386	70-C-707	TANK 594	6,639	PROCESS TANK	METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1387	70-C-8044	TANK 584	5,711	PROCESS TANK	WATER/ METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1388	70-C-851	TANK 597	7,950	PROCESS TANK	METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1389	70-C-8701	TANK 577	288	PROCESS TANK	METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1390	70-D-714	TANK 583	4,512	PROCESS TANK	WATER/ METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1391	71-D-303	TANK 547	7,615	PROCESS TANK	HCl SOLUTION	4" VENT	NO LIMIT	NO LIMIT	0
1392	71-D-512	TANK 512	15,280	PROCESS TANK	GLYCERINE	4" VENT	1,000,000	NO LIMIT	0.2
1393	71-D-522	TANK 522	16,076	PROCESS TANK (OUT OF SERVICE)	OUT OF SERVICE	NA	0	0	0
1396	73-0-500	TANK 500	10,156	PROCESS TANK	FATTY ACIDS, ESTERS, VEGETABLE OIL	2" VENT	1,000,000	NO LIMIT	1.8
1397	73-D-501	TANK 501	10,156	PROCESS TANK	FATTY ACIDS, ESTERS, VEGETABLE OIL	2' VENT	1,000,000	NO LIMIT	1.8
1400	73-D-8920	OIL SKIMS SURGE TANK -TANK 8920	22,000	PROCESS TANK	WATER, FATTY ACIDS	8' VENT, 8' OVERFLOW	373,750,000	NO LIMIT	0
1401	73-D-8927	OIL COALESCER	8,813	PROCESS TANK	WATER, FATTY ACIDS	8" VENT, 10" OVERFLOW	373,750,000	NO LIMIT	0.1
1402	73-D-8928	ACID WATER TANK	3,760	PROCESS TANK	WATER/ ESTERS	2" VENT, 6" OVEFLOW	12,500,000	NO LIMIT	0
1408	90-D-626	TANK 548	22,474	PROCESS TANK	H2 SO4 SOLUTION	4" PVW	NO LIMIT	NO LIMIT	0

METHYL ESTER AND GLYCERINE MANUFACTURING PROCESS EMISSIONS

EMISSION SOURCE ID	EQUIPMENT ID	EMISSIONS UNIT NAME	CAPACITY (GAL)	SOCMI DEVICE TYPE	CONTENTS PRODUCTS	VENT	MAXIMUM ALLOWABLE THROUGHPUT OR PRODUCTION (LBIQUARTER)	MAXIMUM ALLOWABLE VOC EMISSIONS	
								LB/DAY	LB/QUARTER
1409	60-C-8751	SODIUM METHYLATE COLUMN-TANK 587	1,880	DISTILLATION COLUMN	METHANOL! SODIUM METHYLATE	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1412	65-C-8084	TANK 568	4,848	PROCESS TANK	METHANOL! GLYCERINE	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1415	65-C-820	TANK 574	8,226	PROCESS TANK	GLYCERINE! METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1418	30-C-4506	TANK 602	17,768	PROCESS TANK	GLYCERINE/ METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1421	20-C-4600	TANK 603	17,768	PROCESS TANK	GLYCERINE/ METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1430	15-Y-4104	ESTER BOTTOMS CENTRIFUGE	15	CENTRIFUGE	ESTERS	TO DEVICE 1077	NO LIMIT [A]	NO LIMIT	0
1430.1	15-Y-7544	ESTER BOTTOMS CENTRIFUGE	15	CENTRIFUGE	ESTERS	TO DEVICE 1077	NO LIMIT [B]	NO LIMIT	0
1435	70-C-8700	METHANOL DRYER	19,735	DRYER	METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1436	70-C-8716	METHANOL CONDENSER	68	CONDENSER	WATER! METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1437	20-C-7513	ESTER WASH COLUMN (EAST)	1,214	PROCESS TANK	GLYCERINE/ METHANOL	NO VENT	NO LIMIT [C]	NO LIMIT	0
1437.1	20-C-4602	ESTER WASH COLUMN (NORTH)	1,214	PROCES TANK	GLYCERINE! METHANOL	NO VENT	NO LIMIT [C]	NO LIMIT	0
1437.2	20-C-804	ESTER WASH COLUMN (SOUTH)	850	PROCESS TANK	GLYCERINE! METHANOL	NO VENT	NO LIMIT [C]	NO LIMIT	0
1437.3	20-C-2326	NEW ESTER WASH COLUMN	6,205	PROCESS TANK	GLYCERINE/ METHANOL	NO VENT	NO LIMIT [C]	NO LIMIT	0
1436	30-C-7534	ESTER REACTOR	44,842	REACTOR	VEGETABLE 01U	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
1439	30-E-7840 & 30-E-7841	ESTER FLASH AIR-COOLED CONDENSER AND CONDENSATE RECEIVER	210	CONDENSER	METHANOL	TO APC THERMAL OXIDIZER (NTO)	NO LIMIT [B]	NO LIMIT	0
TOTAL VOC EMISSIONS									5,131

[A] SOURCE VENTS TO ANOTHER SOURCE THAT HAS A THROUGHPUT LIMIT AND EMISSIONS LIMIT.

[B] SOURCE VENTS TO NORTH THERMAL OXIDIZER (SMAQMD PERMIT NO. 22483). BACKUP VENTING THROUGH THE APC KNOCKOUT DRUM SCRUBBER TO FIRE PIT.

[C] SOURCE HAS NOT ATMOSPHERIC VENT AND EMISSIONS LIMIT.