



STATEMENT OF BASIS
MINOR MODIFICATION OF TITLE V FEDERAL OPERATING PERMIT

APPLICATION NO.:	TV2004-02-02
DATE:	Nov. 21, 2007
ISSUING ENGINEER:	Ady R. Santos

A. FACILITY INFORMATION:

FACILITY NAME	THE PROCTER & GAMBLE MANUFACTURING CO.
FACILITY LOCATION	8201 FRUITRIDGE RD. SACRAMENTO, CA 95826
MAILING ADDRESS	8201 FRUITRIDGE RD. SACRAMENTO, CA 95826
RESPONSIBLE OFFICIAL	BURNELL BLANCHARD PLANT MANAGER 916-381-9601
CONTACT PERSON	CHARLES VESELY ENVIRONMENTAL MANAGER 916-381-9709

B. PROPOSAL:

The Procter & Gamble Manufacturing Company (P&G) requested modification of their **Title V Permit No. TV2004-02-01** to include new and modified process/emissions units they have completed under SMAQMD Permit to Operate Nos. 17487, 17566, 18457 & 18614; 17740, 17741, 17742, 17743 & 17744; and 18396, 18397, 18398, 18399 & 18400. Also to be considered are errors and omissions that were identified by P&G after reviewing the recently issued SMAQMD permits. These will be evaluated in SMAQMD Authority to Construct Nos. 20162 (amended), 20165 (amended) & 20733.

C. FACILITY DESCRIPTION:

The Procter & Gamble Manufacturing Company is a complex industrial facility with numerous emissions units and fugitive sources. P&G's Sacramento chemical plant converts oil, such as coconut and palm kernel oil, to produce various products. The product lines include fatty alcohols, methyl esters, fatty acids and glycerine. The plant contains emissions sources generated from the oleochemical process as well as from miscellaneous support equipment.

D. PROCESS DESCRIPTION:

STORAGE TANK FARM

This is storage for raw materials, intermediates and finished products, including coconut oil, esters, fatty alcohols and fatty acids. The tank farm includes rail car and tank truck loading and unloading capability.

PHYSICALLY REFINED OIL PROCESS

Also known as 'PROP', this process removes contaminants from vegetable oils, preparing them for further processing into esters and glycerine. PROP employs filtration aids, filtration, steam stripping and vacuum to remove particles, free fatty acids and odor bodies from the oil, resulting in an intermediate known as refined, bleached and deodorized oil.

METHYL ESTER & GLYCERINE MANUFACTURING PROCESS

Vegetable oils, predominantly coconut and palm kernel, are reacted with methyl alcohol in the presence of sodium methylate. The glycerides which make up the oils react to form methyl esters and crude glycerine. The mixture of glycerine and esters are gravity separated, washed and dried prior to entering interim storage. The esters are fractionated into short chain (C6-C10) and long chain (C12-C18) blends for further processing into finished product. The glycerine is shipped to a P&G facility for final processing.

FATTY ALCOHOL MANUFACTURING PROCESS

Long chain methyl esters (C12-C18) are heated and pressurized prior to mixing with hydrogen and catalyst. The mixture reacts in a four-stage plug flow reactor, hydrogenating the ester to a fatty alcohol and liberating methanol. The methanol and excess hydrogen are recovered for reuse. The mixture of fatty alcohol and catalyst are separated by means of centrifuges and filters. The fatty alcohol mixture is fractionated into C12-C14 blend used for surfactant making and pure forms of cetyl and stearyl alcohol which find many uses in the chemical and cosmetic industries.

FATTY ACIDS MANUFACTURING PROCESS

Short chain methyl esters (C6-C10) are reacted with sodium hydroxide, liberating methanol and producing a soapy material. The soap is reacted with sulfuric acid to produce a fatty acid, water and sodium sulfate salt. Following washing and gravity separation, the fatty acid is vacuum dried and distilled to finished product. The methanol is dried and returned to the ester making process.

E. BACKGROUND:

P&G had implemented two project modifications in their Sacramento plant which they identified as the 'Alcap' and the 'Netcap' projects from the first Title V permit renewal. These modifications increased the production rate for esters and alcohols in the fatty alcohol and methyl ester/glycerine manufacturing processes. It also involved, among others, the installation of process equipment like ester wash column, disposal filters, still and process tanks, and modification of existing combustion equipment.

SMAQMD Rule 207, Section 233 states that a Significant Title V Permit Modification is a modification to a federally enforceable condition in the Title V permit if any of the following conditions are met:

- Section 233.1 Involves any modification under Section 112(g) of Title I (42 U.S.C. Section 412(g) of the Federal Clean Air Act, or under EPA regulations promulgated pursuant to Title I of the Federal Clean Air Act, including 40 CFR Part 51, 52, 60, 61 and 63;
- Section 233.2 Involves relaxation or significant change to existing monitoring, reporting or recordkeeping requirements in the Title V permit;
- Section 233.3 Involves case-by-case determination of an emission limit or other standard;
- Section 233.4 Involves a stationary source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
- Section 233.5 Attempts to set or change a Title V permit term or condition which allows a source to avoid an applicable federal requirement including:
 - a. A federally enforceable emission cap pursuant to Title I of the Federal Clean Air Act; or
 - b. An alternative HAP emission limit pursuant to Section 112(i)(5) (Section 42 U.S.C. Section 7412(j)(5) of the Federal Clean Air Act; or
- Section 233.6 Involves a modification to a major stationary source which results in an increase in the potential to emit greater than: 25 tons per year of nitrogen oxides, 25 tons per year of volatile organic compounds, 40 tons per year of sulfur dioxide, 100 tons per year of carbon monoxide, or 15 tons per year of PM10 when aggregated with all other increases in potential to emit over the period of five consecutive years before the application for modification, and including the calendar year of the most recent application.

P&G's combination of process and physical changes do not meet any of the criteria of a significant Title V permit modification. Hence, this permit modification is not considered a Significant Title V Permit Modification. Also, pursuant to Section 202 of Rule 207, this modification is neither an Administrative Title V Permit Amendment.

Therefore, this permit modification will be deemed a Minor Title V Permit Modification as defined in Rule 207, Section 220.

F. EQUIPMENT DESCRIPTION:

A/C 20733 – STORAGE TANK FARM: *[Modified P/O 18396]*

1. LIQUID NITROGEN STORAGE TANK WITH REFRIGERATION SYSTEM
2. FIRE FIGHTING WATER STORAGE TANK, OPEN TOP
3. FOUR (4) SPOTS FOR CRUDE VEGETABLE OIL OFFLOADING FROM TANKER TRUCKS
4. TANK 460, 212,150 GALLONS, VEGETABLE OIL, VENTED TO ATMOSPHERE
5. TANK 461, 208,530 GALLONS, VEGETABLE OIL, VENTED TO ATMOSPHERE
6. TANK 470, 208,530 GALLONS, VEGETABLE OIL, VENTED TO ATMOSPHERE
7. TANK 471, 205,717 GALLONS, VEGETABLE OIL, VENTED TO ATMOSPHERE
8. TANK 480, 186,501 GALLONS, ESTERS, VENTED TO ATMOSPHERE
9. TANK 409, 312,363 GALLONS, VEGETABLE OIL, VENTED TO ATMOSPHERE
10. TANK 410, 523,661 GALLONS, ESTERS, VENTED TO ATMOSPHERE
11. TANK 408, 385,657 GALLONS, FATTY ALCOHOL, VENTED TO ATMOSPHERE
12. TANK 407, 381,979 GALLONS, FATTY ALCOHOL, VENTED TO ATMOSPHERE
13. TANK 420, 223,347 GALLONS, ESTERS, VENTED TO ATMOSPHERE
14. TANK 430, 223,374 GALLONS, ESTERS, VENTED TO ATMOSPHERE
15. TANK 440, 230,691 GALLONS, FATTY ALCOHOL, VENTED TO ATMOSPHERE
16. TANK 401, 227,975 GALLONS, ESTERS, VENTED TO ATMOSPHERE
17. TANK 411, 229,571 GALLONS, ESTERS, VENTED TO ATMOSPHERE
18. TANK 421, 232,148 GALLONS, ESTERS, VENTED TO ATMOSPHERE
19. TANK 431, 234,603 GALLONS, FATTY ALCOHOL, VENTED TO ATMOSPHERE
20. TANK 441, 233,866 GALLONS, FATTY ALCOHOL, VENTED TO ATMOSPHERE
21. TANK 402, 227,975 GALLONS, ESTERS, VENTED TO ATMOSPHERE
22. TANK 412, 232 148 GALLONS, ESTERS, VENTED TO ATMOSPHERE
23. TANK 422, 229,571 GALLONS, ESTERS, VENTED TO ATMOSPHERE
24. TANK 432, 229,571 GALLONS, FATTY ALCOHOL, VENTED TO ATMOSPHERE
25. TANK 442, 229,571 GALLONS, FATTY ALCOHOL, VENTED TO ATMOSPHERE
26. TANK 405, 80,909 GALLONS, ESTERS, VENTED TO ATMOSPHERE
27. TANK 403, 79,772 GALLONS, ESTERS, VENTED TO ATMOSPHERE
28. TANK 413, 79,472 GALLONS, ESTERS, VENTED TO ATMOSPHERE
29. TANK 423, 79,533 GALLONS, ESTERS, VENTED TO ATMOSPHERE
30. TANK 424, 79,533 GALLONS, FATTY ALCOHOL, VENTED TO ATMOSPHERE
31. TANK 433, 79,533 GALLONS, ESTERS, VENTED TO ATMOSPHERE
32. TANK 443, 80,819 GALLONS, ESTERS, VENTED TO ATMOSPHERE
33. TANK 444, 80,919 GALLONS, ESTERS, VENTED TO ATMOSPHERE
34. TANK 406, 8,388 GALLONS, ESTERS, VENTED TO ATMOSPHERE
35. TANK 404, 79,772 GALLONS, ESTERS, VENTED TO ATMOSPHERE
36. TANK 414, 79,383 GALLONS, ESTERS, VENTED TO ATMOSPHERE
37. TANK 425, 79,533 GALLONS, ESTERS, VENTED TO ATMOSPHERE
38. TANK 426, 79,533 GALLONS, FATTY ALCOHOL, VENTED TO ATMOSPHERE
39. TANK 434, 79,533 GALLONS, FATTY ALCOHOL, VENTED TO ATMOSPHERE
40. TANK 445, 80,840 GALLONS, FATTY ALCOHOL, VENTED TO ATMOSPHERE
41. TANK 446, 99,417 GALLONS, GLYCERINE, VENTED TO ATMOSPHERE
42. TANK 451, 15,062 GALLONS, FATTY ACID DISTILLATE, VENTED TO ATMOSPHERE
43. TANK 452, 15,062 GALLONS, FATTY ALCOHOL, VENTED TO ATMOSPHERE

44. TANK 453, 8,388 GALLONS, FATTY ALCOHOL, VENTED TO ATMOSPHERE
45. TANK 454, 32,542 GALLONS, ESTERS, VENTED TO ATMOSPHERE
46. TANK 450, 19,417 GALLONS, ESTERS, VENTED TO ATMOSPHERE
47. TANK 462, 9,264 GALLONS, GLYCERINE, VENTED TO ATMOSPHERE
48. TANK 463, 9,264 GALLONS, ESTERS, VENTED TO ATMOSPHERE
49. TANK 464, 9,264 GALLONS, FOOTS/BOTTOMS, VENTED TO ATMOSPHERE
50. TANK 465, 10,000 GALLONS, FAT TRAP SKIMS, VENTED TO ATMOSPHERE
51. TANK 466, 20,467 GALLONS, SODIUM HYDROXIDE, VENTED TO ATMOSPHERE
52. TANK 467, 20,467 GALLONS, SODIUM HYDROXIDE, VENTED TO ATMOSPHERE
53. TANK 468, 3,087 GALLONS, ESTERS, VENTED TO ATMOSPHERE

P/O 18397 – PHYSICALLY REFINED OIL PROCESS

1. ACID MIXER
2. DEGUMMING REACTOR
3. VACUUM BLEACHER
4. PRECOAT TANK
5. FILTERS
6. SPENT EARTH DUMPSTERS
7. DEODORIZER
8. FATTY ACID SCRUBBING VESSEL
9. EJECTOR CONDENSATE TANK
10. DISCHARGE PUMP
11. COOLING WATER SYSTEM
12. BLEACHING EARTH SILO VENTING TO BAGHOUSE
13. ACTIVATED CARBON SILO VENTING TO BAGHOUSE

A/C 20162 – METHYL ESTER & GLYCERINE MANUFACTURING PROCESS [*Modified P/O 18398*]

1. SODIUM METHOXIDE CATALYST MAKING PROCESS
 - A. METHANOL ANALYSIS TANK
 - B. SODIUM METHOXIDE INTERCHANGE
 - C. SODIUM METHOXIDE ANALYSIS TANKS
 - D. SODIUM METHOXIDE PUMP
 - E. SODIUM METHOXIDE COLUMN
 - F. SODIUM METHOXIDE REBOILER
 - G. DRY METHANOL FINAL CONDENSER
2. ESTER MAKING, FLASHING, WASHING AND DRYING PROCESS
 - A. ESTERIFICATION 1ST, 2ND AND 3RD SETTLER MIXERS
 - B. ESTERIFICATION REACTOR
 - C. ESTERIFICATION 1ST, 2ND AND 3RD SETTLERS
 - D. ESTER PUMP
 - E. ESTER FLASH INTERCHANGERS
 - F. ESTER FLASH PREHEATER
 - G. ESTER FLASH TANK
 - H. ESTER FLASH COOLER

- I. ESTER FLASH PUMP
 - J. ESTER WASH WATER COOLER
 - K. FOUR (4) ESTER WASH COLUMNS
 - L. ESTER DRYER
 - M. ESTER DRYER PUMP
 - N. ESTER DRYER CONDENSER
 - O. ESTER DRYER VACUUM SYSTEM
 - P. ESTER DRYER METHANOL CONDENSER
 - Q. ESTER DRYER CONDENSATE PUMP
3. LIGHT CUT ESTER FRACTIONATION PROCESS
- A. LIGHT CUT ESTER PREHEATER
 - B. LIGHT CUT ESTER STILL
 - C. LIGHT CUT ESTER CONDENSER
 - D. LIGHT CUT ESTER VENT CONDENSER
 - E. SINGLE STAGE EJECTOR
 - F. LIGHT CUT ESTER PUMPS
 - G. LIGHT CUT ESTER PRODUCT COOLER
 - H. LIGHT CUT ESTER REBOILER
 - I. LIGHT CUT ESTER POT PUMPS
4. INTERMEDIATE ESTER FRACTIONATION PROCESS
- A. INTERMEDIATE ESTER STILL
 - B. INTERMEDIATE ESTER CONDENSER
 - C. INTERMEDIATE ESTER VENT CONDENSER
 - D. HEAVY CUT ESTER DISTILLATE PUMP
 - E. INTERMEDIATE ESTER DISTILLATE PUMP
 - F. INTERMEDIATE ESTER COOLER
 - G. INTERMEDIATE ESTER REBOILER
 - H. INTERMEDIATE ESTER POT PUMPS
 - I. THREE (3) ESTER BOTTOMS TANKS
 - J. ESTER BOTTOMS TO REFINERY TANKS
 - K. TWO (2) ESTER FEED TO REFINERY TANKS
 - L. ESTER SCALE TANK
 - M. TWO (2) ESTER SWING TANKS
 - N. WCE BOTTOMS TANKS
5. ESTER FRACTIONATION PROCESS
- A. ESTER STILL
 - B. ESTER CONDENSER
 - C. ESTER VENT CONDENSER
 - D. ESTER DISTILLATE RECEIVER
 - E. ESTER DISTILLATE PUMP
 - F. ESTER COOLER
 - G. ESTER REBOILER
 - H. ESTER POT PUMPS
 - I. FIVE (5) ESTER TO SCALE TANKS
 - J. THREE (3) ESTERS TO HFA

- K. ESTER TO HFA TANK
 - L. TWO (2) ESTERS TO LCFA TANKS
 - M. FOUR (4) ESTERS TO LCFA/SCALES TANKS
6. METHANOL CONCENTRATOR PROCESS
- A. METHANOL CONCENTRATOR FEE/BOTTOMS INTERCHANGER
 - B. METHANOL CONCENTRATOR
 - C. METHANOL CONCENTRATOR BOTTOM PUMP
 - D. METHANOL CONCENTRATOR RE BOILER
7. METHANOL RECOVERY/DRYING PROCESS
- A. ESTER VENT SEAL TANK
 - B. METHANOL DRYER FEED TANK
 - C. METHANOL DRYER FEED PUMP
 - D. METHANOL DRYER INTERCHANGER
 - E. METHANOL DRYER PUMP
 - F. METHANOL DRYER
 - G. WEST VENT CONDENSER
 - H. WEST VENT FINAL STORAGE
 - I. METHANOL STORAGE TANK
 - J. METHANOL CONDENSER
 - K. METHANOL DISTILLATE TANK
 - L. METHANOL DISTILLATE PUMP
8. GLYCERINE COLUMN PROCESS
- A. DRY GLYCERINE TANK
 - B. DRY GLYCERINE FEED PUMP
 - C. GLYCERINE COLUMN
 - D. GLYCERING COLUMN PUMP
 - E. GLYCERINE COLUMN REBOILER
 - F. GLYCERINE INTERCHANGER
 - G. GLYCERINE BOTTOMS COOLER
9. GLYCERINE ADICULATION AND NEUTRALIZATION PROCESS
- A. GLYCERINE ACIDULATION MIXER
 - B. GLYCERINE ACIDULATION REACTOR/SETTLER
 - C. ACIDULATED GLYCERINE PUMP
 - D. DILUTE CAUSTIC PUMP
 - E. GLYCERINE NEUTRALIZATION MIXER
 - F. ACIDULATED SOAPSTONE SURGE TANK
 - G. ACIDULATED SOAPSTONE SURGE PUMP
10. GLYCERINE CONCENTRATION FEED TANK
- A. GLYCERINE EVAPORATOR FEED TANK
 - B. GLYCERINE EVAPORATOR
 - C. GLYCERINE EVAPORATOR REBOILER
 - D. GLYCERINE EVAPORATOR PUMP
 - E. GLYCERINE PRODUCT PUMP
 - F. GLYCERINE EVAPORATOR CONDENSER
 - G. GLYCERINE EVAPORATOR CONDENSER PUMP

- H. 3-STAGE EJECTOR
- I. GLYCERINE TO SHIPMENT TANK

P/O 18399 – FATTY ACIDS MANUFACTURING PROCESS

1. SULFURIC ACID PROCESS
 - A. ACID UNLOADING
 - B. ACID STORAGE TANKS
 - C. LIGHT CUT FATTY ACID PUMP
 - D. FOOTS ACID PUMP
2. FOOTS ACIDULATION PROCESS
 - A. STATIC MIXER
 - B. FRIST STAGE FOOTS SETTLING TANK
 - C. SECOND STAGE FOOTS SETTLING TANK
 - D. FOOTS TANK PUMP
 - E. FOOTS ACID WATER TANK
 - F. FIRST, SECOND AND THIRD STAGE NEUTRALIZATION TANKS
3. LIGHT CUT FATTY ACIDS MANUFACTURING
 - A. BATCH REACTOR
 - B. SOAP TRANSFER PUMP
 - C. SOAP SURGE TANK
 - D. SOAP FEED PUMP
 - E. FATTY ACID SOAP COOLER
 - F. STATIC MIXER
4. LIGHT CUT FATTY ACIDS WASHING AND DRYING
 - A. LCFA WASH COLUMN
 - B. WASH COLUMN BOTTOMS PUMP
 - C. DRYER FEED PUMP
 - D. DRYER FEED PREHEATER
 - E. LCFA DRYER
 - F. LCFA DRYER STILL FEED PUMP
 - G. DRYER CONDENSER
 - H. DRYER EJECTOR CONDENSER
 - I. DRYER CONDENSATE POT
 - J. DRYER CONDENSATE POT PUMP
5. LIGHT CUT FATTY ACIDS STILL
 - A. FATTY ACID STILL
 - B. FATTY ACID STILL REBOILER PUMP
 - C. STILL REBOILER
 - D. LCFA STILL CONDENSER
 - E. FATTY ACID STILL EJECTOR SYSTEM
 - F. FATTY ACID EJECTOR VENT CONDENSER
 - G. FATTY ACID DISTILLATE RECEIVER
 - H. FATTY ACID PRODUCT COOLER
6. LIGHT CUT FATTY ACID STRIPPER

- A. LCFA STRIPPER FEED/BOTTOMS INTERCHANGER
- B. LCFA BRINE STRIPPER
- C. LCFA STRIPPER BOTTOMS PUMP
- D. LCFA STRIPPER OVERHEADS CONDENSER
- E. LCFA STRIPPER NEUTRALIZATION TANK
- F. LCFA STRIPPER CONDENSATE PUMP
- G. LCFA STRIPPER CONDENSATE FILTERS

A/C 20165 – FATTY ALCOHOL MANUFACTURING PROCESS

- 1. BOTTOMS WASHING/COOLING PROCESS
 - A. ESTER BOTTOMS SURGE TANK
 - B. ESTER BOTTOMS SURGE TANK PUMP
 - C. ALCOHOL BOTTOMS SURGE TANK
 - D. ALCOHOL BOTTOMS WASH WATER HEATER
 - E. ALCOHOL BOTTOMS WASH COLUMN
 - F. ALCOHOL BOTTOMS WASH COLUMN FEED PUMP
 - G. WASHES ALCOHOL BOTTOMS SURGE TANK
 - H. ALCOHOL BOTTOMS RECYCLE PUMP
 - I. REWORK ALCOHOL HFA
 - J. REWORK SCALE TANK
- 2. CATALYST SLURRY MAKING PROCESS
 - A. CATALYST MIX TANK
 - B. CATALYST BOOSTER PUMP
 - C. CATALYST EDUCTOR
 - D. CATALYST FEED SYSTEM
 - E. CATALYST HOPPER
 - F. DUST CONTROL SYSTEM WITH FAN
- 3. CATALYST FEED PROCESS
 - A. CATALYST FEED TANK
 - B. CATALYST BOOSTER PUMP
 - C. ESTER FEED TANK
 - D. ESTER BOOSTER PUMP
 - E. ESTER PREHEATER
- 4. HIGH PRESSURE HYDROGENATION PROCESS
 - A. CATALYST HIGH PRESSURE FEED PUMPS
 - B. HYDROGEN HEATER (964 KW)
 - C. ONE-STAGE RECYCLE COMPRESSOR
 - D. FOUR-STAGE COMPRESSOR
 - E. CRUDE SEPARATOR
 - F. HYDROGEN/OVERHEADS INTERCHANGER
 - G. ESTER/CRUDE INTERCHANGER
- 5. PRESSURE LET DOWN PROCESS
 - A. BOILING WATER COOLING
 - B. OVERHEADS COOLING WATER COOLER

- C. OVERHEADS SEPARATOR
 - D. OVERHEADS BLOWDOWN TANK
 - E. CRUDE COOLING WATER COOLER
 - F. CRUDE BLOWDOWN TANK
 - G. CENTRIFUGAL SEPARATOR
 - H. SOUTH HYDROGEN VENT SEAL TANK
6. CRUDE FILTRATION PROCESS
- A. CRUDE FILTER FEED TANK
 - B. CRUDE FILTER FEED PUMPS
 - C. DISPOSAL FILTER FEED PUMP
 - D. CRUDE POLISH FILTERS
7. CATALYST DISPOSAL PROCESS
- A. TWO (2) DISPOSAL FILTERS
 - B. TWO (2) DISPOSAL FILTER SHOCK TANKS
 - C. DISPOSAL SHOCK PUMP
 - D. TWO (2) DISPOSAL FILTER SURGE TANK
 - E. DISPOSAL FILTER SURGE PUMP
8. OVERHEADS FILTRATION
- A. OVERHEADS FILTER FEED TANK
 - B. OVERHEADS FILTER FEED PUMP
 - C. OVERHEADS FILTER
 - D. OVERHEADS FILTER SURGE TANK
 - E. OVERHEADS FILTER SURGE PUMP
 - F. OVERHEADS POLISH FILTERS
9. METHANOL STRIPPING
- A. STRIPPER OVERHEADS FEED TANK
 - B. STRIPPER OVERHEADS FEED PUMP
 - C. CROSS FLOW FILTERS TANK
 - D. CROSS FLOW FILTER BACKFLASH PUMPS
 - E. STRIPPER CRUDE FEED PUMP
 - F. STRIPPER FEED POLISH FILTERS
 - G. STRIPPER TWO-BAR HEATER
 - H. STRIPPER TEN-BAR HEATER
 - I. METHANOL STRIPPER
10. SCAVENGER DISTILLATION
- A. SCAVENGER STILL
 - B. SCAVENGER REBOILER
 - C. SCAVENGER STILL PUMPS
 - D. SCAVENGER CONDENSER
 - E. SCAVENGER DISTILLATE RECEIVER
 - F. SCAVENGER DISTILLATE PUMP
 - G. SCAVENGER VENT CONDENSER
 - H. SCAVENGER VACUUM EJECTOR
11. FRACTIONATED ALCOHOL PRODUCTION

- A. STILL
 - B. REBOILER
 - C. STILL PUMPS
 - D. CONDENSER
 - E. DISTILLATE RECEIVER
 - F. DISTILLATE PUMP
 - G. COOLER
 - H. VENT CONDENSER
 - I. VACUUM EJECTORS
 - J. ALCOHOL REWORK TANK
 - K. ALCOHOL SCALE TANK
 - L. FIVE (5) ALCOHOL SCALE TANKS
 - M. FOUR (4) BACK-UP ALCOHOL SCALES TANK
12. STEARYL STILL
- A. STEARYL STILL
 - B. STEARYL BOILING WATER CONDENSER
 - C. STEARYL COLD WATER CONDENSER
 - D. STEARYL DISTILLATE RECEIVER
 - E. STEARYL EJECTOR SYSTEM
 - F. STEARYL TOPPING PUMP
 - G. STEARYL TOPPING COOLER
 - H. STEARYL PRODUCT PUMP
 - I. STEARYL PRODUCT COOLER
 - J. STEARYL BOTTOMS PUMP
 - K. STEARYL REBOILER

P/O 17487 – WASTEWATER COLLECTION AND TREATMENT SYSTEM

P/O 17566 – HEATER (DOWTHERM), FOSTER WHEELER, MODEL AV5125-A, 32.0 MMBTU/HR HEAT INPUT RATING, NATURAL GAS-FIRED [*Modified P/O 12183*]

P/O 18457 – HEATER (DOWTHERM), SUPERIOR COMPANIES, MODEL ULN-16, 9.9 MMBTU/HR HEAT INPUT RATING, NATURAL GAS-FIRED

P/O 18614 – HEATER (HYDROGEN), FOSTER WHEELER, MODEL UNKNOWN, 4.85 MMBTU/HR HEAT INPUT RATING, NATURAL GAS-FIRED [*Modified P/O 17526*]

G. PROCESS MODIFICATIONS:

'ALCAP' Project

This modification increased the capacity of the fatty alcohol process by increasing the production rate of esters approximately 5% by raising the pressure and the temperature of the ester reactor. A similar increase in alcohol production was also achieved because the esters serve as the feed stock for the fatty alcohol manufacturing process.

Also included under this project are the modification of the Dowtherm heater #1 [P/O 12183] and the permitting of the chemical process streams under the wastewater collection and treatment system [P/O 17487].

'NETCAP' Project [Current Enforceable District Permits]

Under the Netcap project, P&G once again increased the capacity of the fatty alcohol process line. The modification is a combination of physical and throughput changes. Physical changes include the installation of wash column, disposal filters, scavenger still and process tanks in the fatty alcohol and methyl ester/glycerine process lines.

During this project phase, a second Dowtherm heater [P/O 18457] was installed while the hydrogen heater [P/O 1717526] was modified in order to comply with the new requirements of the amended boiler Rule 411.

H. FACILITY EMISSIONS:

Current Title V Permit No. TV2004-02-01

Process/Equipment	Reference SMAQMD P/O No.	Maximum Allowable Emissions lb/quarter				
		ROC	NOx	SOx	PM10	CO
APC Methanol Absorber	11664	3,092	-	-	-	-
Thermal Fluid Heater	12183	339	2,572	42	537	20,914
APC Methanol Scrubber	12609	18	-	-	-	-
IC Engine, Standby	13852	92	1,290	15	92	279
PROP Heater	13589	53	972	6	74	816
APC Baghouse	13590	-	-	-	148	-
APC Rotoclone	16252	-	-	-	130	-
APC Methanol Absorber	16534	-	-	-	-	-
Fire Pit Stack	16564	3,036	-	-	-	-
North Vent Seal Tank	16567	920	-	-	-	-
Hydrogen Heater	17526	85	972	6	74	816
Storage Tank Farm	17528	504	-	-	-	-
Physically Refined Oil Process	13588	66	-	-	7,702	-
Methyl Ester & Glycerine Mfg Process	14287	8,852	-	-	-	-
Fatty Acids Mfg Process	14969	106	-	-	-	-
Fatty Alcohol Mfg Process	16242	8,974	-	-	-	-
Fugitive Emissions		25,878	-	-	-	-
Total	lb/qtr	52,015	5,806	69	8,757	22,825
	TPY	26.01	2.9	0.03	4.4	11.4

1) HISTORIC POTENTIAL TO EMIT [New and Modified SMAQMD Permits]

'ALCAP' Project

P/O 17741 – STORAGE TANK FARM (Modified by P/O 18396)

Pollutant	Maximum Allowable Emissions lb/quarter
ROC	544

P/O 17742 – PHYSICALLY REFINED OIL PROCESS (Modified by P/O 18397)

Pollutant	Maximum Allowable Emissions lb/quarter
ROC	68
PM10	365

P/O 17743 – METHYL ESTER & GLYCERINE MFG PROCESS (Modified by P/O 18398)

Pollutant	Maximum Allowable Emissions lb/quarter
ROC	4,803

P/O 17744 – FATTY ACIDS MFG PROCESS (Modified by P/O 18399)

Pollutant	Maximum Allowable Emissions lb/quarter
ROC	1,428

P/O 17740 – FATTY ALCOHOL MFG PROCESS (Modified by P/O 18400)

Pollutant	Maximum Allowable Emissions lb/quarter
ROC	6,787

'NETCAP' Project (Current Enforceable District Permits)

P/O 18396 – STORAGE TANK FARM

Pollutant	Maximum Allowable Emissions lb/quarter
ROC	497

P/O 18397 – PHYSICALLY REFINED OIL PROCESS

Pollutant	Maximum Allowable Emissions lb/quarter
ROC	822
PM10	365

P/O 18398 – METHYL ESTER & GLYCERINE MANUFACTURING PROCESS

Pollutant	Maximum Allowable Emissions lb/quarter
ROC	3,671

P/O 18399 – FATTY ACIDS MANUFACTURING PROCESS

Pollutant	Maximum Allowable Emissions lb/quarter
ROC	138

P/O 18400 – FATTY ALCOHOL MANUFACTURING PROCESS

Pollutant	Maximum Allowable Emissions lb/quarter
ROC	5,768

2) PROPOSED POTENTIAL TO EMIT [New and Modified SMAQMD Permits]

P/O 17487 – WASTEWATER COLLECTION & TREATMENT SYSTEM

Pollutant	Maximum Allowable Emissions (A) lb/quarter
ROC	2,038

P/O 17566 – DOWTHERM HEATER (*Modification of P/O 12183*)

Polutant	Maximum Allowable Emissions lb/quarter
ROC	389
NOx	770
SOx	42
PM10	537
CO	2,607

P/O 18457 – DOWTHERM HEATER

Polutant	Maximum Allowable Emissions lb/quarter
ROC	120
NOx	398
SOx	13
PM10	166
CO	809

P/O 18614 – HYDROGEN HEATER (*Modification of P/O 17526*)

Polutant	Maximum Allowable Emissions lb/quarter
ROC	59
NOx	390
SOx	6
PM10	81
CO	792

A/C 20733 – STORAGE TANK FARM (Modification of P/O 17741/18396)

Pollutant	Maximum Allowable Emissions (A) lb/quarter
ROC	533

(A) Refer to Appendix 'A' – Table 1

P/O 18397 – PHYSICALLY REFINED OIL PROCESS (Modification of P/O 17742)

Pollutant	Maximum Allowable Emissions lb/quarter
ROC	822
PM10	365

(A) Refer to Appendix 'A' – Table 2

A/C 20162 – METHYL ESTER & GLYCERINE MFG PROCESS (Modification of P/O 17743/18398)

Pollutant	Maximum Allowable Emissions (A) lb/quarter
ROC	4,645

(A) Refer to Appendix 'A' – Table 3

P/O 18399 – FATTY ACIDS MANUFACTURING PROCESS (Modification of P/O 17744)

Pollutant	Maximum Allowable Emissions lb/quarter
ROC	138

(A) Refer to Appendix 'A' – Table 4

A/C 20165 – FATTY ALCOHOL MANUFACTURING PROCESS (Modification of P/O 17740/18400)

Pollutant	Maximum Allowable Emissions (A) lb/quarter
ROC	6,128

(A) Refer to Appendix 'A' – Table 5

Proposed TITLE V Minor Modification - Permit No. TV2004-02-02

Process/Equipment	Reference SMAQMD P/O No.	Maximum Allowable Emissions lb/quarter				
		ROC	NOx	SOx	PM10	CO
APC Methanol Absorber	11664	3,092	-	-	-	-
APC Methanol Scrubber	12609	18	-	-	-	-
PROP Heater	13589	53	972	6	74	816
APC Baghouse	13590	-	-	-	148	-
IC Engine, Standby	13852	92	1,290	15	92	279
Vegetable Oil Refining Process	14286	-	-	-	-	-
APC Rotoclone	16252	-	-	-	130	-
APC Methanol Absorber	16534	-	-	-	-	-
Fire Pit Stack	16564	3,036	-	-	-	-
North Vent Seal Tank	16567	920	-	-	-	-
Wastewater Collection & Treatment System	17487	2,038	-	-	-	-
Dowtherm Heater	17566	389	770	42	537	2,607
Dowtherm Heater	18457	120	398	13	166	809
Hydrogen Heater	18614	59	390	6	81	792
Storage Tank Farm	20733	533				
Physically Refined Oil Process	18397	822	-	-	365	-
Methyl Ester & Glycerine Mfg Process	20162	4,645	-	-	-	-
Fatty Acids Mfg Process	18399	138				
Fatty Alcohol Mfg Process	20165	6,128				
Fugitive Emissions		27,624				
Total	lb/qtr	49,707	3,820	82	1,593	5,303
	TPY	24.9	1.9	0.04	0.8	2.7

Note: The processes/equipment in bold types are the affected permits for the minor modification of the Title V permit.

I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS:

GENERAL FACILITY-WIDE REQUIREMENTS

The applicable federally enforceable general facility-wide requirements will remain the same as described in the Title V permit evaluation, TV2004-02-01.

EQUIPMENT-SPECIFIC REQUIREMENTS

The applicable federally enforceable equipment-specific requirements will remain the same as described in the Title V permit evaluation, TV2004-02-01.

J. APPLICABLE NON-FEDERALLY ENFORCEABLE REQUIREMENTS:

The applicable non-federally enforceable requirements in the District permits will remain the same as described in the Title V permit evaluation, TV2004-02-01.

RECOMMENDATION:

Modify the current Title V permit by incorporating the modifications in P&G's chemical manufacturing processes, including the correction of errors with the inaccurate submittal of information during prior SMAQMD permit applications.

TITLE V PERMIT CONDITIONS:

Refer to the proposed Title V Permit No. TV2004-02-02.

PREPARED BY: Ady R. Santos **DATE:** Nov. 21, 2007

REVIEWED BY: _____ **DATE:** _____