

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
6	1
APPL. NO.	DATE
See Below	03/12/10
PROCESSED BY	CHECKED BY
A.KING	COT

APPLICANT: SFPP, L.P.  
1100 Town & Country Rd.  
Orange, Ca 92868

EQUIPMENT LOCATION: 20410 S. Wilmington Ave.  
Carson, Ca. 90810

EQUIPMENT DESCRIPTION:

APPLICATION NO. 458593

VAPOR COLLECTION AND DISPOSAL SYSTEM CONSISTING OF:

1. VAPOR COMBUSTION UNIT, 168 MM BTU/HR, JOHN ZINK GAS BURNER SYSTEM, WITH FOUR PILOTS SYSTEM FIRED ON LPG ONLY, AND AN 11'-6" DIA. x 60'-0" H. STACK.
2. SATURATOR TANK, ABOVE GROUND, 1,600 BBL CAPACITY, 15'-0" DIA. x 50'-0" L., VENTED TO THE VAPOR HOLDER.
3. VAPOR HOLDER, 24,000 BBL CAPACITY, 60'-0" DIA. x 48'-0" H., WITH AN EXPANDABLE BLADDER.
4. THREE SATURATOR GASOLINE PUMPS, CENTRIFUGAL, EACH WITH DOUBLE MECHANICAL SEALS AND A 25 H.P. MOTOR EACH.
5. BURNER BLOWER, MAXIMUM CAPACITY 2000 CFM, WITH A 15 H.P. MOTOR.
6. TWO BLOWERS (PARALLEL), EACH WITH A MAXIMUM CAPACITY OF 2000 CFM, AND A 50 H.P. MOTOR, FEEDING THE VAPOR HOLDER.
7. TWO SURGE TUBES, 2'-6" DIA. X 140'-0" L., VENTED TO THE SATURATOR TANK.

AND SERVING TANKS NO. W-1, W-2, W-3, W-4, W-5, W-6, W-7, W-8, W-9, W-10, W-11, W-12, W-13, W-14, AND W-15, FOR DRAIN-DRY AND DEGASSING PURPOSES.

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

*ENGINEERING DIVISION*

**APPLICATION PROCESSING AND CALCULATIONS**

PAGES	PAGE
6	2
APPL. NO.	DATE
See Below	03/12/10
PROCESSED BY	CHECKED BY
A.KING	

**HISTORY:**

This is a Title V facility with an assigned ID 800278, but is not a RECLAIM facility.

SFPP,L.P. operates a tank farm and a pipeline breakout station, the Watson Station, in the city of Carson. The facility receives petroleum products, such as gasoline, diesel, and jet/turbine fuel, via pipelines from nearby refineries, then transfers the product to its Colton Terminal and other locations. The subject vapor collection and disposal system collects and disposes of vapors displaced from storage tanks equipped with floating roofs when the tanks are emptied or degassed prior to filling with another product.

The vapor control system was first issued a P/O D78181 (A/N 226645) in 1990. Then, in 1999, the applicant submitted application no. 346021 (existing P/C in Section H) requesting to modify the control system by adding storage tanks, W-2, W-5, and W-7 for drain-dry and degassing purposes. A permit to construct for this modification was granted on 7/6/99. Not long after the permit to construct was issued, the applicant requested to include two surge tubes in the equipment description.

On 1/3/06, the applicant submitted application no. 452221 requesting to correct the blower HP rating from 20 hp to 15 hp, and from one gasoline pump with a 7.5 HP motor to three pumps each with a 25 hp motor as an administrative change. However, it was determined that this was a modification to the existing P/C rather than an administrative change.

On 7/5/06, the applicant submitted a new application, A/N 458593, for a modification to include all of the corrections and changes made since the P/C was issued in 1999. Subsequently, A/N 452221 was cancelled because of this submittal.

**PROCESS DESCRIPTION**

The existing APC system consists of a saturator tank, a 24,000 bbl vapor holder, and a thermal oxidizer. Also included are the necessary connecting ductwork, blowers, control and safety equipment. It includes two surge tubes to provide additional vapor holding capacity for the system. The APC system serves a total of 15 floating roof tanks in the terminal. The system is considered typical for floating roof tank drain-dry or degassing operations. When the accumulated vapor mixture in the vapor holder reaches a pre-set level, it is then sent to the thermal oxidizer for final control or combustion of the VOC emissions. Therefore, the thermal oxidizer operates intermittently and depends on the level of vapors in the vapor holder and not on the throughput volume of the storage tanks.

The saturator tank provides a rich hydrocarbon vapor mixture, above the upper explosive limit, before the vapor holder. This is achieved by passing the collected vapors from the storage tanks

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

*ENGINEERING DIVISION*

**APPLICATION PROCESSING AND CALCULATIONS**

PAGES	PAGE
6	3
APPL. NO.	DATE
See Below	03/12/10
PROCESSED BY	CHECKED BY
A.KING	

through a spray of gasoline inside the saturator. One of the three gasoline pumps is used to pump fresh gasoline from a storage tank into the saturator tank and to pump out spent gasoline to a slop tank. The other two pumps are used to re-circulate the gasoline inside the saturator through high pressure spray nozzles in order to atomize the liquid and to saturate the vapor stream passing through the tank. Because of the size of the saturator tank, three pumps would be necessary to fulfill its operation. Therefore, there was probably an error in the existing permit to construct listing one 7.5 HP pump. The other rating change from 20 HP to 15 HP was confirmed by the applicant.

**CALCULATIONS**

As noted in the above discussion of the gasoline pumps, it seems reasonable to assume that there were actually three pumps in the original permit application instead of one, as listed. Therefore, there should be no real VOC emission increase from fugitive sources. The HP rating change on the exhaust blower would have no real VOC emission increase from fugitive sources. Also, the HP rating change on the exhaust blower would have no impact on emissions.

The two surge tubes added to the system are closed units and vented directly to the vapor holder as shown in the schematic flow diagram. Since the tubes receive vapors originated from the storage tanks, there would be no additional load to the system and the vapor combustion unit will continue to operate the same as before.

A source test was conducted by VOC Testing, Inc, on the combustion unit and the results indicate that the VOC emission destruction efficiency is 99%, which is consistent with other similar units. Since there is no emission increase due to the proposed equipment changes, no increase in toxic air contaminants is expected.

**RULE 212**

The equipment is not located within 1000 feet of a school. Also, there will not be an increase in emissions. Therefore, this rule does not apply.

**RULE 401**

Operation of the thermal oxidizer is not expected to result in visible emissions.

**RULE 402**

The equipment is located in an industrial area, and when operated under normal conditions, is not expected to create a public nuisance.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
6	4
APPL. NO.	DATE
See Below	03/12/10
PROCESSED BY	CHECKED BY
A.KING	

RULE 1149

The vapor collection and disposal system is used to control the displaced vapor during the drain-dry and refilling or degassing of a floating roof tank. The equipment is expected to meet the degassing requirements of this rule. For tank cleaning, a permitted portable equipment will be used.

REG XIII

The proposed equipment changes and corrections in the permit description do not result in any emissions increases. The vapor collection and disposal system are BACT. Offsets will not be required.

RULE 1401

The project, as evaluated, will not result in a net increase in emissions. Therefore, this rule does not apply.

REG. XX

This is not a RECLAIM facility.

REG. XXX

The Title V permit has been issued. Therefore, this revised permit will be issued as a de minimus modification revision following the EPA 45-Day review.

40 CFR 63

Subpart R:

This facility is a minor source of hazardous air pollutants and will require recordkeeping as reporting as stated in Section J of the Title V permit(Minor Source R).

Subpart BBBB:

This facility will be required to comply with the provisions of this rule.

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

*ENGINEERING DIVISION*

**APPLICATION PROCESSING AND CALCULATIONS**

PAGES	PAGE
6	5
APPL. NO.	DATE
See Below	03/12/10
PROCESSED BY	CHECKED BY
A.KING	

**RECOMMENDATION**

Application No. 458593 : Issue permit to construct subject to the following conditions.

**PERMIT CONDITIONS**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED, UNLESS OTHERWISE NOTED BELOW.
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD CONDITION AT ALL TIMES.
3. THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE TEMPERATURE BEING MONITORED, AS INDICATED BELOW, IS NOT LESS THAN 1400 DEG. F.
4. THE OPERATOR SHALL SUBMIT A TEST PROTOCOL TO THE DISTRICT FOR APPROVAL FOR A LOWER TEMPERATURE TO ACHIEVE AT LEAST 95% EFFICIENCY.
5. THE OPERATOR SHALL CONDUCT A SOURCE TEST(S) FOR VOC EMISSIONS BY AN APPROVED DISTRICT METHOD FROM THE INLET AND THE OUTLET OF THE STACK. THE TEST(S) SHALL BE CONDUCTED ONCE EVERY THREE YEARS.
6. TO COMPLY WITH THIS CONDITION, THE OPERATOR SHALL INSTALL AND MAINTAIN A(N) TEMPERATURE GAUGE TO ACCURATELY INDICATE THE TEMPERATURE IN THE COMBUSTION CHAMBER.
7. THE OPERATOR SHALL ALSO INSTALL AND MAINTAIN A DEVICE TO CONTINUOUSLY RECORD THE OPERATING TEMPERATURE OF THE COMBUSTION CHAMBER IN DEGREES FAHRENHEIT.

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

*ENGINEERING DIVISION*

**APPLICATION PROCESSING AND CALCULATIONS**

PAGES	PAGE
6	6
APPL. NO.	DATE
See Below	03/12/10
PROCESSED BY	CHECKED BY
A.KING	

8. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 407

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

PM: 0.1 GRAINS/SCF, RULE 409

VOC: RULE 1149

VOC: 95% DESTRUCTION EFFICIENCY, RULE 1303(a)(1)-BACT