

<i>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</i> <i>ENGINEERING AND COMPLIANCE</i> <i>APPLICATION PROCESSING AND CALCULATIONS</i>	TOTAL PAGES:	PAGE NO.:
	10	1
	APPL. NO.	DATE
	485141	8/13/10
	PROCESSED BY	File name
	SKC	

Title V Revision For a Section D Permit To Construct/Operate

APPLICANT	Equilon Enterprises, LLC
MAILING ADDRESS	20945 S. Wilmington Ave. Carson, CA 90810
EQUIPMENT LOCATION	2457 Redondo Avenue Long Beach, CA 90806

EQUIPMENT DESCRIPTION:

VAPOR RECOVERY SYSTEM, CARBON ADSORBER WITH REGENERATION SYSTEM, JOHN ZINK, MODEL AA-825-6-15B, 200 CFM CAPACITY, SERVING THREE GASOLINE LOADING/UNLOADING RACKS, CONSISTING OF:

1. SIX VAPOR PICK-UP LINES AND A COLLECTION HEADER.
2. ONE VAPOR HOLDER, 30,000-CU. FT. CAPACITY, 30'-0" DIA. X 24'-0" H., FIXED ROOF WITH INTERNAL DIAPHRAGM.
3. TWO CARBON ADSORBERS, 6'-0" DIA X 15'-0" H. EACH
4. ONE VERTICAL ABSORBER, 2'-6" DIA X 10'-0" H.
5. ONE HORIZONTAL SEPARATOR, 4'-0" DIA. X 10'-0" L.
6. TWO VACUUM PUMPS, MECHANICAL SEALS, 75 HP EACH.
7. ONE GASOLINE SUPPLY PUMP, MECHANICAL SEALS, 10 HP.
8. TWO GASOLINE RETURN PUMPS, MECHANICAL SEALS, 25 HP EACH.
9. ONE SEAL FLUID CIRCULATION PUMP, 2 HP.
10. TWO BLOWERS, 3-HP EACH, ONE STANDBY.
11. VACUUM BOOSTER BLOWER, WITH 60 HP MOTOR

Conditions:

<i>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</i> <i>ENGINEERING AND COMPLIANCE</i> <i>APPLICATION PROCESSING AND CALCULATIONS</i>	TOTAL PAGES:	PAGE NO.:
	10	2
	APPL. NO.	DATE
	485141	8/13/10
	PROCESSED BY	File name
	SKC	

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

[RULE 204]

3. THE MAXIMUM GASOLINE LOADING RATE SHALL NOT EXCEED 2,118,404 GALLONS PER DAY FROM ALL THREE LOADING RACKS NOS. 1, 2, AND 3.

[RULE 1303(b)(2) - OFFSET]

4. THE CONTINUOUS HYDROCARBON MONITORING SYSTEM SHALL BE IN FULL USE AT ALL TIMES AND SHALL ALERT THE OPERATOR BOTH AUDIBLE AND VISUALLY TO PREVENT HYDROCARBON BREAKTHROUGH. THE ALARM SHALL BE SET TO ACTIVATE AT A HYDROCARBON EMISSION RATE OF 0.065 POUND HYDROCARBON PER 1000 GALLONS.

[RULE 1303(a)(1)-BACT, RULE 1303(b)(2) - OFFSET]

5. THROUGHPUT RECORDS SHALL BE MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.

[RULE 1303(b)(2) - OFFSET]

6. THE OPERATOR SHALL KEEP RECORDS, IN A MANNER APPROVED BY THE DISTRICT, FOR THE FOLLOWING PARAMETER(S) OR ITEM(S):

GASOLINE LOADING RATES FOR RACKS NOS. 1, 2 AND 3
 FREQUENCY OF HYDROCARBON BREAKTHROUGHS

[RULE 462, RULE 1303(b)(2) - OFFSET]

7. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THIS EQUIPMENT IS NOT COMPLETE WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.

[RULE 204]

Periodic Monitoring:

8. THE OPERATOR SHALL CONDUCT SOURCE TEST(S) IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:

<i>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</i> <i>ENGINEERING AND COMPLIANCE</i> <i>APPLICATION PROCESSING AND CALCULATIONS</i>	TOTAL PAGES:	PAGE NO.:
	10	3
	APPL. NO.	DATE
	485141	8/13/10
	PROCESSED BY	File name
SKC		

THE TEST SHALL BE CONDUCTED AT LEAST ONCE EVERY THREE YEARS.

THE TEST SHALL BE CONDUCTED TO DETERMINE THE BULK LOADING RATE IN GALLONS PER HOUR DURING THE SOURCE TEST.

THE TEST SHALL BE CONDUCTED TO DETERMINE THE TOTAL VOC EMISSION RATE IN POUNDS PER 1000 GALLONS OF ORGANIC LIQUID LOADED AND IN MILLIGRAMS PER LITER OF ORGANIC LIQUID LOADED.

[RULE 1303(a)(1) - BACT, RULE 3004(a)(4) - PERIODIC MONITORING]

Emissions and Requirements:

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

VOC: 0.08 LB/1000 GAL. ORGANIC LIQUID LOADED RULE 462
VOC: 0.065 LB/1000 GAL. ORGANIC LIQUID LOADED RULE 1303(a)(1) - BACT

BACKGROUND

This facility is a Title V facility primarily a truck terminal loading facility and tank storage facility consisting of various size tanks used to store various refinery products. The facility currently operates several storage tanks, truck loading racks and a carbon vapor adsorption system. The Title V Revision application is 500998.

This application is for a modification to an existing carbon adsorber system used to vent three gasoline loading/unloading racks loading at this facility. The current permit no. for the regenerative carbon absorption system is F16852 and is in the current Title V permit. The applicant proposes to modify the equipment by adding item no. 11 in the permit description, a vacuum booster blower with a 60 hp motor.

This modification application is required because the applicant would like to add a new booster blower that will increase the volume of vapors that are pulled off the carbon when the system is regenerating one of the carbon beds. This will make the carbon cleaned up to a higher level. This system consists of two carbon beds, while one is in use the other carbon bed is being regenerated.

The current total throughput for all three loading racks combined that this system will be venting is 2,118,404 GPD and this amount will not be change due to this modification.

The gasoline loading unloading racks are currently permitted in the following applications, F16846, F16850, and F16851.

<i>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</i> <i>ENGINEERING AND COMPLIANCE</i> <i>APPLICATION PROCESSING AND CALCULATIONS</i>	TOTAL PAGES:	PAGE NO.:
	10	4
	APPL. NO.	DATE
	485141	8/13/10
	PROCESSED BY	File name
SKC		

There have been no NOV's or NTC's issued for this equipment within the last 5 years.

A msn.com live search indicated that there is no K-12 school within 1000 ft. of the equipment.

EMISSION CALCULATIONS

Operating Hours: 24 hrs/day, 30 days/month, 12 month/year
Maximum flow rate 200 scfm.

There will be no change in throughput or process emissions for this modification. Therefore the current emissions will continue to be the same.

The current emissions are as follows and are only shown for information purposes. These emissions included in the already permitted control equipment devices.

$$2,118,404 \text{ gal/day} \times 0.065 \text{ lbs/1000 gal} = 137.70 \text{ lbs/day}$$

(0.065 lbs/1000 gal is limit on previous permit)

VOC Fugitive Emissions

Because the vacuum pump will be added and it is a double mechanical seal, there will be an increase in VOC fugitive emissions. A double mechanical seal pump is listed as having an correlation equation factor (at 500 ppm) of 45.46 lbs/year fugitive emissions increase.

$$45.46 \text{ lbs/year} / 365 \text{ days year} = 0.12 \text{ lbs/day emissions increase.}$$

Because the overall increase in emissions is less than 0.5 lbs per day BACT offsets will not be required.

There are no other criteria emissions that are emitted from this equipment.

1401 Toxic emissions

Because there an overall increase in emissions due to fugitive emissions, there will also be a increase in toxic emissions therefore a 1401 evaluation has been done and a Tier II evaluation has been performed. This regenerative carbon adsorbtion system is considered T-BACT for the gasoline loading racks.

There are several 1401 compounds that are contained in gasoline which can be emitted during loading of gasoline. For gasoline it has been established by our team that the main toxic emissions that may trigger a toxic risk is Benzene. It has also been established in out team the Benzene may represent 2 % of the Total VOC. This percentage has been used to determine the risk for this modification.

<i>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</i> <i>ENGINEERING AND COMPLIANCE</i> <i>APPLICATION PROCESSING AND CALCULATIONS</i>	TOTAL PAGES:	PAGE NO.:
	10	5
	APPL. NO.	DATE
	485141	8/13/10
	PROCESSED BY	File name
SKC		

	<u>Molecular Weights</u>	<u>Percent in gasoline</u>
Hexane	86.18	
Benzene	78.11	2
Toluene	92.13	10
Ethylbenzene	28.04	1.4
Xylene	106.2	10

Benzene emissions

0.12 lbs/day x 78.11/86.18 x 0.02 = 0.0022 lbs/day or 0.0000917 lbs/hr of benzene

Toluene emissions

0.12 lbs/day x 92.13/86.18 x 0.10 = 0.0128 lbs/day or 0.000535 lbs/hr of MTBE

Ethylbenzene emissions**

0.12 lbs/day x 28.04/86.18 x 0.014 = 0.000547 lbs/day or 0.0000228 lbs/hr of MTBE

Xylene emissions

0.12 lbs/day x 106.2/86.18 x 0.10 = 0.0149 lbs/day or 0.000616 lbs/hr of MTBE

** Ethylbenzene emissions were calculated, however based on the date the application was submitted, these emissions will not be included in the risk calculations.

The results below are a summary of a Tier 2 risk for MICR, Hazardous Index Acute (HIA) and Hazardous Index Chronic (HIC), the complete evaluation is included in this file.

TIER 2 RESULTS

Compound	Residential	Commercial
Benzene (including benzene from gasoline)	1.23E-08	4.27E-08
Toluene (methyl benzene)		
Ethylbenzene*		
Xylenes (isomers and mixtures)		
Total	1.23E-08	4.27E-08
	PASS	PASS

HIA = [Q(lb/hr) * (X/Q)max] * AF / Acute REL

HIC = [Q(ton/yr) * (X/Q) * MET * MP] / Chronic REL

<i>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</i> <i>ENGINEERING AND COMPLIANCE</i> <i>APPLICATION PROCESSING AND CALCULATIONS</i>	TOTAL PAGES:	PAGE NO.:
	10	6
	APPL. NO.	DATE
	485141	8/13/10
	PROCESSED BY	File name
SKC		

Target Organs	Acute	Chronic	Acute Pass/Fail	Chronic Pass/Fail
Alimentary system (liver) - AL		9.38E-07	Pass	Pass
Bones and teeth - BN			Pass	Pass
Cardiovascular system - CV			Pass	Pass
Developmental - DEV	5.48E-05	2.73E-04	Pass	Pass
Endocrine system - END		9.38E-07	Pass	Pass
Eye	3.53E-05		Pass	Pass
Hematopoietic system- HEM	4.28E-05	1.26E-04	Pass	Pass
Immune system - IMM	4.28E-05		Pass	Pass
Kidney - KID		9.38E-07	Pass	Pass
Nervous system - NS	1.20E-05	3.45E-04	Pass	Pass
Reproductive system - REP	5.48E-05		Pass	Pass
Respiratory system - RES	3.53E-05	2.19E-04	Pass	Pass
Skin			Pass	Pass

Based on the Tier II evaluation, the MICR is less than one in a million, and for all target organs, the HIC and HIA are less than one.

EVALUATION

RULE 212 Standards for Approving Permits and Issuing Public Notice

This modification meets all the criteria in Rule 212 for permit approval. This modified equipment is designed so it can be expected to operate without emitting air contaminants in violation of sections 41700, 41701, and 44300 of the State Health and Safety Code or in violation of AQMD's rules and regulations. The fugitive emissions from the loading/unloading racks did not constitute a significant project because 1) the modified permit unit is not located within 1000 feet of a school. 2) The emissions increase did not exceed the daily maximum specified in subdivision (G) of Rule 212: and 3) The new modified permit unit did not have an increased cancer risk greater than, or equal to, one in a million (1 x 10⁻⁶) during a lifetime of 70 years or pose a risk of nuisance.

Rule 401 Visible Emissions

Visible emissions are not expected under normal operating conditions of the loading racks and the carbon adsorbtion system

<i>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</i> <i>ENGINEERING AND COMPLIANCE</i> <i>APPLICATION PROCESSING AND CALCULATIONS</i>	TOTAL PAGES:	PAGE NO.:
	10	7
	APPL. NO.	DATE
	485141	8/13/10
	PROCESSED BY	File name
SKC		

Rule 402 Nuisance

No Nuisance complaints are expected provided that the operation is conducted according to design. Compliance with Rule 402 is expected.

Rule 462 Organic Liquid Loading

This facility is a Class A facility under Rule 462. As such it is required to have a CARB certified vapor recovery/control system meeting an emissions limit of 0.08 lbs VOC/ 1000 gallons loaded. The vapor recovery system has been certified by the California Air Resources Board (CARB) of capable achieving a minimum control efficiency of 0.08 lbs of volatile organic compounds (VOCs) per 1000 gallons loaded by its loading racks. Based on reviewing information in previous evaluations including previous source tests results, this equipment currently complies with the limits of this rule and should continue to comply with this rule. Future source tests will be required to so that compliance can be determined in the future.

Rule 466 Pumps and Compressors

The District's Rule 466 establishes standards for the fugitive emissions from all pumps and compressors that handle organic liquids with a Reid Vapor Pressure (RVP) of 1.55 psia or greater. This facility will handle organic liquids with a RVP of 1.55 psia or greater. There is currently no violation for rule 466 and the company intends to continue to comply with this rule, therefore this facility should comply.

Rule 1173 Fugitive Emissions of volatile Organic Compounds

This Rule specifies leak control, identification, operator inspection, maintenance, and recordkeeping requirements for valves pumps, compressors, pressure relief valves, and other components from which fugitive VOC emissions may emanate. Based on reviewing previous inspection records, this equipment is currently in compliance and should continue to comply with the rule requirements of Rule 1173.

Regulation XIII - New Source Review

1303(a) Best Available Control Technology

This application is for a modification to a Carbon Adsorption system which is considered BACT for the gasoline loading/unloading racks it serves, therefore BACT is provided for the loading racks this equipment serves.

<i>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</i> <i>ENGINEERING AND COMPLIANCE</i> <i>APPLICATION PROCESSING AND CALCULATIONS</i>	TOTAL PAGES:	PAGE NO.:
	10	8
	APPL. NO.	DATE
	485141	8/13/10
	PROCESSED BY	File name
SKC		

Fugitive Equipment BACT.

The only change in fugitive components will be the addition of a new pump. This pump will have dual mechanical seals which will have an emission increase 0.28 lbs/day which is less than 0.5 lbs/day which would trigger BACT for pumps.

1303(b)(1) – Modeling

Modeling is not required for VOC emissions, therefore this equipment exempt from this requirement.

1303(b)(2) – Emission Offsets

Offsets are required for emissions increases of 0.5 lbs/day. Because the only increase in emissions is 0.28 lbs/day for fugitive VOC emissions which is less than 0.5 lbs/day which trigger offsets, therefore offsets are not required for this modification.

Rule 1401: New Source Review of Toxic Air Contaminant

There will be an increase in daily toxic compound emissions for this equipment. A 1401 tier II evaluation was performed and the calculated increase in risk is shown to be less than one in a million for the MICR for residential and commercial properties. The HIC and HIA for this modification will be less than 1 for all target organs for both residential and commercial properties, therefore this modification will meet all the requirements of this rule.

Reg XX: REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)

This facility is not a RECLAIM facility, therefore it is subject to Regulation XX.

REGULATION XXX – TITLE V PERMITS

Rule 3000 General

This regulation defines permit application and issuance procedures as well as compliance requirements associated with the program. Rule 3000 (b)(1)(D)
This permit is a minor permit revision which involves issuing a final permit to construct for equipment previously issued a title V permit.

<i>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</i> <i>ENGINEERING AND COMPLIANCE</i> <i>APPLICATION PROCESSING AND CALCULATIONS</i>	TOTAL PAGES:	PAGE NO.:
	10	9
	APPL. NO.	DATE
	485141	8/13/10
	PROCESSED BY	File name
SKC		

Rule 3004 Permit Types and Content

RULE 3004(A)(4) Monitoring, recordkeeping and reporting requirements. The company will monitor and control fugitive emissions in accordance with an SCAQMD approved Inspection and Maintenance (I & M) Program and EPA NSPS with monthly inspection and maintenance (I & M) and 500 ppm by OVA. Valves which do not leak during two successive monthly inspections will revert to a quarterly inspection interval.

40 CFR Part 64 – Compliance Assurance Monitoring (CAM) Rule

This rule specifies the monitoring, reporting and recordkeeping criteria that must be conducted by Title V facilities to demonstrate ongoing compliance with emission limitations and standards. Per 40 CFR Part 64.2(b)(1)(i). The requirements of this part shall not apply to the emission limitations proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the ACT. Since this Title V facility is subject to Neshaps Rule for Gasoline Distribution which is 40 CFR Subpart R promulgated on December 14, 1994, it is exempt from CAM rule.

40 CFR 63 Subpart R

National emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations). This regulation requires that the loading racks meet the requirements of 40 CFR 60.502 and that the loading racks be equipped with a control system which limits total organic compound emissions to 10 mg/liter of gasoline loaded (0.08 lbs/1000 gallons loaded). Section 40 CFR 60.502 requires that the loading racks be equipped with a vapor collection system, that liquid product be loaded only into vapor-tight gasoline tank trucks, that the terminal's and tank truck's vapor collection system be connected during loading, that the backpressure in the deliver truck not exceed 18" W. C., and that no pressure-vacuum vents in the terminal's vapor collection system begin to open at a pressure less than 18" W.C. Compliance with District Rule 462, assures compliance with these requirements.

This regulation also has standards for equipment leaks requiring monthly leak inspections, using detection methods of sight, sound and smell. Repair or replacement of leaking components are to be completed within 15 days of leak detection. In lieu of the leak inspections cited above, an instrument leak monitoring program may be implemented. Compliance with District Rule 1173, assures compliance with these requirements.

<i>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</i> <i>ENGINEERING AND COMPLIANCE</i> <i>APPLICATION PROCESSING AND CALCULATIONS</i>	TOTAL PAGES:	PAGE NO.:
	10	10
	APPL. NO.	DATE
	485141	8/13/10
	PROCESSED BY	File name
SKC		

40 CFR 63, Subpart BBBBBB

National Emission Standards for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities. This regulation requires that the loading racks meet the applicable testing and monitoring requirements specified in §63.11092, submit applicable notifications as required under §63.11093, and shall keep records and submit reports as specified in §63.11094 and §63.11095. The owner operator shall perform monthly leak inspections of all equipment in gasoline service, as defined §63.11100. For facilities with a gasoline throughput $\geq 250,000$ gallons per day : the facility shall 1) reduce HAP emissions to 80 milligrams (mg) or less, per liter of gasoline loaded into cargo tanks, and 2) limit the loading of gasoline into cargo tanks demonstrated to be vapor tight² using Reference Method 27 or equivalent. This facility is currently operates under the requirements of this rule and should continue to do so.

CEQA California Environmental Quality ACT

CEQA requires that the environmental impacts of proposed projects be evaluated and that feasible methods to reduce, avoid or eliminate identified significant adverse impacts of these projects be considered. The CEQA Applicability Form (400-CEQA) submitted indicates that the project does not have any impacts which trigger the preparation of a CEQA document. The expected impacts of the project on the environment are not significant: therefore a CEQA analysis is not required.

RECOMMENDATION

THE FOLLOWING DISPOSITION IS RECOMMENDED:

Based on the above evaluation, the permit to construct should be issued in a revision for section D of the Title V Permit.