

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT STATIONARY SOURCE COMPLIANCE DIVISION PERMIT APPLICATION PROCESSING AND CALCULATIONS	PAGES 4	PAGE 1
	APPL NO 556766	DATE 11/4/2013
	PROCESSED BY AS08	CHECKED BY

Permit to Construct/Operate (Alteration/Modification)

Applicant Eastern Municipal Water District (EMWD) –Perris Valley
Regional Water Reclamation Facility (PVRWRF)

Mailing Address 2270 Trumble Road
P.O. Box 8300
Perris, CA 92572

Equipment Location 1301 Case Road
Perris, CA 92570

Equipment Description
APPLICATION 556766, FACILITY ID 007417

FUEL STORAGE AND DISPENSING FACILITY CONSISTING OF:

1. 1 - GASOLINE NOZZLE DISPENSING 1 PRODUCT, EQUIPPED WITH PHASE II VAPOR RECOVERY SYSTEM, BALANCE RETRACTOR.
2. 1 - DUAL COMPARTMENT ABOVEGROUND GASOLINE/DIESEL STORAGE TANK, CONVAULT AST (VR-301-E), RECTANGULAR, 11' - 3" L. X 8' - 0" W. X 5' - 6" H., 2,000 GALLON CAPACITY, CONSISTING OF:
 - A. ONE 1,000 GALLON GASOLINE COMPARTMENT, EQUIPPED WITH A HUSKY 5885 PRESSURE/VACUUM RELIEF VALVE (VR-301) OR SUBSEQUENT ARB APPROVED P/V RELIEF VALVE, AND A MORRISON BROTHERS PHASE I ENHANCED VAPOR RECOVERY (EVR) SYSTEM (VR-402-B OR SUBSEQUENT ARB APPROVED VR-402).
 - B. ONE 1,000 GALLON DIESEL COMPARTMENT, NOT EQUIPPED WITH PHASE I VAPOR RECOVERY SYSTEM.

Background/Process Description

The above application was submitted on October 8, 208 for an alteration/modification application to an existing fuel storage and dispensing facility. The modification involves the retrofit of an existing Phase I vapor recovery system with a Morrison Brothers Phase I EVR system. The gasoline storage and dispensing facility is used to store and dispense one grade of gasoline. This facility is equipped with CARB certified Phase I and Phase II vapor controls, which comply with Rule 461. Furthermore, these vapor controls are considered to be T-BACT, which comply with Rule 1401. The project will not result in a net emission increase and will comply with Regulation XIII.

The facility is a municipal water district which accepts and treats municipal sewage and produces recycled water for a 120 square mile area in Perris, Sun City, Romoland, and part of Moreno Valley. Eastern Municipal Water District-Perris Valley Regional Water Reclamation Facility (EMWD-PVRWRF) currently consists of two separate wastewater treatment facilities, a 3 MGD and 8 MGD facility. The 3 MGD facility was originally built in 1982 as a 1 MGD until the capacity was optimized to 3 MGD in 1991. The 8 MGD treatment facility has been in operation since 1994. In 2005, tertiary treatment capacity was added to the facility to treat the secondary effluent from both the 3-MGD and 8-MGD plants. EMWD is in the process of installing a new plant (Plant 3) and modifying the other two plants. Plant expansion is planned for 24.2 MGD.

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The permit unit has a normal operating schedule of 24 hours/day, 7 days/week, and 52 weeks/year. There is no school within 1000 feet of emission source. There were no Notices of Violation, Notice to Comply, or complaints issued to the above facility in the last two years.

Emission Calculations

The hydrocarbon and benzene emissions from storage tank filling and motor vehicle refueling operations are estimated by using appropriate emission factors summarized in the follow table. These emission factors were developed by the Districts Planning Division.

I. Emission Factors and Control Efficiencies

The following table summarizes the uncontrolled ROG emission factors in pounds per 1,000 gallons of gasoline throughput, benzene, ethylbenzene, and naphthalene content of gasoline, and control efficiencies:

Emission Factors and Control Efficiencies for Aboveground Tanks

	Loading (a)	Breathing	Refueling (b)	Spillage
ROG				
Uncontrolled ROG Emission Factors (lbs/1000 gal)	8.40	0.21	3.95	0.24
Control Efficiency	95.000%	75.000%	94.732%	0%
Controlled ROG Emission Factors (lbs/1000 gal)	0.420	0.053	0.208	0.240
Toxic Air Contaminants (TACs) wt% (d)				
Benzene	0.300%	0.300%	0.300%	1.000%
Naphthalene	0%	0%	0%	0.140%

(a) Revised from 90% assumed by CAPCOA to 95% based on SCAQMD's findings

(b) Revised from 99% assumed by CAPCOA to ~95% based on SCAQMD's findings.

(c) Spillage emission factor was revised from 0.42 to 0.24 based on EVR Regulation.

(d) Specification profiles for TACs are from <http://www.arb.ca.gov/ei/speciate/speciate.htm>

II. MICR Calculations

The following equations are used for calculating ROG emissions and MICR from gasoline dispensing operations.

Net Increased Throughput = Proposed throughput – Total permitted throughput prior to the modification or average throughput for the last two years

ROG, uncontrolled = EF (lbs-ROG/1,000 gals gas) x Proposed gas throughput (1,000 gals/month)

ROG, controlled = ROG, uncontrolled x Control Efficiency

Benzene, uncontrolled = ROG uncontrolled x Benzene Content in gasoline

Benzene, controlled = ROG controlled x Benzene Content in gasoline

Naphthalene, uncontrolled = ROG, uncontrolled x Naphthalene Content in gasoline

Naphthalene, controlled = ROG, controlled x Naphthalene Content in gasoline

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Total Emission Increase – Aboveground Tanks

Proposed GA Throughput (gals/month)	5000
Average GA Throughput (gals/month)	0
Net GA Throughput (gals/month)	5000

The Total Emissions are as follows:

Emission (lbs/month)		Process Type				Total ROG
		Loading	Breathing	Refueling	Spillage	
ROG	R1	42.000	1.060	19.740	1.200	64.000
	R2	2.100	0.265	1.040	1.200	4.605
Benzene	R1	0.126	0.000	0.059	0.012	0.197
	R2	0.006	0.000	0.000	0.012	0.018
Naphthalene	R1	0.000	0.000	0.000	0.000	0.000
	R2	0.000	0.000	0.000	0.000	0.000

III. Summary of Emissions

	Total ROG		Total Benzene, Ethylbenzene, & Naphthalene	
	R1	R2	R1	R2
Monthly (lbs/month)	64.00	4.60	0.200	0.020
30-day average (lbs/day)	2.13	0.15	0.010	0.000
Hourly (lbs/hr)	0.09	0.01	0.000	0.000

Cancer Risk Assessment

There is no emission increase due to the modification of the permit unit. Therefore there is no expected increase in MICR, HIC, or HIA.

Rules Evaluation

Rule 212: Rule 212 (c)- This provision does not apply since there are no emission increases due to this modification. **Public Notice is not required.**

Rule 401: Visible Emissions
No violations are expected, limits are listed under Rule 401(b)(1).

Rule 402: Nuisance
Nuisance is not expected with proper operation, monitoring and maintenance. Based on previous operation of the facility for the last two years, compliance is expected. No complaints have been received in the last two years against the facility.

Rule 461: Gasoline Transfer and Dispensing
The gasoline tank will be equipped with CARB certified Phase I vapor controls and will be installed per CARB executive order VR-402. The tank will also be equipped with a submerged fill tube and a pressure vacuum relief valve. The nozzle serving the gasoline tank are equipped with CARB certified Phase II vapor controls and were installed per CARB executive order G-70-52-AM.
Compliance is expected.

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- Rule 1170: Methanol Compatible Fuel Storage and Transfer
This facility does not have any underground storage tanks. Therefore, it is exempted from the provisions of this rule.
- Reg XIII: Rule 1303(a)- There is no emission increase due to the modification of the permit unit. BACT was applied through compliance with Rule 461 and Rule 462.
Rule 1303(b)(1)- There is no emission increase, therefore modeling is not required.
Rule 1303(b)(2)- There is no emission increase, therefore offsets are not required.
Compliance is expected.
- Rule 1401: Toxic Air Contaminants
There is no emission increase due to the modification of the permit unit. Therefore there is no expected increase in MICR, HIC, or HIA.
Compliance is expected
- Rule 1401.1: Rule 1401.1(b)- Equipment is exempt since it is located at an existing facility.
- Reg. XXX: The modification of the fuel storage and dispensing system to retrofit the Phase I vapor recovery system pursuant to CARB requirements is considered a Title V Minor permit revision under Rule 3000(b)(15), since the there is no emission increase and the modification of the equipment does not result in new or additional NSPS or NESHAP requirements and will be subject to an EPA review (Rule 3003 (j)). A public notice is not required.
Compliance is expected.

Conclusions & Recommendations

The equipment is in compliance with the Rules and Regulations of the SCAQMD. A Permit to Construct/Operate is recommended for application 556766. For Permit Conditions please see Sample Permit. A revised Title V permit is recommended after EPA review.