South Coast Air Quality Management District Engineering Division Application Processing & Calculations	PAGE 1	PAGES 5
	APPL NO. 563071	DATE 6/5/2014
	PROCESSED BY CGP	CHECKED BY

MODIFICATION (P/C-P/O)

APPLICANT:
Southern California Edison
7301 Fenwick Lane
Westminster, CA 92683

EQUIPMENT LOCATION:
13568B Milliken Ave
Ontario, CA 91761

EQUIPMENT DESCRIPTION:

Section D of the Facility Permit, ID# 51003

Proposed changes or additions are shown in **bold/underline**, proposed deletions are shown in ~~strikethrough~~

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
PROCESS 2: MISCELLANEOUS SYSTEMS					
SYSTEM 1: GASOLINE FUELING					
STORAGE TANK, FIXED ROOF, SUBMERGED FILL TUBE, WITH A P/V RELIEF VALVE, CONCRETE INSULATION, ABOVEGROUND, **CONTAINMENT SOLUTIONS HOOVER VAULT (VR-301-E)**, 8000 GALS, WIDTH 7 FT 11 IN; HEIGHT 7 FT 1 IN; LENGTH 20 FT 11 IN WITH A/N: ~~357388~~ **563071** COMPARTMENT, GASOLINE, EQUIPPED WITH PHASE I, 4000 GALS COMPARTMENT, DIESEL FUEL, NO PHASE I, 4000	D10				D330.1, H23.1, J109.1, J110.1, J373.1

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
PROCESS 2: MISCELLANEOUS SYSTEMS					
SYSTEM 1: GASOLINE FUELING					
GALS					
FUEL DISPENSING NOZZLE, BALANCE TYPE **(G-70-52-AM)** PHASE II CONTROL A/N:~~357338~~ **563071**	D13				

CONDITIONS:

D3301.
The operator shall have a person that has been trained in accordance with rule 461conduct a semi-annual inspection of the gasoline transfer and dispensing equipment. The first inspection shall be in accordance with Rule 461, Attachment B, the second inspection shall be in accordance with Rule 461, Attachment C, and the subsequent inspections shall alternate protocols. The operator shall keep records of the inspection and the repairs in accordance to Rule 461 and Section K of this permit.

H23.1
This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	461

J109.1
The operator shall use, except for diesel transfer, the Phase I vapor recovery system in full operation whenever this equipment is in use. This system shall be installed, operated and maintained to meet all CARB certification requirements.

J110.1
The operator shall use, except for diesel transfer, the phase II vapor recovery system in full operation whenever gasoline from this equipment is dispensed to motor vehicles as defined in Rule 461. This system shall be installed, operated and maintained to meet all CARB certification requirements.

J373.1
The operator shall comply with the following gasoline transfer and dispensing requirements:

The Phase II vapor recovery systems shall be installed, operated, and maintained such that the maximum allowable pressure through the system including nozzle, vapor hose, swivels, and underground piping does not exceed the dynamic back pressures described by the California Air Resources Board (CARB) Executive Order by which the system was certified:

Nitrogen Flowrates (CFH) Dynamic Back Pressure (Inches of Water)

~~20~~	~~0.15~~
~~40~~	~~0.16~~
60	0.35
80	0.62
~~100~~	~~0.95~~

Dynamic back pressure tests shall be conducted to determine the Phase II system vapor recovery back pressures. The tests shall be conducted in accordance with CARB Test Procedure Method TP-201.4 **(July 3, 2002), Methodology 1as a performance test and as a reverification test**.. ~~Results shall be submitted to the AQMD, Engineering and Compliance, within 48 hours of tests~~

~~The AQMD shall be notified by e-mail at R461testing@aqmd.gov or by facsimile at telephone number (909) 396-3606 at least seventy two (72) hours prior to testing. Such notification shall include the name of the owner or operator; the name of the contractors; the location of the facility; and the scheduled start and completion dates of the dynamic back pressure test.~~

~~The test shall be conducted as frequently as that required by the most recent amendment to Rule 461 or CARB Executive Order requirements, whichever is more stringent.~~

At least seventy-two (72) hours prior to back-filling any underground storage tank or piping, the SCAQMD shall be notified by ~~e-mail at r461backfill@aqmd.gov or by facsimile at telephone number (909) 396-3606~~ **methods specified at the time by the Executive Officer**. Such notification shall include the name of the owner or operator; the name of the contractors; the location of the facility; and the scheduled start and completion dates of the back-filling procedure. The backfilling procedure shall not commence until inspected by a District representative.

~~A pressure integrity test of the drop tube/drain valve assembly shall be conducted as a reverification test to quantify the pressure integrity of both the drop tube and drain valve seal. The test shall be conducted in accordance with the test procedure method outlined in exhibit 5 of CARB Executive Order VR-101-B. Results shall be submitted to the AQMD, Engineering and Compliance, within forty-eight (48) hours of the test.~~

~~The AQMD shall be notified by e-mail at r461testing@aqmd.gov or by facsimile at (909) 396-3606 at least 72 hours prior to testing. Such notification shall include the name of the owner or operator; the name of the contractor; the location of the facility; and the scheduled start and completion dates of the pressure integrity test of drop tube/drain assembly.~~

If rotatable vapor adapters are installed, a static torque test of rotatable Phase I adaptors shall be conducted ~~as a reverification test~~ to quantify the amount of static torque required to start rotation of the rotatable Phase I adaptors. The test shall be conducted in accordance with the test procedure method ~~exhibit 4 of CARB Executive Order VR-101-B~~ **outlined in TP-201.B (October 8, 2003) as a performance test and as a reverification test.**. ~~Results shall be submitted to the AQMD, Engineering and Compliance, within forty-eight (48) hours of the test.~~

~~The AQMD shall be notified by e-mail at r461testing@aqmd.gov or by facsimile at (909) 396-3606 at least 72 hours prior to testing. Such notification shall include the name of the owner or operator; the name~~

~~of the contractor; the location of the facility; and the scheduled start and completion dates of the static torque test of rotatable Phase I adaptors._~~

~~As required by AQMD Rule 461 or CARB Executive Order_, a static pressure leak decay test shall be conducted to demonstrate that the storage tanks, the remote and/or nozzle vapor recovery check valves, associated vapor return piping and fittings are free from vapor leaks. The test shall be conducted in accordance with CARB Test Procedure Method TP-201.3. Results shall be submitted to the AQMD, Engineering and Compliance,_within forty-eight (48) hours of the test_.~~

A static pressure performance test shall be conducted to quantify the vapor tightness of the aboveground storage tank. The test shall be conducted in accordance with the latest version of exhibit 4 of CARB Executive Order VR-401, as a performance test and as a reverification test.

~~The AQMD shall be notified by e-mail at R461testing@aqmd.gov or by facsimile at telephone number (909) 396-3606 at least_seventy-two (72) hours prior to testing_. Such notification shall include the name of the owner or operator; the name of the contractors; the location of the facility; and the scheduled start and completion dates of the static pressure leak decay test.~~

If the CARB Executive Order requires the installation of a liquid removal device, a liquid removal rate test shall be conducted to demonstrate the removal of gasoline from the vapor passage of the coaxial hose. The test shall be conducted within thirty days of initial installation and in accordance with CARB test procedure Method TP-201.6 **(April 28, 2000) as a performance test and as a reverification test**. ~~Results shall be submitted to the AQMD, Engineering and Compliance,_within forty-eight (48) hours of the test~~.

~~The AQMD shall be notified by e-mail at r461testing@aqmd.gov or by facsimile at telephone number (909) 396-3606 at least_seventy-two (72) hours prior to testing_. Such notification shall include the name of the owner or operator; the name of the contractors; the location of the facility; and the scheduled start and completion dates of the liquid removal rate test.~~

A Leak Rate and Cracking Pressure Test of pressure/vacuum relief vent valves shall be conducted within 10 days after the start of operation of the Phase I EVR equipment and at least once every 3 years thereafter to determine the pressure and vacuum at which the pressure/vacumm vent valve actuates, and the volumetric leak rate at a given pressure. The test shall be conducted in accordance with the test procedure method TP-201.1E (October 8, 2003).

The SCAQMD shall be notified by ~~e-mail at r461testing@aqmd.gov or by facsimile at telephone number (909) 396-3606 at least_seventy-two (72) hours prior to testing~~ **methods specified at the time by the Executive Officer at least seventy-two (72) hours prior to any of the above mentioned testing requirements.** Such notification shall include the name of the owner or operator; the name of the contractors; the location of the facility; and the scheduled start and completion dates of the ~~liquid removal rate test~~ **test to be performed.**

All test results shall be submitted to the SCAQMD, Office of Engineering and Compliance, within seventy-two (72) hrs of the test. All test results shall be kept on site for three (3) years and made available to SCAQMD representatives upon request.

The testing frequency for the above mentioned tests shall be conducted in accordance with the most recent AQMD Rule 461 amendment or CARB Executive Order requirements, whichever is more stringent.

A copy of the pass/fail test results shall be sent by methods specified at the time by the Executive Officer within seventy-two (72) hours after each test is conducted. Furthermore, the final test results

demonstrating compliance shall be submitted by methods specified at the time by the Executive Officer within fourteen (14) calendar days from the date when all tests were passed.

The test report shall include at a minimum all the required records of all tests performed, test data, current SCAQMD facility ID number of the location being tested, the equipment permit to operate or application number, the SCAQMD ID number of the company performing the tests, a statement as to whether the system or component tested meets the required standards, and the name, SCAQMD tester ID number and signature of the person responsible for conducting the tests.

All records and test results that are required to be maintained by Rule 461 shall be kept on site and made available to AQMD representatives upon request.

All Phase I and Phase II vapor recovery equipment at this facility shall be installed, operated and maintained to meet all California Air Resources Board Certification requirements.

New equip installations and subsequent service, repairs for any certified component for which this permit was issued, shall only be performed by a current and certified person who has successfully completed the manufacturer's training course and appropriate international code council (ICC) certification. Completion of any SCAQMD training course does not qualify as a substitute for this requirement. Proof of successful completion of any manufacturer training course shall be with the manufacturer.

The SCAQMD may elect to witness the installation and/or performance testing of the new vapor recovery equipment. At least 72 hrs prior to the installation of the equipment and any of the mentioned testing requirements in this permit, the applicant shall notify the SCAQMD by methods specified at the time by the E.O. Such notification shall include the name of the owner/operator, name of the contractor, location of the facility, and scheduled start and completion dates of the tests to be performed.

Unless SCAQMD Rule 461 requires a more frequent testing or inspection schedule, the owner/operator shall be responsible to perform the scheduled weekly, quarterly, and annual inspections as outlined in the CARB approved installation, operation, and maintenance manual for the OPW Phase I EVR system, as well as the required vapor recovery system tests as per the current and appropriate CARB Executive Order.

All permit conditions applicable to the equipment described in the permit to operate N8758 shall remain in effect until the new or modified equipment is constructed and operated as described in this new permit.

This permit to construct/operate shall become invalid if the modification as described in the equipment description has not been completed within 1 year from the issue date. In such case a written request shall be submitted to the SCAQMD to reinstate the previously inactivated Permit to Operate. A new application is required if there are plans to continue with the modification. This condition does not allow any time extensions to modifications required by the California ARB or SCAQMD.

Gasoline throughput shall not exceed 59,700 gals/month. The owner/operator shall submit the facility's monthly gasoline throughput data for the previous calendar year to the Executive Officer on or before March 1 of each year.

EVALUATION FOR PERMIT TO CONSTRUCT/OPERATE

APPLICANT'S NAME: SO CAL EDISON CO

MAILING ADDRESS: 7301 FENWICK LANE
WESTMINSTER, CA 92683

EQUIPMENT ADDRESS: 13568B MILLIKEN AVE, ONTARIO, CA 91761 - 2605

EQUIPMENT DESCRIPTION:

Fuel Storage and Dispensing Facility Consisting of:

1) 1 - DUAL COPARTMENT ABOVEGROUND GASOLINE/DIESEL STORAGE TANK, CONTAINMENT SOLUTIONS HOOVER VAULT TANK (VR-301-E), RECTANGULAR, 20' - 11" L. X 7' - 11" W. X 7' - 1" H., 8,000 GALLON CAPACITY, CONSISTING OF:

   A) ONE 4,000 GALLON GASOLINE COMPARTMENT, EQUIPPED WITH A HUSKY 5885 PRESSURE/VACUUM RELIEF VALVE, AND AN OPW PHASE I ENHANCED VAPOR RECOVERY (EVR) SYSTEM (VR-401-C).

   B) ONE 4,000 GALLON DIESEL COMPARTMENT, NOT EQUIPPED WITH PHASE I VAPOR RECOVERY SYSTEM.

2) 1 - GASOLINE NOZZLE DISPENSING 1 PRODUCT, EQUIPPED WITH PHASE II VAPOR RECOVERY SYSTEM, BALANCE RETRACTOR (G-70-52-AM).

BACKGROUND HISTORY:

This application was submitted for an alteration on 4/24/2014. The planned installation date will be as soon as the permit is granted. The alteration involves the removal of the existing Phase I vapor system and replacing it with an OPW Phase I EVR system. The facility's proposed normal operating schedule is as follows: 24 hours/day, 7 days/week, 30 days/month and 52 weeks/year. This is a commercial gasoline storage and dispensing facility. The facility has received no Notices to Comply and no Notices of Violation were found in the Inspector Report files. An application, A/N 357338 was previously filed with the District for this equipment.

PROCESS DESCRIPTION:

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 complies with Rule 461. Furthermore, these vapor controls are considered to be T-BACT, which complies with Rule 1401. Finally, the project will not result in a net emission increase and thus will comply with Reg. XIII.

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 following 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 effiencies:

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

Total Emission Increase - Aboveground Tanks

Proposed GA Throughput (Gals/Month)	59700
Average GA Throughput (Gals/Month)	59700
Net GA Throughput (Gals/Month)	0

The Total Emissions are as follows:

Emission (lbs/month)		Process Type				Total ROG
		Loading	Breathing	Refueling	Spillage	
ROG	R1	501.480	12.656	235.696	14.328	764.160
	R2	25.074	3.164	12.416	14.328	54.982
Benzene	R1	1.504	0.038	0.707	0.143	2.392
	R2	0.075	0.009	0.037	0.143	0.264
Naphthalene	R1	0.000	0.000	0.000	0.020	0.020
	R2	0.000	0.000	0.000	0.020	0.020

III. Summary of Emissions

	Total ROG		Total Benzene Ethyl Benzene & Naphthalene	
	R1	R2	R1	R2
Monthly (lb/mo)	764.16	54.98	2.410	0.290
30-day average (lb/day)	25.47	1.83	0.080	0.010
Hourly (lb/hr)	1.06	0.08	0.000	0.000

CANCER RISK ASSESSMENT:

From gasoline storage and dispensing operations, benzene is the only toxic emittant that has significant effect to the maximum individual cancer risk (MICR). Using the CAPCOA provided risk values, the staff in the District's Planning Division prepared reference MICR's for different scenarios, i.e., for underground and aboveground tanks, and for residence and workers. These MICR's are tabulated for different downwind distances from a permit unit that is located in West LA with annual gasoline throughput of one million gallons.

Once a reference MICR is determined for a given downwind distance, it has to be adjusted by using the MET factor to reflect the meteorological conditions of a permit unit's location and the actual fuel throughput of a permit unit.

The following is the parameters used for calculating the MICR for this application. The distances are from the center of emission source to the nearest receptor areas:

Tank Type	= Aboveground
GA Throughput (MMGals-GA/Year)	= 0
Facility Zone	= 32
MET Factor	= 1.04
Downwind Distance to Residence (Meters)	= 30
Downwind Distance to Workers (Meters)	= 30

A reference MICR is determined for a given downwind distance in the following manner:
1. If the downwind distance is less than or equal to mimimum pre-defined distance, use the MICR at the minimum distance.
2. If the downwind distance is greater than or equal to maximum pre-defined distance, use the MICR at the maximum distance.
3. Find MICRs two distances, i.e., one for nearest higher distance and the other one for nearest lower distance, and interpolate them.

MICR, ref = MICR, low + [(MICR, high -MICR, low) / (High Distance - Low Distance)]
* (Downwind Distance - Low Distance)

where,

MICR, ref	Reference MICR at a given downwind distance
MICR, low	MICR at a lower interpolate distance
MICR, high	MICR at a higher interpolate distance
Low Distance	Lower interpolate distance
High Distance	Higher interpolate distance
Downwind Dist	Given downwind distance

MICR - Aboveground Tanks

MICR for Residences
Reference MICR [in-a-million / (1 MMGal-GA/Year)]
= 2.931

Adjusted MICR (in-a-million)
= (Reference MICR) x (MET factor) x (Annual Fuel Throughput)
= 2.931 x 1.04 x 0 = 0

MICR for Workers
Reference MICR [in-a-million / (1 MMGal-GA/Year)]
= 0.572

Adjusted MICR (in-a-million)
= (Reference MICR) x (MET factor) x (Annual Fuel Throughput)
= 0.572 x 1.04 x 0 = 0

Modeling Assumptions:
The modeling assumes the generic station operates 24 hours/day, with 80% of the emissions occurring between 6:00 AM and 8:00 PM, and the remaining 20% of the emissions occurring between 8:00 PM and 6:00 AM. In addition, the refueling and spillage emissions were modeled as volume sources and the loading and breathing emissions as point sources.

Risk Calculations:
The revised risk calculation for 1,000,000 gallons a year throughput for the different distances (20, 25, 30.....1000 meters) are based on the inhalation cancer potency factor of 0.1/(mg/kg-day) for benzene, 0.0087/(mg/kg-day) for ethyl benzene, and 0.12/(mg/kg-day) for naphthalene.

RULES EVALUATION:

Rule 212	There is no school located within 1,000-feet from this facility. The maximum individual cancer risk is less than ten-in-one million. Public notice is exempt.
Rule 461	The gasoline tank will be equipped with CARB certified Phase I vapor controls and will be installed per CARB executive order VR-401. The tank will also be equipped with a submerged fill tube and a pressure vacuum relief valve. The nozzle serving the gasoline tank was equipped with CARB certified Phase II vapor controls and was installed per CARB executive order G-70-52. Therefore, this facility complies with Rule 461.
Rule 1170	The facility does not have any underground storage tanks. Therefore, it is exempted from the provisions of this rule.
Rule 1401	The alteration will not result in a net toxic emission increase and therefore is exempt from further rule evaluation per section (g)(1)(B). The facility complies with this rule.
Rule 1401.1	The rule DOES NOT apply as facility is an existing facility.

Rule REGXIII No net emission increase. BACT and Offset are not required. No modeling required for VOCs. Complies with Rule. This facility complies with Rule 1313 since the operator has installed both Phase I and Phase II vapor recovery equipment, which meets current BACT requirements. Furthermore, this facility will not have a maximum monthly gasoline throughput condition since this facility has been in continuous operation without an increase in the number of actively metered fueling positions prior to the adoption of this rule.

Reference MICR Chart - Above Ground Tanks

MICR for Residential Areas - Above Ground Tanks per One Million Gallons for Gasoline

Dist(m)	20	25	30	40	50	60	70	75	80	90
MICR	5.440	3.896	2.931	1.823	1.249	0.919	0.706	0.622	0.559	0.452

Dist(m)	100	125	150	175	200	250	300	350	400	450
MICR	0.372	0.242	0.169	0.120	0.091	0.058	0.044	0.032	0.026	0.021

Dist(m)	500	600	700	800	900	1000				
MICR	0.018	0.013	0.010	0.008	0.007	0.006				

MICR for Commercial Areas - Above Ground Tanks per One Million Gallons for Gasoline

Dist(m)	20	25	30	40	50	60	70	75	80	90
MICR	1.062	0.761	0.572	0.356	0.244	0.179	0.138	0.121	0.109	0.088

Dist(m)	100	125	150	175	200	250	300	350	400	450
MICR	0.073	0.047	0.033	0.024	0.018	0.011	0.008	0.006	0.005	0.004

Dist(m)	500	600	700	800	900	1000				
MICR	0.003	0.003	0.002	0.002	0.001	0.001				

MET Factors for Facility Zones (Aboveground Tanks)

Zone	01	02	03	04	05	06	07	08	09	10	11	12
MET	0.86	1.00	0.90	1.05	0.80	0.95	0.89	1.04	1.04	1.14	0.80	1.18

Zone	13	15	16	17	18	19	20	21	22	23	24	25
MET	0.70	0.70	0.96	0.90	1.08	0.70	1.08	0.70	0.91	0.91	0.81	0.79

Zone	26	27	28	29	30	31	32	33	34	35	36	37
MET	0.79	0.79	0.81	0.83	1.00	1.00	1.04	1.04	1.06	1.36	1.04	1.01

Zone	38	39										
MET	1.36	0.00										

CONCLUSION & RECOMMENDATIONS:

This application is expected to comply with all applicable District Rules and Regulations. A Permit to Construct/Operate is recommended subject to the conditions as outlined in the sample permit.