ENGINEERING EVALUATION
AUTHORITY TO CONSTRUCT

Facility Name:	PE3 San Diego, LLC
Application Number:	APCD2024-APP-008206; New retail gas station (26A) APCD2024-APP-008337; New E85
Equipment Type:	New gas station – 26A
Facility ID:	APCD2024-SITE-04528
Equipment Address:	4001 54th Street San Diego, CA 92105
Facility Contact: **Company Affiliation:** **Contact Title:** **Contact Phone:** **Email:**	Joseph Felix PE3 San Diego Facility contact (619) 807-1061
Facility Contact: **Company Affiliation:** **Contact Title:** **Contact Phone:** **Email:**	Jesse W. Kirk MIT Engineering & Construction Inc. Contractor (760) 721-4120 projectmanager@mitengineering.com
Permit Engineer:	John Lee
Senior Engineer:	11/20/2024 X Allison Weller Allison Weller Senior Engineer Signed by: 7a51c2d8-5153-429a-95e3-77708dfe69fb

1.0 BACKGROUND

1.1 Type of Application – PE3 San Diego, LLC is applying for a permit to construct a new retail gas and E85 station with two underground storage tanks with capacity of 25,000 gallon and 20,000 gallon. The 25k gallon UST is split between 18k gallon gasoline and 7k gallon diesel. The 20k gallon UST is split between 12k gallon E85 and 8k gallon gasoline. The gas station will be equipped with Phase I and Phase II controls, which are considered BACT/T-BACT. The facility proposes to install canister and Veeder Root ISD system.

Installation, operation and maintenance conditions will be incorporated into the ATC and PTO to ensure compliance with all requirements, regulations and standards in the applicable CARB Executive Order, relevant Installation, Operation and Maintenance Manual (IOMs) and District Rules and Regulations.

1.2 Permit History – New gasoline station permit.

1.3 Facility Description – This is a retail gasoline/E85 dispensing facility.

1.4 Other Background Information –

Records	Status	Description
APCD2024-SITE-04528	-	-
APCD2024-APP-008206	Pending	Initial application for gasoline
APCD2024-APP-008337	Pending	Initial application for E85

2.0 PROCESS DESCRIPTION

2.1 Equipment Description –

Gasoline Dispensing Facility (Retail):
Eight (8) nozzles, as listed in Exhibit 1 of the Phase II Executive Order (E.O.) specified below, with three (3) grades per nozzle;
Phase II VRS: Balance per ARB E.O. VR-204;
ISD System: Compliant Veeder-Root Software Version;
Vapor Polisher Canister per ARB E.O. VR-204;
Phase I VRS: OPW per ARB E.O. VR-102;
Tanks: One (1) 25,000 gallon, split between 18kgal gasoline and 7kgal diesel, and one (1) 20,000 gallon, split between 8kgal gasoline and 12kgal E85, underground {manifolded underground and aboveground

2.2 Process – This is a facility equipped with gasoline tanks and the associated equipment to receive, store and dispense gasoline.

2.3 Emissions Controls – This facility is equipped with Phase I and Phase II controls.

2.4 Attachments – Refer to applicable Executive Order and/or Installation, Operation and Maintenance Manual for supporting information.

3.0 EMISSIONS

3.1 Emission Estimate Summary –

Table 1a: Emissions Estimate Increase from Gasoline

Annual VOC Emissions	**1599**	lbs/year
Annual VOC Emissions (in tons)	**0.80**	tons/year
Daily VOC Emissions	**4.4**	lbs/day
Average Hourly Emissions	**0.2**	lbs/hour
MAX Hourly Emissions	**4.0**	lbs/hour (MAX)

Table 1b: Emissions Estimate Increase from Gasoline and E85

Emission Rates	**Gasoline**	**E85**	**Gas + E85**	**Units**
Annual VOC Emissions	1599	1456	3055	lbs/year
Annual VOC Emissions	0.8	0.7	1.5	tons/year
Daily VOC Emissions	4.4	4.0	8.4	lbs/day
Average Hourly Emissions	0.2	0.2	0.4	lbs/hour
MAX Hourly Emissions	4.0	1.9	5.9	lbs/hour (MAX)

Note: MAX Hourly Emissions are based on the assumption that the worst case scenario for one (1) hour is dispensing gas while the tank is being loaded with gas from a delivery (to full max tank capacity). However, the actual max hourly emissions are expected to be lower. Facilities are not allowed to fill tanks past 90% and most full deliveries are not filling an empty tank (fuel deliveries are typically ordered in advance before tanks run "dry"). Average volume of bulk tank delivery also varies.

Average Hourly Emissions are based on the projected annual gasoline throughput (gallons per year) over a time period of 365 days per year and 24 hours per day.

3.2 Emission Estimate Assumptions –

Calculation Procedure: The equations based on maximum throughput proposed by the facility.

The SDCAPCD Emission Calculation Procedures were used to calculate the annual VOC emissions (located at https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Misc/EFT/Gasoline_Dispensing_Facilities/APCD_Submerged_Fill_of_Underground_Tank_with_Phase_I_Controls_Only.pdf).

Equations:

$$E_a = U_a \times EF_t \times C_i$$

$$E_h = T \times EF_l \times C_i$$

Variables:

E_a	Annual emissions of gasoline vapor (lbs/year)
E_h	Maximum hourly emissions of gasoline vapor (lbs/hour)
U_a	Annual gasoline throughput (gallons/year)
T	Maximum one-hour bulk gasoline delivery
EF_t	Emission factor (combined) for throughput (lbs/gallon)
EF_l	Emission factor for underground tank loading (lbs/gallon)
C_i	Concentration of each listed substance in the gasoline vapor (lb/lb)

Emission Factors:
The above SDAPCD methodology requires the input of emission factors from CARB's Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities dated December 23, 2013 were used (https://ww3.arb.ca.gov/vapor/gdf-emisfactor/gdfumbrella.pdf), which are shown in the following table:

Table 2: Gasoline Emission Factors:

Sub Category	**Revised (lbs/1000 gal)**
	EVR
Phase II Fueling	0.11
Phase I Bulk Transfer Losses	0.15
Pressure Driven Losses	0.024
Phase II Fueling – Spillage	0.24
Gasoline Dispensing Hose Permeation	0.009
Year 2017	
Total	**0.53**

The Phase II Fueling emission factor for Non-ORVR and ORVR vehicles was calculated based on a weighted average per the "Engineering Manager Assigned Task – GDF Risk Assessment Report (Dated: 7/22/2014)." The document assumed ARB's 2015 ORVR saturation rate of 0.78 for the state. The weighted average calculation is as follows:

$$(Percent\ NonORVR\ \times\ NonORVR\ EVR\ Emission\ Factor) + (Percent\ ORVR\ \times ORVR\ EVR\ Emission\ Factor) = Phase\ II\ Fueling\ Emission\ Factor$$

$$\left((1-0.78)\times 0.42\ \frac{lbs}{1000\ gallons}\right)+\left(0.78\times 0.021\ \frac{lbs}{1000\ gallons}\right) = 0.11\ \frac{lbs}{1000\ gallon}$$

3.3 Emission Calculations –

Emissions Post Construction:

Variable	Value	Units	Description
U_A	**3,000,000**	gallons/year	Annual Gasoline Throughput
EF_T	**0.53**	lbs/1000 gallons	Total Emission Factor
C_i	1	lbs/lb	Concentration of VOCs in gasoline vapor
E_A	**1599**	lbs/year	Annual VOC Emissions: U_A * EF_T * C_i
E_A	**0.8**	tons/year	Annual VOC Emission: E_A * (1 ton/2000 lbs)
E_D	**4.4**	lbs/day	Daily VOC Emissions: E_A*(1 year/365 days)
$E_{Haverage}$	**0.2**	lbs/hour	Average Hourly VOC Emissions: E_D*(1 day/24 hours)
E_{Hmax}	**4.0**	lbs/hour	MAX Hourly VOC Emissions: (Tank capacity* EFI* Ci) + (EA – Average Phase I EVR/Loading Emissions)

3.4 Attachments – VR Emission Calculations

4.0 APPLICABLE RULES

4.1 Prohibitory Rules

Rule 61.3 – Transfer of Volatile Organic Compounds into Stationary Storage Tanks
The facility will be subject to Rule 61.3.1, which is more stringent than this rule. Compliance with 61.3.1 is expected as outlined below.

Rule 61.3.1 – Transfer of Gasoline into Stationary Underground Storage Tanks
Before issuance of the PTO, the engineering inspection will ensure the equipment is installed in compliance with this rule. Conditions will be included in the ATC and PTO to further ensure compliance.

Phase I VR-102 will be installed. The Authority to Construct (ATC) and Permit to Operate (PTO) will incorporate conditions pertaining to the allowable replacement parts and identification, installation, maintenance, repairs, operation, required testing and recordkeeping.

Rule 61.4 – Transfer of Volatile Organic Compounds into Vehicle Fuel Tanks
(5) VOC's from any stationary storage tank into a vehicle fuel tank at any non-retail service station where 95 percent of vehicles refueled are equipped with Onboard Refueling Vapor Recovery (ORVR) provided that the Phase II vapor recovery system, if previously installed, has been properly removed. Any person claiming this exemption

shall maintain records of the make, model year, vehicle identification number and any other information indicating whether the vehicle is equipped with ORVR, for all vehicles refueled at such facility. These records shall be maintained on site for at least three years and be made available to the District upon request.

Compliance is expected. This gas station will have Phase II EVR equipment installed. The dispensers will incorporate CARB certified Phase II EVR equipment.

Rule 61.4.1 – Transfer of Gasoline from stationary underground storage tanks into vehicle fuel tanks

(5) Transfer of gasoline from any stationary underground storage tank into a vehicle fuel tank at any non-retail gasoline dispensing facility where 95 percent of vehicles refueled are equipped with Onboard Refueling Vapor Recovery (ORVR) provided that the Phase II vapor recovery system, if previously installed, has been properly removed. Any person claiming this exemption shall maintain records of the make, model year, vehicle identification number and any other information indicating whether the vehicle is equipped with ORVR, for all vehicles refueled at such facility. These records shall be maintained on site for at least three years and be made available to the District upon request.

Compliance is expected. This gas station will have Phase II EVR equipment installed. The dispensers will incorporate CARB certified Phase II EVR equipment.

Rule 61.5 – Visible Emissions Standards for Vapor Control Systems

No person shall discharge, or allow to be discharged, into the atmosphere from any vapor control system used to meet the requirements of Rules 61.1, 61.2, 61.3, 61.4 or 61.7, air contaminants in such a manner that the opacity of the emission is:

(1) Greater than 10% for a period or periods aggregating more than one (1) minute in any 60 consecutive minutes; or

(2) Greater than 40% at any time.

Compliance is expected given the nature of the process.

Rule 61.6 – NSPS Requirements for Storage of Volatile Organic Compounds

Any person owning or operating any source subject to the provisions of any federal New Source Performance Standard (NSPS), the enforcement of which has been delegated to the San Diego County Air Pollution Control District must, in addition to complying with Rules 61.1 through 61.5 and 61.7 and 61.8, comply with Regulation X.

This source is not subject to NSPS requirements.

Rule 61.7 – Spillage and Leakage of Volatile Organic Compounds

This rule is applicable to the spillage and fugitive liquid leaks associated with the transfer and storage of volatile organic compounds.

(1) Except as provided for in Section (b) above, no person shall:

(i) Spill, allow the spillage or cause spillage of such compounds during the disconnection of fittings used for transfer, except for spillage which would normally occur with equipment handled in a manner designed to minimize spillage.

(ii) Use or allow equipment to be used to transfer fuel unless the equipment is free of defects and properly maintained in a manner designed to minimize spillage, and
(iii) No person shall allow fugitive liquid leaks along the liquid transfer path, including any storage tank.

The facility is expected to comply. Conditions will be added to the permit to limit spillage and fugitive liquid leaks. Compliance with Rule 61.7 will be verified during inspections, and performance tests will be required on an annual basis in order to verify the vapor recovery systems comply with Rule 61.7.

Rule 61.8 – Certification Requirements for Vapor Control Equipment
This rule is applicable to all vapor recovery systems installed after July 1, 1976, which are subject to the certification requirements of Division 26, Part 4, Chapter 3, Article 5, of the State of California Health and Safety Code.

(c) ***STANDARDS***
No person shall install, provide, sell or sell for use within the County of San Diego a gasoline vapor control system or system component subject to the certification requirements of Division 26, Part 4, Chapter 3, Article 5, of the State of California Health and Safety Code unless it has been certified by the California Air Resources Board.

Complies, Phase I vapor recovery system certified per CARB Executive Order VR-102 series and Phase II vapor recovery system certified per CARB Executive Order VR-204 series is proposed.

4.2 New Source Review (NSR)

Rule 20.1 New Source Review – General Provisions
This rule is applicable to any new or modified stationary source or emission unit if the stationary source is not a major stationary source. A federal major stationary source, as defined in Rule 20.1(c)(30), means "any emission unit, project or stationary source which has, or will have after issuance of an Authority to Construct or modified Permit to Operate, an aggregate potential to emit one or more air contaminants in amounts equal to or greater than any of the emission rates listed below in Table 20.1 –5b".

TABLE 20.1 – 5b
Federal Major Stationary Source

Air Contaminant	Emission Rate (Ton/yr)
Fine Particulate Matter ($PM_{2.5}$)	100
Particulate Matter (PM_{10})	100
Oxides of Nitrogen (NOx)*	
marginal or moderate	100
serious	50
severe	25
extreme	10
Volatile Organic Compounds (VOC)*	
marginal or moderate	100
serious	50
severe	25
extreme	10
Oxides of Sulfur (SOx)	100
Carbon Monoxide (CO)	100
Lead (Pb)	100

* based on EPA's ozone nonattainment designation for the San Diego Air Basin in 40 CFR 81.305

District Rule 20.1 outlines the terms and definitions for New Source Review.

NSR is applicable since the facility is adding an emission unit (GDF). The proposed aggregate VOC potential to emit (PTE) is less than 25 tons per year, therefore the source is not a major stationary source as given in Table 20.1-6 and is subject to the non-major source requirements of Rule 20.2.

Rule 20.2 – Non-Major Stationary Sources

(d)(1)(i) BACT for New or Modified Emission Units

Any new or modified emission unit which has any increase in its potential to emit particulate matter (PM10), oxides of nitrogen (NOx), volatile organic compounds (VOC) or oxides of sulfur (SOx) and which unit has a post-project potential to emit of 10 pounds per day or more of PM10, NOx, VOC, or SOx shall be equipped with Best Available Control Technology (BACT) for each such air contaminant.

The potential to emit for this pollutant from this equipment can exceed this trigger level, so BACT is required. The facility will be installing CARB certified Phase I and Phase II EVR systems with compatible ISD software, which is considered BACT.

(d)(2)(i) AQIA for New or Modified Emission Units

For each project which results in an emissions increase equal to or greater than any of the amounts listed in Table 20.2 - 1, the applicant shall demonstrate to the satisfaction of the Air Pollution Control Officer through an AQIA that the project will not:

(A) cause a violation of a state or national ambient air quality standard anywhere that does not already exceed such standard, nor

(B) cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded, nor

(C) cause additional violations of a state ambient air quality standard anywhere the standard is already being exceeded, except as provided for in Subsection (d)(2)(v), nor (D) prevent or interfere with the attainment or maintenance of any state or national ambient air quality standard.

TABLE 20.2 - 1
AQIA Trigger Levels

Air Contaminant	Emission Rate (lb/hr)	(lb/day)	(tons/yr)
Particulate Matter (PM_{10})	---	100	15
Fine Particulate Matter ($PM_{2.5}$)	---	67	10
Oxides of Nitrogen (NOx)	25	250	40
Oxides of Sulfur (SOx)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6

The facility emissions are below the levels listed in Table 20.2-1, therefore an AQIA is not required.

This subsection and all subsequent provisions ((d)(3) and (d)(4)) of Rule 20.2 do not apply because emissions fall below the thresholds requiring an AQIA as summarized in Table 20.2-1 and (d)(4) (VOC emissions increase of 250 pounds per day or 40 tons per year).

4.3 Toxic New Source Review- Rule 1200

Rule 1200 applies to any new, relocated or modified emission unit which results in any increase in emissions of one or more toxic air contaminant(s), and for which an Authority to Construct or Permit to Operate is required. This rule requires health risks be reviewed to ensure the risks are below one in one million for cancer (with T-BACT installed), and that the health hazard index is less than one from chronic non-cancer and acute toxic air contaminants.

This gasoline dispensing facility (GDF) is subject to Rule 1200. CARB certified vapor control systems will be installed and are considered T-BACT as required by Rule 1200.

*Rule 1200 (b) **EXEMPTIONS***
(1) The standards of Section (d) shall not apply to:
(v) The following emission units provided the resulting increase in maximum incremental cancer risk at every receptor location is less than 100 in one million, the total acute noncancer health hazard index is less than 10 and the total chronic noncancer health hazard index is less than 10:
(B) Gasoline service station emission units, provided that T-BACT will be installed.

The GDF will be equipped with certified Phase I and Phase II vapor recovery controls, which are considered T-BACT.

The gasoline and E85 annual throughputs are expected to be 3 million gallons and 1.2 million gallons, respectively. According to U.S. Department of Energy, E85 refers to ethanol-gasoline blends containing 51% to 83% ethanol. For the purposes of risk assessment, it is assumed that E85 is 51% ethanol and 49% gasoline, which is the most conservative assumption given that ethanol is not a Toxic Air Contaminant.

De minimis is performed with 3 million gallons and 1.2 million gallons of annual throughput for gasoline and E85, respectively, max hourly throughputs calculated from Section 3, closest receptor distance of 33ft and emission release height of 5ft. As shown in the aerial photo below, there is no receptor within 33ft of the emission source and some emission points are expected to be higher than 5ft due to height specification of vents per CARB EOs. De minimis shows that the health indices and cancer risk involved with this operation are within the standards of Rule 1200.

4.4 AB3205

AB3205 requires a public notice prior to issuing an Authority to Construct for equipment emitting hazardous air contaminants at a facility within 1000 feet of a school. The law also requires the District to consider any comments before authorizing construction.

There are two schools within 1,000 ft of the source, Will C. Crawford Senior High School and The Waldorf School of San Diego High School, as shown in red circles in the aerial photo below.

4.5 NESHAPS, NSPS and ATCMs

NESHAP:
CFR Part 63, Subpart CCCCCC, NESHAP for Area Source Categories: Gasoline Dispensing Facilities
This NESHAP is applicable to all gasoline dispensing facilities.
Date of Promulgation: January 1, 2008

All of the applicable requirements for this regulation are currently met by the EVR Phase I and Phase II equipment that will be installed at this location and operating practices required under the various CARB Executive Orders and SDAPCD District Rules 61.3.1 and 61.4.1 for gasoline dispensing facilities.

NSPS: None

ATCM:
Subchapter 7.5, Section 93101 Benzene Airborne Toxic Control Measure – Retail Service Stations

Complies, CARB Certified Phase I and Phase II EVR will be installed.

4.6 Title V – This is not a Title V facility.

4.7 Attachments – N/A.

5.0 RECOMMENDATION & CONDITIONS

It is expected that the gasoline dispensing facility will comply with all of the applicable requirements, and it is recommended that an Authority to Construct be issued at the end of the AB3205 comment period with standard conditions, including pre backfill requirements for a new gas station, unless comments received would result in necessary changes to the project.

6.0 RECOMMENDED CONDITIONS

ATC Conditions for Gasoline APCD20242-APP-008206

Record ID:	Title/Org
APCD2014-CON-000795	Vapor Recovery – General ATC Conditions 100s
APCD2014-CON-000796	Vapor Recovery – Maintenance ATC Conditions 200s
APCD2014-CON-000797	Vapor Recovery – Piping ATC Conditions 300s
APCD2014-CON-000794	Vapor Recovery – Phase I ATC Conditions 400s
APCD2014-CON-000801	Vapor Recovery – Balance Canister ATC Conditions 500/800s
APCD2014-CON-000798	Vapor Recovery – ISD ATC Conditions 600s
APCD2014-CON-000793	Vapor Recovery – Prebackfill ATC Conditions 700s
APCD2014-CON-000799	Vapor Recovery – Annual Testing ATC Conditions 900s *Note: Using Only CON "Att L NEW" which is use for requirements related to attachment L for new GDFs*
CHW001	Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
CHW002	This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
CHW003	The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

ENGINEERING EVALUATION
AUTHORITY TO CONSTRUCT

Facility Name: PE3 San Diego, LLC

Application Number: APCD2024-APP-008337

Equipment Type: APCD2024-APP-008337; New E85
APCD2024-APP-008206; New retail gas station (26A)

Facility ID: APCD2024-SITE-04528

Equipment Address: 4001 54th Street
San Diego, CA 92105

Facility Contact: Joseph Felix
Company Affiliation: PE3 San Diego
Contact Title: Facility contact
Contact Phone: (619) 807-1061
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Facility Contact: Jesse W. Kirk
Company Affiliation: MIT Engineering & Construction Inc.
Contact Title: Contractor
Contact Phone: (760) 721-4120
Email: projectmanager@mitengineering.com

Permit Engineer: John Lee

Senior Engineer:

11/20/2024

X Allison Weller

Allison Weller
Senior Engineer
Signed by: 7a51c2d8-5153-429a-95e3-77708dfe69fb

1.0 BACKGROUND

1.1 Type of Application – New installation of E85 dispensing equipment, which include Phase I OPW VR-102, two (2) nozzles and a 12,000-gallon UST.

E85 is exempt from Phase II requirements as per CARB (Executive Order G-70-212), the District Rule 61.4 (b)(6) and Rule 61.4.1 (b)(6)).

Installation, operation and maintenance conditions will be incorporated into the ATC and PTO to ensure compliance with all requirements, regulations and standards in the applicable CARB Executive Order, relevant Installation, Operation and Maintenance Manual (IOMs) and District Rules and Regulations.

1.2 Permit History – This is an initial application for a new E85 permit.

1.3 Facility Description – This is a retail gasoline & E85 dispensing facility.

1.4 Other Background Information –

Records	Status	Description
APCD2024-SITE-04528	-	-
APCD2024-APP-008206	Pending	Initial application for gasoline
APCD2024-APP-008337	Pending	Initial application for E85

2.0 PROCESS DESCRIPTION

2.1 Equipment Description –
E85 Dispensing Facility (Retail):
Two (2) nozzles with one (1) grade (E85) per nozzle;
Phase II VRS: Exempt per Rule 61.4.1 (b)(6);
Phase I VRS: OPW per ARB Executive Order (E.O.) VR-102;
Tank: One (1) 20,000 gallon, split between 12kgal E85 and 8kgal gasoline, underground tank
E85 Throughput Limit: 1,200,000 gallons per year (consecutive twelve (12) month period) and 100,000 gallons per month.

2.2 Process – This is a facility equipped with storage tanks and the associated equipment to receive, store and dispense gasoline and E85.

2.3 Emissions Controls – The proposed E85 station will be equipped with Phase I controls.

2.4 Attachments – Refer to applicable Executive Order and/or Installation, Operation and Maintenance Manual for supporting information.

3.0 EMISSIONS

3.1 Emission Estimate Summary – Emissions increase is expected for new installation.

Table 1: Emissions Estimate Increase

Emission Rates	Gasoline	E85	Gas + E85	Units
Annual VOC Emissions	1599	1456	3055	lbs/year
Annual VOC Emissions	0.8	0.7	1.5	tons/year
Daily VOC Emissions	4.4	4.0	8.4	lbs/day
Average Hourly Emissions	0.2	0.2	0.4	lbs/hour
MAX Hourly Emissions	4.0	1.9	5.9	lbs/hour (MAX)

Note: MAX Hourly Emissions are based on the assumption that the worst case scenario for one (1) hour is dispensing gas while the tank is being loaded with gas from a delivery (to full max tank capacity). However, the actual max hourly emissions are expected to be lower. Facilities are not allowed to fill tanks past 90% and most full deliveries are not filling an empty tank (fuel deliveries are typically ordered in advance before tanks run "dry"). Average volume of bulk tank delivery also varies.

Average Hourly Emissions are based on the projected annual gasoline throughput (gallons per year) over a time period of 365 days per year and 24 hours per day.

3.2 Emission Estimate Assumptions –

Calculation Procedure:

The SDCAPCD Emission Calculation Procedures were used to calculate the annual VOC emissions (located at https://www.sdapcd.org/content/dam/sdapcd/documents/permits/emissions-calculation/gasoline-dispensing/APCD-Splash-Fill-of-Underground-Tank-with-No-Controls.pdf).

Equations:

$$E_a = U_a \times EF_t \times C_i$$

$$E_h = T \times EF_l \times C_i$$

Variables:

E_a	Annual emissions of gasoline vapor (lbs/year)
E_h	Maximum hourly emissions of gasoline vapor (lbs/hour)
U_a	Annual gasoline throughput (gallons/year)
T	Maximum one-hour bulk gasoline delivery
EF_t	Emission factor (combined) for throughput (lbs/gallon)
EF_l	Emission factor for underground tank loading (lbs/gallon)
C_i	Concentration of each listed substance in the gasoline vapor (lbs/lb)

Emission Factors:
The above SDAPCD methodology requires the input of emission factors from CARB's Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities dated December 23, 2013 were used (https://ww3.arb.ca.gov/vapor/gdf-emisfactor/gdfumbrella.pdf), which are shown in the following table:

Table 2: E85 Emission Factors:

Sub Category	Revised (lbs/1000 gal) EVR	EF Source
Phase II Fueling (with ORVR Vehicles UEF)	0.42	CARB 2013 Updated Emission Factors Table I-I
Phase I Bulk Transfer Losses	0.15	CARB 2013 Updated Emission Factors Table I-I
Pressure Driven Losses (Breathing Loss)	0.024	CARB 2013 Updated Emission Factors Table I-I
Phase II Fueling – Spillage UEF	0.61	CARB 2013 Updated Emission Factors Table I-I
Gasoline Dispensing Hose Permeation	0.009	CARB 2013 Updated Emission Factors Table I-I
Year 2017		
Total	**1.213**	

UEF: Uncontrolled Emission Factor

3.3 Emission Calculations –

Emissions Increase:

Variable	Value	Units	Description
U_A	**1,200,000**	gallons/year	Annual Gasoline Throughput (increase only)
EF_T	**1.213**	lbs/1000 gallons	Total Emission Factor
C_i	1	lbs/lb	Concentration of VOCs in gasoline vapor
E_A	**1456**	lbs/year	Annual VOC Emissions: $U_A * EF_T * C_i$
E_A	**0.7**	tons/year	Annual VOC Emission: E_A * (1 ton/2000 lbs)
E_D	**4.0**	lbs/day	Daily VOC Emissions: E_A*(1 year/365 days)
$E_{Haverage}$	**0.2**	lbs/hour	Average Hourly VOC Emissions: E_D*(1 day/24 hours)
E_{Hmax}	**1.9**	lbs/hour	MAX Hourly VOC Emissions: (Tank capacity* EFI* Ci) + (EA – Average Phase I EVR/Loading Emissions)

3.4 Attachments – **APCD2024-APP-008337** VR Emission Calculations

4.0 APPLICABLE RULES

4.1 Prohibitory Rules

Rule 50 – Visible Emissions

Requirement	Explanation:	Condition
Visible emissions cannot exceed 20% opacity for more than 3 minutes in any consecutive 60-minute period.	Facility is expected to comply based on similar operations.	n/a

Rule 61.3 – Transfer of Volatile Organic Compounds into Stationary Storage Tanks

Requirement	Explanation:	Condition
Rule 61.3 outlines the standards and requirements for the transfer of VOCs into stationary storage tanks.	Complies – the equipment related to gasoline and E85 is subject to and complies with Rule 61.3.1, which is more stringent than Rule 61.3.	n/a

Rule 61.3.1 – Transfer of Gasoline into Stationary Underground Storage Tanks

(d) Equipment and Operation Requirements			
Section	**Requirement**	**Explanation:**	**Condition(s)**
(d)(1)	*Non-certified Phase I vapor recovery systems are prohibited from being sold, supplied and installed. Components installed shall be a Phase I vapor recovery system certified by CARB with the identification depicting manufacturer name, model number, and serial number unless exempt by CARB*	Compliance is expected. A CARB certified Phase I EVR system per the VR-102 series is proposed for E85.	ATC condition(s): E85: 2, 4
(d)(2)	*Post 9/1/2006, all contractors and installers must successfully complete the corresponding manufacturers' training program for installing, modifying or repairing the Phase I vapor recovery system. Documentation of successful completion must be available upon District request.*	Compliance is expected. The ATCs and PTO will incorporate conditions regarding the requirement for Phase I equipment certified contractors and installers.	ATC condition(s): E85: 7
(d)(3)	*Gas stations shall not be operated unless the following are met:*		
(d)(3)(i)	*Each underground storage tank (UST) is equipped with a CARB certified drop tube.*	The facility is expected to comply. The E85 tanks will be required to have submerged fill pipes installed that meet the necessary distance requirements (within 6 inches from highest cut to the bottom of the tank). Verification will be conducted during the inspections and drop tube photos will be required.	ATC condition(s): E85: 12
(d)(3)(ii)	*Minimum gasoline vapor control efficiency: 98.0% by volume* *Mass emission factor: Not exceeding 0.15 lbs gasoline vapor per 1,000 gallons of gasoline dispensed.*	Expected to comply, a CARB certified Phase I EVR system is proposed for the E85 tanks.	ATC condition(s): E85: 4

(d)(3)(iii)	*Phase I vapor recovery system is maintained and operated accordingly to the CARB Executive Order (E.O.) and manufacturer Installation, Operation and Maintenance (IOM) manual. Also free of defects per Title 17.*	The facility is expected to comply. The ATCs and PTOs will incorporate a condition regarding handling repair and defects in equipment.	ATC condition(s): E85: 17
(d)(3)(iv)	*When required by the applicable CARB Executive Order, the Phase I vapor recovery system is equipped with:*	Expected to comply, a CARB certified Phase I EVR system is proposed for the E85 tanks. The ATC and PTO will incorporate a condition requiring all components listed in the applicable CARB Executive Order be installed	ATC condition(s): E85: 4
(d)(3)(iv)(A)	*CARB certified gasoline vapor and liquid anti-rotational couplers or rotatable adaptors. Static rotation shall not exceed 108 pound-inch (9 pound-foot).*		
(d)(3)(iv)(B)	*CARB certified poppeted dry breaks or other CARB certified poppeted fittings on the vapor return coupler that are vapor tight when closed;*		
(d)(3)(iv)(C)	*CARB certified pressure/vacuum (P/V) valve(s) on the stationary underground storage tank vent pipe(s). The tank vent pipes shall be manifolded when required by the most recent applicable CARB Executive Order;*		
(d)(3)(iv)(D)	*CARB certified spill boxes each having an integral drain valve or other devices that are certified by CARB to return spilled gasoline to the stationary underground storage tank. Each spill box shall be maintained free of standing gasoline and free of any debris that may interfere with the seating of the drain valve. Spill boxes used exclusively for Phase I vapor connections shall not have drain valves.*		
(d)(3)(v)	*All components shall be maintained free of liquid leaks and vapor tight unless otherwise specified by CARB.*	The facility is expected to comply. A CARB certified Phase I EVR system is proposed for the E85 equipment which have specified allowable leak rates for certain components. Startup inspection and annual compliance test will be required to ensure compliance.	ATC condition(s): 8, 10
(d)(3)(vi)	*The gasoline liquid delivery hose shall only be connected or disconnected when the vapor return hose is connected during gasoline delivery.*	The facility is expected to comply with subsections (d)(3)(vi) and (d)(3)(vii). The ATCs and PTOs will incorporate a condition regarding the proper transfer connections and order during fuel bulk delivery.	ATC condition(s): 11, 13
(d)(3)(vii)	*There shall be no liquid leaks of the gasoline delivery hose and vapor return hose during a delivery and disconnection.*		
(e) Inspection and Maintenance Program			
(e)(1)	*Periodic inspections shall be conducted per Table 1 of Rule 61.3.1 and include all components but not limited to:*	The facility is expected to comply. The ATCs and PTOs will incorporate a condition regarding the inspection requirements.	ATC condition(s): 14
(e)(1)(i)	*All stationary UST fill caps and gaskets, to verify the components are in place and in good condition.*		
(e)(1)(ii)	*All stationary UST poppeted dry breaks, gasoline vapor and liquid adaptors, to*		

	verify they are operable and sealing properly.		
(e)(1)(iii)	*All stationary UST spill boxes, to verify there is no standing gasoline or debris in the spill boxes and that drain valves are seating properly*		
(e)(2)	*Annual inspection to ensure compliance with all applicable District rules, regulations and permit conditions.*	The facility is expected to comply. The ATCs and PTOs will incorporate a condition regarding the annual compliance inspection requirements and schedule.	ATC condition(s): 16
(e)(2)(i)	*The District permit is current and posted.*		
(e)(2)(ii)	*The facility complies with all permit conditions.*		
(e)(2)(iii)	*The Phase I vapor recovery system is properly installed and complies with the most recent applicable CARB certification procedures and CARB Executive Orders.*		
(e)(2)(iv)	*All stationary USTs have gasoline submerged drop-tubes installed and not damaged. A re-inspection shall be conducted each time specific components are removed or replaced.*		
(e)(2)(v)	*The vent pipes are equipped with the required pressure/vacuum valves and each such valve is properly installed. A re-inspection shall be conducted each time specific components are removed or replaced.*		
(e)(3)	*Maintenance Procedures*	The facility is expected to comply with subsections (e)(3) and (e)(4). The ATCs and PTOs will incorporate a condition regarding maintenance issues and requirements.	ATC condition(s): 17
(e)(3)(i)	*Any component not in working order or good condition shall be repaired, replaced or adjust within 7 calendar days to bring the facility into compliance. An additional 7 day extension may be requested.*		
(e)(3)(ii)	*Components having a Title 17 defect shall not be used.*		
(e)(4)	*Any additional alternative maintenance procedures by CARB E.O.s or IOMs.*		
(f) Source Testing			
(f)(1)	*Initial compliance test shall be conducted within 60 calendar dates for new installations or modifications.*	The facility is expected to comply. The ATCs will require an initial startup inspection with applicable testing per the CARB Executive Orders.	ATC condition(s): 29
(f)(2)	*Annual compliance source test required. Additional tests may be required.*	The facility is expected to comply. The ATCs and PTOs will incorporate a condition regarding the compliance test schedule.	ATC condition(s): 29
(f)(3)	*Contractors/technicians conducting tests are required to complete the SCAQMD orientation class, alternative District approved classes/training, training/certificates by CARB or the systems manufacturer.*	Compliance with subsections (f)(3), (f)(4) and (f)(5) is expected. The ATCs and PTOs will incorporate conditions regarding certification requirements and testing time frames as required.	ATC condition(s): 5, 7
(f)(3)(i)	*A copy of a current certificate from the South Coast Air Quality Management District, CARB, system manufacturer and/or from other approved training.*		ATC condition(s): 5, 7

(f)(3)(ii)	*Records of equipment calibrations performed as required by the applicable test procedures.*		ATC conditions(s): 5, 7
(f)(4)	*Tests shall be conducted per the ATC, PTO, and applicable CARB EO and Certification Procedures.*		ATC condition(s): 5, 7
(f)(5)	*Test and/or re-test reports shall be submitted to the owner or operator within 15 calendar days.*		ATC condition(s): 32
(g) Recordkeeping			
(g)(1)	*Records of inspections performed as required by Section (e) of this rule.*	The facility is expected to comply. The ATCs and PTOs will incorporate a condition regarding the requirements for recordkeeping as outlined.	ATC condition(s): 6, 15, 29, 30, 31, 32
(g)(2)	*Records of all malfunctioning components, including the date(s) such components were identified and repaired or replaced, and any other records and information required by the most recent applicable CARB Executive Orders.*		
(g)(3)	*Records of initial and periodic compliance source tests, which include at a minimum:*		
(g)(3)(i)	*Date and time of each test;*		
(g)(3)(ii)	*Name, affiliation, address, and phone number of the person(s) who performed the test;*		
(g)(3)(iii)	*For a retest following a failed initial or periodic compliance source test, description of repairs performed;*		
(g)(3)(iv)	*Copies of all test reports, including test equipment calibration date(s), test results and failed test data, in District-approved format and, for a test that fails, a description of the reasons for the test failure.*		
(g)(4)	*Monthly gasoline throughput records.*		ATC condition(s): 15

Rule 61.4 – Transfer of Volatile Organic Compounds into Vehicle Fuel Tanks

(b) Exemptions			
Section	**Requirement**	**Explanation:**	**Conditions(s)**
(b)(6)	*Transfer of E85 from any stationary underground storage tank into a Flexible Fuel Vehicle tank at any retail or non-retail gasoline dispensing facility.*	E85 is exempt from Phase II requirement.	n/a

Rule 61.4.1 – Transfer of Gasoline from stationary underground storage tanks into vehicle fuel tanks

(b) Exemptions			
Section	**Requirement**	**Explanation:**	**Conditions(s)**
(b)(6)	*Transfer of E85 from any stationary underground storage tank into a Flexible Fuel Vehicle tank at any retail or non-retail gasoline dispensing facility.*	E85 is exempt from Phase II requirement.	n/a

Rule 61.5 – Visible Emissions Standards for Vapor Control Systems

Requirement	Explanation:	Condition
Rule 61.5 states: *No person shall discharge, or allow to be discharged, into the atmosphere from any vapor control system used to meet the requirements of Rules 61.1, 61.2, 61.3, 61.4 or 61.7, air contaminants in such a manner that the opacity of the emission is:* *(1) Greater than 10% for a period or periods aggregating more than one (1) minute in any 60 consecutive minutes; or* *(2) Greater than 40% at any time.*	The facility is expected to comply based on similar operations.	n/a

Rule 61.6 – NSPS Requirements for Storage of Volatile Organic Compounds

Requirement	Explanation:	Condition
Any person owning or operating any source subject to the provisions of any federal New Source Performance Standard (NSPS), the enforcement of which has been delegated to the San Diego County Air Pollution Control District must, in addition to complying with Rules 61.1 through 61.5 and 61.7 and 61.8, comply with Regulation X.	Not applicable, this source is not subject to any NSPS.	n/a

Rule 61.7 – Spillage and Leakage of Volatile Organic Compounds

Requirement	Explanation:	Condition
No person shall: *(i) Spill, allow the spillage or cause spillage of such compounds during the disconnection of fittings used for transfer, except for spillage which would normally occur with equipment handled in a manner designed to minimize spillage.* *(ii) Use or allow equipment to be used to transfer fuel unless the equipment is free of defects and properly maintained in a manner designed to minimize spillage, and* *(iii) No person shall allow fugitive liquid leaks along the liquid transfer path, including any storage tank.*	The facility is expected to comply based on similar operations. Conditions will be added to the permit to limit spillage and fugitive liquid leaks. Compliance with Rule 61.7 will be verified during inspections, and performance tests will be required on an annual basis in order to verify the vapor recovery systems comply with Rule 61.7.	ATC condition(s): 14

Rule 61.8 – Certification Requirements for Vapor Control Equipment

Requirement	Explanation:	Condition
No person shall install, provide, sell or sell for use within the County of San Diego a gasoline vapor control system or system component subject to the certification requirements of Division 26, Part 4, Chapter 3, Article 5, of the State of California Health and Safety Code unless it has been certified by the California Air Resources Board.	Complies, Phase I vapor recovery system certified per CARB Executive Order VR-102 series is proposed for E85.	ATC condition(s): 2, 4

4.2 New Source Review

Rule 20.1 New Source Review – General Provisions

This application is subject to District NSR rules. This site is considered a non-major stationary source, for each pollutant, as shown in the following table, and is therefore subject to District Rule 20.2. Calculation of emissions and determination of applicable requirements is performed in accordance with District Rule(s) 20.1 through 20.3.

Table 5: Classification of Major/PSD Source and Modification New Source Review (NSR) Requirements

	NOx	VOC	PM-10	SOx
Major Source Threshold (ton/year)	*25*	*25*	*100*	*100*
Federal Major Source Threshold (ton/year)	*25*	*25*	*100*	*100*
Major Modification Threshold (ton/year)	*25*	*25*	*15*	*50*
Major?	**No**	**No**	**No**	**No**
Contemporaneous Calculations Performed?	**No**	**No**	**No**	**No**
Major New or Modification?	**No**	**No**	**No**	**No**
PSD Threshold (ton/year)	*250*	*250*	*250*	*250*
PSD Modification Threshold (ton/year)	*40*	*40*	*15*	*40*
PSD New or Modification?	**No**	**No**	**No**	**No**

District Rule 20.2 contains requirements for Best Available Control Technology (BACT), Air Quality Impact Assessment (AQIA), Prevention of Significant Deterioration (PSD) and public notification

Table 6: New Source Review Discussion				
Rule/Requirement	**Requirement**	**Applies?**	**Discussion**	**Condition(s)**
Applicability	Rule 20.2 applies to non-major sources.	Yes	This is not a major source, so rule 20.2 applies.	n/a
Type of application	Replacement (Amendment)		n/a	n/a
Exemptions	No exemptions apply to this equipment		n/a	n/a
20.2(d)(1) - BACT				
BACT - NOx	Installation of BACT is required if emissions of NOx exceed 10 lb/day	No	The potential to emit for this pollutant from this equipment does not exceed this trigger level, so BACT is not required.	n/a

BACT - VOC	Installation of BACT is required if emissions of VOC exceed 10 lb/day	Yes	Phase I EVR system will be installed for E85 which is considered BACT for E-85.	ATC conditions: 2
BACT - PM-10	Installation of BACT is required if emissions of PM-10 exceed 10 lb/day	No	The potential to emit for this pollutant from this equipment does not exceed this trigger level, so BACT is not required.	n/a
BACT - SOx	Installation of BACT is required if emissions of SOx exceed 10 lb/day	No	The potential to emit for this pollutant from this equipment does not exceed this trigger level, so BACT is not required.	n/a
20.2(d)(2) - AQIA				
AQIA - NOx	Required for project emission increases in excess of 25 lb/hr, 250 lb/day or 40 ton/yr of NOx calculated as NO2	No	The increase in emission of this air contaminant from this project does not exceed any of these levels, so no AQIA is required.	n/a
AQIA - PM-10	Required for project emission increases in excess of 100 lb/day or 15 ton/yr of PM-10	No	The increase in emission of this air contaminant from this project does not exceed any of these levels, so no AQIA is required.	n/a
AQIA - SOx	Required for project emission increases in excess of 25 lb/hr, 250 lb/day or 40 ton/yr of SOx calculated as SO2	No	The increase in emission of this air contaminant from this project does not exceed any of these levels, so no AQIA is required.	n/a
AQIA - CO	Required for project emission increases in excess of 100 lb/hr, 550 lb/day or 1000 ton/yr of CO	No	The increase in emission of this air contaminant from this project does not exceed any of these levels, so no AQIA is required.	n/a
20.2(d)(3) - PSD	Applicable to source that may have a significant impact on a class I area	NA	This is not a PSD source and emissions are not expected to impact a class I area	n/a
20.2(d)(4) - Public Notice	Requires 30 day public notice if an AQIA was required or if increase in VOC emissions from the project exceed 250 lb/day or 40 ton/year	NA	AQIA was not required and VOC emission increase from this project does not exceed these levels.	n/a

4.3 Toxic New Source Review- Rule 1200

Rule 1200 applies to any new, relocated or modified emission unit which results in any increase in emissions of one or more toxic air contaminant(s), and for which an Authority to Construct or Permit to Operate is required. This rule requires health risks be reviewed to ensure the risks are below one in one million for cancer (with T-BACT installed), and that the health hazard index is less than one from chronic non-cancer and acute toxic air contaminants.

The E85 station will be equipped with a CARB certified Phase I EVR system, which is considered T-BACT.

The gasoline and E85 annual throughputs are expected to be 3 million gallons and 1.2 million gallons, respectively. According to U.S. Department of Energy, E85 refers to ethanol-gasoline blends containing 51% to 83% ethanol. For the purposes of risk

assessment, it is assumed that E85 is 51% ethanol and 49% gasoline, which is the most conservative assumption given that ethanol is not a Toxic Air Contaminant.

De minimis is performed with 3 million gallons and 1.2 million gallons of annual throughput for gasoline and E85, respectively, max hourly throughputs calculated from Section 3, closest receptor distance of 33ft and emission release height of 5ft. As shown in the aerial photo below, there is no receptor within 33ft of the emission source and the emission point is expected to be higher than 5ft due to height specification of vents per CARB EOs. De minimis shows that the health indices and cancer risk involved with this operation are within the standards of Rule 1200.

4.4 AB3205 –

AB3205 requires a public notice prior to issuing an Authority to Construct for equipment emitting hazardous air contaminants at a facility within 1000 feet of a school. The law also requires the District to consider any comments before authorizing construction.

There are two schools within 1,000 ft of the source, Will C. Crawford Senior High School and The Waldorf School of San Diego High School, as shown in red circles in the aerial photo below.

4.5 NESHAPS AND ATCMs –

NESHAP:
CFR Part 63, Subpart CCCCCC, NESHAP for Area Source Categories: Gasoline Dispensing Facilities
This NESHAP is applicable to all gasoline dispensing facilities.
Date of Promulgation: January 1, 2008

NESHAP CCCCCC outlines management practices to minimize emissions/spillage, equipment specifications and notification requirements.

E85 will be equipped with a CARB certified Phase I EVR system, E85 is not currently subject to Phase II vapor requirements if 95% of vehicle fleet is equipped with ORVR per CARB and EPA (please see CARB Executive Order G-70-212 for specific language). Flex fuel vehicles are the only type of vehicles compatible with E85 fuel and these vehicles are expected to be equipped with ORVR.

NSPS: None

ATCM:
Subchapter 7.5, Section 93101 Benzene Airborne Toxic Control Measure – Retail Service Stations

E85 will be equipped with a CARB certified Phase I EVR system, E85 is not currently subject to Phase II vapor requirements if 95% of vehicle fleet is equipped with ORVR per CARB and EPA (please see CARB Executive Order G-70-212 for specific language). Flex fuel vehicles (FFVs) are the only type of vehicles compatible with E85 fuel and these vehicles are expected to be equipped with ORVR.

4.6 Attachments –
N/A

4.7 Title V –
The facility is not a Title V facility.

5.0 RECOMMENDATION & CONDITIONS

It is expected that the E85 dispensing facility will comply with all the applicable requirements, and it is recommended that an Authority to Construct be issued at the end of the AB3205 comment period with standard conditions with standard conditions for E85 equipment unless comments received would result in necessary changes to the project.

6.0 RECOMMENDED CONDITIONS

The recommended condition set is standard ATC for E85, APCD2019-CON-001537.