MOJAVE DESERT
AIR QUALITY MANAGEMENT DISTRICT

Preliminary Determination/Decision - Statement of Basis

for

Modification to

FOP Number:0200353

For:

CALNEV Pipe Line, LLC

Facility:

Barstow Terminal

Facility Address:

34277 Daggett-Yermo Road
Daggett, CA 92327

Document Date: December 10, 2020
Submittal date to EPA/CARB for review: December 14, 2020
EPA/CARB 45-day Commenting Period ends: January 28, 2021
Public Notice Posted: December 17, 2020
Public Commenting Period ends: January 17, 2021
Permit Issue date: January 19, 2021

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A. Introduction

1. Application and Setting

CALNEV Pipe Line, LLC – Barstow Terminal (CALNEV) is a bulk loading terminal located in Daggett, CA which receives gasoline and diesel fuel via pipeline from various petroleum refineries and operates bulk loading stations to transfer product into tanker trucks for distribution to various gasoline dispensing stations. The facility is a Bulk Fuel Terminal consisting of: Fourteen (14) above ground Petroleum Product Storage Tanks, two (2) Tanker Truck Loading Systems, one (1) Ethanol Tanker Truck Unloading System, and one (1) Gasoline Vapor Control System. Of the fourteen storage tanks, twelve are used for high TVP organic liquids (up to 11.0 psia) and two are used for storage of low TVP organic liquids (up to 1.5 psia).

The Mojave Desert Air Quality Management District (MDAQMD or District) received an application in April of 2020, with revisions made in May, June and July of 2020. The application is a proposing a permitting action that:

- Installs two new Biodiesel/Renewable Diesel Unloading Systems of biodiesel and renewable diesel via tanker truck to the facility for blending and resale.
- Install one, new injection skid with a 350-gallon tote for lubricity control.
- Utilize Emission Reduction Credits (ERCs) to offset the increases in non-attainment air pollutant of VOC.

A copy of this application can be viewed in Appendix A.

Pursuant to District Rule 1301 – *New Source Review Definitions*, CALNEV is an existing Major Facility for VOC. The portion of the MDAQMD is classified as 'nonattainment' by USEPA and CARB for Ozone; therefore, pursuant to District Rule 1303 – *New Source Review Requirements*, the proposed equipment is subject to both the BACT and Offset requirements for the Nonattainment Air Pollutant/Precursors of VOC (ozone Precursor). The proposed modification does not constitute a NSR Modification, as defined under District Rule 1301, as the proposed changes do not result in any Net Emissions Increase. This document serves as the preliminary decision for NSR purposes.

In addition, CALNEV is defined as a federal Major Facility pursuant to District Rule 1201 – *Federal Operating Permit Definitions.* The proposed modification classifies as a Significant Modification to CALNEV's Federal Operating Permit (FOP). Pursuant to District Rule 1205 – *Modifications of Federal Operating Permits*, section (B)(2), this document serves as the preliminary determination to issue CALNEV the modified FOP, inclusive of the proposed changes.

2. Description of Project

a. Installation of two, new Biodiesel/Renewable Diesel Unloading Systems and a new injection skid with a 350-gallon tote for lubricity control (B013876, B013877, and B014070):

CALNEV is proposing to install two, new Biodiesel/Renewable Diesel Unloading Systems for blending into product shipments which will facilitate the storage and blending of renewable diesel, CARB diesel, and biodiesel at the Barstow Terminal. A new injection skid with a 350-gallon tote is also proposed to the Unloading Systems for lubricity control. In addition to the lubricity injection skid, both unloading systems will consist of unloading equipment and various meters, pumps, and instrumentation to monitor the process. The products that these Unloading Systems will handle will be delivered by tanker trucks and stored in existing tankage. The maximum loading capacity will be 7,800 barrels per day (approximately 120,000,000 gallons per year), of which 75% is expected to be renewable diesel (90,000,000 gallons per year) and the remaining 25% biodiesel (30,000,000 gallons per year). The renewable and biodiesel then will be sequentially blended at the existing loading systems into the existing clear diesel arms for Tanks 331 and 325. Blending allows for product shipment at various ratios, including shipment of up to pure biodiesel (B100) and pure renewable diesel (R100). The installation of these two new Unloading Systems and Lubrication Skid results in an emission increase of VOC and HAP. CALNEV proposes to offset the increase in VOC emissions using Emission Reduction Credits (ERCs) as described later in this document. The increase in HAP emissions does not result in an increase in combined HAP or single HAP emissions above the federal major thresholds. BACT will be required for the proposed equipment as discussed later in this document.

B. Analysis

1. Determination of Emissions

[District Rule 1302(C)(1)]

VOC emissions from the Biodiesel/Renewable Diesel Unloading Systems (B013876 & B013877) will be released during the unloading processes (Loading Losses) when the tanker trucks are connected to the pump suction accumulator and associated piping where product is gravity drained into one of the two dedicated submerged pumps where it is then pumped to product tankage. Vapors displaced from the unloading system will be collected in the air eliminators and routed back to the tanker truck, achieving 95% control of vapors. Once the pumps and piping are liquid-full, the air eliminator valves will be automatically closed. The total capacity of the air eliminators (AE-2007 and AE-2008) and associated piping will be no more than 500 gallons each. Thus, the VOC emissions only occur during the first 500 gallons of product transferred.

The Loading Loss emissions associated with the Biodiesel/Renewable Diesel Loading Systems (B013876 & B013877) were calculated using USEPA's AP-42, Section 5.2, *Transportation and Marketing of Petroleum Liquids*, dated June 2008, using the following equation:

$$L_L = 12.46 \frac{SPM}{T}\left(1 - \frac{eff}{100}\right)$$

Where:
L_L = loading loss, pounds per 1000 gallons of liquid loaded.

S = saturation Factor (see table 5.2-1, of AP 42), used the value for submerged loading, dedicated vapor balance service.
P = true vapor pressure of liquid loaded, pounds per square inch absolute (psia), values obtained from "Modeling the Vapor Pressure of Biodiesel Fuels", NIST Vol 6, No. 5, 2012; using the highest value to be conservative.
M = molecular weight of vapors, pounds per pound-mole (lb/lb-mole); obtained from NIST paper referenced above, or CARB guidance "Renewable Diesel Should Be Treated the Same as Conventional Diesel" (July 31, 2013).
T = temperature of bulk liquid loaded, °R (°F+460), which was obtained from TANKS 4.09d for the CALNEV facility specifically, using Barstow-specific meteorological conditions.
eff = overall control efficiency, percent, assumed to be 95% for vapor balancing as all vapor emissions are routed back to the tanker trucks.

All criteria emissions were based on the proposed 120,000,000 gallon throughput, and assumed to be biodiesel as a worst case scenario due to the higher loading losses. The total displaced vapor was calculated at 35,715,000 gallons per year based on the proposed throughput, the tanker capacity, annual possible trucks per year, number of compartments on each truck, and the total volume capacity of the air eliminators (AE-2007 and AE-2008) and associated piping which as discussed is 500 gallons, as summarized in table 1, below:

Table 1 - Calculations of Total Displaced Vapor Volume

Annual Biodiesel Offloading (gal/yr)	120,000,000
Tanker Truck Capacity (gal)	8,400
Annual Number of Tanker Trucks	14,286
# of Compartments on a Tanker Truck	5
Total Displaced Vapor Volume (gal)[1]	500
Biodiesel Vapor Displacement Volume (gal/year)	35,715,000

A summary of the Loading Loss criteria emissions associated with the Biodiesel/Renewable Diesel Loading Systems (B013876 & B013877) is specified in table 2, below:

Table 2 – Summary of Criteria Emissions associated with Biodiesel/Renewable Diesel Loading Systems (B013876 & B013877)

Liquid Transferred	S	P (psia)	M (lb/lb-mol)	T (deg R)	L_L (lbs/1000 gal)	eff	Displacement Volume (1000 gal/yr)	Uncontrolled VOC Emissions (lbs/yr)	Controlled VOC Emissions (lbs/yr)	VOC Emissions (lbs per 1000 gals)
Biodiesel/ Renewable Diesel	1	0.0111	250	525.09	0.06585	0.95	35,715	2,352	118	0.0000010

The criteria emissions associated with the new 350-gallon tote for lubricity control were estimated using TANKS 4.09d and were calculated for both standing and working loss emissions

[1] Total volume of hoses, piping, and air eliminators is 500 gallons

of VOC. The lubricity tote was modeled as a fixed-roof 350-gallon tank with a maximum usage of 9,125 gallons per year (25 gpd maximum), with a speciated emissions profile as noted in the SDS. The calculation output is included in Appendix D of the attached application package in Appendix A of this document.

A summary of the criteria emissions associated with the new 350-gallon tote for lubricity is specified in table 3, below:

Table 3 – Summary of Criteria Emissions associated with Lubricity Tote (B014070)

Tank Contents	**Withdrawal Loss (lbs of VOC)**	**Deck Seam Loss (lbs of VOC)**	**Total Emissions (lbs of VOC)**
OLI-9181.X Innospec	3.08	0.58	3.66

The total Criteria Emissions associated with the proposed project (the two new Unloading Systems and the lubricity tote) are summarized below in table 4:

Table 4 – Total Criteria Emissions associated with Proposed Project

	Daily PTE (lbs of VOC/day)	**Daily PTE (lbs of VOC/year)**
Unloading Systems	0.32	118
Lubricity Tote	0.01	3.66
Total	0.33	122

District Rule 1304 – *Emissions Calculations*, provides the procedures and formulas to calculate emission increases and decreases for new or modified Facilities. Section (A)(1)(a)(iii), of this rule, states that District Rule 1304 shall determine the Potential to Emit of new or modified Facilities and Emission Unit(s). Pursuant to District Rule 1304, the emission change for a new or modified Facility or Emissions Unit(s) shall be calculated, in pounds per day, by subtracting Historic Actual Emission from Proposed Emissions (section (B)(1)(a)):

Emissions Change = (Proposed Emissions) – (Historic Actual Emissions)

Since the equipment associated with the proposed project is new, Historic Actual Emissions are equal to zero; therefore, the Emissions Change associated with this permitting action is a net increase in VOC emissions of the totals specified in table 4. CALNEV proposes to offset this emissions increase using Emission Reduction Credits as specified under section 2.b. of this document.

2. Determination of Nonattainment NSR Requirements

[District Rule 1302(C)(2)]

a. BACT Evaluation

[District Rule 1302(C)(2)(a)]

Best Available Control Technology (BACT) is required for each new or Modified Permit Unit at a Modified Facility that emits, or has the Potential to Emit, twenty-five (25) tons per year or more of any Nonattainment Air Pollutant or its Precursors (District Rule 1303(A)(3)). CALNEV has a facility PTE in excess of twenty – five (25) tons per year for the Nonattainment Air Pollutant of VOC; therefore, the proposed new and modified, Permit Units must be equipped with BACT pursuant to District Rule 1303. BACT is defined as the most stringent emission limit or control technique which has been achieved in practice, for such Permit Unit class or category of source [District Rule 1301].

CALNEV submitted a BACT review as part of their application package (see Appendix F of their application in Appendix A of this document). Of the several BACT determinations reviewed, the District agrees with CALNEV that the best fit BACT determination for this class and category is SJVAPCD's Guideline 7.1.10 for Organic Liquid Loading Rack which specifies bottom fill loading (submerged pipe fill loading) with dry break couples, and VOC emission from the vapor collection and control system less than or equal to 0.015 pounds per 1,000 gallons of organic liquid transferred. CALNEV will meet these BACT requirements as they will install submerged fill and employ vapor balance to control 95% of emissions from the unloading operations. Additionally, as demonstrated by table 2, above, the proposed emissions are predicted to be approximately 0.061 tons per year based on transfer of 120,000,000 gallons of biodiesel and renewable diesel, or an emission rate of 0.000001 pounds per 1,000 gallons. This is a small fraction of the BACT standard of 0.015 pounds per 1,000 gallons; thus, BACT is demonstrated.

b. *Offsets Evaluation*

[District Rule 1302(C)(3)]

Offsets are required for any new or modified Facility which has the Potential to Emit a Regulated Air Pollutant in an amount greater than or equal to the thresholds for the Nonattainment Air Pollutants and their Precursors specified in District Rule 1303 (B)(1). The offset threshold is 25 tons per year for VOC, and CALNEV has a Potential to Emit greater than this threshold amount; therefore, the proposed emissions from this project must be fully offset. Furthermore, District Rule 1305(C)(1) requires an additional offsetting ratio of 1.3:1 for VOC for facilities located in the Federal Ozone Non-attainment Area (FONA). CALNEV is located in the FONA; therefore, must apply the 1.3:1 offsetting ratio for VOC for this proposed project. A summary of the proposed emissions and the required offsets are listed below in table 5.

Table 5 – Summary of Offsets Required

Pollutant	VOC
Proposed Emissions (lbs/year)	122.00
Offset Ratio	1.3:1
Total Offsets Required (lbs)	158

CALNEV is proposing to offset the 158 pounds of VOC with Emission Reduction Credits (ERCs) purchased from another facility located within the MDAQMD, within the same air basin, and within the FONA. CALNEV purchased 1,000 pounds of VOC Emission Reduction Credits from Value Environmental, under ERC certificate 0088 as listed in the MDAQMD's ERC registry on November 12, 2020 (please see Appendix D for transaction details). As the ERCs under certificate 0088 were issued under the MDAQMD's ERC program these ERCs have been evaluated at the time of issuance as real, enforceable, permanent, quantifiable, and surplus.

Pursuant to MDAQMD Rule 1404(A)(3), Emission Reduction Credits must be readjusted to reflect Reasonably Available Control Technology (RACT) upon use. The Emission Reduction Credits under certificate 0088 were generated from a facility closure that was a fiberglass boat manufacturing operation; therefore, the governing RACT rule is MDAQMD's Rule 1162 – Polyester Resin Operations. The facility that was issued these Emission Reduction Credits was in compliance with Rule 1162 at the time of their closure under the 8/27/07 version of the rule. Rule 1162 has been amended twice since these Emission Reduction Credits were issued, once on 8/28/17, and most recently on 4/23/18. While the 8/28/17 rule version was updated to include more material categories and subsequent VOC content limits, the overall change in VOC content limits did not decrease. The 4/23/18 amendment incorporated changes to address USEPA's comments regarding the SIP approval, but did not change the VOC content limits at all. Since the VOC content limits have not changed significantly since the facility closure, and the facility was in compliance with the rule limits at the time of closure, the District is deeming the Emission Reduction Credits proposed for this permitting action as RACT without any further adjustment.

A summary of the overall use of ERC to meet the offsetting requirements is listed in Table 6, below:

Table 6 – ERC Offsetting Summary

Pollutant (VOC)	**Originating ERCs Owned by Value Environmental Certificate #88**	**ERC Purchased by CALNEV Certificate #114**	**Quantity of ERCs to be Surrendered by CALNEV for this permitting action**	**Quantity Remaining for CALNEV Certificate #114**	**Quantity Remaining for Value Environmental Certificate #117**
	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
	55,307	1,000	158	842	54,307

3. Determination of Requirements for Toxic Air Contaminants

[District Rule 1302(C)(5)]

a. *District Rule 1320:*

Pursuant to District Rule 1320 – *New Source Review for Toxic Air Contaminants*, CALNEV is subject to both State and Federal Toxic New Source Review, as CALNEV is a Modified Facility (or Emissions Units) which has the potential to emit a Toxic Air Contaminants. Pursuant to the requirements of District Rule 1320, an applicability analysis of state and federal air toxic regulations was conducted for the proposed equipment (State T-NSR and Federal T-NSR, respectively). The State T-NSR and Federal T-NSR analyses are described below:

1. State T-NSR:

Section (E)(1)(b) of District Rule 1320 requires that if any ATCM applies to the proposed equipment, the requirements of that ATCM shall be added to the District permit. There are no ATCMs that apply to the affected equipment proposed in this permitting action.

Pursuant to District Rule 1320, section (E)(2), State T-NSR also requires an Emission Unit Prioritization Score. Section (E)(2) requires prioritization scores to be calculated utilizing the most recently approved CAPCOA Facility Prioritization Guidelines, the most recently approved OEHHA Unit Risk Factor for cancer potency factors, and the most recently approved OEHHA Reference Exposure Levels for non-cancer acute factors, and non-cancer chronic factors. The Emission Unit Prioritization Score calculation is consistent with the 2016 *CAPCOA Facility Prioritization Guidelines*, and is based on a conservative receptor selection of 228 meters (please refer to Appendix B for the Emission Unit Prioritization HARP data). The toxic air contaminants/hazardous air pollutants were calculated based on the proposed HAP/TAC emissions of the proposed equipment, based on the SDS of the biodiesel, renewable diesel and lubrication products. The HARP Prioritization Reports are in Appendix B.

	Cancer Priority	Chronic Noncancer Priority	Acute Noncancer Priority
Biodiesel/Renewable Diesel Loading Systems and Lubricity and Conductivity Skin and Injection System (B013876, B013877, and B014070)	2.39E-02	5.59E-04	0.00E-00

As shown in the table above, the total Emission Unit Prioritization Scores for the proposed new and modified Emission Units are less than 1; therefore, categorized as "Low Priority." Pursuant to District Rule 1320, section (E)(2)(b), no further State T-NSR action is required.

2. Federal T-NSR:

Pursuant to section (F)(1) of District Rule 1320, the Modified Facility/Emissions Units were analyzed to determine if any current, enforceable Maximum Achievable Control

Technology (MACT) standards apply to the equipment affected by this permitting action, and if so to ensure that those requirements are enforced by permit condition. Several Federal MACTs were reviewed as part of the evaluation of the proposed permitting action, including 40 CFR 60 Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels, and 40 CFR 60, Subpart XX – Standards of Performance for Bulk Gasoline Terminals; however, no specific requirements from these MACT standards apply to the proposed equipment.

b. District Rule 1520 – Toxic Hot Spots Analysis:
District Rule 1520 – *Control of Toxic Air Contaminants from Existing Sources* applies to CALNEV, as they are an existing facility that has a PTE to emit a TAC (Section (B)(1)(a) and (c)). CALNEV's most recently approved (2019 emission year) Comprehensive Emission Inventory Report (CEIR) was utilized to fulfill the requirements of section (D)(1)(b)(i) of District Rule 1520. Section (E)(1)(a)(ii) requires prioritization scores to be calculated utilizing the most recently approved CAPCOA Facility Prioritization Guidelines, the most recently approved OEHHA Unit Risk Factor for cancer potency factors, and the most recently approved OEHHA Reference Exposure Levels for non-cancer acute factors, and non-cancer chronic factors. Therefore, the Facility Prioritization Scores were calculated using the July 2016 *CAPCOA Facility Prioritization Guidelines* (as these are the latest approved), and account for the recent updates to the OEHHA's Risk Assessment Guidance Document. The prioritization was calculated, using these parameters, and the Facility Prioritization Scores for CALNEV are greater than (1) and less than ten (10); therefore, categorizes CALNEV as 'Intermediate Priority'. Based on the requirements of District Rule 1520, section (E)(1)(b), no further analysis is required. The data for the Facility Prioritization Scores can be viewed in Appendix B.

	Cancer Priority	Chronic Noncancer Priority	Acute Noncancer Priority
Current EY 2019 Facility Prioritization Score	3.04+00	7.73E-02	8.28E-02

Section (E)(2)(a) and (b) of District Rule 1520 allows the APCO to determine whether further toxic analysis of the facility is required for Facility Prioritization Scores that are categorized as "Intermediate Priority." At this time, the District is not requiring further toxic analysis for CALNEV and the proposed modification. CALNEV's toxic emissions are routinely tracked on an annual basis as part of the District's Inventory and Hot Spots Programs.

4. Determination of Requirements for Prevention of Significant Deterioration
[District Rule 1302(C)(6)]

a. PSD Analysis

Per the language in the applicability procedures of 40 CFR 52.21 (a)(2)(i) and (ii), PSD applies to "any new major stationary source or the major modification of any existing major stationary source". The proposed modification does not result in a new major stationary source and does not constitute a major modification; hence, the project is not subject to PSD.

b. NAAQS Impact Analysis

District Rule 1302, section (D)(5)(b)(iv) requires that any new or Modified Facility located in an area classified by USEPA as attainment or unclassifiable shall determine if the Facility will cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS). The proposed modification, discussed herein, do not cause an increase in emissions; therefore, the proposed project will not contribute to a violation of the NAAQS.

7. Rules and Regulations Applicable to the Proposed Project

District Rules

Rule 201/203 – *Permits to Construct/Permit to Operate*. Any equipment which may cause the issuance of air contaminants must obtain authorization for such construction from the Air Pollution Control Officer. CALNEV is in compliance with this rule as they appropriately applied for a District permit for all new equipment and maintains District permits for all residing equipment.

Rule 204 – *Permit Conditions*. To assure compliance with all applicable regulations, the Air Pollution Control Officer (Executive Director) may impose written conditions on any permit. The District has imposed permit conditions to ensure CALNEV complies with all applicable regulations.

Rule 206 – *Posting of Permit to Operate*. Equipment shall not operate unless the entire permit is affixed upon the equipment or kept at a location for which it is issued and will be made available to the District upon request.

Rule 207 – *Altering or Falsifying of Permit.* A person shall not willfully deface, alter, forge, or falsify any issued permit.

Rule 209 – *Transfer and Voiding of Permits*. CALNEV shall not transfer, whether by operation of law or otherwise, either from one location to another, from one piece of equipment to another, or from one person to another. When equipment which has been granted a permit is altered, changes location, or no longer will be operated, the permit shall become void.

Rule 210 – *Applications*. CALNEV provided all the required information to correctly address the proposed equipment pursuant to this rule, although there were instances in which additional information were required, in which the thirty (30) day clock was restarted.

Rule 212 – *Standards for Approving Permits*. This rule establishes baseline criteria for approving permits by the District for certain projects. In accordance with these criteria, the proposed modifications and application does not cause issuance of air contaminants in violation of Sections 41700 or 41701 of the State Health and Safety code.

Rule 221 – *Federal Operating Permit Requirement.* CALNEV is in compliance with this rule, as they currently hold and maintain a Federal Operating Permit.

Rule 301 – *Permit Fees*. The proposed equipment will increase CALNEV's annual permit fees by the applicable amounts described in section (E) of this rule.

Rule 401 – *Visible Emissions*. This rule limits visible emissions opacity to less than 20 percent (or Ringlemann No. 1). In normal operating mode, visible emissions are not expected to exceed 20 percent opacity.

Rule 402 – *Nuisance*. This rule prohibits facility emissions that cause a public nuisance. The proposed modifications and associated equipment is required by permit condition to employ good engineering and operational principles in order to minimize emissions and the possibility of a nuisance.

Rule 408 – *Circumvention*. This rule prohibits hidden or secondary rule violations. The proposed modifications as described is not expected to violate Rule 408.

Rule 430 – *Breakdown Provisions*. Any Breakdown which results in a violation to any rule or regulation as defined by Rule 430 shall be properly addressed pursuant to this rule.

Rule 900 – *Standards of Performance for New Stationary Sources (NSPS)*. Rule 900 adopts all applicable provisions regarding standards of performance for new stationary sources as set forth in 40 CFR 60. There are no NSPSs applicable to the proposed permitting action.

Regulation X – *National Emission Standards for Hazardous Air Pollutants*. Pursuant to Regulation X, CALNEV is required to comply with all applicable ATCMs. There are no ATCM requirements triggered by this permitting action.

Regulation XII – *Title V Permits*. This regulation contains requirements for sources which must have a FOP. CALNEV currently has a FOP and is expected to comply with all applicable rules and regulations.

Rule 1201 – *Federal Operating Permit Definitions.* CALNEV is defined as a federal Major Facility pursuant to this rule.

Rule 1203 – *Federal Operating Permits*. This document represents the preliminary determination for the proposed modifications to CALNEV's FOP. This proposed Significant Modification will also be properly noticed pursuant to District Rule 1207, as required.

Rule 1205 – *Modifications of Federal Operating Permits*. The proposed equipment classifies as a Significant Modification to CALNEV's Federal Operating Permit (FOP), and subsequently, this permit modification is issued in accordance with the provisions of District Rule 1203.

Rule 1208 – *Certification*. CALNEV included a Certification of Responsible Official as required with the submitted application for the proposed equipment.

Rule 1211 – *Greenhouse Gas Provisions of Federal Operating Permits*. CALNEV is not a Major GHG Facility pursuant to Rule 1211. CALNEV's FOP includes all the requirements of this rule.

Regulation XIII – *New Source Review*
Rule 1302 – *Procedure*. This rule applies to all new or Modified Facilities and requires certain requirements to be fulfilled when submitting an application. All applicable requirements of this rule are discussed in this NSR document as part of the Analysis procedure. Certification of compliance with the Federal Clean Air Act, applicable implementation plans, and all applicable District rules and regulations have been addressed. The Authority to Construct (ATC) application package for the proposed equipment includes sufficient documentation to comply with Rule 1302(D)(5)(b)(ii). Permit conditions for the proposed project will require compliance with Rule 1302(D)(5)(b)(iii).

Rule 1303 – *Requirements*. This rule requires BACT and offsets for selected facility modifications. Equipment installed shall meet BACT and prior to the commencement of construction the proponent shall have obtained sufficient offsets to comply with Rule 1303(B)(1). The proposed permitting action does not trigger BACT or offsets.

Rule 1304 – *Emissions Calculations*. The Proposed Emissions from the proposed modifications were calculated pursuant to section (B)(1)(a) of this rule.

Rule 1320 – *New Source Review for Toxic Air Contaminants*. Pursuant to the requirements of District Rule 1302, an applicability analysis of state and federal air toxic regulations was conducted for the proposed modifications (State T-NSR and Federal T-NSR, respectively) and is discussed in further detail in section (B)(3)(a)(1) of this document.

Rule 1520 – *Control of Toxic Air Contaminants from Existing Sources*. The proposed project is subject to Rule 1520, as CALNEV has a PTE to emit a TAC (Section (B)(1)(a) and (c)). A Toxic 'Hot Spots' Program Analysis was conducted pursuant to section (E) of District Rule 1520. Facility Prioritization Scores were calculated pursuant to this rule and the results of the analysis is discussed in further detail in section (B)(6), above.

Regulation XVII – *Prevention of Significant Deterioration*. The purpose of this regulation is to set for requirements for all new Major PSD Facilities and Major PSD Modifications which emit or have the potential to emit a PSD Air Pollutant pursuant to the requirements of 40 CFR 52.21. The proposed modification does not constitute a new Major PSD Facility or a Major PSD Modification; therefore, PSD does apply to the proposed project.

State Regulations

No state regulations are applicable to the proposed permitting action; however, California Health and Safety Code section 41954 requires the California Air Resources Board (CARB) to certify systems designed to control gasoline vapor emissions during gasoline marketing operations, and has further determined that bulk terminals are included in this category. CALNEV has complied with this requirement by having their vapor processing system certified by CARB on June 9th,

2002. Federally enforceable throughput limits for the facility have been included in the FOP based on the certification test results. This permitting action does not modify or propose any applicable bulk gasoline equipment subject to this subpart, since the proposed equipment is for biodiesel/renewable diesel only.

Federal Regulations

40 CFR 60, Subpart A – *NSPS General Provisions.* CALNEV is subject to the provisions of this NSPS as this facility is subject to Subpart Kb, and XX (see below). All applicable requirements of 40 CFR 63 have been incorporated into their FOP.

40 CFR 60 Subpart Kb- Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984: Pursuant to 40 CFR 60.110b(a) and (b), CALNEV is subject to this subpart for the following tanks: T000096, T000097, T000098, T000099, T000100, T000101, T000103, T000723, T000724, T000725, and T000726. None of the above mentioned tanks are being modified as part of this permitting action.

40 CFR 60 Subpart XX - Standards of Performance for Bulk Gasoline Terminals. Pursuant to 40 CFR 63.11081(a), CALNEV is subject to this Subpart; however, this permitting action does not modify or propose any applicable bulk gasoline equipment subject to this subpart, since the proposed equipment is for biodiesel/renewable diesel only.

40 CFR 61, Subpart M – *NESHAP for Asbestos*. CALNEV complies with 40 CFR 61, Subpart M – *NESHAP for Asbestos* per conditions in Part II, section C.7, C.8, and C.9 of their FOP.

40 CFR 63, Subpart A – *NESHAP General Provisions*. CALNEV is subject to the provisions of this NESHAP as this facility is subject to Subpart 6B (see below). All applicable requirements of 40 CFR 63 have been incorporated into their FOP.

40 CFR 63 Subpart BBBBBB - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities: Pursuant to CFR 63.11081(a)(1), CALNEV is an area HAP source subject to this subpart however, this permitting action does not modify or propose any applicable bulk gasoline equipment subject to this subpart, since the proposed equipment is for biodiesel/renewable diesel only.

40 CFR 64, *Compliance Assurance Monitoring*. The Compliance Assurance Monitoring (CAM) rule (40 CFR 64) applies to each Pollutant Specific Emissions Unit (PSEU) when it is located at a Major Facility that is required to obtain Title V, Part 70 or 71 permit and it meets all of the following criteria. "PSEU" means an emissions unit considered separately with respect to each regulated air pollutant.

The PSEU must:
a. Be subject to an emission limitation or standard [40 CFR 64; AND,

b. Use a control device to achieve compliance [40 CFR 64.2(a)(2)]; AND,
c. Have the **potential pre-control** emissions that exceed or are equivalent to the major source threshold. [40 CFR 64.2(a)(3)]

The proposed equipment under this permitting action (*Biodiesel/Renewable Diesel Loading Systems and Lubricity and Conductivity Skid and Injection System (B013876, B013877, and B014070)*), of which two constitutes PSEUs which are subject to an emission standard, and use a control device; however, each of these PSEUs no not have a potential pre-control emissions that would exceed the major source threshold of the pollutant emitted (VOC), which is 25 tons per year. Each PSEU has a potential pre-control emission of about 2,352 pounds of VOC per year which is well below the major source threshold of 25 tons per year; therefore, CAM is not applicable to the proposed equipment under this permitting action. A list of the MDAQMD's major source thresholds are listed below:

Pollutant	Major Source Threshold (tons per year)
NO_X	25
VOC	25
CO	100
PM_{10}	100
SO_X	100
Single HAP	10
Combination of HAP	25

40 CFR 82, *Protection of Stratospheric Ozone*. CALNEV complies with this regulation per PART II, Section C.20 & C.21 of their FOP.

8. NSR Preliminary Decision - Conclusion

The District has reviewed the proposed modifications and application for CALNEV and conducted a succinct written analysis as required by District Rule 1302, section (D)(1)(b) and District Rule 1203, section (B)(1)(a). The District has determined that the proposed modifications and application are in compliance with all applicable District, state, and federal rules and regulations as proposed and when operated in terms of the permit conditions of the associate, revised FOP.

C. Title V Permit/FOP – Significant Permit Modification

1. Proposed Changes to FOP

The proposed changes to the FOP are indicated in the red-line version of the draft FOP dated December 10, 2020.

2. CAM Analysis

Please refer to the CAM Analysis on page 13. The proposed modification does not trigger new CAM requirements.

2. Title V/FOP Preliminary Determination – Conclusion

The District has reviewed the applications and proposed modifications to CALNEV's Federal Operating Permit. The District has determined that the proposed modification is in compliance with all applicable District, state, and federal rules and regulations as proposed when operated in the terms of the permit conditions given herein, and the attached revised FOP.

This preliminary determination will be submitted to USEPA, CARB, and the public for review and comment. Please refer to the cover page of this document for the dates pertaining to USEPA/CARB review, public review, and permit issuance

D. Comment Period and Notifications

1. Public Comment

This preliminary determination will be publicly noticed. Please refer to the cover page of this document for the dates pertaining to USEPA/CARB review, public review, and permit issuance. Please see Appendix C for noticing details.

2. Notifications

The preliminary determination will be submitted to USEPA and CARB pursuant to District Rule 1207 for a forty-five (45) day review period. Please refer to the cover page of this document for the dates pertaining to USEPA/CARB review, public review, and permit issuance.

All correspondence as required by District Rules 1302 and 1207 were forwarded to electronically to the following recipients:

Director, Office of Air Division
United States EPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105
Submitted electronically to USEPA's Central Data Exchange – Electronic Permitting System
https://cdx.epa.gov/

Chief, Stationary Source Division
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812
emailed to permits@arb.ca.gov

Cinnamon Smith
Sr. Specialist – Permitting and Compliance
CALNEV Pipe Line, LLC – Barstow Terminal
1001 Louisiana Street, 8th Floor
Houston, TX 77002-5089
emailed to Cinnamon_Smith@kindermorgan.com s

Appendix A
Application

CALNEV Pipe Line, LLC
Barstow Terminal

34277 Daggett-Yermo Road, Daggett CA 92327

MDAQMD Permit Number: 0200353
Facility ID: 00353

October 2020

Prepared by:

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Office Locations:
Los Angeles, Orange County, Riverside, Ventura, San Diego, Fresno, Berkeley, Bakersfield

Tel: (949) 248-8490
Fax: (949) 248-8499

Biodiesel and Renewable Diesel Unloading Systems

Biodiesel and Renewable Diesel Unloading Systems

Prepared for:

CALNEV Pipe Line, LLC
Barstow Terminal
34277 Daggett-Yermo Road
Daggett, CA 92327
MDAQMD Permit No: 0200353
MDAQMD Facility ID: 00353

Updated October 2020

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APPENDIX F – BACT EVALUATION

Biodiesel and Renewable Diesel Unloading Systems

1.0 INTRODUCTION

CALNEV Pipe Line, LLC – Barstow Terminal (Barstow Terminal) has previously requested Permit Modifications to the facility's Title V and Mojave Desert Air Quality Management District (MDAQMD) Permits to add two (2) unloading systems for biodiesel and renewable diesel and to add a lubricity modifier injection skid.

The original application for this Project was submitted on April 13, 2020, with revised applications submitted in June, July, and August of 2020. This application will serve as a complete application package containing all original appendices and information.

1.1 Facility Information

1.1.1 Facility Contact Information

Facility information is included in Table 1-1. Calnev Pipe Line, LLC is requesting to update the Facility "Site" Contact as part of the application process.

Table 1-1: Facility Information

Applicant's Name:	CALNEV Pipe Line, LLC - Barstow Terminal
Applicant's Contact Information:	Cinnamon Smith Sr. Specialist – Permitting and Compliance Phone: (713) 420-4538 E-mail: Cinnamon_Smith@kindermorgan.com
Facility Responsible Official:	John Thomasson Vice President of Operations Phone: (909) 873-5167 E-mail: John_Thomasson@kindermorgan.com
Facility "Site" Contact:	Jeremy Shenk Area Manager (760) 254-2616 Email: Jeremy_Shenk@kindermorgan.com
Facility ID:	00353
Mailing Address:	1001 Louisiana Street, 8th Floor Houston, TX 77002-5089
Equipment Location:	34277 Daggett-Yermo Road, Daggett CA 92327

1.1.2 Background Information

The Barstow Terminal is a bulk loading terminal located in Daggett, California which receives gasoline and diesel fuel via pipeline from various petroleum refineries and operates bulk loading stations to transfer product. The two new unloading systems will be used to receive both renewable diesel and biodiesel for blending into product shipments. A new injection skid with a 350-gallon tote will allow for lubricity control of this product.

1.1.3 Facility Location

The facility is located in a rural area outside of Daggett, California. The facility is generally surrounded by desert. The nearest residence is approximately half a mile south of the facility. The nearest sensitive receptor is the city of Daggett approximately half a mile to the south of the terminal. An aerial photograph showing the facility and surrounding landscape is provided as Figure 1-1.

Figure 1-1: Site Location of Barstow Terminal

1.2 Proposed Permit Actions

The Barstow Terminal is requesting to add two unloading systems for biodiesel and renewable diesel, a new lubricity tote, and the necessary piping to connect the new unloading systems to the facility's existing tankage and piping systems. The required forms are provided in Appendix A.

1.3 Application Preparer

This permit application was prepared by Nick Molzahn and Paul Liao of Yorke Engineering, LLC. If there are technical questions regarding this application, please use the contact information provided in Table 1-3.

Table 1-2: Application Preparers

Name:	Nick Molzahn	Paul Liao
Company:	Yorke Engineering, LLC	Yorke Engineering, LLC
Phone:	(415) 897-6203	(909) 861-2729
Cell:	(415) 470-0599	(949) 573-1859
E-mail:	NMolzahn@YorkeEngr.com	PLiao@YorkeEngr.com

2.0 PROJECT AND EQUIPMENT DESCRIPTION

2.1 Project Description

The project includes new unloading equipment, piping, and an additive tote to facilitate the transportation of renewable diesel and biodiesel at the Barstow Terminal. The products will be delivered by tanker truck via two dedicated unloading stations and will be stored in existing tankage. Maximum unloading capacity will be 7,800 barrels per day (approximately 120,000,000 gallons per year), of which 75% is expected to be renewable diesel (90,000,000 gallons per year) and the remaining 25% biodiesel (30,000,000 gallons per year). The existing tank farm will accommodate the additional products.

To account for the worst-case scenarios, all criteria emission calculations will assume the entire 120,000,000-gallon annual throughput as biodiesel due to higher loading losses, while all HAP calculations will use the speciation profile for renewable diesel.

Vapor balancing will route emissions from the unloading lines and associated equipment back to the tanker trucks, meeting BACT requirements. The renewable and biodiesel then will be sequentially blended at the existing loading systems into the existing clear diesel arms for Tanks 331 and 325. Blending allows for product shipment at various ratios, including shipment of up to pure biodiesel (B100) and pure renewable diesel (R100).

2.2 Equipment Description

2.2.1 Basic Equipment

The unloading systems will consist of unloading equipment, a lubricity injection skid with storage tote, and various meters, pumps, and instrumentation to monitor the process. Pavement will be added to support tanker trucks and equipment, including two new asphalt lanes and foundations for all equipment. Piping will tie the unloading systems into existing drain lines leading to the air eliminator tanks, as well as route these vapors from the air eliminators back to the tanker trucks for vapor balancing. Flow diagrams are provided in Appendix B. All connections to tanker trucks will be made using dry-disconnect Cam-lock couplings, which have negligible connect/disconnect losses.

3.0 EMISSIONS

Emissions will result from biodiesel and renewable diesel vapors released during the unloading process and from the new lubricity tote.

3.1 Methodology

3.1.1 Criteria Pollutants – Volatile Organic Compounds

Emissions from the unloading systems will consist of volatile organic compounds (VOCs) released while filling the pump suction accumulator and associated piping during the unloading process. To unload product, dry-disconnect Cam-lock coupled connections to unloading lines will gravity drain the product from tanker trucks to one of two dedicated submerged pumps, which will then transfer the product to tankage. Vapors displaced from the unloading system will be collected in the air eliminators and routed back to the tanker truck, achieving 95% control of vapors. Once the pumps and piping are liquid-full, the air eliminator valves will be automatically closed. The total capacity of the air eliminators

(AE-2007 and AE-2008) and associated piping will be no more than 500 gallons each. Thus, the VOC emissions only occur during the first 500 gallons of product transferred.

The biodiesel vapor pressure is not given by the SDS. A National Institute of Standards and Technology paper[1] estimated the vapor pressure of C18 fatty acid methyl esters as a very low 1.5E-7 psia at standard temperatures. Based on this, and after discussions with Guy Smith at MDAQMD, the higher renewable diesel vapor pressure was used for biodiesel as well. This vapor pressure was obtained from the highest monthly vapor pressure from US EPA TANKS 4.09d using Barstow-specific meteorological conditions.

Standing and working loss emissions of VOCs from the lubricity tote were calculated using TANKS 4.09d. The lubricity tote was modeled as a fixed-roof 350-gallon tank with a maximum usage of 9,125 gallons per year (25 gpd maximum), with a speciated emissions profile as noted in the SDS. The calculation output is included in Appendix D.

Table 3-1 presents the emission summary for the Project. As calculated, the Project will require 0.079 tons per year of VOC offset credits.

Table 3-1: Summary of Project's Criteria Pollutant Emissions

Pollutant	Daily PTE (lbs/day)	Annual Emissions (tons/year)	Required Offsets 1.3x Increase (tons/year)
VOC	0.33	0.061	0.079

3.1.2 Toxic Air Contaminants

The Safety Data Sheets for biodiesel do not include any Toxic Air Contaminants (TACs), while a California Air Resource Board memo included in Appendix E directs that renewable diesel should be treated the same as conventional diesel ("Renewable Diesel Should Be Treated The Same as Conventional Diesel", July 2013). The renewable diesel TAC profile is based on CARB Identification of Volatile Organic Compound Species Profiles, Second Edition, Profile 760 (Evaporative Emissions – Distillate Fuel). To assume the worst-case scenario, total TACs were calculated using the renewable diesel TACs. The Safety Data Sheets for these products are provided in Appendix C. A summary of TAC emissions are provided in Table 3-2.

Additionally, TACs are present in the lubricity additive mixture, which goes by the trade name OLI.9181.X. The highest speciation profile per the range given in the SDS was used in TANKS 4.09d to calculate annual TAC emissions for this tote.

Table 3-2: Summary of Toxic Air Contaminant Emissions

Toxic Air Contaminant	Fraction in Renewable Diesel Vapors, lb/lb	Fraction in Biodiesel Vapors[1], lb/lb	Fraction in OLI.9181.X, lb/lb	TAC Emissions, lbs/day	TAC Emissions, lbs/year
Benzene	0	0	0.10	0.0010	0.37
Ethylbenzene	0	0	0.05	0.0005	0.18

[1] "Modeling the Vapor Pressure of Biodiesel Fuels", NIST Vol 6, No. 5, 2012; https://www.nist.gov/publications/modeling-vapor-pressure-biodiesel-fuels

Toxic Air Contaminant	Fraction in Renewable Diesel Vapors, lb/lb	Fraction in Biodiesel Vapors[1], lb/lb	Fraction in OLI.9181.X, lb/lb	TAC Emissions, lbs/day	TAC Emissions, lbs/year
Hexane	0.09	0.09	0.00	0.029	10.58
Naphthalene (POM)	0	0	0.01	0.0001	0.036
Xylene	0	0	0.30	0.0030	1.10

[1] Biodiesel vapors were assumed to have the same fraction of TACs as renewable diesel for worst-case loading scenario.

4.0 RULE COMPLIANCE EVALUATION

4.1 Regulation III – Fees, Rule 301, Permit Fees

The application processing fees were determined per Rule 301 for the original application. Per discussions with MDAQMD staff, the original fees will be sufficient for this application.

4.2 Regulation IV – Prohibitions

4.2.1 Rule 401, Visible Emissions

No visible emissions are expected; therefore, compliance with Rule 401 is expected.

4.2.2 Rule 402, Nuisance

No nuisance odors are expected as a result of the project; therefore, compliance with Rule 402 is expected.

4.2.3 Rule 403, Fugitive Dust

The new unloading systems will be paved to limit dust emissions. Operation of the equipment is not expected to result in particulate matter emissions; therefore, compliance with Rule 404 is expected.

4.2.4 Rule 406, Specific Contaminants

Operation of the equipment will not result in any Sulfur Dioxide (SO_2), Hydrogen Fluoride (HF), Hydrogen Chloride (HCl), Hydrogen Bromide (HBr), Bromine (Br), Chlorine (Cl_2), or Fluorine (F_2) emissions; therefore, compliance with Rule 406 is expected.

4.2.5 Rule 407, Liquid & Gaseous Air Contaminants

Operation of the equipment will not result in any Carbon Monoxide (CO) emissions; therefore, compliance with Rule 407 is expected.

4.2.6 Rule 409, Combustion Contaminants

Operation of the equipment will not result in combustion emissions; therefore, compliance with Rule 409 is expected.

4.2.7 Rule 462, Organic Liquid Loading

Operation of the new unloading equipment will not impact the loading operation; therefore, compliance with Rule 462 is expected.

4.3 Regulation XII – Federal Operating Permits

4.3.1 Rule 1203, Federal Operating Permits

This rule establishes the Title V permit program within the District. The Barstow Terminal is a Title V facility. The project requires an amendment to the facility Title V permit to include the unloading systems.

4.4 Regulation XIII – New Source Review

4.4.1 Rule 1303, Requirements

This rule establishes the BACT permit program within the District and specifies BACT requirement if a modified permit unit has the potential to emit more than 25 pounds per day of any nonattainment air pollutant. The project meets BACT for the unloading system through vapor balancing; see evaluation in Appendix F. As such, compliance with Rule 1303 is expected.

APPENDIX A – FORMS

Mojave Desert Air Quality Management District

TITLE V – PERMIT AMENDMENT / MODIFICATION

I. PERMIT ACTION (Check appropriate box)

☐ ADMINISTRATIVE AMENDMENT ☐ MINOR MODIFICATION ☒ SIGNIFICANT MODIFICATION

☐ OFF-PERMIT CHANGE

1. FACILITY NAME: CALNEV Pipe Line, LLC - Barstow Terminal

2. FACILITY ID: 00353

3. TITLE V PERMIT NO: 0200353

4. TYPE OF ORGANIZATION: ☒ Corporation ☐ Sole Ownership ☐ Government ☐ Partnership ☐ Utility

5. COMPANY NAME: CALNEV Pipe Lines, LLC

6. COMPANY MAILING/BILLING ADDRESS:
STREET/P.O. BOX: 1001 Louisiana Street, 8th Floor

CITY: Houston STATE: TX 9-DIGIT ZIP CODE: 77002-5089

7. FACILITY ADDRESS:
STREET: 34277 Daggett-Yermo Road

CITY: Daggett STATE: CA 9-DIGIT ZIP CODE: 92327

PROPOSED DATE OF INSTALLATION:

8. DISTANCES (FEET AND DIRECTION) TO CLOSEST:
FENCELINE: 90 ft. W RESIDENCE: 3,400 ft S BUSINESS: 1,500 ft N SCHOOL: 5500 ft S

9. GENERAL NATURE OF BUSINESS: Bulk loading terminal to transfer various fuels into tanker trucks for distribution.

10. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE
(include Permit #'s if known, and use additional sheets if necessary)

The Barstow Terminal is requesting to add two unloading systems for biodiesel and renewable diesel~~, add a geodesic dome onto the existing external floating roof of Tank 331 (Permit# T000097),~~ and add the necessary piping to connect the new unloading systems to the facility's existing tankage. See application for more detailed information and emissions discussion.

11. PERSON TO CONTACT FOR INFORMATION ON THIS APPLICATION:

NAME: Cinnamon Smith PHONE NUMBER: (713) 420-4538

TITLE: Sr. Specialist - Permitting and Compliance EMAIL: cinnamon_smith@kindermorgan.com

II. COMPLIANCE CERTIFICATION (Read each statement carefully and check all for confirmation):

[X] Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

[X] Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

[X] Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

[X] Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Signature of Responsible Official

6-10-2020
Date

John Thomasson
Name of Responsible Official (please print)

Director of Operations
Title of Responsible Official (please print)

For AQMD Use Only:

DATE STAMP	*DISTRICT PERMIT APPLICATION NO:* _____	*COMPANY /FACILITY ID:* _____

APPLICATION FOR
TITLE V MODIFICATION

- Instructions -

I. PERMIT ACTION

On the application form, mark the box to indicate what type of Title V modification this is. Definitions follow in these instructions. Only one application form is needed for each facility.

Line 1. Enter the name of the facility.
Line 2. Enter the MDAQMD Facility ID number
Line 3. Enter the current Title V permit number
Line 4. Indicate the organizational structure of the facility
Line 5. Enter the name of the facility owner
Line 6. List the mailing address where correspondence regarding the application and the Permit to Operate may be sent. Please include your nine-digit zip code.
Line 7. Enter the facility mailing address. Indicate the installation date of any equipment changes from this modification.
Line 8. Indicate the distance of equipment, including feet and direction), from the closest fenceline, residence, business, and school.
Line 9. Indicate the general nature of the business performed by the facility.
Line 10. Describe each emissions unit. You may reference existing valid District Permits to Operate for each permitted emissions unit.
Line 11. Provide the name, title, phone number, and email address of a person to contact for further information on this application.

II. Compliance Certification

A compliance certification is a certification by the Responsible Official that each of the statements initialed in this section are true, accurate, and complete. The Responsible Official must check each box for which the statements are true, sign and date, and print his/her name and title.

For a corporation, the responsible official shall be a president, secretary, treasurer, or vice president in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation. The responsible official may be a duly authorized representative rather than any of the above if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit; and

1. the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million in 1980 dollars; or

2. the District has approved a petition from the original responsible person to delegate authority.

APPLICATION FOR
TITLE V MODIFICATION

- Instructions -

For a public agency the responsible official shall be either the principal executive officer or the ranking elected official. The principal executive officer, in the case of a federal agency, may be the executive officer having responsibility for a geographical unit.

For a partnership or sole proprietorship, the responsible official is a general partner or the proprietor, respectively.

OTHER REQUIRED INFORMATION

If needed to complete the processing of your Title V permit application, the District may request additional information.

APPLICATION FOR
TITLE V MODIFICATION

- Instructions -

Administrative Permit Amendment

An administrative amendment is a modification to a FOP that is being made solely for the purpose of accomplishing one or more of the following objectives:

1. Corrects typographical errors.
2. Makes an administrative change at the source such as the name, address, or phone number of a person named in the Part 70 permit.
3. Requires more frequent monitoring or reporting by the permittee.
4. Allows for the transfer of ownership or operational control of a stationary source provided that a written agreement containing a specific date for transfer of Part 70 permit responsibility, coverage and liability between the current and new permittee has been submitted to the District.

Minor Permit Modification

A minor permit modification is a revision to a FOP which is not an Administrative Permit Amendment and which meets all of the following criteria:

1. The proposed modification does not violate or cause a violation of any Applicable Requirement; and
2. The proposed modification does not relax any monitoring requirements or relax any reporting or record keeping requirements; and
3. The proposed modification does not require or change a federally mandated case-by-case determination of an emission limitation or other standard, a Facility specific determination of ambient impacts for temporary Facilities, or a visibility or increment analysis or require or change a case-by-case determination of an emissions limitation or other standard required or imposed pursuant to District Regulation XIII – New Source Review; and
4. The proposed modification does not impose or change a permit condition which allows the Facility, or any Permit Unit at the Facility, to operate below the threshold of applicability for any Applicable Requirement or of this regulation; and
5. The proposed modification is not a modification under Title I of the Federal Clean Air Act.

Significant Permit Modification/Title I Modification

A significant permit modification is a revision or proposed revision to a FOP which does not meet the qualifications for an Administrative Permit Amendment or a Minor Permit Modification. All Title I Modifications must be treated as Significant Permit Modification. A Title I modification is a modification to a FOP that meets any of the following criteria:

APPLICATION FOR
TITLE V MODIFICATION

- Instructions -

1. A modification under Section 111 (New Source Performance Standards (NSPS)), i.e. when a modification of an existing unit at a Title V facility is considered a modification as defined in 40 CFR Part 60.14. (This does not include new units subject to NSPS.)
2. A modification under Section 112 (Hazardous Air Pollutants (HAPS)), i.e. when either a new project or a modification of an existing emissions unit at a Title V facility would increase the potential to emit for HAPs and would constitute either the construction or reconstruction of a major source of HAPs as defined in 40 CFR part 63.41. This type of modification also occurs when a modification to an existing emissions unit occurs that would not be considered a reconstruction of a major source of HAPs, but would still increases HAP emissions beyond the HAP major levels such that federal promulgated MACT requirements for the emissions unit category would become applicable.
3. A major modification under Part C of Title I (PSD), i.e. when a new project or modification of an existing emissions unit at a Title V facility will require a PSD permit. This is a major modification under Part C of Title I of the Clean Air Act.
4. A major modification under Part D of Title I (Nonattainment Areas), i.e. when the potential to emit from all new, modified, replacement, or relocated emission units at the stationary source, which are covered by the application for such Part 70 permit modification, plus all other emission increases that occurred during the specified evaluation period are equal to or greater than 25 tons/year for ROC or 25 tons/year for NOx.

   The evaluation period is a period of five consecutive calendar years consisting of the calendar year in which the application for such Part 70 permit modification is submitted to the District and the four calendar years immediately prior to the calendar year in which the application for such Part 70 permit modification is submitted to the District.

APPENDIX B – PROCESS FLOW DIAGRAM

B100
R100
AE-2008
AE-2007
PCV 2029
PCV 2028
MOV 2115
MOV 2114
P-2001
P-2000
HEAT TRACE
AG
UG
TRUCK OFFLOADING

FROM PIPELINE
TP 01
TP 02
TP 03
TP 04
TP 05
TP 06
TP 07
TP 09
10"x8"
GASO HEADER
DIESEL HEADER
MANIFOLD

TK-325
11,000 BBL
R100
P-325
TP 14
TP 18
TP 26
TP 27
TP 28
TP 29
Lubricity and Conductivity Skid
SOUTH RACK BAY 2

TK-331
7,515 BBL
B100
INSULATE
2" INSULATION THICKNESS
P-331
TP 19

TK-332
17,550 BBL
ULSD
TK-332
17,550 BBL
ULSD
P-332
TP 36
TP 37
TP 10
TP 13
TP 21
TP 25
TP 30
TP 31
TP 32
TP 33
SOUTH RACK BAY 1

NOTES:

1. P-325, P-331 & P-332 CAPACITY: 500GPM @ 120FT, 20HP

LEGEND:

NEW WORK
EXISTING
TP XX TIE-IN POINT

FLOW PATH	1	2	3
PRODUCT	R100	B100	ULSD
RATE (GPM)	1500-3750	500-1250	1230-1330

ISSUED FOR DESIGN
JUNE 01, 2020

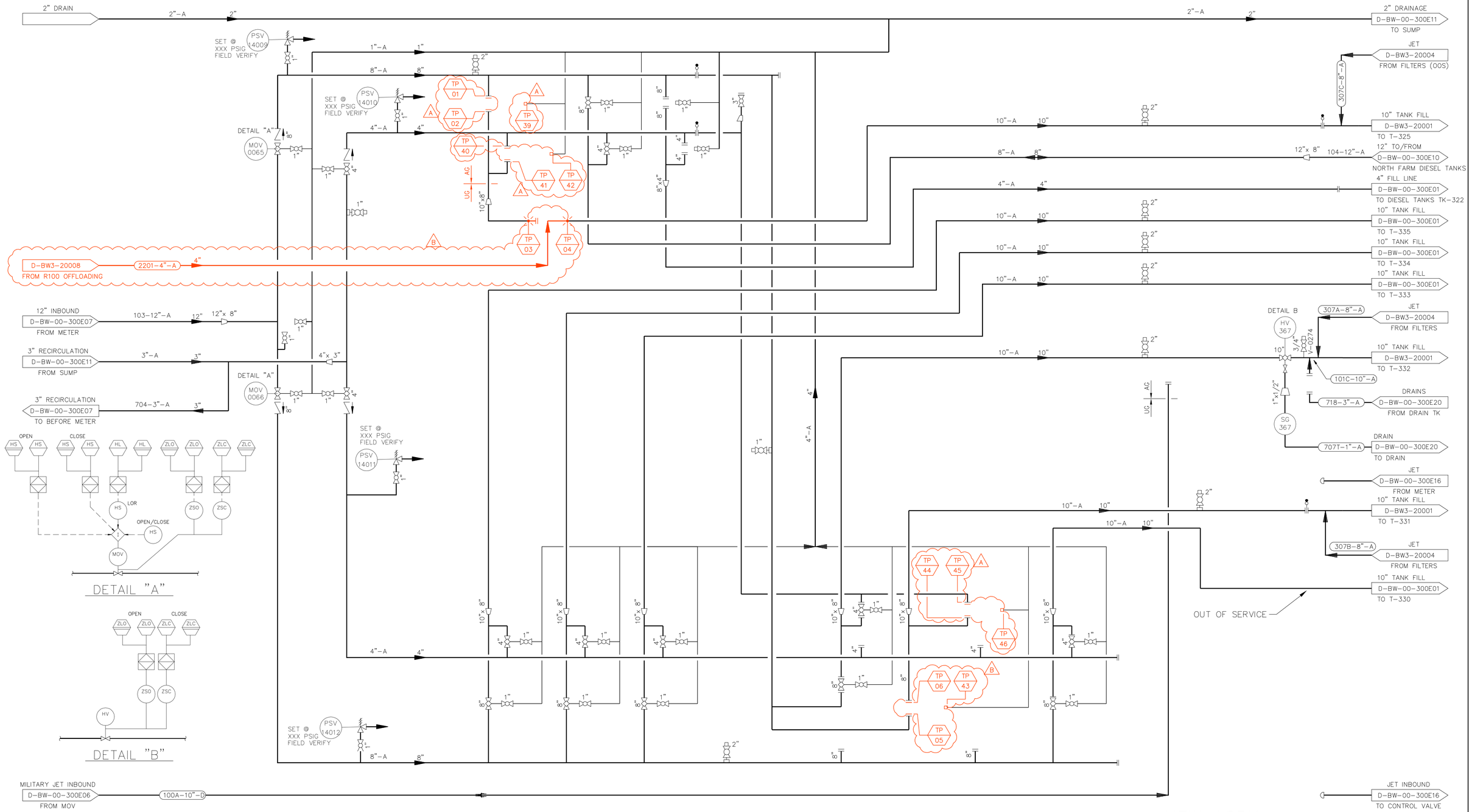
REVISION NUMBER	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT MGR.
B	06/01/20	ISSUED FOR DESIGN	DTN	MTG	HM
A	05/07/20	ISSUED FOR REVIEW	DTN	MTG	HM

SPEC SERVICES
SPEC Services, Inc.
17101 Bushard Street
Fountain Valley, CA 92708
(714) 963-8077
7770_PFD_0001:1

KINDER MORGAN
CALNEV PIPE LINE LLC
ENERGY PARTNERS, L.P.

DRAWN BY: DTN	DRAWING TITLE: PROCESS FLOW DIAGRAM
DATE: 05/04/20	
SCALE: NONE	JOB TITLE: RENEWABLE / BIODIESEL PROJECT SEQUENTIAL BLENDING
WORK ORDER No:	STATION/LOCATION: BARSTOW TERMINAL
REFR. RECORD DWG. No:	CADFILE: 7770_PFD_0001
	CONSTR. DWG. No: 7770-PFD-0001

PLOT BY: dnguyen
FILE: S:\7770\7770_PFD-0001.dwg
DATE: Jun 01, 2020 3:24pm



NEW WORK

LEGEND:

- CRFG-ULP
- ETHANOL
- "RED DYE" DIESEL
- CRFG-ULR
- CRFG-MID GRADE REG.
- = TURBINE METER
- = P.D. METER
- ELECTRICAL
- SOLENOID/CONTROL VALVE
- PROGRAMMABLE LOGIC CONTROLLER
- "TOPTECH" PANEL (NEW)
- = METER ID NO.
- CHECK VALVE
- LOADING POSITION
- BUTTERFLY VALVE
- FLOW CONDITIONING PLATE
- DOUBLE BLOCK AND BLEED VALVE
- SKILLET
- DEMOLITION
- NEW WORK
- EXISTING
- TIE-IN POINT

ISSUED FOR DESIGN
JUNE 01, 2020

SPEC SERVICES
SPEC Services, Inc.
17101 Bushard Street
Fountain Valley, CA 92708
(714) 963-8077
7770_D-BW3-20003 DEMO: 1

REVISION NUMBER	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT MGR.
B	06/01/20	ISSUED FOR DESIGN	DTN	MTG	HM
A	05/07/20	ISSUED FOR REVIEW	DTN	MTG	HM

KINDER MORGAN
CALNEV PIPE LINE LLC

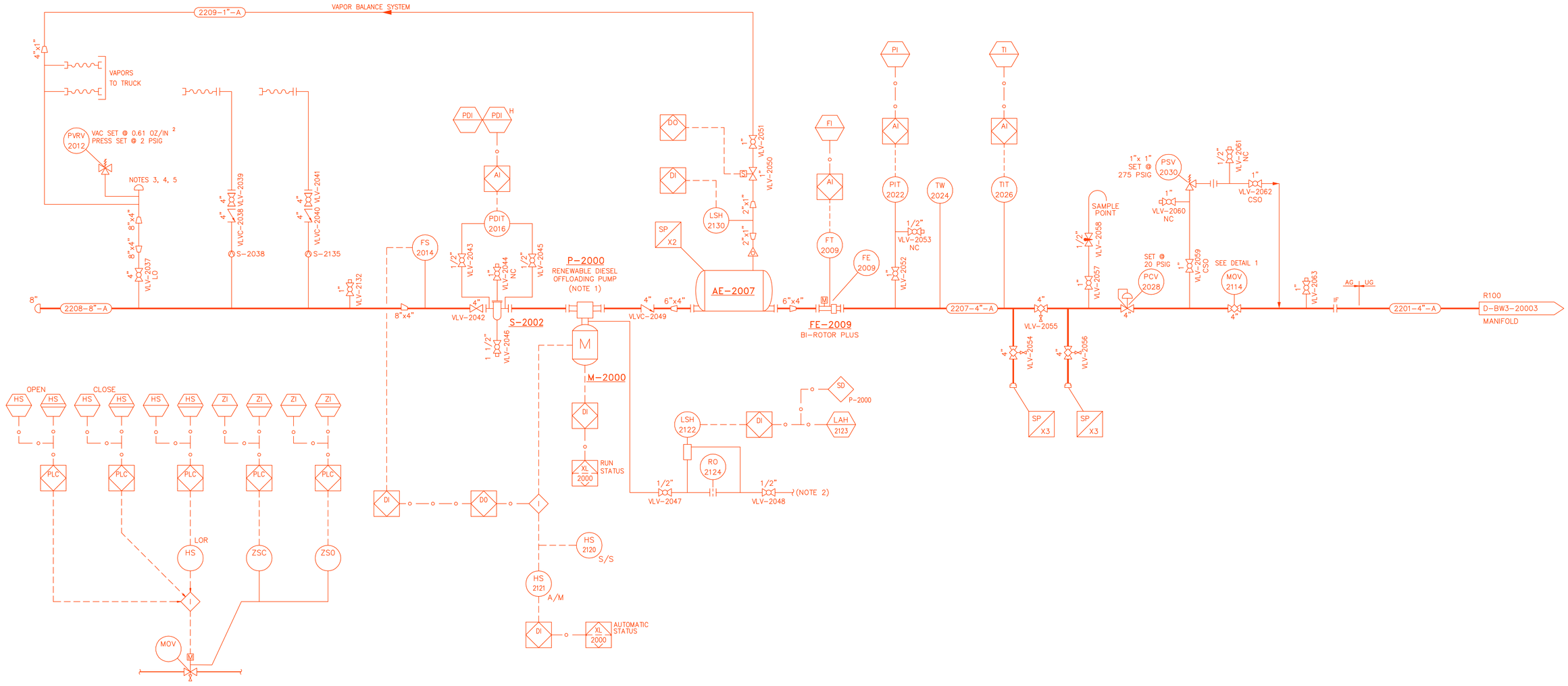
DRAWN BY: DTN	DRAWING TITLE: PIPING & INSTRUMENTATION DIAGRAM
DATE: 05/04/20	
SCALE: N.T.S.	JOB TITLE: RENEWABLE / BIODIESEL PROJECT
WORK ORDER No:	STATION/LOCATION: BARSTOW TERMINAL
REFR. RECORD DWG. No: D-BW-00-300E09	CADFILE: 7770_D-BW3-20003.dwg
	CONSTR. DWG. No: D-BW3-20003

PLOT BY: dnguyen
FILE: S:\7770\7770_D-BW3-20003.dwg
DATE: Jun 01, 2020 4:10pm

S-2002
R100 OFFLOADING STRAINER

AE-2007
AIR ELIMINATOR
MODEL: SMITH 3050
DIAMETER: 20"
LENGTH: 56"

FE-2009
BI-ROTOR PLUS C SERIES
MODEL: BRODIE
70 – 700 GPM



MOTOR OPERATED VALVE
DETAIL 1

P-2000
RENEWABLE DIESEL OFFLOADING PUMP
TYPE: POSITIVE DISPLACEMENT
MAT'L OF CONSTR: DI
DESIGN PRESS/TEMP:
CAPACITY: 345 GPM
MOTOR: 15 HP, 640 RPM
MFR. MODEL #: BLACKMER XL4

NOTES:

1. PRESSURE RELIEF RECIRCULATION VALVES ARE INTEGRATED WITH THE PUMP.
2. ROUTE TO PUMP DRIP PAN.
3. PVRV 12 FT ABOVE GRADE.
4. CAPPED TEE IN VERTICAL.
5. 8 INCH SECTION IS 2.5 FT LONG.

LEGEND:

- DEMOLITION
- NEW WORK
- EXISTING
- TP XX — TIE-IN POINT

ISSUED FOR DESIGN
JUNE 01, 2020

NEW WORK

SPEC SERVICES
SPEC Services, Inc.
17101 Bushard Street
Fountain Valley, CA 92708
(714) 963-8077
7770_D-BW3-20008.t

REVISION NUMBER	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT MGR.
B	06/01/20	ISSUED FOR DESIGN	DTN	MTG	HM
A	05/07/20	ISSUED FOR REVIEW	DTN	MTG	HM

KINDER MORGAN
CALNEV PIPE LINE LLC

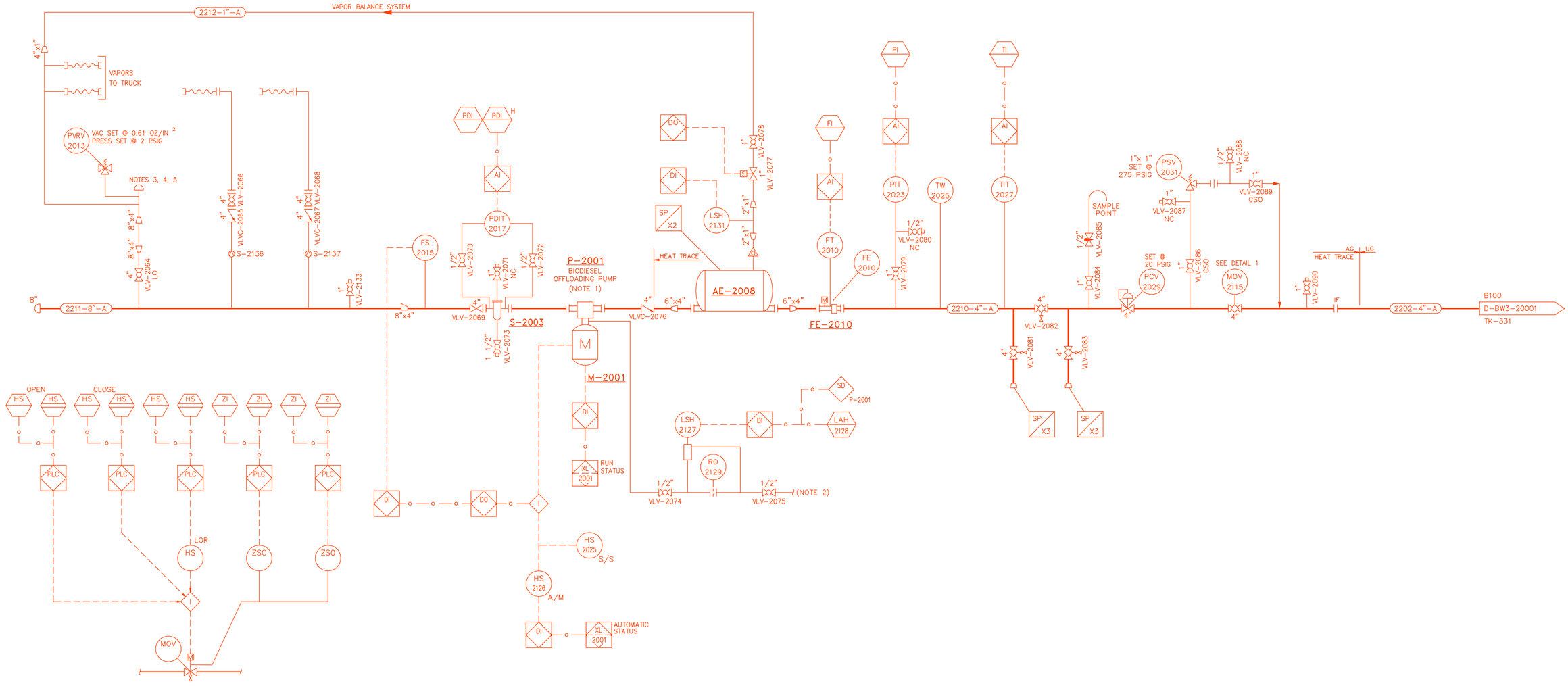
DRAWN BY: DTN	DRAWING TITLE: PIPING & INSTRUMENTATION DIAGRAM RENEWABLE DIESEL OFFLOAD
DATE: 05/04/20	
SCALE: N.T.S.	JOB TITLE: RENEWABLE / BIODIESEL PROJECT
WORK ORDER No:	STATION/LOCATION: BARSTOW TERMINAL
REFR. RECORD DWG. No: NEW	CADFILE: 7770_D-BW3-20008.dwg
	CONSTR. DWG. No: D-BW3-20008

FILE: S:\7770\7770_D-BW3-20008.dwg PLOT BY: dnguyen
DATE: Jun 01, 2020 4:27pm

S-2003
B100 OFFLOADING STRAINER

AE-2008
AIR ELIMINATOR
MODEL: SMITH 3050
DIAMETER: 20"
LENGTH: 56"

FE-2010
BI-ROTOR PLUS C SERIES
MODEL: BRODIE
70 – 700 GPM



MOTOR OPERATED VALVE DETAIL 1

P-2001
BIODIESEL OFFLOADING PUMP
TYPE: POSITIVE DISPLACEMENT
MAT'L OF CONSTR: DI
DESIGN PRESS/TEMP:
CAPACITY: 345 GPM
MOTOR: 15 HP, 640 RPM
MFR. MODEL #: BLACKMER XL4

NOTES:

1. PRESSURE RELIEF RECIRCULATION VALVES ARE INTEGRATED WITH THE PUMP.
2. ROUTE TO PUMP DRIP PAN.
3. PVRV 12 FT ABOVE GRADE.
4. CAPPED TEE IN VERTICAL.
5. 8 INCH SECTION IS 2.5 FT LONG.

LEGEND:

- DEMOLITION
- NEW WORK
- EXISTING
- TP XX — TIE-IN POINT

ISSUED FOR DESIGN
JUNE 01, 2020

NEW WORK

SPEC SERVICES
SPEC Services, Inc.
17101 Bushard Street
Fountain Valley, CA 92708
(714) 963-8077
7770_D-BW3-20009: t

REVISION NUMBER	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT MGR.
B	06/01/20	ISSUED FOR DESIGN	DTN	MTG	HM
A	05/07/20	ISSUED FOR REVIEW	DTN	MTG	HM

KINDER MORGAN
CALNEV PIPE LINE LLC

DRAWN BY: DTN	DRAWING TITLE: PIPING & INSTRUMENTATION DIAGRAM BIODIESEL OFFLOAD
DATE: 05/04/20	
SCALE: N.T.S.	JOB TITLE: RENEWABLE / BIODIESEL PROJECT
WORK ORDER No:	STATION/LOCATION: BARSTOW TERMINAL
REFR. RECORD DWG. No: NEW	CADFILE: 7770_D-BW3-20009.dwg
	CONSTR. DWG. No: D-BW3-20009

FILE: S:\7770\7770_D-BW3-20009.dwg PLOT BY: dnguyen
DATE: Jun 01, 2020 4:33pm

APPENDIX C – SAFETY DATA SHEET

Safety Data Sheet
OLI-9181.x

1. Product and company identification

Product name	:	OLI-9181.x
Material uses	:	Petrochemical industry: Fuel additive.
Internal code	:	IFS0103
System code	:	IFS0103
Date of issue/Date of revision	:	2019-03-19
Date of previous issue	:	2019-03-19
Version	:	1.12
Supplier	:	Innospec Fuel Specialties LLC 8310 South Valley Highway Suite 350 Englewood CO, 80112 USA
Information contact	:	1-800-441-9547
e-mail address of person responsible for this SDS	:	sdsinfo@innospecinc.com
NON-emergency enquiries	:	corporatecommunications@innospecinc.com

Emergency telephone number

In USA, Canada and North America, 24 hour / 7 day emergency information for our product is provided by the CHEMTREC® Emergency Call Center based in the USA

Country information	:	**Emergency telephone number**
USA, Canada, Puerto Rico, Virgin Islands	:	+1 800 424 9300
In case of difficulties, or for ships at sea	:	+1 703 527 3887

In Europe, Middle East, Africa, Asia Pacific and South America 24 hour / 7 day emergency response for our products is provided by the NCEC CARECHEM 24 global network

The main regional centres are listed here in Section 1.
Other local contact numbers for specific language support in Asia Pacific are listed in Section 16

Country information	:	**Emergency telephone number**	**Location**
South America (all countries)	:	+1 215 207 0061	Philadelphia USA
Brazil	:	+55 11 3197 5891	Brazil
Mexico	:	+52 555 004 8763	Mexico
Europe (all countries) Middle East, Africa (French, Portuguese, English)	:	+44 (0) 1235 239 670	London, UK
Middle East, Africa (Arabic, French, English)	:	+44 (0) 1235 239 671	Lebanon
Asia Pacific (all countries except China)	:	+65 3158 1074	Singapore
China	:	+86 10 5100 3039	Beijing China

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H226 - Flammable liquid and vapor.
H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H351 - Suspected of causing cancer.

Precautionary statements

Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P233 - Keep container tightly closed.
P264 - Wash hands thoroughly after handling.

Response : P308 + P313 - IF exposed or concerned: Get medical attention.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
P332 + P313 - If skin irritation occurs: Get medical attention.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical attention.

Storage : P405 - Store locked up.
P403 - Store in a well-ventilated place.
P235 - Keep cool.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Target organs : Contains material which causes damage to the following organs: upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.
Contains material which may cause damage to the following organs: blood, kidneys, the nervous system, liver, gastrointestinal tract, ears.

Section 2. Hazards identification

See toxicological information (Section 11)

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Xylene	15 - 30	1330-20-7
Benzene, ethylenated, residues, distn. lights	4.99 - 9.99	178535-25-6
Solvent naphtha (petroleum), heavy arom.	4.99 - 9.99	1189173-42-9 [64742-94-5]
ethylbenzene	0.99 - 4.99	100-41-4
naphthalene	0.09 - 0.99	91-20-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Additional information

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Remove dentures if any. Wash out mouth with water. Stop if the exposed person feels sick as vomiting may be dangerous. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation.

Ingestion : No known significant effects or critical hazards.

Section 4. First aid measures

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Flash point : Closed cup: 39.444°C (103°F) [Pensky-Martens.]

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Xylene	**ACGIH TLV (United States, 3/2018).** TWA: 100 ppm, 0 times per shift, 8 hours. TWA: 434 mg/m³, 0 times per shift, 8 hours. STEL: 150 ppm, 0 times per shift, 15 minutes. STEL: 651 mg/m³, 0 times per shift, 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 100 ppm, 0 times per shift, 8 hours. TWA: 435 mg/m³, 0 times per shift, 8 hours. STEL: 150 ppm, 0 times per shift, 15 minutes. STEL: 655 mg/m³, 0 times per shift, 15 minutes. **OSHA PEL (United States, 5/2018).** TWA: 100 ppm, 0 times per shift, 8 hours. TWA: 435 mg/m³, 0 times per shift, 8 hours.
ethylbenzene	**ACGIH TLV (United States, 3/2018).** TWA: 20 ppm, 0 times per shift, 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 100 ppm, 0 times per shift, 8 hours. TWA: 435 mg/m³, 0 times per shift, 8 hours. STEL: 125 ppm, 0 times per shift, 15 minutes. STEL: 545 mg/m³, 0 times per shift, 15 minutes. **NIOSH REL (United States, 10/2016).** TWA: 100 ppm, 0 times per shift, 10 hours. TWA: 435 mg/m³, 0 times per shift, 10 hours. STEL: 125 ppm, 0 times per shift, 15 minutes. STEL: 545 mg/m³, 0 times per shift, 15 minutes. **OSHA PEL (United States, 5/2018).** TWA: 100 ppm, 0 times per shift, 8 hours. TWA: 435 mg/m³, 0 times per shift, 8 hours.
naphthalene	**ACGIH TLV (United States, 3/2018). Absorbed through skin.** TWA: 10 ppm, 0 times per shift, 8 hours. TWA: 52 mg/m³, 0 times per shift, 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 10 ppm, 0 times per shift, 8 hours. TWA: 50 mg/m³, 0 times per shift, 8 hours. STEL: 15 ppm, 0 times per shift, 15 minutes. STEL: 75 mg/m³, 0 times per shift, 15 minutes. **NIOSH REL (United States, 10/2016).** TWA: 10 ppm, 0 times per shift, 10 hours. TWA: 50 mg/m³, 0 times per shift, 10 hours. STEL: 15 ppm, 0 times per shift, 15 minutes. STEL: 75 mg/m³, 0 times per shift, 15 minutes. **OSHA PEL (United States, 5/2018).** TWA: 10 ppm, 0 times per shift, 8 hours. TWA: 50 mg/m³, 0 times per shift, 8 hours.

Section 8. Exposure controls/personal protection

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Clear. Amber.

Odor : Aromatic.

Odor threshold : Not available.

pH : Not available.

Melting point/freezing point : Not available.

Section 9. Physical and chemical properties

Boiling point : Lowest known value: 136.05°C (276.9°F) (ethylbenzene). Weighted average: 163.6°C (326.5°F)

Flash point : Closed cup: 39.444°C (103°F) [Pensky-Martens.]

Evaporation rate : Highest known value: 0.84 (ethylbenzene) Weighted average: 0.65compared with butyl acetate

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Greatest known range: Lower: 0.6% Upper: 7% (Solvent naphtha (petroleum), heavy arom.)

Vapor pressure : Highest known value: 1.2 kPa (9.3 mm Hg) (at 20°C) (ethylbenzene). Weighted average: 0.62 kPa (4.65 mm Hg) (at 20°C)

Vapor density : Highest known value: 5.5 (Air = 1) (Benzene, ethylenated, residues, distn. lights). Weighted average: 4.2 (Air = 1)

Specific gravity : 0.965 [ASTM D 4052]

Density : 8.04 lbs/gal

Solubility : Insoluble in the following materials: cold water, hot water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Lowest known value: 400°C (752°F) (Benzene, ethylenated, residues, distn. lights).

Decomposition temperature : Not available.

Viscosity : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Species	Result	Dose	
Xylene	-	Rabbit	LD50 Dermal	4320 mg/kg	-
	-	Rat	LD50 Oral	4300 mg/kg	-
Solvent naphtha (petroleum), heavy arom.	-	Rat	LC50 Inhalation Vapor	>590 mg/m³	4 hours
	-	Rabbit	LD50 Dermal	>2 mL/kg	-
	-	Rabbit	LD50 Dermal	2000 mg/kg	-
	-	Rat	LDLo Oral	5 mL/kg	-
ethylbenzene	-	Mouse	LC50 Inhalation Vapor	35500 mg/m³	2 hours
	-	Rabbit	LC50 Inhalation	4000 ppm	4 hours

Section 11. Toxicological information

	-	Rabbit	Vapor LD50 Dermal	>5000 mg/kg	-
naphthalene	-	Rat	LC50 Inhalation Vapor	>340 mg/m³	1 hours
	-	Rabbit	LD50 Dermal	>2000 mg/kg	-
	-	Rat	LD50 Oral	490 mg/kg	-

Potential chronic health effects

Not available.

Irritation/Corrosion

Product/ingredient name	Test	Species	Result	
Xylene	-	Rabbit	Eyes - Severe irritant	-
	-	Rat	Skin - Mild irritant	-
	-	Rabbit	Skin - Moderate irritant	-
Solvent naphtha (petroleum), heavy arom.	-	Rabbit	Skin - Mild irritant	-
	-	Mammal - species unspecified	Eyes - Mild irritant	-
ethylbenzene	-	Rabbit	Eyes - Severe irritant	-
	-	Rabbit	Skin - Mild irritant	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP
Xylene	-	3	-
ethylbenzene	-	2B	-
naphthalene	-	2B	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Solvent naphtha (petroleum), heavy arom.	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Section 11. Toxicological information

Name	Result
Xylene	ASPIRATION HAZARD - Category 1
Benzene, ethylenated, residues, distn. lights	ASPIRATION HAZARD - Category 1
Solvent naphtha (petroleum), heavy arom.	ASPIRATION HAZARD - Category 1

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Xylene	Acute LC50 3.3 mg/l	Fish	96 hours
Benzene, ethylenated, residues, distn. lights	Acute EC50 6.2 mg/l (growth rate) Fresh water	Algae	72 hours WAF
	Acute EC50 1.3 mg/l Fresh water	Daphnia	48 hours WAF
Solvent naphtha (petroleum), heavy arom.	Acute EC50 1 to 3 mg/l	Algae	72 hours
	Acute EC50 3 to 10 mg/l	Daphnia	48 hours
	Acute LC50 2 to 5 mg/l	Fish	96 hours
ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 7.2 mg/l	Algae	48 hours
	Acute EC50 2.93 mg/l	Daphnia	48 hours
	Acute LC50 4.2 mg/l	Fish	96 hours
	Chronic NOEC <1000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Chronic NOEC 6800 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
naphthalene	Acute EC50 1.96 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 2350 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 1.6 mg/l	Fish	96 hours
	Chronic NOEC 0.5 mg/l Marine water	Crustaceans - Uca pugnax - Adult	3 weeks
	Chronic NOEC 1.5 mg/l Fresh water	Fish - Oreochromis mossambicus	60 days

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Xylene	-	-	Readily
Benzene, ethylenated, residues, distn. lights	-	-	Not readily
Solvent naphtha (petroleum), heavy arom.	-	-	Inherent
ethylbenzene	-	-	Readily

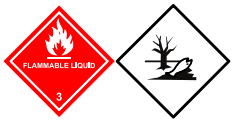
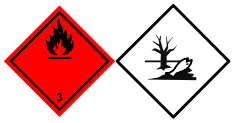
Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene	3.12 to 3.2	8.1 to 25.9	low
Solvent naphtha (petroleum), heavy arom.	-	<100	low
ethylbenzene	3.1	-	low
naphthalene	3.3	>100	low

Section 13. Disposal considerations

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	NA1993	UN1993	UN1993
UN proper shipping name	Combustible liquid, n.o.s. (xylene, ethylbenzene). Marine pollutant (Solvent naphtha (petroleum), heavy arom., Benzene, ethylenated, residues, distn. lights) RQ (xylene, naphthalene)	FLAMMABLE LIQUID, N.O.S. (xylene, ethylbenzene). Marine pollutant (Solvent naphtha (petroleum), heavy arom., Benzene, ethylenated, residues, distn. lights)	Flammable liquid, n.o.s. (xylene, ethylbenzene)
Transport hazard class(es)	Combustible liquid. 	3 	3 
Packing group	III	III	III
Environmental hazards	Yes.	Yes.	No.
Additional information	Non-bulk packages (less than or equal to 119 gal) of combustible liquids, that are marine pollutants, are not regulated as hazardous materials in package sizes less than the product reportable quantity, unless transported by vessel. This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules (EmS)** F-E, _S-E_ **Special provisions** 223, 274, 955	The environmentally hazardous substance mark may appear if required by other transportation regulations. **Passenger and Cargo Aircraft** Quantity limitation: 60 L Packaging instructions: 355 **Cargo Aircraft Only** Quantity limitation: 220 L Packaging instructions: 366 **Limited Quantities - Passenger Aircraft** Quantity limitation: 10 L Packaging instructions: Y344 **Special provisions** A3

Section 14. Transport information

	general provisions of §§ 173.24 and 173.24a. **Reportable quantity** 520.83 lbs / 236.46 kg [64.731 gal / 245.03 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements. **Limited quantity** Yes. **Packaging instruction** **Passenger aircraft** Quantity limitation: 60 L **Cargo aircraft** Quantity limitation: 220 L **Special provisions** 148, IB3, T1, TP1		

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.
Clean Water Act (CWA) 307: naphthalene; ethylbenzene; toluene; chloromethane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ (lbs)	SARA 302 TPQ (gallons)	SARA 304 RQ (lbs)	SARA 304 RQ (gallons)
sulphuric acid	0 - 0.09	Yes.	1000	66.3	1000	66.3
sulphur dioxide	0 - 0.09	Yes.	500	-	500	-

SARA 304 RQ : 101968605.9 lbs / 46293747.1 kg [12673071.7 gal / 47972794.9 L]

SARA 311/312

Section 15. Regulatory information

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Xylene	15 - 30	Yes.	No.	No.	Yes.	No.
Benzene, ethylenated, residues, distn. lights	4.99 - 9.99	No.	No.	No.	Yes.	No.
Solvent naphtha (petroleum), heavy arom.	4.99 - 9.99	Yes.	No.	No.	Yes.	No.
ethylbenzene	0.99 - 4.99	Yes.	No.	No.	Yes.	Yes.
naphthalene	0.09 - 0.99	No.	No.	No.	Yes.	Yes.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	xylene ethylbenzene naphthalene	1330-20-7 100-41-4 91-20-3	15 - 30 0.99 - 4.99 0.09 - 0.99
Supplier notification	xylene ethylbenzene naphthalene	1330-20-7 100-41-4 91-20-3	15 - 30 0.99 - 4.99 0.09 - 0.99

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: ETHYL BENZENE; ETHYLBENZENE; XYLENE; DIMETHYLBENZENE

New York : The following components are listed: Naphthalene; Ethylbenzene; Xylene mixed

New Jersey : The following components are listed: NAPHTHALENE; MOTH FLAKES; ETHYL BENZENE; BENZENE, ETHYL-; XYLENES; BENZENE, DIMETHYL-

Pennsylvania : The following components are listed: NAPHTHALENE; BENZENE, ETHYL-; BENZENE, DIMETHYL-

California Prop. 65 : **WARNING:** This product contains a chemical known to the State of California to cause cancer.
WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level	Contains : % or ppm
ethylbenzene	Yes.	No.	41 µg/day (ingestion) 54 µg/day (inhalation)	No.	0.99 - 4.99
naphthalene	Yes.	No.	Yes.	No.	0.09 - 0.99
toluene	No.	Yes.	No.	7000 µg/day (ingestion)	<100ppm

Section 15. Regulatory information

				13000 µg/day (inhalation)	
cumene	Yes.	No.	No.	No.	<100ppm
methanol	No.	Yes.	No.	23000 µg/day (ingestion) 47000 µg/day (inhalation)	<10ppm
sulfuric acid	Yes.	No.	No.	No.	<10ppm
sulphur dioxide	No.	Yes.	No.	Yes.	<1ppm
chloromethane	No.	Yes.	No.	No.	<1ppm

International lists

National inventory

Australia inventory (AICS) : All components are listed or exempted.

Canada inventory : All components are listed or exempted.

China inventory (IECSC) : All components are listed or exempted.

Europe inventory : At least one component is not listed in EINECS but all such components are listed in ELINCS.
Please contact your supplier for information on the inventory status of this material.

Japan inventory (ENCS) : **Japan inventory (ENCS)**: All components are listed or exempted.
Japan inventory (ISHL): All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC) : All components are listed or exempted.

Philippines inventory (PICCS) : At least one component is not listed.

Korea inventory (KECI) : Not determined.

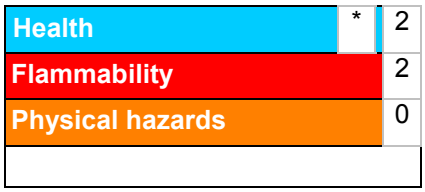
Taiwan inventory (TCSI) : All components are listed or exempted.

United States inventory (TSCA 8b) : All components are listed or exempted.

Our REACH (pre-) registrations DO NOT cover the following:
1. The manufacture of these products by our company outside the EU unless covered by the Only Representative provisions, and
2. The importation of these products into Europe by other companies. Re-importation by other companies is not covered by our (pre-) registrations
Customers and other third parties importing and/or re-importing our products into Europe will need either:
- Their own (pre-) registration for substances contained in the imported product, or constituent monomers (imported above 1 tonne per year and >2% by weight) in the case of imported polymers, or
- In the case of importation only, to make use of the "Only Representative" provisions, if available.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Section 16. Other information

History

Date of printing : 2019-03-19

Date of issue/Date of revision : 2019-03-19

Date of previous issue : 2019-03-19

Version : 1.12

Key to abbreviations :
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

SDS ID NO.: 0282MAR019
Revision Date 03/16/2016

1. IDENTIFICATION

Product Name: Marathon Petroleum Biodiesel B100

Synonym: B100 Biodiesel; Virgin Biodiesel; Soy Biodiesel; Rapeseed Biodiesel; Tallow Biodiesel; Canola Biodiesel; Soybean Esters B100 Biodiesel; SME, Soy Methyl Ester; Biodiesel; Biomass Based Diesel; Fatty Acid Methyl Esters

Product Code: 0282MAR019

Chemical Family: Fatty Acid Methyl Esters

Recommended Use: Fuel.

Restrictions on Use: All others.

Manufacturer, Importer, or Responsible Party Name and Address:

MARATHON PETROLEUM COMPANY LP
539 South Main Street
Findlay, OH 45840

SDS information: 1-419-421-3070

Emergency Telephone: 1-877-627-5463

2. HAZARD IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin sensitization	Category 1B
Aspiration toxicity	Category 1
Acute aquatic toxicity	Category 2

Hazards Not Otherwise Classified (HNOC)
Not applicable.

Label elements

EMERGENCY OVERVIEW

Danger

May be fatal if swallowed and enters airways
May cause an allergic skin reaction
Toxic to aquatic life

Appearance Clear Liquid **Physical State** Liquid **Odor** No data available.

Precautionary Statements - Prevention
Avoid breathing mist/vapors/spray
Wear protective gloves
Contaminated work clothing should not be allowed out of the workplace
Avoid release to the environment

Precautionary Statements - Response
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical attention
Wash contaminated clothing before reuse
IF SWALLOWED: Immediately call a POISON CENTER or doctor
Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container at an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Biodiesel is a complex mixture of C16-C18 methyl esters derived from the processing of vegetable oils.

Composition Information:

Name	CAS Number	% Concentration
Biodiesel (Soybean derived)	67784-80-9	98.7-99.9

All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

4. FIRST AID MEASURES

First Aid Measures

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show directions for use or safety data sheet if possible).

Inhalation: Move victim to fresh air. Provide respiratory support, if necessary. Get medical attention if cough or other respiratory symptoms develop.

Skin Contact: Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation or rash occurs. Wash contaminated clothing before re-use.

Eye Contact: Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Gently remove contacts while flushing. Get medical attention if irritation persists.

Ingestion: If swallowed, DO NOT induce vomiting. If spontaneous vomiting occurs, keep head below hips, or if patient is lying down, turn body and head to side to prevent aspiration and monitor for breathing difficulty. Get immediate medical attention.

Most important signs and symptoms, both short-term and delayed with overexposure

Adverse Effects: May cause sensitization by skin contact. Aspiration hazard. May cause coughing, chest pains, shortness of breath, pulmonary edema and/or chemical pneumonitis. Repeated or prolonged skin contact may cause drying, reddening, itching and cracking. Preexisting skin conditions and/or respiratory disorders may be aggravated by exposure to this product.

Indication of any immediate medical attention and special treatment needed

Notes To Physician: INGESTION: Do not induce vomiting. Low viscosity product can be sucked into the lungs and cause damage after swallowing or vomiting. The metabolism of fatty acid methyl ester may release free methanol in the body that could induce metabolic acidosis with delayed effects. If a large amount of product is ingested, i.e. several ounces, consider the use of ethanol or fomepizole (Antizol) and hemodialysis. Consult standard literature or contact a poison control center for treatment details.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
For small fires, Class B fire extinguishing media such as CO2, dry chemical, foam or water spray can be used. For large fires, water spray, fog or foam can be used. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Unsuitable extinguishing media
Do not use straight water streams to avoid spreading fire.

Specific hazards arising from the chemical
This product is not a flammable liquid per the OSHA Hazard Communication Standard, but may ignite and/or burn at temperatures exceeding the flash point. Spontaneous combustion may occur under high temperature, closed conditions if material is absorbed in various fiber matrices and oxygen is present (e.g. oily rags).

Hazardous combustion products
Smoke, carbon monoxide, and other products of incomplete combustion.

Explosion data
Sensitivity to Mechanical Impact No.
Sensitivity to Static Discharge No.

Special protective equipment and precautions for firefighters
Firefighters should wear full protective clothing and positive-pressure self-contained breathing apparatus (SCBA) with a full face-piece, as appropriate. Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Keep run-off water out of sewers and water sources.

Additional firefighting tactics
Not applicable.

NFPA	Health 2	Flammability 1	Instability 0	Special Hazard -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. All contaminated surfaces will be slippery.

Protective equipment: Use personal protection measures as recommended in Section 8.

Emergency procedures: Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if

appropriate.

Environmental precautions: Avoid release to the environment. Avoid subsoil penetration.

Methods and materials for containment: Contain liquid with sand or soil.

Methods and materials for cleaning up: Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids. Recover and return free product to proper containers. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Safe Handling Precautions: NEVER SIPHON THIS PRODUCT BY MOUTH. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Avoid repeated and prolonged skin contact. Do not cut, drill, grind or weld on empty containers since explosive residues may remain. Refer to applicable EPA, OSHA, NFPA and consistent state and local requirements.

Storage Conditions: Store in properly closed containers that are appropriately labeled and in a cool, well-ventilated area. Store wiping rags in metal cans with tightly fitting lids. Corrosion and microbial growth are promoted by the presence of water. Avoid contamination by storing in water-free tanks with scheduled water drainage. Contact with copper/alloys, lead, tin and zinc may result in increased sediment and deposits that can plug filters. Degradation can be avoided by preventing temperature extremes and the presence of air during storage.

Incompatible Materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	ACGIH TLV	OSHA PELS:	OSHA - Vacated PELs	NIOSH IDLH
Biodiesel (Soybean derived) 67784-80-9	-	-	-	-

Notes: The manufacturer has voluntarily elected to provide exposure limits contained in OSHA's 1989 air contaminants standard in its SDSs, even though certain of those exposure limits were vacated in 1992.

Engineering measures: Ensure adequate ventilation, especially in confined areas. Local or general exhaust required when using at elevated temperatures that generate vapors or mists. Use mechanical ventilation equipment that is explosion-proof.

Personal protective equipment

Eye protection: Use goggles or face-shield if the potential for splashing exists.

Skin and body protection: Wear neoprene, nitrile or PVA gloves to prevent skin contact. Glove suitability is based on workplace conditions and usage. Contact the glove manufacturer for specific advice on glove selection and breakthrough times.

Respiratory protection: Breathing apparatus needed when aerosol or mist is formed. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 29 CFR 1910.134. Self-contained breathing apparatus should be used for fire fighting.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State Liquid
Appearance Clear Liquid

Color	Clear
Odor	No data available.
Odor Threshold	No data available.

Property	**Values (Method)**
Melting Point / Freezing Point	No data available.
Initial Boiling Point / Boiling Range	288-366 °C / 550-690 °F (ASTM D1160)
Flash Point	171-199 °C / 340-390 °F (ASTM D93)
Evaporation Rate	No data available.
Flammability (solid, gas)	Not applicable.
Flammability Limit in Air (%):	
Upper Flammability Limit:	No data available.
Lower Flammability Limit:	No data available.
Explosion limits:	No data available.
Vapor Pressure	No data available.
Vapor Density	No data available.
Specific Gravity / Relative Density	0.88
Water Solubility	No data available.
Solubility in other solvents	No data available.
Partition Coefficient	No data available.
Decomposition temperature	No data available.
pH:	Not applicable.
Autoignition Temperature	374-449 °C / 705-840 °F
Kinematic Viscosity	3.90-4.05 cSt @ 40°C (ASTM D445)
Dynamic Viscosity	No data available.
Explosive Properties	No data available.
VOC Content (%)	No data available.
Density	No data available.
Bulk Density	Not applicable.

10. STABILITY AND REACTIVITY

Reactivity	The product is non-reactive under normal conditions.
Chemical stability	The material is stable at 70°F (21°C), 760 mmHg pressure.
Possibility of hazardous reactions	None under normal processing.
Hazardous polymerization	Will not occur.
Conditions to avoid	Excessive heat, sources of ignition, open flame. Water contamination during storage.
Incompatible Materials	Strong oxidizing agents.
Hazardous decomposition products	None known under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Potential short-term adverse effects from overexposures

Inhalation	Excessive inhalation of mist may result in respiratory irritation. Overheating may produce vapors which may cause respiratory irritation, dizziness and nausea.
Eye contact	Produces little or no irritation on direct contact with the eye.
Skin contact	May cause sensitization by skin contact. Prolonged and repeated contact may cause defatting and drying of the skin and may lead to irritation and/or dermatitis.
Ingestion	Ingestion of large amounts may cause gastrointestinal disturbances. Aspiration into lungs may cause chemical pneumonia and lung damage.

Acute toxicological data

Name	Oral LD50	Dermal LD50	Inhalation LC50
Biodiesel (Soybean derived) 67784-80-9	> 5000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

BIODIESEL (SOYBEAN DERIVED): Dermal sensitization study (Guinea Pigs) repeat insult patch procedure with induction and challenge patches indicated a positive sensitization response.

Adverse effects related to the physical, chemical and toxicological characteristics

Signs and Symptoms May cause allergic skin reaction. Symptoms may include redness, itching, and inflammation. Aspiration hazard. May cause coughing, chest pains, shortness of breath, pulmonary edema and/or chemical pneumonitis. Repeated or prolonged skin contact may cause drying, reddening, itching and cracking. Preexisting skin conditions and/or respiratory disorders may be aggravated by exposure to this product.

Sensitization May cause sensitization by skin contact. Not expected to be a respiratory sensitizer.

Mutagenic effects None known.

Carcinogenicity None known.

Cancer designations are listed in the table below

Name	ACGIH (Class)	IARC (Class)	NTP	OSHA
Biodiesel (Soybean derived) 67784-80-9	Not Listed	Not Listed	Not Listed	Not Listed

Reproductive toxicity None known.

Specific Target Organ Toxicity (STOT) - single exposure Not classified.

Specific Target Organ Toxicity (STOT) - repeated exposure Not classified.

Aspiration hazard May be fatal if swallowed or vomited and enters airways.

12. ECOLOGICAL INFORMATION

Ecotoxicity The 24-hour LC50 for biodiesel is 4.65 mg/L in Daphnia magna (water flea) juveniles (J. Air & Waste Manage. Assoc. 57:286–296). This product should be considered toxic to aquatic organisms.

Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Biodiesel (Soybean derived) 67784-80-9	-	-	-	-

Persistence and degradability Expected to be readily biodegradable under aerobic conditions.

Bioaccumulation Not expected to bioaccumulate in aquatic organisms.

Mobility in soil May partition into air, soil and water.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Description of Waste Residues
Long-term storage may result in decomposition of the oil and could result in a rancid odor.

Safe Handling of Wastes
Handle in accordance with applicable local, state, and federal regulations. Use personal protection measures as required. Do not expose to heat, open flames, strong oxidizers or other sources of ignition.

Disposal of Wastes / Methods of Disposal
The user is responsible for determining if any discarded material is a hazardous waste (40 CFR 262.11). Dispose of in accordance with federal, state and local regulations.

Methods of Contaminated Packaging Disposal
Empty containers should be completely drained and then discarded or recycled, if possible. Do not cut, drill, grind or weld on empty containers since explosive residues may be present. Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT (49 CFR 172.101):

UN Proper Shipping Name:	Not Regulated
UN/Identification No:	Not applicable
Class:	Not applicable.
Packing Group:	Not applicable.

TDG (Canada):

UN Proper Shipping Name:	Not Regulated
UN/Identification No:	Not applicable.
Transport Hazard Class(es):	Not applicable.
Packing Group:	Not applicable.

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product does not contain any component(s) included on EPA's Extremely Hazardous Substance (EHS) List.

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Biodiesel (Soybean derived)	NA

SARA Section 304: This product may contain component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	Hazardous Substances RQs
Biodiesel (Soybean derived)	NA

SARA Section 311/312: The following EPA hazard categories apply to this product:

Acute Health Hazard

SARA Section 313: This product may contain component(s), which if in exceedance of the de minimus threshold, may be subject to the reporting requirements of SARA Title III Section 313 Toxic Release Reporting (Form R).

Name	CERCLA/SARA 313 Emission reporting:

Biodiesel (Soybean derived)	None

State and Community Right-To-Know Regulations:
The following component(s) of this material are identified on the regulatory lists below:

Biodiesel (Soybean derived)

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed
Pennsylvania Right-To-Know:	Not Listed
Massachusetts Right-To Know:	Not Listed
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Not Listed
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants:	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Canadian Regulatory Information: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Biodiesel (Soybean derived)	D2B	1%

Note: Not applicable.

16. OTHER INFORMATION

Prepared By Toxicology and Product Safety

Revision Notes

Revision Date 03/16/2016
Revised Sections The following sections (§) have been updated:
2. HAZARD IDENTIFICATION
3. COMPOSITION/INFORMATION ON INGREDIENTS
4. FIRST AID MEASURES
9. PHYSICAL AND CHEMICAL PROPERTIES
11. TOXICOLOGICAL INFORMATION
12. ECOLOGICAL INFORMATION

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is intended as guidance for safe handling, use, processing, storage, transportation, accidental release, clean-up and disposal and is not considered a warranty or quality specification. The

information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

A subsidiary of Seaboard Foods

SAFETY DATA SHEET

1. CHEMICAL PRODUCT

General Product Name: **Biodiesel (B99.9)**

CONTACT:
High Plains Bioenergy
3300 NE 32nd Street
Guymon, Oklahoma 73942
USA

Chris Evans
580-468-3790 ext. 236

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2. HAZARDS IDENTIFICATION

GHS Classification: Not Classified

Signal Word: Not Classified

Hazard Symbols: Not Applicable

NFPA/HMIS Ratings: Health-0 Flammability-1 Reactivity-0

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3. COMPOSITION/INFORMATION ON INGREDIENTS

This product contains no hazardous materials.

Primary Components	Composition	CAS No.
Biodiesel	99.9%	68937-80-4
Petroleum Diesel	0.1%	68476-34-6

Synonyms: Fatty Acid Methyl Ester (FAME)
Product Description: Mixture of Saturated and unsaturated primarily C16-C18 alkycarboxylic acid methyl esters from lipid sources.

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4. FIRST AID MEASURES

EYES: Irrigate eyes with a heavy stream of water for at least 15 to 20 minutes.
SKIN: Washed exposed areas of the body with soap and water.
INHALATION: Remove from area of exposure; seek medical attention if symptoms persist.
INGESTION: Give one or two glasses of water to drink. If gastro-intestinal symptoms develop, consult medical personnel. (Never give anything by mouth to an unconscious person.)

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5. FIRE FIGHTING MEASURES

Flash Point (Method Used): > 130◦C (266F) (ASTM 93)
Flammability limits: None Known
EXTINGUISHING MEDIA: Dry chemical, foam, halon (may not be permissible in some countries), CO_2, water spray (fog). Water stream may splash the burning liquid and spread fire.
SPEACIAL FIRE FIGHTING PROCEDURES: Use water spray to cool drums exposed to fire.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Biodiesel soaked rags or spill absorbents (i.e. oil dry, polypropylene socks, sand, etc) can cause spontaneous combustion if stored near combustibles and not handled properly. Store biodiesel soaked rags or spilled absorbents in approved safety containers and dispose of them properly. Oil soaked rags may be washed with soap and water and allowed to dry in well ventilated area. Firefighters should used self-contained breathing apparatus to avoid exposure to smoke and vapor.

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6. ACCIDENTAL RELEASE MEASURES SPILL CLEAN-UP PROCEDURES

Remove sources of ignition, contain spill to smallest area possible. Stop leak if possible. Pick up small spills with absorbent materials and dispose of properly to avoid spontaneous combustion (see unusual fire explosion hazards above). Recover large spills for salvage or disposal. Wash hard surfaces with safety solvent or detergent to remove remaining oil film. Greasy nature will result in a slippery surface.

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7. HANDLING AND STORAGE

Store in closed containers BETWEEN 50◦F AND 120◦F.
Keep away from oxidizing agents, excessive heat, and ignition sources.
Store and use in well ventilated areas.
Do not store or use near heat, spark, or flame, store out of sun.
Do not puncture, drag, or slide this container.
Drum is not a pressure vessel; never use pressure to empty.

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8. EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION: If vapors or mists are generated, wear a NIOSH approved organic vapor/mist respirator.
PROTECTIVE CLOTHING: Safety glasses, goggles, or face shield recommended to protect eyes from mists or splashing. PVC coated gloves to prevent skin contact.
OTHER PROTECTIVE MEASURES: Employees must practice good personnel hygiene, washing exposed areas of skin several times daily and laundering contaminated clothing before re-use.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: (760 mm Hg): > 200◦C
Volatiles: (%v): <2
Specific Gravity: (H_2O=1): 0.88 (Approximate)
Solubility in H_2O (%v): insoluble
Vapor Pressure (mm hg) : <2
Evaporation Rate (Butyl Acetate=1) : <1
Vapor Density (Air=1) : >1
Appearance and Odor: clear, pale yellow liquid, mild odor.

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10. STABILITY AND REACTIVITY

GENERAL: This product is stable and hazardous polymerization will not occur.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID: Strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Combustion produces carbon monoxide along with thick smoke.

11. TOXICOLOGY INFORMATION

Material is not classified as hazardous under Labor Department regulations but can produce minor irritation in eyes.
Primary skin irritation test (Rabbits) 24 hour exposure with Primary Dermal irritation index of 1.6/8.0 (Nonirritating). Primary eye irritation test (Rabbits) single exposure with scores of 0.7, 0 and 0 after 24, 48, and 72 hours (Nonirritating). Dermal sensitization study (Guinea Pigs) repeat insult patch procedure with induction and challenge patches indicated a positive sensitization response.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity: The 96-hour LC50 for biodiesel alone in bluegill fish is >1000mg/l. The 96-hour LC50 for biodiesel alone in rainbow trout fingerlings ranges from 390-707 mg/L. The 96-hour LC 50 for biodiesel in rainbow trout fry is 445 mg/L. The 24-hour LC50 for biodiesel alone in Daphnia magna (water flea) juveniles is 4.65 mg/L.
Persistence and degradability: This product is readily biodegradable under aerobic conditions.
Bioaccumulation: This product is not expected to concentrate or accumulate in the food chain.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Waste may be disposed of by a licensed company. Contaminated absorbent material may be disposed of in an approved landfill. Follow local, state and federal disposal regulations.

14. TRANSPORT INFORMATION

UN HAZARD CLASS: N/A
NMFC: (National Motor Freight Classification)
PROPER SHIPPING NAME: Fatty acid ester
IDENTIFICATION NUMBER: 144920
SHIPPING CLASSIFICATION: 65

15. REGULATORY INFORMATION

OSHA STATUS: this product is not hazardous under the criteria of the Federal OSHA Hazard Standard 29 CFR 1910.1200. However thermal processing and decomposition fumes from this product may be hazardous as noted in Sections 2 and 3.
TSCA STATUS: This product is listed on TSCA.
CERCLA: (Comprehensive Response Compensation and Liability Act): NOT reportable.
SARA TITLE III (Superfund Amendments and reauthorization Act): Section 312 Extremely Hazardous Substances: None
Section 311/312 hazard Categories: Non- Hazardous under Section 311/312.
Section 313 toxic Chemicals: None.
RCRA STATUS: If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste, (40 CFR 261.20-24).
CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Water and Toxic Enforcement Act of 1986. This product contains no chemicals known to the state of California to cause cancer.

16. OTHER INFORMATION

This information relates to the specific material designated and may not be valid for such material used in the combination with any other materials or in any other process. Such information is to the best of the company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty, or guarantee of any kind, express or implied, is made as to its accuracy, reliability or completeness and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of use. It is the user's responsibility to satisfy himself as to the suitableness and completeness of such information for his own particular use.

Safety Data Sheet (SDS)

ID: SDS 402-US

Section 1 – Chemical Product and Company Identification

Product identifier: Renewable Hydrocarbon Diesel

Other means of identification

Synonyms: REG - 9000™ / RHD, Renewable Diesel, Renewable Synthetic Diesel Fuel, Renewable Diesel Fuel, Bio-Derived Diesel, Biomass-Based Diesel, Diesel Fuel No. 2, R98.9 Diesel Fuel, odorless mineral spirits, paraffinic middle distillate, RD975, REG RDB5, hydrotreated esters and fatty acids, HEFA, HVO, HDRD, HRD, R99.9, RD, paraffinic middle distillate, RHD

Recommended use: Fuel for use in compression ignition engines, in other combustion applications, a solvent, or an industrial blendstock

Restrictions on use: Not intended for direct human consumption

Supplier information: REG Marketing & Logistics Group, LLC
416 S. Bell Ave
Ames, IA 50010
(888) 734-8686

Emergency phone number: For Hazardous Materials [or Dangerous Goods] Incident, Spill, Leak, Fire, Exposure, or Accident call CHEMTREC Day or Night: +1 703-741-5970 / 1-800-424-9300

Section 2 – Hazard(s) Identification

Classification (in accordance with 29 CFR 1910.1200)

Hazard Class	Hazard Category	Route of Exposure
Aspiration Hazard	Category 1	Ingestion then aspiration
Skin Irritation	Category 2	Absorption / Dermal Contact
Eye Irritation	Category 2A	Absorption / Eye Contact
Flammable Liquid	Category 4	Ignition Source

Signal word: DANGER

Pictograms:

Hazard Statements:
H304 May be fatal if swallowed and enters airways
H315 Causes skin irritation
H319 Causes serious eye irritation
H227 Combustible liquid
EUH066 Repeated contact may cause skin dryness or cracking

Hazards not otherwise specified: Static Accumulator (50 picosiemens or less). This product can accumulate static charge by flow or agitation, and a static discharge could cause this product to ignite.

Precautionary statements

Prevention: Wear appropriate protective gloves, protective garments, and eye protection. Avoid breathing mists and sprays. Wash all affected skin thoroughly after handling.

Keep container tightly closed. Keep away from heat, sparks, open flames, hot surfaces, and other potential ignition sources. Ground / bond container and receiving equipment and take precautionary measures against static discharge – including the use of non-sparking tools and explosion-proof equipment.

Response: Do NOT induce vomiting. If swallowed: Immediately call a poison control center or physician.

Take off contaminated clothing immediately and wash it before reuse. If on skin, wash thoroughly with soap and water. If skin irritation or rash occurs, get medical advice.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists: Get medical attention.

In case of fire, use dry chemical or foam extinguisher – NOT water stream

Storage: Store in a tightly closed container in a cool well-ventilated area.

Disposal: Dispose of contents/container in accordance with local, state, and federal regulations.

Section 3 – Composition / Information on Ingredients

Basic components: This product is a complex combination of hydrocarbons obtained by the hydrodeoxygenation and catalytic hydroisomerization of animal fats and vegetable oils followed by distillative fractionation. It consists mostly of branched and linear paraffins having carbon numbers ranging from C_9 to C_{18}.

Chemical Name	Common Name & Synonyms	CAS number	% of product
Fuels, diesel, C9-18-alkane branched & linear	Renewable Hydrocarbon Diesel, RHD, Renewable Diesel	1159170-26-9	93 – 100%
Unsaturated methyl esters	Methyl esters, biodiesel	67762-26-9	< 5.5%
Ultra low sulfur diesel	ULSD	68476-30-2	< 2%

Section 4 – First Aid Measures

First aid measures for exposure

Inhalation: If breathing difficulties develop, move victim away from source of exposure and into fresh air. Seek medical attention.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists: Get medical attention.

Skin: Take off contaminated clothing immediately and wash it before reuse. If on skin, wash thoroughly with soap and water. If skin irritation or rash occurs, get medical advice.

Ingestion: Aspiration Hazard: Do NOT induce vomiting. If swallowed: Immediately call a poison control center or physician.

Most important symptoms / effects

Acute: Aspiration into the lungs can cause fatal chemical pneumonitis. If ingestion has occurred, assume there is a risk of aspiration into the lungs – especially if nausea or irritation occurs.

Delayed / Chronic: Repeated exposure may cause dryness and cracking of the skin.

Indication of immediate medical attention and special treatment needed, if necessary:	Aspiration into the lungs can cause fatal chemical pneumonitis. Treat symptomatically and supportively.

Section 5 – Fire Fighting Measures

Suitable extinguishing media:	Firefighting foam, dry chemical, carbon dioxide, or other clean extinguishing agents (such as Halon or Halotron). Water mist may be effective for extinguishing soaked oily materials if applied by experienced fire-fighting personnel.
Unsuitable extinguishing media:	Do not use a solid water stream, as it may scatter and spread the fire
Specific hazards arising from the chemical:	Static accumulator (50 picosiemens or less), unless performance additive has been added to mitigate static accumulation. This product can accumulate static charge by flow or agitation, and a static discharge could cause this product to ignite. This product can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). Heated liquid can release vapors that may readily form flammable mixtures at or above its flash point. If container is not properly cooled, it can rupture in the heat of a fire.
Hazardous combustion products include:	Carbon monoxide, carbon dioxide, nitrogen oxides, and hydrocarbons
Protective equipment and precautions for firefighters:	Incipient stage fires may be controlled with a portable fire extinguisher. For fires beyond the incipient stage, evacuate all unnecessary personnel. Emergency responders in the immediate area should wear standard firefighting protective equipment, including self-contained breathing apparatus (SCBA) and full bunker gear. In case of external fires in proximity to storage containers, use water spray to keep containers cool, if it can be done safely. Prevent runoff from entering streams, sewers, storm drains, or drinking water supply.

Section 6 – Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures:	Keep all sources of ignition away from spill / release. The use of explosion-proof equipment is recommended. Wear protective garments, impervious oil resistant boots, protective nitrile gloves, and safety glasses. If product has been heated, wear appropriate thermal and chemical protective equipment. If splash is a risk, wear splash resistant goggles and face shield. Shut off source of spill, if safe to do so. Contain spill to the smallest area possible. Isolate immediate hazard area and remove all nonessential personnel. Prevent spilled product from entering streams, sewers, storm drains, unauthorized treatment drainage systems, and natural waterways. Place dikes far ahead of the spill for later recovery and disposal. Immediate cleanup of any spill is recommended**. If material spills into or upon any navigable waters and causes a film or sheen on the surface of the water, immediately notify the National Response Center at 1-800-424-8802.**
Methods for containment and clean-up	
Small spill / incidental release:	Small spills can be cleaned up with absorbent inert media (oil dri, sand, or earth), or absorbent pads. Use soapy water or degreaser to remove oily residue from the affected area, then rinse area with water. Place saturated materials in an appropriate oily waste container (metal can with a metal lid or an enclosed oily waste dumpster), and dispose of according to local, state, and federal regulations.
Large spill / release:	A spill remediation contractor with oil booms and skimmers may be needed for larger spills or spills that come into contact with a waterway or sensitive wetland. Recover as much product as possible by pumping it into totes or similar intermediate containers. Remove any remaining product with

absorbent inert media (oil dri, sand, or earth), or absorbent pads. Use soapy water or degreaser to remove oily residue from the affected area, then rinse area with water. Place saturated materials in an appropriate oily waste container (metal can with a metal lid or an enclosed oily waste dumpster), and dispose of according to local, state, and federal regulations.

Other information:

Materials saturated with this product, such as oily rags, used oil dri, soaked insulation pads, etc., may spontaneously combust due to product decomposition in the presence of oxygen. Place all such materials into appropriate oily waste containers (such as metal cans with metal lids or oily waste dumpsters with lids), and dispose of according to local, state, and federal regulations.

Section 7 – Handling and Storage

Precautions for safe handling:

Open container slowly to relieve any pressure. When transferring product, use pipes, hoses, and tanks that are electrically bonded and grounded to prevent the accumulation of static electricity. This product can accumulate static charge by flow or agitation, and a static discharge could cause ignition. Use explosion-proof electrical equipment (ventilation, lights, material handling, etc…). Wash thoroughly after handling and before eating, drinking or using toilet facilities. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames.

"Empty" containers can retain residue that may be ignitable. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks or other sources of ignition. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Conditions for safe storage, including incompatibilities:

Use and store this material in cool, dry, well ventilated areas away from all sources of ignition. Storage tanks should have an appropriate ventilation and pressure relief system. Store only in approved containers, and keep them tightly closed. Keep away from strong oxidizing agents, strong reducing agents, strong acids, and strong bases. Open containers should be carefully resealed and kept upright to avoid leakage. Protect the container against physical damage.

Section 8 – Exposure Controls / Personal Protection

Precautions for safe handling

Component exposure limits:

Name	CAS #	ACGIH Exposure Limit	OSHA PEL	Form	Weight %
Fuels, diesel, C_{9-18}	1159170-26-9	None	None	Liquid, Vapor or Aerosol	98-100%
ULS Diesel	68476-30-2	100 mg/m^3 TWA	None	Vapor & Aerosol	<2%
Unsaturated methyl esters	67762-26-9	None	None	Liquid	<5.5%

Appropriate engineering controls:

Keep product enclosed in primary containment (hoses, pipes, tanks, etc.) to avoid contact with skin. Handle in accordance with good industrial hygiene and safety practices.

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures

include: Use sealed systems as far as possible. Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Eye washes and showers should be available for emergency use. Firewater monitors and deluge systems are recommended. Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping. Define procedures for safe handling and maintenance of controls. Educate and train workers in the hazards and control measures relevant to normal activities associated with this product. Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation. Do not ingest. If swallowed then seek immediate medical assistance.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eyes / face:

Chemical splash goggles are recommended. However, if a local risk assessment determines that chemical splash goggles may not be required, safety glasses should be selected to provide adequate eye protection. If splash potential exists, add the use of a face shield.

Skin:

Wear disposable nitrile gloves for incidental contact. For more substantial contact, wear thicker nitrile or other similar oil-resistant gloves. Wear protective garments, such as a chemical apron, chemical resistant coveralls, or chemical resistant coat and pants, along with impervious oil-resistant boots. Remove soaked protective equipment, decontaminate with soapy water, and rinse thoroughly before reuse. Note: product will cause natural rubbers to degrade at a very rapid rate. Such protective equipment will need to be carefully inspected after decontamination to see if it is still in serviceable condition. Any defective or worn out equipment should be immediately discarded.

Respiratory:

No exposure limits are available for this product as a mixture, but appropriate organic vapor or supplied air respiratory protection may be worn if irritation or discomfort is experienced. Where required, respiratory protection must be provided and used in accordance with all local, state, and federal regulations.

Section 9 – Physical and Chemical Properties

Physical State:	Liquid	Color:	Clear to yellow/green tint *(May also be colored red – if sold for off road use)*
Odor:	Odorless to mild paraffin	Odor Threshold:	No information available
pH:	No information available	Melting/Freezing Point:	No information available
Boiling Point/Range:	150-315° C (300-600° F)	Flash Point:	>60° C (>140° F)
Evaporation Rate:	No information available	Flammability (solid/liq):	No information available
LFL:	0.6%	UFL:	4.7%
Vapor Pressure:	<0.3 mmHg @ 20° C	Vapor Density:	>1
Density:	0.77 g/ml @ 15° C	VOC:	No information available
Solubility (H20):	Insoluble	Solubility *(other)*:	No information available
Auto Ignition Temp.:	No information available	Decomposition Temp.:	No information available
Viscosity (at 40° C):	1.9 – 4.1 cP	Partition coefficient (n-octanol/water) :	No information available

Section 10 – Chemical Stability and Reactivity Information

Reactivity:	When handled and stored appropriately, no dangerous reactions are known
Chemical stability:	Stable in closed containers at room temperature under normal storage and handling conditions. Hazardous polymerization will not occur.
Possibility of hazardous reactions:	When handled and stored appropriately, no dangerous reactions are known. If product is heated beyond its flash point, vapors can cause a flash fire. See Sections 5 and 6 regarding spontaneous combustion of product-saturated absorbent materials.
Conditions to avoid:	Ignition sources, accumulation of static electricity, heating product to its flash point, or allowing the product to cool below its melting point (otherwise it may solidify and not be transferable until it is reheated).
Incompatible materials:	Keep away from strong oxidizing agents, strong reducing agents, strong acids, and strong bases.
Hazardous decomposition products:	Carbon monoxides, carbon dioxide, nitrogen oxides, hydrocarbons, water vapor

Section 11 – Toxicological Information

Likely routes of exposure:	Absorption, ingestion, and inhalation
Symptoms	
Inhalation:	Coughing or irritation (vapor, mist, or aerosols)
Eye contact:	Redness or irritation and tearing
Skin contact:	Redness, or irritation
Ingestion:	Nausea, vomiting, or feeling unwell
Acute toxicity	
Oral:	No information available
Dermal:	No information available
Inhalation:	No information available
Skin corrosion / irritation:	No testing was available. However, prolonged or repeated skin contact may irritate the skin and produce dermatitis.
Serious eye damage / eye irritation:	No testing was available. However, oil mist may irritate the eyes.
Sensitization *(Respiratory or Skin)*:	No information available
Germ cell mutagenicity:	No information available
Carcinogenicity:	No information available

Component carcinogenicity:	No information was available for the listed components of this product. However, IARC, NTP, and NIOSH list diesel exhaust particulates as a possible carcinogen.
Reproductive / developmental toxicity:	No information available
Specific target organ toxicity	No information available
Single exposure:	No information available
Repeated exposure:	No information available
Aspiration hazard:	Due to kinematic viscosity below 5.0 cSt, OSHA regulations state this product may be fatal if it is swallowed and then enters the airways.

Section 12 – Ecological Information

Acute ecotoxicity - short-term exposure

Fish:	No information available
Invertebrates:	No information available
Algae:	No information available
Persistence and degradability:	Biodegradation at >44% (per ASTM D5864-05)
Bioaccumulative potential:	No information available
Mobility in soil:	No information available
Other adverse effects:	No information available

Section 13 – Disposal Considerations

Disposal *(waste / unwanted product)*:	If the material is spilled to soil or water, characteristic testing of the contaminated materials is recommended. Further, this material, once it becomes a waste, may be subject to the land disposal restrictions in 40 CFR 268.40 and may require treatment prior to disposal to meet specific standards. Consult federal, state and local regulations to ensure they are followed.
Disposal *(containers with residue)*:	Container contents should be completely used and containers should be emptied prior to discarding. Containers must be disposed in compliance with federal, state, and local regulations. To assure proper disposal of empty containers, consult federal, state and local regulations and disposal authorities.

Section 14 – Transport Information

	International	Domestic
ID Number	UN1202	NA1993
Proper Shipping Name	Diesel fuel	Combustible liquid, n.o.s. (Renewable Diesel)
Transport Hazard Class	3	Comb liq
Packing Group	III	III
Marine Pollutant	No	No
Transport in Bulk Requirements	242 (see 49 CFR §173.242)	241 (see 49 CFR §173.241)
Special Note	This material may be reclassified as a combustible liquid (49 CFR 173.120(b))	

Section 15 – Regulatory Information

Inventory Listings

TSCA ☒ Listed ☐ Exempt
DSL ☒ Listed ☐ Exempt

U.S. Federal Regulations

SARA 311/312 Hazard Categories:

Acute Health Hazard	☒Yes	☐No
Chronic Health Hazard	☐Yes	☒No
Fire Hazard	☒Yes	☐No
Sudden Release of Pressure Hazard	☐Yes	☒No
Reactive Hazard	☐Yes	☒No

Clean Water Act: This product contains chemical(s) regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

CERCLA: This material, as supplied, does contain some substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). Although there is a "petroleum exclusion" clause which exempts crude oil (along with fractions of crude oil and products – both finished and intermediate) from the CERCLA 103 reporting requirements, there may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65:

☒ WARNING! This product may contain some chemicals known to the State of California to cause cancer or reproductive harm:

Fuels, diesel, No 2 (diesel engine exhaust is listed as a possible carcinogen)

U.S. State Right-to-Know Regulations:

Pennsylvania	US Pennsylvania Worker and Community Right-to-know Law (34 PA. Code Chap. 301-323)
Component	*CAS Number*
Fuels, diesel, No 2	68476-34-8

New Jersey	US New Jersey Worker and Community Right-to-know Act (New Jersey Statute Annotated Section 34:5A-5)
Component	*CAS Number*
Fuels, diesel, No 2	68476-34-8

Section 16 – Other Information

Hazard Statements
H304 May be fatal if swallowed and enters airways
H315 Causes skin irritation
H319 Causes serious eye irritation
H227 Combustible liquid
EUH066 Repeated contact may cause skin dryness or cracking

Issuing Date: Jan 20, 2014

Revision Date: Sept 29, 2018

Version #: 20180929

NFPA:

1	Health
2	Flammability
0	Reactivity

Revision Note: Updated Section 1.

WARNING: POTENTIALLY HAZARDOUS MATERIAL. IMPROPER USE OR MISHANDLING CAN RESULT IN SERIOUS INJURY OR DEATH. THIS PRODUCT CONTAINS SUBSTANCES WHICH, IF MODIFIED, MAY BE FLAMABLE AND MAY BURN OR EXPLODE IF HEATED OR EXPOSED TO FLAME OR OTHER IGNITION SOURCE OR WATER, OXIDIZING AGENTS, ACIDS OR OTHER CHEMICALS. AVOID INGESTION, INHALATION AND CONTACT WITH SKIN AND EYES.

Disclaimer:

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS

APPENDIX D – EMISSION CALCULATIONS

Kinder Morgan - Barstow Terminal
Biodiesel and Renewable Diesel Unloading System Emissions

Summary of Emissions from Unloading

Liquid Transferred	Saturation factor	Vapor Pressure[4] (psia)	Vapor Molecular weight[5] (lb/lb-mol)	Temperature[3] (deg R)	Loading Loss[2] (lbs/1000 gal)	Control Efficiency[1]	Displacement Volume (1000 gal/yr)	Uncontrolled VOC Emissions (lbs/yr)	Controlled VOC Emissions (lbs/yr)	VOC Emissions (lbs per 1000 gals)
Renewable Diesel	1	0.0111	130	525.09	0.03424	0.95	All throughput assumed to be Biodiesel for worst-case loading scenario			
Biodiesel	1	0.0111	250	525.09	0.06585	0.95	35715	2,352	118	0.0000010
							Combined Total	2,352	118	0.0000010

1. Emission factor and control efficiency from the unloading operations were determined using AP-42 Section 5.2, Transportation and Marketing of Petroleum Liquids, June 2008.
2. Loading Loss (lb/1,000 gal) = 12.46 x S x P x M / T
   S = Saturation factor
   P = True vapor pressure of liquid loaded (psia)
   M = Molecular weight of vapors (lb/lb-mole)
   T = Temperature of bulk liquid loaded R (F+460)
3. The bulk liquid temperature of 65.42 Deg. F was obtained from TANKS 4.09d for Barstow Terminal tanks
   T = 65.42 deg F
   T = 525.09 deg R
4. Vapor pressures were obtained from:
   Biodiesel: "Modeling the Vapor Pressure of Biodiesel Fuels", NIST Vol 6, No. 5, 2012; https://www.nist.gov/publications/modeling-vapor-pressure-biodiesel-fuels
   C18 fatty acid methyl esters had a vapor pressure of approximately 1E-6 kPa at 25 deg C, which is equivalent to 1.5E-7 psia at 525 R
   As a conservative assumption, the higher renewable diesel vapor pressure was used for biodiesel.
   Renewable Diesel: The highest monthly vapor pressure from TANKS 4.0 reports.
5. Molecular Weights were obtained from NIST paper referenced above, or CARB guidance "Renewable Diesel Should Be Treated the Same as Conventional Diesel" (July 31, 2013).

Loading Information
1. Tanker truck default capacity is 8400 gallons.
2. In order to fill Tanks Tk-325 and Tk-331 with renewable diesel and biodiesel, respectively, unloading hoses will gravity drain the fuel to two underground submerged pumps, which will transfer the product to tankage. Each unloading system has an air eliminator to remove vapors. A Crispin valve is installed to vent displaced vapors back to the unloading truck. The VOC emissions only occur during the first 500 gallons of each unloading operation.

Biodiesel

Annual Biodiesel Offloading (gal/yr)	120,000,000
Tanker Truck Capacity (gal)	8,400
Annual Number of Tanker Trucks	14,286
# of Compartments on a Tanker Truck	5
Total Displaced Vapor Volume (gal)[1]	500
Biodiesel Vapor Displacement Volume (gal/year)	35,715,000

Renewable Diesel - All assumed to be Biodiesel for worst-case scenario

Renewable Diesel Offloading (gal/yr)	0
Tanker Truck Capacity (gal)	8,400
Annual Number of Tanker Trucks	0
# of Compartments on a Tanker Truck	5
Total Displaced Vapor Volume (gal)[1]	500
Renewable Diesel Vapor Displacement Volume (gal/year)	0

1. Total volume of hoses, piping, and air eliminators is 500 gallons per Hamid Madjidi with Spec Services, Inc.

Toxic Air Contaminants

Chemical	Weight % in Biodiesel[1]	Weight % in Renewable diesel[1]	Emissions (lbs)
n-Hexane	9%	9%	1.06E+01

1. Weight percentages for diesel vapors are from *CARB "Identification of Volatile Organic Compound Species Profiles", Aug 1991.*

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Lube Tote Emissions: Standing + Working Losses

Tank Contents	Withdrawal Loss (lbs)	Deck Seam Loss (lbs)	Total Emissions (lbs)
Injection Tote, 9125 gallons/yr			
OLI-9181.X Innospec	3.08	0.58	3.66
		Total Emissions:	**3.66**

Chemical	Weight % in OLI-9181.X	Annual Emissions (lbs)
Xylenes	30%	1.10E+00
Benzene	10%	3.66E-01
Ethylbenzene	5%	1.83E-01
Naphthalene	1%	3.62E-02

Table 3-1: Summary of Criteria Pollutant PTE

Pollutant	Daily PTE (lbs per day)	Annual PTE (tons per year)	Required Offsets 1.3x Increase (tons per year)
CO	No change	No change	No change
NOx	No change	No change	No change
PM_{10}	No change	No change	No change
VOC	0.33	0.061	0.079
SOx	No change	No change	No change

Table 3-2: Summary of Toxic Air Contaminant Emissions

Toxic Air Contaminant	Fraction in Renewable Diesel Vapors, lb/lb	Fraction in Biodiesel Vapors, lb/lb	Fraction in OLI.9181.X, lb/lb	TAC Emissions, lbs/day	TAC Emissions, lbs/year
Benzene	0.00	0.00	0.10	0.0010	0.37
Ethylbenzene	0.00	0.00	0.05	0.0005	0.18
Hexane	0.09	0.00	0.00	0.029	10.58
Naphthalene (POM)	0.00	0.00	0.01	0.0001	0.036
Xylene	0.00	0.00	0.30	0.0030	1.10

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Injection Skid Tank
City:	Barstow
State:	CA
Company:	Kinder Morgan
Type of Tank:	Vertical Fixed Roof Tank
Description:	Lubricity modifier for Barstow BD/RD Project

Tank Dimensions

Shell Height (ft):	5.00
Diameter (ft):	4.00
Liquid Height (ft) :	4.00
Avg. Liquid Height (ft):	4.00
Volume (gallons):	350.00
Turnovers:	26.07
Net Throughput(gal/yr):	9,125.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	0.00
Slope (ft/ft) (Cone Roof)	0.00

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Barstow, California (Avg Atmospheric Pressure = 14.73 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Injection Skid Tank - Vertical Fixed Roof Tank
Barstow, CA

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
OLI-9181.X Innospec	All	71.44	64.70	78.18	69.02	0.1337	0.1064	0.1667	106.1700			106.17	
Benzene						1.5905	1.3285	1.8938	78.1100	0.0010	0.0119	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Ethylbenzene						0.1599	0.1276	0.1990	106.1700	0.0005	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Gasoline (RVP 12)						7.8504	6.9385	8.8546	64.0000	0.0010	0.0408	92.00	Option 4: RVP=12, ASTM Slope=3
Naphthalene						0.0041	0.0030	0.0054	128.2000	0.0001	0.0000	128.20	Option 2: A=7.3729, B=1968.36, C=222.61
Unidentified Components						0.1228	0.1211	0.1211	109.7947	0.9944	0.9437	106.22	
Xylenes (mixed isomers)						0.1337	0.1064	0.1667	106.1700	0.0030	0.0030	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Injection Skid Tank - Vertical Fixed Roof Tank
Barstow, CA

Annual Emission Calcaulations	
Standing Losses (lb):	0.5760
Vapor Space Volume (cu ft):	12.5664
Vapor Density (lb/cu ft):	0.0025
Vapor Space Expansion Factor:	0.0508
Vented Vapor Saturation Factor:	0.9930
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	12.5664
Tank Diameter (ft):	4.0000
Vapor Space Outage (ft):	1.0000
Tank Shell Height (ft):	5.0000
Average Liquid Height (ft):	4.0000
Roof Outage (ft):	0.0000
Roof Outage (Cone Roof)	
Roof Outage (ft):	0.0000
Roof Height (ft):	0.0000
Roof Slope (ft/ft):	0.0000
Shell Radius (ft):	2.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0025
Vapor Molecular Weight (lb/lb-mole):	106.1700
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.1337
Daily Avg. Liquid Surface Temp. (deg. R):	531.1067
Daily Average Ambient Temp. (deg. F):	69.0000
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	528.6900
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,806.0000
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0508
Daily Vapor Temperature Range (deg. R):	26.9566
Daily Vapor Pressure Range (psia):	0.0603
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.1337
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.1064
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.1667
Daily Avg. Liquid Surface Temp. (deg R):	531.1067
Daily Min. Liquid Surface Temp. (deg R):	524.3675
Daily Max. Liquid Surface Temp. (deg R):	537.8458
Daily Ambient Temp. Range (deg. R):	25.5000
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9930
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.1337
Vapor Space Outage (ft):	1.0000
Working Losses (lb):	3.0840
Vapor Molecular Weight (lb/lb-mole):	106.1700
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.1337
Annual Net Throughput (gal/yr.):	9,125.0000
Annual Turnovers:	26.0714
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	350.0000
Maximum Liquid Height (ft):	4.0000
Tank Diameter (ft):	4.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	3.6600

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Injection Skid Tank - Vertical Fixed Roof Tank
Barstow, CA

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
OLI-9181.X Innospec	3.08	0.58	3.66
Xylenes (mixed isomers)	0.01	0.00	0.01
Benzene	0.04	0.01	0.04
Gasoline (RVP 12)	0.13	0.02	0.15
Ethylbenzene	0.00	0.00	0.00
Naphthalene	0.00	0.00	0.00
Unidentified Components	2.91	0.54	3.45

APPENDIX E – CARB MEMO - "RENEWABLE DIESEL SHOULD BE TREATED THE SAME AS CONVENTIONAL DIESEL", JULY 2013

State of California

Edmund G. Brown Jr.

July 31, 2013

Certified Unified Program Agencies (CUPAs)
Underground Storage Tank (UST) Operators
Petroleum Fuel Marketers, Refiners, and Blenders
Renewable Diesel Producers/Importers
Other Interested Stakeholders

Renewable Diesel Should Be Treated the Same as Conventional Diesel

This is a joint statement by the Air Resources Board (CARB) and the State Water Resources Control Board intended to clarify questions that have been raised regarding the status of renewable diesel. As discussed below, renewable diesel should be treated the same as conventional CARB diesel for all purposes, including storage in underground storage tanks (USTs).

For purposes of this statement, conventional CARB diesel is petroleum-based diesel that meets specified aromatics, sulfur content, and lubricity standards, as well as ASTM International standard specification, ASTM D975-12a. Similarly, renewable diesel also meets ASTM D975-12a, but it is made from non-petroleum sources. Specifically, renewable diesel meets the definition of "hydrocarbon oil" and the physical and chemical properties specified in ASTM D975-12a. For comparison, Attachment 1 shows the ASTM D975-12a specifications and typical properties for conventional CARB diesel and samples of renewable diesels recently tested by various researchers. As shown, both the tested conventional CARB diesel and renewable diesel samples fall well within the ASTM D975-12a specifications.

Despite renewable diesel being comparable to conventional CARB diesel, there have been questions regarding the ability of marketers and others to store renewable diesel in USTs. Further, questions have been raised about the compatibility of renewable diesel with leak detection systems used in USTs currently storing conventional CARB diesel. We consider renewable diesel to be a "drop in" fuel that can be blended with conventional CARB diesel in any amount and used with existing infrastructure and diesel engines. Accordingly, renewable diesel that meets the requirements for conventional CARB diesel and ASTM D975-12a should be treated no differently than conventional CARB diesel that is legal for sale in California.

Our staffs would be happy to discuss any questions you may have with regard to renewable diesel or this letter. Please contact Mr. Floyd Vergara, Chief, Alternative Fuels Branch, at (916) 327-5986 or fvergara@arb.ca.gov for air-related questions, and Ms. Shahla Farahnak, Assistant Deputy Director, Groundwater Quality Branch, at (916) 341-5737 or sfarahnak@waterboards.ca.gov for water-related questions.

Sincerely,

Richard W. Corey
Executive Officer
California Air Resources Board

Sincerely,

Tom Howard
Executive Director
State Water Resources Control Board

Attachment

cc: Ms. Shahla Farahnak,
Assistant Deputy Director,
Groundwater Branch, State Water Resources Control Board

Mr. Floyd Vergara, Chief
Alternative Fuels Branch, Air Resources Board

Attachment 1

Table of Sample Renewable Diesel Properties

Property	Test Method	D975-12a[1]	Sample Fuel Properties							
			ARB Study[2]		CRC Study[3]					
			Conv. CARB Diesel	Renewable Diesel	RD1	RD2	RD3	RD4	RD5	RD6
Flash Point, °C	D93	38 min	148	146	68.25	59.5	72	76	46	89.25
Water and Sediment, % vol	D2709	0.05 max	---	---	--	--	--	--	--	--
	D1796	0.5 max	< 0.02	< 0.02	0.0022	0.0034	0.0031	0.0007	0.0016	0.0034
Distillation Temperature, °C90 %, % vol recovered	D86	282 - 338	322	286	294	291	301	315	297	292
Kinematic Viscosity, mm^2/S at 40°C	D445	1.3 - 24.0	2.7	2.5	2.605	2.525	2.096	3.613	1.878	2.841
Ash, % mass, max	D482	0.10 max	< 0.001	< 0.001	--	--	--	--	--	--
Sulfur, ppm (µg/g)	D5453	15 max	4.7	0.3	1	1	0.8	0.6	0.7	19.2
% mass	D2622	0.05 max	---	---	--	--	--	--	--	--
% mass	D129	2.00 max	---	---	--	--	--	--	--	--
Copper strip corrosion rating	D130	No. 3 max	1b	1a	--	--	--	--	--	--
(3 h at a minimum control temperature of 50 °C)					--	--	--	--	--	--
Cetane number	D613	30 min	55.8	72.3	74.5	72.1	54.8	74.7	47.6	74.7
One of the following properties must be met:										
(1) Cetane index	D976-80	40 min	56.8	76.9	--	--	--	--	--	--
(2) Aromaticity, % vol	D1319	35 max	---	---	--	--	--	--	--	--
Operability Requirements										
Cloud point, °C, max	D2500	Report	-6.6	-27.1	-3.6	-14.4	-20.3	-12.7	<-54	-4.2
or										
LTFT/CFPP, °C, max	D4539 / D6371	Report	---	---	-8	-16	-27	-15	--	-9
Ramsbottom carbon residue on 10%	D524	0.35 max	0.03	0.02	--	--	--	--	--	--
distillation residue, % mass					--	--	--	--	--	--
Lubricity, HFRR @ 60°C, micron, max	D6079 / D7688	520 max	---	---	576	591	370	538	603	--
Conductivity, pS/m or Conductivity Units (C.U.), min	D2624 / D4308	25 min	55	135	--	--	--	--	--	--
Total Aromatic Content	D5186-96	N/A	18.7	0.4	0.3	0.5	20.35	0.6	2.6	0.7
PAH	D5186-96	N/A	1.5	0.1	0.08	0.1	3.5	<0.1	<0.31	<0.1
Nitrogen Content, ppmw	D4629-96	N/A	1.3	1.3	0.01	0.01	7.1	0.1	0.2	0.5
Derived Cetane #	IQT*	N/A	---	74.7	77.75	73.3	52.15	89.15	44.1	79.05
Gravity, API	D287-82	N/A	39.3	51.3	50.5	50.3	39.4	48.5	38.2	49.7
IBP	D86	N/A	337	326	325	311.8	357.4	332.9	316.3	394.1
10%, °F	D86	N/A	408	426	437.7	415.4	391.5	518.9	367.8	478.5
50%, °F	D86	N/A	519	521	533.4	527.6	477.2	572.3	434.2	535.9
EP, °F	D86	N/A	659	568	585.2	573.4	602.8	646.7	619.1	578.6
Pour Point, °C	D-97	N/A	-12	-47	-6	-21	-36	-18	-69	-9

[1] ASTM International D975-12a, Standard Specification for Diesel Fuel Oils

[2] Biodiesel Characterization and NOx Mitigation Study - Durbin et al., 2011

[3] CRC Report No. AVFL-19-2, 2013

July 31, 2013

APPENDIX F – BACT EVALUATION

Yorke
ENGINEERING, LLC
www.YorkeEngr.com

October 8, 2020

Sheri Haggard
Permit Engineering Supervisor
Mojave Desert Air Quality Management District
14306 Park Ave
Victorville, CA 92392
(760) 245-1661, ext. 1864
gsmith@mdaqmd.ca.gov

Subject: BACT Analysis
Barstow Biodiesel/Renewable Diesel Blending Application

Dear Ms. Haggard:

Yorke Engineering LLC (Yorke) is pleased to provide this Best Available Control Technology (BACT) analysis in support of the Barstow Biodiesel/Renewable Diesel Blending Application that was recently submitted to the Mojave Desert Air Quality Management District (MDAQMD).

BACKGROUND

Calnev Pipe Line, LLC – Barstow Terminal (Barstow Terminal) recently submitted an application for a permit modifications to the facility's Title V and MDAQMD permits to add two unloading systems for biodiesel and renewable diesel, and to add a lubricity tote.

As Barstow Terminal is a Title V Major Source with a potential to emit (PTE) in excess of 25 tons per year for volatile organic compounds (VOCs), BACT must be applied to all new permit units in accordance with 1303(A)(3). Accordingly, the MDAQMD requested that Kinder Morgan provide a BACT analysis for the application.

BACT ANALYSIS

For a new or modified Major Facility as defined in District Rule 1301(DD), the MDAQMD defines BACT to be the most stringent of:

a) The most stringent emission limit or control technique which has been achieved in practice, for such permit unit class or category of source; or

b) Any other emission limitation or control technique, and/or different fuel demonstrated in practice to be technologically feasible and cost-effective by the APCO or by CARB.

BACT determinations are periodically published so that the regulated community has visibility to the requirements. Yorke reviewed the BACT determinations made by the South Coast Air Quality Management District (SCAQMD), San Joaquin Valley Air Pollution Control District (SJVAPCD), Bay Area Air Quality Management District (BAAQMD), U.S. EPA RACT/BACT/LAER Clearinghouse, and Texas Commission on Environmental Quality (TCEQ). The findings are shown in Table 2. We also reviewed the San Diego Air Pollution Control District (SDAPCD) and Sacramento Air Quality Management District (SMAQMD) databases; no additional BACT determinations were identified.

As shown in the table, no BACT determinations specific to biodiesel or renewable diesel unloading were identified. When making a BACT determination, and a directly relevant finding is not available, processes with similar exhaust flow in terms of the quantity and concentration of pollutants, temperature, and flowrate are used as the basis for determining BACT for the process of interest. In this case, since BACT listings for biodiesel or renewable diesel unloading were not identified, BACT determinations for organic liquids unloading and petroleum diesel unloading were reviewed.

Table 2: BACT Determinations for Biodiesel Unloading

Agency	Process	BACT Determination
SCAQMD Part D, Liquid Transfer and Handling	Tank Truck and Rail Car Bulk Loading, Class A (SCAQMD Rule 462)	Compliance with SCAQMD Rule 462 (0.08 lb/1000 Gals) (10-20-2000)
SCAQMD A/N 353762, 10/1/99	Liquid Transfer and Handling - Tank Truck and/or Rail Car Bulk Loading, Class A	Afterburner
BAAQMD Document 109-1, 6/8/00	Liquid Transfer & Handling - Tank Truck & Rail Car Bulk Loading, except gasoline	Submerged pipe fill and vapor collection system vented to a thermal incinerator w/ a destruction efficiency >98.5%
SJVAPCD Guideline 7.1.10	Organic Liquid Loading Rack	Bottom fill loading (submerged pipe fill loading) with dry break couplers, or equivalent, and VOC emissions from the vapor collection and control system less than or equal to 0.015 pounds per 1,000 gallons of organic liquid transferred
TCEQ	Loading: truck	VOC VP < 0.5 psia: submerged or bottom loading. No splash loading.
RBLC ID: TX-0886; permit 106921, N270; 03/31/2020	Truck Loading	Submerged or bottom filled loading for VOC VP <0.5 psia

DISCUSSION

The BACT determination by SCAQMD for A/N 353762 is for Van Waters and Rodgers, who ship a variety of organic materials. The material throughput limits of the permit excluded materials with a vapor pressure of less than 0.1 psia. While the BACT determination did not allow the transfer of material with a vapor pressure of less than 0.1 psia without venting to the afterburner; it is clear that the BACT determination was made to control vapor emissions of materials with a vapor pressure exceeding 0.1 psia. The vapor pressures of biodiesel and renewable diesel are much less than 0.1 psia, so it is not clear that this determination is directly applicable. Further, use of an afterburner would require the use of a substantial amount of natural gas as supplemental fuel to support combustion of the process vapors. Natural gas combustion would result in emissions of nitrogen oxides (NOx). Because ozone is NOx-limited in the Mojave Desert Air Basin, NOx

emissions would yield a higher contribution to ozone formation than the VOC emissions would. Combustion of natural gas would also result in greenhouse gas (GHG) emissions, in conflict with the State's GHG emission reduction goals. For these reasons, the use of an afterburner for VOC emission control is excluded from further consideration.

Similarly, BAAQMD Document 109-1 is a generic BACT determination that would apply to any organic liquids (except gasoline), which would include materials with vapor pressures far exceeding that of biodiesel and renewable diesel. It is not reasonable to require the same level of control for biodiesel and renewable diesel unloading as would be applied to materials like ethanol or isopropyl alcohol which have much higher vapor pressure. And, as discussed above, an incinerator would require the combustion of natural gas, resulting in NOx and GHG emissions. For these reasons, the use of an afterburner for VOC emission control is excluded from further consideration.

Of the remaining determinations, the most stringent is SJVAPCD Guideline 7.1.10. Therefore, BACT is determined to be bottom fill and emissions of no more than 0.015 pounds per 1,000 gallons of organic liquid transferred.

CONCLUSION

As a result of this BACT analysis, the proposed Project would install submerged fill and vapor balance to control 95% of emissions from the proposed unloading operations. The updated total emissions are predicted to be approximately 0.061 tons per year based on transfer of 120,000,000 gallons of biodiesel and renewable diesel, or an emission rate of 0.000001 pounds per 1,000 gallons. This is a small fraction of the BACT standard of 0.015 pounds per 1,000 gallons; thus, BACT is demonstrated.

Pollutant	Project PTE (lbs per day)	Project PTE (tons per year)
CO	No change	No change
NOx	No change	No change
PM_{10}	No change	No change
VOC	0.33	0.061
SOx	No change	No change

Should you have any questions or concerns, please contact me at (949) 573-1859 or Mr. Nick Molzahn at (415) 470-0599.

Sincerely,

Paul Liao
Senior Engineer
Yorke Engineering, LLC
PLiao@YorkeEngr.com

cc:

Cinnamon Smith, Kinder Morgan
Nick Molzahn, Yorke Engineering

Appendix B
HARP Prioritization Score/CEIR Data

File name: C:\Users\sherih\Desktop\CalNev Sig Mod 09-15-20\HARP Data\CALNEV NSR PS.rtf

HARP Facility Prioritization Report

HARP EIM Version: 2.1.4

Reporting Year: 2020
Project Path: C:\HARP2\CEI\CEI 2018
Project Database: C:\HARP2\CEI\CEI 2018\CEI2018SH.mdb
CEIDARS Utility Database: C:\HARP2\Tables\CEIDARSTables072020.mdb
HARP Health Talbe: HEALTH201909
Sorting Order: DIS, AB, CO, TS, FACID
Date Created: 11/30/2020 4:55:03 PM
Operator: SMH

****

POLLUTANT HEALTH VALUES FROM HARP HEALTH DATABASE:

POLLUTANT ID	POLLUTANT	CANCERURF(INH) (ug/m^3)^-1	ACUTEREL ug/m^3	CHRONICREL(INH) ug/m^3
71432	Benzene	2.90E-05	2.70E+01	3.00E+00
100414	Ethyl Benzene	2.50E-06	N/A	2.00E+03
110543	Hexane	N/A	N/A	7.00E+03
91203	Naphthalene	3.40E-05	N/A	9.00E+00
43104	VOC	N/A	N/A	N/A
1330207	Xylenes	N/A	2.20E+04	7.00E+02

****

PRIORITIZATION SCORE SUMMARY:

Facility Name
Proximity Method
Optional Factors

				Emission and Potency Procedure				Dispersion Adjustment Procedure				Highest
FACID	CO	AB	DIS	Cancer	Acute	Chronic	NonCancer	Cancer	Acute	Chronic	NonCancer	Score
CALNEV - BARSTOW TERMINAL - NSR PS												
Proximity Method: Proximity manually edited by user as 228												
Default Annual Operating Hours: 8760												
353	36	MD	MOJ	2.39E-02	0.00E+00	5.59E-04	5.59E-04	2.38E-02	0.00E+00	5.59E-04	5.59E-04	2.39E-02

File name: C:\Users\sherih\Desktop\CalNev Sig Mod 09-15-20\HARP Data\CALNEV PS EY19.rtf

HARP Facility Prioritization Report

HARP EIM Version: 2.1.4

Reporting Year: 2019
Project Path: C:\HARP2\BackupData
Project Database: \\Nas02\public docs\Permit Engineering\Emission Inventory\2020_CEIP&CEIR\MDAQMD Database\2019 data as of 11-30-2020.mdb
CEIDARS Utility Database: C:\HARP2\Tables\CEIDARSTables072020.mdb
HARP Health Talbe: HEALTH201909
Sorting Order: DIS, AB, CO, TS, FACID
Date Created: 11/30/2020 4:31:55 PM
Operator: SMH

****

POLLUTANT HEALTH VALUES FROM HARP HEALTH DATABASE:

POLLUTANT ID	POLLUTANT	CANCERURF(INH) (ug/m^3)^-1	ACUTEREL ug/m^3	CHRONICREL(INH) ug/m^3
540841	2,2,4TriMePentn	N/A	N/A	N/A
56495	3-MeCholanthren	6.30E-03	N/A	N/A
57976	7,12-DB[a]anthr	7.10E-02	N/A	N/A
83329	Acenaphthene	N/A	N/A	N/A
208968	Acenaphthylene	N/A	N/A	N/A
75070	Acetaldehyde	2.70E-06	4.70E+02	1.40E+02
107028	Acrolein	N/A	2.50E+00	3.50E-01
120127	Anthracene	N/A	N/A	N/A
7440382	Arsenic	3.30E-03	2.00E-01	1.50E-02
56553	B[a]anthracene	1.10E-04	N/A	N/A
50328	B[a]P	1.10E-03	N/A	N/A
205992	B[b]fluoranthen	1.10E-04	N/A	N/A
191242	B[g,h,i]perylen	N/A	N/A	N/A
207089	B[k]fluoranthen	1.10E-04	N/A	N/A
7440393	Barium	N/A	N/A	N/A
71432	Benzene	2.90E-05	2.70E+01	3.00E+00
7440417	Beryllium	2.40E-03	N/A	7.00E-03
7440439	Cadmium	4.20E-03	N/A	2.00E-02
218019	Chrysene	1.10E-05	N/A	N/A
42101	CO	N/A	N/A	N/A
7440484	Cobalt	N/A	N/A	N/A
7440508	Copper	N/A	1.00E+02	N/A
18540299	Cr(VI)	1.50E-01	N/A	2.00E-01
98828	Cumene	N/A	N/A	N/A
110827	Cyclohexane	N/A	N/A	N/A
53703	D[a,h]anthracen	1.20E-03	N/A	N/A
25321226	DiClBenzenes	N/A	N/A	N/A
100414	Ethyl Benzene	2.50E-06	N/A	2.00E+03
206440	Fluoranthene	N/A	N/A	N/A
86737	Fluorene	N/A	N/A	N/A
50000	Formaldehyde	6.00E-06	5.50E+01	9.00E+00
110543	Hexane	N/A	N/A	7.00E+03
193395	In[1,2,3-cd]pyr	1.10E-04	N/A	N/A
7439921	Lead	1.20E-05	N/A	N/A

7439965	Manganese	N/A	N/A	9.00E-02
7439976	Mercury	N/A	6.00E-01	3.00E-02
91203	Naphthalene	3.40E-05	N/A	9.00E+00
7664417	NH3	N/A	3.20E+03	2.00E+02
7440020	Nickel	2.60E-04	2.00E-01	1.40E-02
42603	NOX	N/A	N/A	N/A
1150	PAHs-w/	N/A	N/A	N/A
85018	Phenanthrene	N/A	N/A	N/A
11101	PM	N/A	N/A	N/A
85101	PM10	N/A	N/A	N/A
88101	PM25	N/A	N/A	N/A
115071	Propylene	N/A	N/A	3.00E+03
129000	Pyrene	N/A	N/A	N/A
7782492	Selenium	N/A	N/A	2.00E+01
42401	SOX	N/A	N/A	N/A
43101	TOG	N/A	N/A	N/A
108883	Toluene	N/A	3.70E+04	3.00E+02
7440622	Vanadium	N/A	3.00E+01	N/A
1330207	Xylenes	N/A	2.20E+04	7.00E+02
7440666	Zinc	N/A	N/A	N/A

****

PRIORITIZATION SCORE SUMMARY:

Facility Name
Proximity Method
Optional Factors

			Emission and Potency Procedure				Dispersion Adjustment Procedure				Highest
FACID	CO	AB DIS	Cancer	Acute	Chronic	NonCancer	Cancer	Acute	Chronic	NonCancer	Score
CALNEV - BARSTOW TERMINAL											
Proximity Method:											
Annual Operating Hours 8760											
353	36	MD MOJ	3.04	8.28E-02	7.73E-02	8.56E-02	3.03	8.28E-02	7.73E-02	8.56E-02	3.04

Appendix C
Public Notice

Noticing Methods include the following, per District Rule 1207 (A)(1)(a) – for Title V Modification, District Rule 1302(D)(2)and(3) – for NSR Modification; and, District Rule 1402(5) – for ERC transfer. Please refer to the cover page of this document regarding the specific public noticing dates:

- Published in newspapers of general circulation - *Riverside Press Enterprise* (Riverside County) and the *Daily Press* (San Bernardino County).
- Mailed and/or emailed to MDAQMD contact list of persons requesting notice of actions (see the contact list following the Public Notice in this Appendix).
- Posted on the MDAQMD Website at the following link: http://www.mdaqmd.ca.gov/permitting/public-notices-advisories/public-notices-permitting-regulated-industry

NOTICE of TITLE V PERMIT MODIFICATION & TRANSFER OF EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN THAT CALNEV Pipe Line LLC – Barstow Terminal (CALNEV or applicant) located at 34277 Daggett-Yermo Road in Daggett, California has applied for a Significant Modification of their Federal Operating Permit (FOP 0200353) pursuant to the provisions of MDAQMD Regulations XII and XIII, respectively. Applicant is operating a bulk loading terminal facility which receives gasoline and diesel fuel via pipeline from various petroleum refineries and operates bulk loading stations to transfer product into tanker trucks for distribution to various gasoline dispensing stations. Applicant is proposing to install two new Biodiesel/Renewable Diesel Unloading Systems of biodiesel and renewable diesel via tanker truck to the facility for blending and resale; and, install one, new injection skid with a 350-gallon tote for lubricity control. CALNEV is a Major Facility pursuant to MDAQMD Regulations XII and XIII; therefore, the proposed emissions from this modification must be fully offset as to not increase any criteria emissions from this facility. CALNEV is proposing to offset these proposed emissions using Emission Reduction Credits. These Emission reduction credits were purchased from Value Environmental and transferred to CALNEV as 1000 pounds of VOC, Type A credits, which are more than necessary to offset the proposed emissions from this Significant Modification. The MDAQMD has reviewed the proposed Significant Modification, analyzed the proposed emissions and control equipment associated with the new equipment, reviewed the Emission Reduction Credit transfer, and has determined that CALNEV will continue to operate in compliance with all District, State, and Federal requirements once the modification is complete.

REQUEST FOR COMMENTS: Interested persons are invited to submit written comments and/or other documents regarding the terms and conditions of the proposed Federal Operating Permit. If you submit written comments, you may also request a public hearing on the proposed Significant Modification of the FOP. To be considered, comments, documents and requests for public hearing must be submitted (postmarked) no later than 5:00 P.M. January 17, 2021 (or 30 days after this publication date, whichever is later) to the MDAQMD, Attention: Sheri Haggard at the address listed below.

PETITION FOR REVIEW: Federal Operating Permits are also subject to review and approval by the United States Environmental Protection Agency (USEPA). If the USEPA finds no objection to the proposed permit renewal, the final permit will be issued. In the event of public objection to the issuance of a specific permit, a Title V petition may be submitted to the USEPA Administrator electronically through the Central Data Exchange at: https://cdx.epa.gov/ or in writing to USEPA at 1200 Pennsylvania Ave, N.W., Washington, D.C. 20460. In order to file a Title V petition, issues must be raised with reasonable specificity during the public comment period, and filed within 60 days of the close of the USEPA review period.

AVAILABILITY OF DOCUMENTS: The proposed Federal Operating Permit, as well as the application and other supporting documentation are available for review at the MDAQMD offices, 14306 Park Avenue, Victorville, CA 92392. In addition, these documents are available on the MDAQMD website and can be viewed at following link: https://www.mdaqmd.ca.gov/permitting/public-notices-advisories/public-notices-permitting-regulated-industry. Please contact Sheri Haggard, Air Quality Engineer, at the above

address or (760) 245-1661, extension 1864 or at shaggard@mdaqmd.ca.gov for additional questions pertaining to this action and/or corresponding documents.

*Traducción en español esta disponible por solicitud. Por favor llame: (760) 245-1661

SHERI HAGGARD
Engineering Supervisor II
Mojave Desert Air Quality Management District
14306 Park Avenue
Victorville, CA 92392

Mr. Larry Trowsdale
mchsi
951 E Skylark Ave
Ridgecrest, CA 93555

Chief, Planning Division
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

Mr. Mike Sword
Planning Div Mgr, Clark Co Dept of Air Q and
4701 Russell Road, Suite 200
Las Vegas, NV 89118

Environmental Manager
Duffield Marine, Inc.
17260 Muskrat Avenue
Adelanto, CA 92301

Mr. Jon Boyer
High Desert Power Project LLC
19000 Perimeter Rd
Victorville, CA 92394

Ms. Carol Kaufman
Metropolitan Water District
700 N Alameda Street, 8th Floor, Rm 106
Los Angeles, CA 90012

Mr. John F. Espinoza
Principal Advisor, MP Materials
HC1 Box 224, 67750 Bailey Road
Mountain Pass, CA 92366

Chief, Bureau of Air Quality
NDCNR, Env Prot Div (Air)
901 South Stewart St, Suite 4001
Carson City, NV 89701-5249

Mr. Steve Smith
SB County Transportation Authority
1170 W. Third Street, Second Floor
San Bernardino, CA 92410

Environmental Contact
Specialty Minerals Inc.
P.O. Box 558
Lucerne Valley, CA 92356-0558

Ms. Janet Laurain
Adams Broadwell Joseph & Cardozo
601 Gateway Blvd., St. 1000
South San Francisco, CA 94080-7037

Ms. Desirea Haggard
Environmental Manager, CalPortland-Oro
2025 E Financial Way
Glendora, CA 91741

Mr. Michael Olokode
Air Program Manager, N45NCW, NAWS
429 E Bowen Rd, Stop 4014
China Lake, CA 93555-6108

Mr. Randy Lack
Chief Marketing Officer, Element Markets,
3200 Southwest Freeway, Suite 310
Houston, TX 77027

Mr. Glen King
Environmental Manager, Luz Solar Partners
43880 Harper Lake Road
Harper Lake, CA 92347

Mr. David Rib
Environmental Manager, Mitsubishi Cement
5808 State Highway 18
Lucerne Valley, CA 92356-9691

Mr. Mark Solheid
Senior EHS Analyst, NASA/Goldstone DSCC
93 Goldstone Road
Fort Irwin, CA 92310

Mr. Dan Madden
Plant Manager, Northwest Pipe Co.
12351 Rancho Road
Adelanto, CA 92301

Mr. Anoop Sukumaran
Environmental Engineer, Searles Valley
P.O. Box 367
Trona, CA 93592-0367

Director, Air Division (Attn: AIR-3)
United States EPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105

Mr. Ramon Campos
Environmental Compliance Manager, Blythe
385 N Buck Blvd
Blythe, CA 92225

City Manager
City of Barstow
220 East Mountain View, Suite A
Barstow, CA 92311

Mr. Pedro Dumaua
HS&E Manager, Ducommun Aerostructures
4001 El Mirage Road
Adelanto, CA 92301

Ms. Christine Grandstaff
Evolution Markets
27801 Golden Ridge Lane
San Juan Capistrano, CA 92675

Mr. Mike Plessie
HQBN B CO, NREA MCAGCC
Box 788110
Twentynine Palms, CA 92278-8110

Environmental Manager
Mobile Pipe Lining & Coating, Inc
12766 Violet Road
Adelanto, CA 92301

Mr. Don Shepherd
National Park Service, Air Resources Div
12795 W Alameda Pkwy
Lakewood, CO 80228

Mr. Kou Thao
Environmental Scientist, PG&E
P.O. Box 7640
San Francisco, CA 94120

Ms. Karin Fickerson
Air Quality Team Lead, SoCalGas
1650 Mountain View Avenue
Oxnard, CA 93030

Ms. Anne McQueen
Senior Engineer, Yorke Engineering, LLC
31726 Rancho Viejo Road, Suite 218
San Juan Capistrano, CA 92675

Air Program Manager
Environmental Division, USMC MCLB
Box 110170 Bldg 196
Barstow, CA 92311

Air Program Manager, Bureau of Indian
1451 Research Park Drive, Suite 100
Riverside, CA 92507

Mr. Steve Cummings
Senior Air Quality Tech Specialist, Southern
P.O. Box 800
Rosemead, CA 91770

Mr. Ralph McCullers
EH&S Manager, OMYA (California), Inc.
7225 Crystal Creek Rd
Lucerne Valley, CA 92356

Mr. Josh Dugas
Division Chief, San Bernardino County EHS
385 N Arrowhead Ave, Second Floor
San Bernardino, CA 92415-0160

Mr. Dan Guillory
Environmental Contact, Metropolitan Water
P O Box 54153
Los Angeles, CA 90054

Ms. Dolores Wyant

18710 Corwin Road
Apple Valley, CA 92307

Mr. Tom Lucas
Drew Carriage
5540 Brooks Street
Montclair, CA 91763

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Technical Advisor, SoCalGas
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Pico Rivera, CA 90660

Ms. Alejandra Silva
Environmental Manager, CEMEX
16888 North E Street
Victorville, CA 92392

Ms. Kiersten Melville
Metropolitan Water District
700 N Alameda Street, 8th Floor Rm 106
Los Angeles, CA 90012

Andrew Salas
Chairman, Gabriel Band of Mission Indians -
PO Box 393
Covina, CA 91723

Mr. James Sharp
HSE Manager, Elementis Specialties
31763 Mountain View Road
Newberry Springs, CA 92365

Mr. Joseph Hower
Principal, Air Sciences, Ramboll Environ
350 S Grand Ave, Ste 2800
Los Angeles, CA 90017

Ms. Cinnamon Smith
Sr. Specialist - Permitting & Compliance,
1001 Louisiana Street, 891H
Houston, TX 77002

Mr. Zeyd Tabbara
Broker, BGC Environmental Brokerage
1 Seaport Plaza
New York, NY 10038

Ms. Jaclyn Ferlita
Air Quality Consultants
5881 Engineer Drive
Huntington Beach, CA 92649

Mr. Kou Thao
Air Quality, Pacific Gas and Electric (Attn Air
P.O. Box 7640
San Francisco, CA 94120

Mr. Carlos Gaeta
Southern California Gas Company
17071 Gas Line Rd, M/L SC700F
Victorville, CA 92394-1007

Mr. Rick Renteria
EH&S Manager, Northwest Pipe Co.
12351 Rancho Road
Adelanto, CA 92301

Ms. Lisa Beckham
United States EPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105

Chief, San Gabriel Band of Mission Indians
PO Box 693
San Gabriel, CA 91778

Ms. Jenna Latt
CARB/Office of Ombudsman
9480 Telstar Avenue, Annex 1
El Monte, CA 91731

Mrs. Samantha Lopez
Permit Engineer, Mojave Desert AQMD
14306 Park Ave
Victorville, CA 92392

Mr. John Vidic
Air Program Manager, USAF 412
120 N. Rosamond Blvd, Bldg. 3735 (Ste A)
Edwards AFB, CA 93524

Ms. Alexandra Minitrez
Air Compliance Specialist, MP Materials
HC1 Box 224, 67750 Bailey Road
Mountain Pass, CA 92366

Ms. Courtney Graham
Manager, Permit Evaluation Section,,
P.O. Box 2815
Sacramento, CA 95812

Ms. Chanice Allen
Environmental Team Lead, SoCalGas
8101 Rosemead Blvd, SC722P
Pico Rivera, CA 90660

Mr. Merl Abel
Governing Board Member, Town of Yucca
57090 29 Palms Highway
Yucca Valley, CA 92284

Appendix D
ERC Transfer Details

AIR QUALITY CONSULTANTS
ENVIRONMENTAL CREDIT BROKERAGE & ENVIRONMENTAL ENGINEERING

5881 Engineer Drive
Huntington Beach, CA 92649
P: (714) 397-5508

Jaclyn Ferlita
jferlita@aqc-inc.com

November 16, 2020

Mr. Brad Poiriez
Air Pollution Control Officer
Mojave Desert Air Quality Management District
14306 Park Avenue
Victorville, CA 92392

Dear Mr. Poiriez,

Value Environmental is transferring 0.5 tons of Mojave Desert Air Quality Management District Federal Ozone Non-Attainment VOC Emission Reduction Credits ("ERCs") from Certificate No. 0088 to Kinder Morgan.

The ERC certificate will be issued in the name of **Calnev Pipe Line, LLC – Barstow Terminal.**

Please forward newly issued certificate to:

Kinder Morgan
Attention: Cinnamon Smith
1001 Louisiana Street
Products EHS Compliance – 8th Floor
Houston, TX 77002-5089

Please forward the altered certificates to Value Environmental at the following address:

Value Environmental
Attention: Paul Zawila
5228 Norway Lane
Rockhill, SC 29732

Attached in this transmittal are the following items necessary to process the VOC ERC Transfer:

- Purchase and Sale Agreement executed by both parties
- Transfer fee check in the amount of $91.00

Please send written confirmation of the ERC transfer from Value Environmental to Kinder Morgan or email copies of the newly issued, original certificates to my attention at jferlita@aqc-inc.com.

Thank you for your assistance in processing this ERC transfer request. Please call me at 714-397-5508 if you have any questions.

Sincerely,

Jaclyn Ferlita
President, Emissions Broker
AQC Environmental Brokerage Services, Inc.

Purchase and Sale of Emission Reduction Credits ("Agreement")

Buyer:	Kinder Morgan – Products Pipeline	Address: 1001 Louisiana Street Products EHS Compliance – 8th Floor Houston, TX 77002-5089
Buyer Contact:	Cinnamon Smith	Contact Telephone Number: 713-420-4538
Seller:	Value Environmental	Address: 5228 Norway Lane Rockhill, SC 29732
Seller Contact:	Paul Zawila	Contact Telephone Number: 864-980-0168
Transaction Date:	November 12, 2020	
Product:	Mojave Desert Air Quality Management District ("MDAQMD") Federal Ozone Non-Attainment VOC Emission Reduction Credits ("ERCs")	
Quantity:	0.5 tons of MDAQMD VOC ERCs	
Purchase Price:	$25,000.00/ton	
Total Purchase Price:	$12,500.00	

Transfer and Payment Terms:

Buyer and Seller shall cooperate fully with each other to prepare all documents and paperwork required to be submitted to the MDAQMD.

Upon completion of the Agreement, Broker will send Buyer an invoice for "Purchase Price" payment plus brokerage and MDAQMD transfer fee. Buyer agrees to submit payment to Broker within five (5) days of written notification from MDAQMD that the transfer has been approved. Once Broker has received payment, Broker will submit Purchase Price less brokerage to Seller via check.

Payment to Broker shall be made by wire transfer or in such other form, to the following account:

Bank: Chase
ACH or Wire#: 322271627
Account#: 2097233029
For the Account of: AQC Environmental Brokerage Services Inc.

All funds paid shall be rendered in the form of immediately available United States dollars. Payment shall be made by wire transfer or in such other form as agreed to by the parties.

Buyer and Seller shall cooperate fully to obtain any and all required approvals and/or documents which may be required to effectuate the transfer of the ERCs and to comply with any and all other regulatory obligations relating to recording and tracking of the transfer and/or use of the ERCs as required by the Air District.

Additional Terms and Conditions:

Representations and Warranties of Seller. As of the date upon which the ERCs are transferred to Buyer, Seller represents and warrants to Buyer that (i) it has good title to and is the sole owner of record of the ERCs; (ii) the ERCs are valid, freely transferable and unrestricted; and (iii) such ERCs are and will be transferred to Buyer free and clear of all encumbrances. Seller has the power and authority to enter into and perform under this Agreement and, other than the approval of the respective air management district, Seller has all necessary approvals to sell and transfer the ERCs to Buyer. SELLER EXPRESSLY NEGATES ANY OTHER REPRESENTATION OR WARRANTY, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY REPRESENTATION OR WARRANTY WITH RESPECT TO MERCHANTABILITY, OR FITNESS FOR ANY PARTICULAR PURPOSE.

Change of Law. Immediately upon Buyer's receipt of documentation evidencing that the ERCs have been transferred to Buyer, the ERCs shall become the sole property and entitlement of Buyer. Should any change in law governing the ERCs occur prior to Buyer's receipt of documentation evidencing that the ERCs have been transferred to Buyer, and such change of law restricts or limits the nature, use, quality, duration or transferability of the ERCs (i.e. not simply a clarification or modification of existing law which has little or no effect on the ability of the parties hereto to effectuate this sale transaction or upon the nature and quality of the ERCs) (a "Change of Law"), then Buyer's sole recourse and remedy shall be to terminate this Agreement upon written notice to Seller, and upon Buyer's exercise of said termination, Seller shall return any amounts received from Buyer, and

thereafter no party shall have any further liability or obligation to any other party hereto. If a Change of Law occurs after Buyer's receipt of documentation evidencing that the ERCs have been transferred to Buyer, then Buyer shall have no recourse or remedy against Seller.

Limitations of Liability. IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER PARTY FOR SPECIAL, PUNITIVE, INCIDENTAL, INDIRECT, EXEMPLARY, OR CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER, INCLUDING LOSS OF PROFITS (EXCEPT TO THE EXTENT THAT ANY DIRECT DAMAGES INCLUDE AN ELEMENT OF PROFIT).

Assignment. The parties may not assign their rights, duties and obligations pursuant to this Agreement, except as provided herein, without the prior written approval of the non-assigning party, which shall not be unreasonably withheld or delayed. Any assignment without the written approval of the non-assigning party is voidable by the non-assigning party.

Notices. All notices and other communications in connection with this Agreement shall be sent via overnight courier to the addresses and contacts above.

Dispute Resolution. Any dispute or claim between the parties arising from this Agreement not resolved by negotiation in good faith within thirty (30) days will be settled by arbitration pursuant to the then applicable Commercial Arbitration Rules of the American Arbitration Association. The arbitration shall be located in San Francisco, California. Either Party may initiate such arbitration upon seven (7) days advance written notice to the other Party. The Parties shall divide equally the costs of the arbitrator and arbitration hearing, and each Party shall be responsible for its own expenses and those of its legal counsel or other representatives. The Parties agree that any determination of the arbitrator shall be final and binding and that judgment on the award in arbitration may be entered in any court of competent jurisdiction.

No Rights of Third Parties. This Agreement inures to the benefit of and is binding upon the parties and their respective successors and permitted assigns.

Amendment. This Agreement may not be amended, changed, modified, or altered unless such amendment, change, modification, or alteration is in writing and signed by both of the parties to this Agreement or their successors in interest.

No Waiver. No delay or omission by a party in the exercise of any right under this Agreement shall be taken, construed, or considered as a waiver or relinquishment thereof. If any of the terms and conditions herein are breached and thereafter waived by a party, such waiver is limited to the particular breach so waived and is not deemed to waive any other breach hereunder.

Complete Agreement. This Agreement sets forth the entire agreement of the parties with respect to the matters contained herein, and all other prior and contemporaneous oral or written understandings, negotiations and agreements with respect to same are merged herein.

Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California applicable to contracts entered into and entirely to be performed therein without regard to conflict of law provisions.

Severability. If any article, phrase, provision or portion of this Agreement is, for any reason, held or adjudged to be invalid, illegal or unenforceable by any court of competent jurisdiction, such article, phrase, provision, or portion so adjudged will be deemed separate, distinct and independent, and the remainder of this Agreement will be and remain in full force and effect and will not be invalidated or rendered illegal or unenforceable or otherwise affected by such adjudication, provided the basic purposes of this Agreement and the benefits to the parties are not substantially impaired.

By signing below, the parties agree to be bound by the terms and conditions contained in this Agreement.

Buyer: Kinder Morgan		**Seller: Value Environmental**	
Signature: John Thomasson	*Title:* Director of Operations	*Signature:* P.J.	*Title:* President
Printed Name: John Thomasson	*Date:* 11-13-20	*Printed Name:* Paul Zavala	*Date:* 11/15/20

Mojave Desert AQMD
14306 Park Avenue
Victorville CA 92392

Receipt # 17176
Date 11/17/2020
From CALNEV PIPE LINE, LLC
1001 LOUISIANA STREET
PRODUCTS EHS COMPLIANCE - 8TH FLOOR
HOUSTON, TX 77002

Lookup	Company Name	Payment Type	Check #	Total Amount Received
00002	CALNEV PIPE LINE, LLC	Check	0001144	**91.00**

Description ERC Transfer — ERC Application Fees — 91.00

Invoiced Items Paid :

Invoice Number	Invoice Date	Invoice Reference	Invoice Decription	Inv Amount Paid