Appendix D

Best Available Control Technology (BACT) Analysis

Martinez Renewable Fuels Project

Prepared for
Tesoro Refining & Marketing Company LLC, an indirect, wholly-owned subsidiary of Marathon Petroleum Corporation (Facility #B2758 and #B2759)

July 2022

Appendix D: Best Available Control Technology (BACT) Analysis

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Abbreviations

APCO	Air Pollution Control Officer
ATC	Authority to Construct
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CatOx	Catalytic Oxidizer
CO	carbon monoxide
EPA	United States Environmental Protection Agency
LAER	Lowest Achievable Emission Rate
Marathon	Marathon Petroleum Corporation
MBBR	Moving Bed Biofilm Reactor
NO_X	nitrogen oxides
NPOC	non-precursor organic compounds
PM_{10}	particulate matter less than 10 microns
POC	precursor organic compound
ppm	parts per million
Project	Martinez Renewable Fuels Project
RACT	Reasonably Available Control Technology
RBLC	RACT, BACT, LAER Clearinghouse
RTO	Regenerative Thermal Oxidizer
SCAQMD	South Coast Air Quality Management District
SCFM	Standard cubic feet per minute
SO_2	sulfur dioxide
SOCMI	Synthetic Organic Chemical Manufacturing Industry
TBACT	BACT for Toxics

1.0 Introduction

Tesoro Refining & Marketing Company LLC, an indirect, wholly-owned subsidiary of Marathon Petroleum Corporation (herein referenced as Marathon) is applying for an Authority to Construct (ATC) for the proposed Martinez Renewable Fuels Project (project) at its existing Martinez Refinery (herein referenced as Martinez) (Facility #B2758) and Amorco Terminal (Facility #B2759). The proposed project will convert the existing Martinez Refinery from its current production of fossil fuels (i.e., conventional diesel fuel, gasoline, distillates, propane, and various by-products) to the production of renewable fuels, including renewable diesel, renewable propane, and renewable naphtha. The project is subject to the applicable provisions of Bay Area Air Quality Management District's (BAAQMD's) New Source Review requirements (Regulation 2, Rule 2).

As demonstrated in the emission calculations presented in Appendix B of the permit application, the following sources triggered Best Available Control Technology (BACT) for precursor organic compounds (POC) emissions:

1. The new, modified, and replaced components (e.g., flanges, pumps, emergency pressure relief valves, process valves) in POC service installed as part of the project triggered from fugitive equipment leaks, and
2. The existing storage tank (S-432) that will be repurposed as a Moving Bed Biofilm Reactor (MBBR)[1] in the new Stage 1 Wastewater Treatment Unit.

The other new emissions units and modified storage tanks emissions are less than 10 pounds per day and will not increase emissions greater than baseline emissions for the regulated pollutants; therefore, the new and modified emission units do not trigger BACT.

The following sections describe the BACT review requirements (Section 2.0), the associated emission control evaluations (Sections 3.0, 0, and 1.0), and the conclusion (Section 5.0).

[1] The MBBR (S-432) treats process water from the feedstock Pretreatment Unit which may contain residual feedstock (biological-based oils [e.g., soybean oil and corn oil], rendered fats, and other miscellaneous renewable feedstocks [e.g., used cooking oils and other vegetable oils]) and trace contaminants (e.g., ethanol and methanol). The MBBR (S-432) is an aerated tank with microorganisms (typically referred to as "bugs") affixed to a moving surface or bed (trays). The MBBR functions as a biodegradation wastewater treatment unit that reduces POC content in the wastewater and reduces potential POC emissions downstream in the wastewater treatment process.

2.0 BACT Requirements

The following section describes an overview of the BACT regulatory background information (Section 2.1) and the specific BACT requirements for fugitive equipment leaks (Section 2.2), and MBBR (Section 2.3).

2.1 BAAQMD BACT Review Requirements

Pursuant to BAAQMD Regulation 2, Rule 2, Section 301, a modified source triggers BACT under the following conditions:

- The source has a potential to emit of 10 pounds per day or more on the highest day of POC, non-precursor organic compounds (NPOC), nitrogen oxides (NO_X), carbon monoxide (CO), sulfur dioxide (SO_2) or particulate matter less than 10 microns (PM_{10}); *and*
- The modification of the source will result in an increase in emissions of one or more of the above pollutants above baseline levels calculated pursuant to Section 2-2-604.

The POC emissions from the MBBR and the fugitive equipment leaks due to new, modified, and replaced components installed as a result of the project are each aggregated and compared against the associated BACT emission threshold (10 pounds per day). These emission sources meet both criteria and, therefore, are required to implement BACT for POC emissions. The associated emission calculations are presented in Appendix B of the permit application.

BAAQMD Regulation 2 Rule 2 defines BACT as follows:

> ***Best Available Control Technology (BACT):*** *An emission limitation, control device, or control technique applied at a source that is the most stringent of:*
>
> *202.1 The most effective emission control device or technique that has been successfully utilized for the type of equipment comprising such a source; or*
>
> *202.2 The most stringent emission limitation achieved by an emission control device or technique for the type of equipment comprising such a source; or*
>
> *202.3 The most effective control device or technique or most stringent emission limitation that the APCO has determined to be technologically feasible for a source, taking into consideration cost-effectiveness, any ancillary health and environmental impacts, and energy requirements; or*
>
> *202.4 The most effective emission control limitation for the type of equipment comprising such a source that is contained in an approved implementation plan of any state, unless the applicant demonstrates to the satisfaction of the APCO that such limitation is not achievable.*
>
> *Under no circumstances shall BACT be less stringent than any emission control required by any applicable provision of federal, state or District laws, rules or regulations.*

The BAAQMD BACT/BACT for Toxics (TBACT) Workbook[2] specifies the BACT requirements for commonly permitted sources. BACT must be determined for a source by using the workbook as a guidance document or, on a case-by-case basis, using the most stringent definition of this Section 2-2-202.

In the BAAQMD BACT/TBACT workbook, BAAQMD separates the above definition of BACT into two categories:

1) "Technologically feasible and cost-effective"
2) "Achieved in practice."

The BACT review process described in the BACT/TBACT workbook is a two-step process. The first step is to evaluate whether the most stringent level of BACT (referenced herein as BACT 1) meets the following criteria:

1) Commercially available,
2) Demonstrated effective and reliable on a full-scale unit, and
3) Shown to be cost-effective on a dollar per ton of pollutant removed basis.

If the most stringent level of control does not meet these criteria, then BACT controls, which BAAQMD has deemed to be meet the "achieved in practice" criterion (referenced herein as BACT 2), are applied to the source and must be evaluated without considering the cost.

In the BACT/TBACT workbook, BAAQMD specified the types of emission controls to be evaluated under the above categories for several types of emission sources. This BACT analysis will evaluate the pertinent emission controls specified for fugitive equipment leaks (Section 3: Petroleum Industry[3]), industrial process wastewater treatment,[4] and organic liquid storage tanks (Section 4: Organic Liquid Storage Tanks) in the BACT/TBACT workbook..

2.2 BACT Requirements for Fugitive Equipment Leaks

BAAQMD lists the BACT review requirements for POC emissions from fugitive equipment leaks from flanges, process valves, pumps, and pressure relief valves in the BACT/TBACT Workbook Section 3.[5]

[2] http://www.baaqmd.gov/permits/permitting-manuals/bact-tbact-workbook
[3] The facility will no longer be a petroleum refinery, but the BACT/TBACT workbook does not include fugitive equipment leak standards for other facility types (such as, synthetic organic chemical manufacturing industry (SOCMI) facilities). As such, the associated petroleum refinery fugitive equipment leak standards are the most pertinent standards.
[4] As noted in Section 2.3, The BACT/TBACT workbook does not include specific BACT requirements a MBBR, a biofilm reactor, or other biological degradation for industrial process wastewater treatment.
[5] Flanges - https://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/petroleum-industry/78-1.pdf?la=en

The BACT 1 and BACT 2 requirements for fugitive equipment leaks are presented in Table 2-1.

Table 2-1 Fugitive Equipment Leaks BACT 1 and BACT 2 Requirements

Fugitive Equipment Leak Type	BACT 1 Requirements	BACT 2 Requirements
Flanges	Not Determined	100 parts per million (ppm) expressed as methane and measured using United States Environmental Protection Agency (EPA) Reference Method 21.(1)
Process Valves	Not Determined	100 ppm expressed as methane and measured using EPA Reference Method 21.(2)
Pumps	100 ppm expressed as methane and measured using EPA Reference Method 21.(3)	500 ppm expressed as methane and measured using EPA Reference Method 21.(4)
Emergency Pressure Relief Valves	Rupture disk with vent to fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency greater than 98% using BAAQMD approved Design and Operation.	Vent to fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency greater than 98% using BAAQMD approved Design and Operation.

(1) Typical technologies include: Graphitic Gaskets and BAAQMD approved Quarterly Inspection and Maintenance.

(2) Typical technologies include: Bellows valves, diaphragm valves, quarter turn valves, live loaded valves, or other low-emission valves; BAAQMD approved Quarterly Inspection and Maintenance Program.

(3) Typical technologies include: Double mechanical seals with a barrier fluid, magnetically coupled pumps, canned pumps, magnetic fluid sealing technology, or gas seal system vented to thermal oxidizer or other BAAQMD approved control device; all with BAAQMD approved Quarterly Inspection and Maintenance Program.

(4) Typical technologies include: Double mechanical seals with a barrier fluid with BAAQMD approved Quarterly Inspection and Maintenance Program.

The BACT 1 evaluations are described in Section 3.1 and the BACT 2 evaluations are described in Section 3.2 for fugitive equipment leaks from the associated process units that triggered BACT.

2.3 BACT Requirements for MBBR

BAAQMD does not include specific BACT requirements for a MBBR, a biofilm reactor, or other biological degradation for industrial process wastewater treatment in the BACT/TBACT Workbook. The most similar listed source category within the BACT/TBACT Workbook is the "Sewage Treatment Plant - Conventional

Emergency Pressure Relief Valves - https://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/petroleum-industry/135-1.pdf?la=en
Process Valves - https://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/petroleum-industry/136-1.pdf?la=en
Pumps - https://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/petroleum-industry/137-1.pdf?la=en

Air Activated Sludge" source category.[6] However, sewage wastewater (typically wastewater containing human biological waste and other residential sources) and the facility's industrial process wastewater (direct-contact with or resulting from the renewable diesel production units) are fundamentally different; as such, Marathon does not consider the "Sewage Treatment Plant - Conventional Air Activated Sludge" existing BACT source category to be functionally equivalent or a suitable surrogate for the MBBR at this facility.

Since neither an MBBR nor a suitable surrogate source category is explicitly listed in the BACT/TBACT Workbook, the BACT/TBACT Workbook requires the following:

> *Where no BACT determination has been made to date in this workbook or if a determination needs to be updated or reviewed, potential sources of BACT and TBACT determination information include the CAPCOA/CARB BACT Clearinghouse, the EPA BACT/LAER Clearinghouse, the South Coast Air Quality Management District BACT Guideline, determinations made by other air districts, and published, independently verified equipment performance and operating data. It is important to note that a listing in, for example, the CAPCOA/CARB BACT Clearinghouse does not necessarily mean that that particular determination is BACT or TBACT for the Bay Area Air Quality Management District; the listing may merely be a candidate BACT or TBACT for this District. Recall that BACT is the most effective emission control or the most stringent emission limitation and for the "achieved in practice" category, does not require a cost-effectiveness justification. The calculation procedure is shown below in the Cost Effectiveness Determination for BACT section for cost-effectiveness for the "technologically feasible/cost-effective" BACT category.*

Since no BACT is specified in the BACT/TBACT Workbook, other potential sources of BACT and TBACT determination information were reviewed, as required by the BACT/TBACT Workbook. The results from this review and the BACT analysis following the procedures noted above are provided in Section 4.0.

[6] https://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/waste-processing-industry/150-1-2.pdf?la=en

3.0 Fugitive Equipment Leaks BACT Evaluation

The following sections describe the technical and economic evaluation for the installation of the BACT 1 and BACT 2 emission controls on new, modified, and replaced components in POC service that will be installed as part of the project.

3.1 BACT 1 Emission Control Evaluation

As stated in Section 2.2, BACT 1 is defined for pumps as a leak rate threshold of 100 ppm, and for emergency relief valves as the installation of a rupture disk with vent to fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency greater than 98%. BACT 1 was not determined for flanges and process valves.

The pump BACT 1 leak rate threshold (100 ppm) matches the general requirements of BAAQMD Regulation 8 Rule 18 for Equipment Leaks (Fugitive Components).[7] As such, the facility will comply with the applicable requirements of Regulation 8 Rule 18, which meet BACT 1 standards for the new, modified, and replaced pumps in POC service installed as part of the project.

Any new, modified, and replaced emergency pressure relief devices in POC service which is corrosive or may plug lines installed as a result of the project will have a rupture disk installed and will be routed to the flare gas recovery system that achieves a recovery efficiency of greater than 98%. As such, the facility will meet BACT 1 standards for the new, modified, and replaced emergency pressure relief devices in POC service which is corrosive or may plug lines installed as part of the project.

3.2 BACT 2 Emission Control Evaluation

As stated in Section 2.2, BACT 2 is defined for flanges and process valves as a leak rate threshold of 100 ppm.

The flange and process valve BACT 2 leak rate threshold (100 ppm) matches the general requirements of BAAQMD Regulation 8 Rule 18 for Equipment Leaks (Fugitive Components). As such, the facility will comply with the applicable requirements of Regulation 8 Rule 18, which meet BACT 2 standards for the new, modified, and replaced flanges and process valves in POC service installed as part of the project.

Any new, modified, and replaced emergency pressure relief devices in POC service which is not corrosive and would not plug lines installed as a result of the project will be routed to the flare gas recovery system that achieves a recovery efficiency of greater than 98% consistent with BACT 2 standards. Installation of rupture disks on these lines is not technically or economically feasible.

[7] Regulation 8 Rule 18 states that "a person shall not use any equipment that leaks total organic compounds in excess of 100 ppm unless the leak has been discovered by the operator, minimized within 24 hours and repaired within 7 days."

4.0 MBBR BACT Evaluation

The following describes the technical and economic evaluation for the installation of BACT 1 and BACT 2 emission controls for POC emissions associated with the MBBR (S-432).

4.1 BACT 1 Emission Control Evaluation

As described in Section 2.3, there are not functionally equivalent or a suitable surrogate listed source category in the BACT/TBACT Workbook for the MBBR. Therefore, per BAAQMD BACT/TBACT Workbook guidelines, other sources of determination information were reviewed, including California Air Pollution Control Officers Association (CAPCOA) / California Air Resources Board (CARB) BACT Clearinghouse, the EPA RACT/BACT/LAER Clearinghouse (RBLC), the South Coast Air Quality Management District (SCAQMD) BACT determinations and guidelines, Santa Barbara AQMD BACT guidelines, Sacramento Metropolitan AQMD BACT determinations, San Joaquin Valley AQMD BACT Clearinghouse.

No sufficiently similar sources (wastewater treatment systems for renewable diesel production facilities) were found in the CARB BACT Clearinghouse and the other California air district BACT determinations and guidelines searches. The EPA RBLC results, shown in Attachment 1, identified one sufficiently similar source, Diamond Green Diesel, LLC renewable diesel plant in Port Arthur (RBLCID TX-0905), which identified BACT for POC emissions as covered wastewater conveyances. Marathon's wastewater conveyances are covered. There was no BACT determination regarding the use of biological treatment to reduce POC concentrations in the wastewater. However, upon review of the associated air quality permit documentation for the Port Arthur facility (refer to Attachment 2), the related wastewater treatment process includes biological degradation treatment operations (activated sludge system) to reduce POC in the wastewater and emitted to the atmosphere. An activated sludge system is similar to an MBBR except that the bugs are suspended in the water instead of affixed to the moving bed. This biological degradation treatment unit did not include add-on POC controls.

As a conservative approach, Marathon also reviewed the RBLC search results, shown in Attachment 1, for other industrial wastewater treatment processes (including petroleum refineries and synthetic organic chemical manufacturing plants) to identify potential add-on POC control technologies that could be considered "technologically feasible and cost-effective." Marathon's wastewater composition and associated exhaust gas are fundamentally different from other industrial wastewater operations because the MBBR's wastewater consists primarily of heavy non-volatile fatty acids and trace volatile contaminants (approximately 13 ppm total VOC in the exhaust gas), whereas other industrial wastewater exhaust gas may include higher POC concentrations (depending on industry). In comparison to a typical refinery wastewater stream which is primarily comprised of petroleum based residuals (i.e., benzene, toluene, xylene, etc.), the wastewater influent to the MBBR contains negligible concentrations of these compounds. Additionally, the MBBR's exhaust air flow (28,000 standard cubic feet per minute (scfm)) is orders of magnitude greater than from industrial wastewater treatment operations that do not utilize aeration. As a result, the associated add-on POC control technologies applied to other industrial wastewater operations may not be applicable based on Marathon's exhaust gas characteristics (dilute concentrations and high air flow rate).

The identified technologies for controlling POC emissions from wastewater treatment operations in other industries included the following potential add-on POC control technologies:

- Enclosure with add-on oxidation technologies and
- Enclosure with add-on activated carbon adsorber

The following sections evaluate whether the associated add-on technologies for the MBBR (S-432) are technologically feasible and cost-effective.

Enclosure

The use of an add-on control technology requires an enclosure or covering of the MBBR (S-432) to direct the exhaust stream to the POC control technology. The design of the MBBR does not include an enclosure or covering; therefore, a roof would need to be constructed on top of the existing tank. The storage tank (S-432) is currently equipped with a roof; however, the existing roof was condemned and will be removed from the tank as part of the Project.

Marathon considers that it is not technologically feasible to cover or enclose the MBBR (S-432) because it presents operational challenges (inability to visually inspect the bug population, adequately monitor and control foaming, inability to inspect and sample the media, and to inspect media screens) based on other operating facilities with similar units. However, for the purposes of this analysis, Marathon evaluated the economic feasibility of enclosing the tank since the technical and economic feasibility of the identified control technologies is dependent on the use of an enclosure.

As shown in Attachment 3, Marathon completed an economic feasibility analysis of installing an enclosure on the MBBR tank. Marathon estimated the associated construction and installation costs using a vendor quote and following the procedures described in the BACT/TBACT workbook. Marathon estimated the MBBR (S-432) emissions with and without an enclosure based on design information (flow rates, composition, equipment configuration, and equipment dimensions) and modeled using Toxchem wastewater treatment air emission estimation software.[8]

While Marathon did not identify any determinations which only use an enclosure as its primary method for controlling POC emissions (i.e., without emissions routed to a control device), an enclosure provides a level of POC control without the use of additional controls based upon Toxchem modeling; however, the POC control is comparatively small (11%) because the MBBR's POC emissions are driven by aeration. As such, Marathon has included an enclosure as a separate control in the Attachment 3 cost calculations for completeness.

[8] Hydromantis Environmental Software Solutions, Inc., Toxchem, Version 4.4

The cost-effectiveness of the enclosure is $166,000 per ton of POC removed, which exceeds the BACT/TBACT workbook's $17,500 per ton POC removed cost-effectiveness threshold.[9] As such, retrofitting the existing tank (S-432) with a domed roof is considered to be not cost-effective.

Enclosure with Oxidation Technologies

Oxidation technologies destroy POC emissions through chemical oxidation using thermal combustion. POC emissions are oxidized to form carbon dioxide and water vapor. Oxidation technologies typically consist of direct thermal oxidation, recuperative thermal oxidation, regenerative thermal oxidation (RTO), and catalytic oxidation (CatOx). Unlike direct thermal oxidation, RTO and recuperative thermal oxidation employ heat recovery in order to make the equipment more thermally efficient and reduce operating costs. CatOx is similar to the other oxidation technologies except that the oxidation reaction occurs at a lower temperature due to the presence of a catalyst in the reaction chamber. The use of any oxidation control technologies for controlling POC emissions would also produce secondary emissions of NO_X. Due to low inherent heat content in the waste gas stream (13 ppm VOC) and the high air flow rate (28,000 scfm), oxidation technologies require supplementary fuel (typically natural gas) to maintain the high destruction efficiency, which would generate additional POC and other secondary emissions from combustion. As presented in Attachment 3, Marathon estimates that an additional 1.44 tpy of NO_X emissions would result from the supplementary fuel combustion (55 scfm of natural gas[10]).

Despite the POC concentration in the exhaust gas stream being below typical post-control POC concentrations[11] and the generation of additional criteria pollutants and toxic air contaminant emissions, Marathon conservatively considers oxidation control technologies to be technologically feasible for the purposes of this analysis. Of the available oxidation control technologies, an RTO was selected as the most attractive option as it has the highest control efficiency with the lowest operating costs due to its high thermal efficiency.

As shown in Attachment 3, Marathon completed an economic feasibility analysis for installing an enclosure (domed roof) and routing the exhaust stream to an RTO. The cost of the RTO was estimated utilizing the EPA Control Cost Worksheet for Incinerators and Oxidizers and the exhaust gas composition and characteristics. Marathon estimated the MBBR (S-432) emissions with an enclosure based on design information (flow rates, composition, equipment configuration, and equipment dimensions) and modeled

[9] https://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/bact-tbact-policy-and-implementation/policy-and-implementation-procedure.pdf?la=en

[10] The estimated supplemental natural gas flow rate (55 scfm) was calculated using the EPA Control Cost Estimation Spreadsheet for Thermal and Catalytic Oxidation (Attachment 3) and the exhaust gas stream characteristics (flow rate and heat content). The supplemental natural gas combustion emissions were estimated using EPA's AP-42 Section 1.4 Natural Gas Combustion emission factors.

[11] Several federal standards (e.g., 40 CFR 63 Subpart FFFF) indicate outlet concentration standards of 20 ppmv. Additionally, EPA's Air Pollution Control Fact Sheet (EPA-452/F-03-022) indicate a typical design condition of 20 ppmv.

using Toxchem wastewater treatment air emission estimation software,[8] and assumed a 98% POC control efficiency.

The cost-effectiveness of an enclosure and RTO is $52,600 per ton of POC removed, which exceeds the BACT/TBACT workbook's $17,500 per ton POC removed cost-effectiveness threshold.[12] As such, add-on oxidation technologies are considered to be not cost-effective.

Enclosure with Activated Carbon Absorber

Adsorber technologies employ an inert solid adsorbent material to remove the pollutants from the exhaust stream. Adsorption is the accumulation of a gas or liquid on the surface of a liquid or solid substrate.

Activated carbon is the most common adsorbent because it has more useful surface area per gram than any other material available for the physical adsorption of contaminants. EPA[13] states that the outlet concentration of organic emissions from a carbon adsorber is limited to 25 ppm in many cases, which demonstrates that the current POC concentration is already below the level consistent with a controlled waste gas stream. Additionally, activated carbon adsorbers are not highly effective at adsorbing ethanol due to the low molecular weight and high vapor pressure. According to EPA's Carbon Adsorption Isotherms for Toxic Organics,[14] ethanol was used as the primary solvent to test the adsorption capacity of 2-chlorophenol because there was less than a 10% reduction for ethanol exposed to activated carbon and was, therefore, deemed to "not compete for adsorption capacity." Additionally, high moisture content exhaust streams diminish the absorption capacity of the activated carbon (water saturates the void space).

The MBBR's exhaust will contain ethanol as the most abundant volatile pollutant (50% of the vapor space), and it has a high moisture content (from the use of aerators in the tank); as such, Marathon considers activated carbon adsorption to be not technologically feasible for this application. However, for the purposes of this analysis, Marathon evaluated the economic feasibility of enclosing the tank and routing the exhaust to an activated carbon adsorber.

[12] https://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/bact-tbact-policy-and-implementation/policy-and-implementation-procedure.pdf?la=en
[13] EPA Control Cost Manual for Section 3 – VOC Controls, Chapter 1 – Carbon Adsorbers
[14] EPA-600/8-80-023 - https://nepis.epa.gov/Exe/ZyNET.exe/2000CIAZ.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1976+Thru+1980&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C76thru80%5CTxt%5C00000002%5C2000CIAZ.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL

As shown in Attachment 3, Marathon completed an economic feasibility analysis for installing an enclosure (domed roof) and routing the exhaust stream to an activated carbon adsorber. The cost of the activated carbon adsorber was estimated utilizing the EPA Control Cost Worksheet for a fixed-bed carbon adsorber with steam regeneration and the associated exhaust gas composition and characteristics. Marathon estimated the MBBR (S-432) emissions with an enclosure based on design information (flow rates, composition, equipment configuration, and equipment dimensions) and modeled using Toxchem wastewater treatment air emission estimation software,[8] and assumed a 54% POC control efficiency.[15].

The cost-effectiveness of an enclosure and activated carbon adsorption is $50,200 per ton of POC removed, which exceeds the BACT/TBACT workbook's $17,500 per ton POC removed cost-effectiveness threshold.[16] As such, add-on adsorber technologies are considered to be not cost-effective.

4.2 BACT 2 Emission Control Evaluation

As described in Section 2.3, there is not a functionally equivalent or suitable surrogate in the BACT/TBACT Workbook for the MBBR. Also, Section 4.1 evaluates BACT1 controls and has determined that all controls meeting BACT1, or "most stringent" controls, are not technologically feasible and/or cost-effective. Therefore, BACT2 controls or controls that are "achieved in practice" are evaluated.

To satisfy the BACT 2 "achieved in practice" criterion, EPA's RBLC and similar facility permits were reviewed to identify controls implemented on equivalent sources (wastewater treatment systems for renewable diesel production facilities). Permit information was located for three other renewable diesel plants (refer to Attachment 2), Diamond Green Diesel, LLC's plants in Port Arthur, Texas (included in RBLC determinations in Attachment 1) and Norco, Louisiana, as well as Marathon's Dickinson Refinery in Dickinson, North Dakota.[17] The two Diamond Green diesel renewable diesel production facilities utilized wastewater treatment processes that include biodegradation treatment operations without add-on POC control technologies. The Marathon Dickinson Refinery did not utilize biodegradation treatment operations or add-on POC control technologies because the effluent is directed to a municipal wastewater treatment plant.

Other industrial wastewater treatment systems were not evaluated for BACT 2 controls because wastewater generated from renewable diesel production (heavy non-volatile fatty acids with trace volatiles components) is fundamentally different from other industrial wastewater operations. As such, the controls that are "achieved in practice" in other applications are not pertinent for this analysis.

[15] The 54% POC control efficiency was calculated based on the exhaust gas stream characteristics (50% ethanol and 50% other POCs) and assumed POC control efficiency values (10% for ethanol based on EPA's Carbon Adsorption Isotherms for Toxic Organics document and the industry-standard 98% for the remaining POCs). [54% = (50%*10% + 50%*98%)]

[16] https://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/bact-tbact-policy-and-implementation/policy-and-implementation-procedure.pdf?la=en

[17] Marathon's Dickinson Refinery is similar to the Martinez Renewable Fuels Project in that it was a petroleum refinery retrofitted to a renewable diesel production facility.

In conclusion, the "achieved in practice" technologies for controlling POC emissions from renewable diesel production-related wastewater treatment process is utilizing biodegradation wastewater treatment units without additional add-on POC controls. An MBBR is, inherently, a biological degradation wastewater treatment unit; as such, the MBBR (S-432) design meets the BACT 2 "achieved in practice" criterion and is considered BACT.

5.0 Conclusion

Marathon is applying for an ATC and a significant revision to the Title V operating permit for the proposed project. As part of the project, the MBBR (S-432) and the fugitive equipment leaks from new, modified, and replaced components (e.g., flanges, pumps, emergency pressure relief valves, process valves) in POC service installed as part of the project triggered BACT for POC emissions. Table 5-1 and Table 5-2 summarizes the BACT analysis conclusions for the fugitive equipment leaks and the MBBR (S-432), respectively.

Table 5-1 Fugitive Equipment Leaks BACT Analysis Conclusions Summary

Fugitive Equipment Leak Type	BACT 1 Conclusions	BACT 2 Conclusions
Flanges	Not Determined	BACT; The new, modified, and replaced flanges in POC service installed as part of the project will continue to comply with BAAQMD Regulation 8 Rule 18 after the project.
Process Valves	Not Determined	BACT; The new, modified, and replaced process valves in POC service installed as part of the project will continue to comply with BAAQMD Regulation 8 Rule 18 after the project.
Pumps	BACT; The new, modified, and replaced pumps in POC service installed as part of the project will continue to comply with BAAQMD Regulation 8 Rule 18 after the project.	Not applicable
Emergency Pressure Relief Valves	BACT; The new, modified, and replaced emergency relief devices in POC service installed as part of the project will have a rupture disk and will be routed to the flare gas recovery system after the project.	Not applicable.

Table 5-2 MBBR BACT Analysis Conclusions Summary

S-#	Description	BACT 1	BACT 2
432	MBBR	Not BACT; All identified BACT 1 controls are not technologically feasible and/or cost-effective.	BACT; The MBBR is, inherently, a biological degradation wastewater treatment unit.

Attachment 1

RBLC Determinations

Tesoro Refining & Marketing Company (Facility #B2758 and #B2759)
Martinez Renewable Fuels Project
RBLC Summary Tables
Moving Bed Biofilm Reactor (MBBR)

POC/VOC

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

RBLCID	CORPORATE OR COMPANY NAME	FACILITY STATE	PERMIT NUM	NAICS	PERMIT DATE	FACILITY DESCRIPTION	Process Name	Fuel	Through-put	Units	Pollutant	Emission Control Description	Emission Limit 1	Limits Units 1	Avg Time	CASE-BY-CASE BASIS	OTHER REQUIREMENTS	Emission Limit 2	Limits Units2	Avg Time2	Standard Emission Limit	Standard Limit Units	Standard Limit Avg Time
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	OH	P0124972	325110	12/21/2018	Petrochemical Complex	Wastewater Collection and Treatment (P806)		0		Volatile Organic Compounds (VOC)	i. Use an enhanced biodegradation unit to maintain the annual benzene quantity from facility waste at less than 10 megagrams (MG; 11 tons) by combining waste streams with greater than 10 ppmw benzene with waste streams with less than 10 ppmw benzene to form a combined waste stream with a benzene concentration less than 10 ppmw; ii. Route emissions from wastewater generated in the ethylene manufacturing process to a thermal oxidizer designed to achieve >99.5% destruction efficiency for volatile organic compounds (VOC); iii. Cover and route emissions from the process wastewater equalization tank (T-6503), the waste oil drum (T-6502), the oily wastewater storage tank (T-6501) and the wet air oxidation unit to a thermal oxidizer designed to achieve >99.5% destruction efficiency for VOC; iv. Emissions from wastewater generated in the high-density polyethylene units must comply with the applicable requirements of 40 CFR Part 63, Subpart FFFF.	0.01	LB/H		BACT-PSD	MACT	0.02	T/YR	PER ROLLING 12 MONTH PERIOD	0		
*TX-0858	GCGV ASSET HOLDING LLC	TX	146425, PSDTX1518, GHGPSDTX170	325110	43628	New organic chemicals manufacturing complex with ethylene, using ethane as feedstock; a monoethylene glycol (MEG) plant, employing ethylene oxide (EO) as an intermediate; and two linear low density polyethylene (LLDPE) plants. The complex will also include boilers for plant steam needs, a wastewater treatment plant, and truck and railcar loading racks for transfer of liquids (MEG and Olefins plant by-products).	Waste Water Treatment Plant		0		Volatile Organic Compounds (VOC)	Glycol Plant and the Olefins plant must be covered and the vapor space must be directed to the shared vent system for control. Stormwater drains and wastewater conveyances associated with the polyethylene plants do not require control because they do not have the potential to accept contaminated process water. All vapors from the equalization tanks and the dissolved air flotation basin must also be captured and controlled. The required controls are a catalytic oxidizer and the shared vent system, respectively. The catalytic oxidizer must achieve a minimum destruction efficiency of 99%, to be demonstrated through stack sampling. The level of mixed liquor suspended solids (MLSS) in the biological oxidation treatment unit must be maintained above 2000 mg/L.	0			BACT-PSD		0			0		
*TX-0876	MOTIVA ENTERPRISE LLC	TX	PSDTX1546 AND GHGPSDTX186	325110	43867	New steam cracking plant (Ethylene Plant) for production of ethylene using ethane as feedstock in Port Arthur, Jefferson County, Texas. The Ethylene Plant will manufacture ethylene, crude propylene, crude butadiene, pyrolysis gasoline and other by-products using a steam cracking process	Wastewater treatment plant		0		Volatile Organic Compounds (VOC)	Covered conveyances, benzene stripper, activated sludge biological treatment, thermal oxidizer	3100	MG/L	MLSS	BACT-PSD	NESHAP , SIP	0			0		
TX-0756	CASTLETON COMMODITIES INTERNATIONAL (CCI) CORPUS C	TX	116072 AND PSDTX1388	324110	42174	Two identical condensate splitter trains each capable of processing 50,000 barrels per day (BPD) of condensate. A bulk petroleum terminal consisting of two ship docks and a barge dock that will handle processed product from the condensate splitters and export to up 500,000 barrels per day of crude condensate.	Wastewater Treatment Plant		0		Volatile Organic Compounds (VOC)	Overall system to achieve 90% of VOC from treated wastewater. Oil/water separator is enclosed and routed to a carbon adsorption system (CAS). Process drains to be equipped with a water seal. Wastewater sewers will be enclosed. Aerobic digesters will be enclosed and directed to a CAS.	4.56	LB/HR		BACT-PSD	NSPS	9.04	TPY		0		
*TX-0905	DIAMOND GREEN DIESEL	TX	160299, PSDTX1576, GHGPSDTX200	325998	44090	A new renewable diesel fuels plant that will produce renewable diesel fuel and other renewable fuels.	Wastewater pre-treatment		0		Volatile Organic Compounds (VOC)	Covered conveyances, <0.2 tpy VOC emissions	0			BACT-PSD		0			0		

Attachment 2

Pertinent Pages from Air Quality Permit Documentation for Similar Renewable Diesel Production Facilities

Preliminary Determination Summary
Diamond Green Diesel, LLC
Permit Numbers 160299, PSDTX1576, and GHGPSDTX200

I. Applicant

Diamond Green Diesel, LLC
1 Valero Way
San Antonio, TX 78249-1616

II. Project Location

Diamond Green Diesel Port Arthur Facility
1801 Gulfway Dr
Jefferson County
Port Arthur, Texas 77640

III. Project Description

Diamond submitted an initial application to construct and operate a renewable diesel fuels plant in Port Arthur, Jefferson County. The proposed facility will convert waste grease, animal fats, used cooking oils, and other plant and vegetable oils into renewable diesel fuel and other renewable fuels. The proposed project will also affect existing sources and result in new sources in the adjacent Premcor Port Arthur refinery (TCEQ NSR Permit No. 6825A), and a concurrent expedited permit amendment has been submitted for that project (TCEQ Project No. 312722). Both projects have been aggregated for Federal Applicability and modeling purposes. Maintenance, Startup, and Shutdown (MSS) activities will be authorized by this permit.

IV. Emissions

Emissions increases that will occur at the major stationary source as a result of the project are summarized below:

Air Contaminant	Proposed Allowable Emission Rates (tpy)
VOC	117.24
NO_x	16.95
SO_2	16.03
CO	40.28
PM	6.16
PM_{10}	6.04
$PM_{2.5}$	4.06
H_2S	0.12
NH_3	0.02

Source Name	EPN(s)	Best Available Control Technology Description
		process with a cover at all times that is only opened to the atmosphere as necessary for adding or removing materials or for inspections. Each individual source will generate less than 0.2 tpy of VOC emissions.
Emergency Generator	E-01-EMGEN	Emissions minimized by use of a well-designed, properly maintained, efficient engine fired only with ultra-low sulfur diesel fuel. Normal operation of the engine will be limited to 100 hours per year; will comply with all applicable federal requirements for emergency use engines, including NSPS Subpart IIII.
Wastewater Pretreatment	C-DGDWWTU	Wastewater pretreatment unit will handle only process wastewaters and contact stormwaters associated with fats receiving, storage and pretreatment, and because these fats have extremely low vapor pressures (true vp < 0.0001 psia), the collection and treatment equipment associated with this unit will be operated in a manner that allows for the routine removal of solidified fats which are expected to congeal and accumulate on the water surfaces and the internal sides of this equipment. The subsequent biological treatment of these wastewaters will occur in aerated tanks with biomass recycle (enhanced biodegradation), a suspended-growth process that uses microorganisms to consume residual organic matter (e.g., animal and vegetable fat triglycerides, short-chain organic acids, etc.) present in the wastewaters. With regard to the management of contact stormwaters from the Ecofining and Renewable Naphtha process areas and water draws from the product storage tanks, the facility will utilize a segregated covered storage sump due to the potential for small amounts of hydrocarbons to enter this system. Water from this sump will be hard-piped directly to the Premcor refinery's closed wastewater treatment system. With regard to process wastewaters generated in the Ecofining and Renewable Naphtha process units, these waters will all be considered "sour" and will be hard-piped to the sour water collection tank (which will be equipped with floating roof controls) and then on to the sour water stripper system that will be installed at the Premcor refinery.
LPG Loading Hose Disconnects	C-LPGLOAD	Use of couplings with minimal isolated volume, as the proposed loading operations include only pressurized loading of LPG.

VII. Air Quality Analysis

Application for a Significant Modification to Title V Permit No. 2520-00158-V0

DIAMOND GREEN DIESEL

Prepared for:

Green Diesel Plant – AI No. 168018
Diamond Green Diesel, LLC
Norco, Louisiana

Prepared by:

ENVIRON International Corporation
Baton Rouge, Louisiana

ENVIRON

Diamond Green Diesel LLC
Title V Significant Modification Permit Application
Emission Calculations

Signed: BPL
Checked: BMH

Source: Wastewater Pretreatment
Source ID: GDP-WWT

Date: 11/23/2009
Page: 1 of 1

Description

This source accounts for air emissions from the Dissolved Air Floatation (DAF) and activated sludge pre-treatment unit. Effluent is discharged to the Valero refinery wastewater treatment unit.

Basis1

6.0 % fats in Wet Gums
8.4 % phospholipids in Wet Gums
7.3 gpm, Wet Gums flow rate
0.1 % fats in Wash Water
0.3 % phospholipids in Wash Water
50.7 gpm, Wash Water flow rate
365 day/yr, annual days of operation
24 hr/day, daily hours of operation

1 Basis information from "091108-03 Buchner Data Request 102109.xls", Guy Buchner, Darling International Inc., November 8, 2009.

Emissions

Emissions are estimated using "TOXCHEM+ Version 3".

DAF

Chemical	Emissions (g/d)	Emissions (lb/d)	Emissions (lb/hr)	Emissions (lb/yr)	Emissions (ton/yr)
Other VOC	1,356.08	2.990	0.125	1,091.23	0.546
Total VOC	1,356.08	2.990	0.125	1,091.23	0.546

Activated Sludge Pre-Treatment

Chemical	Emissions (g/d)	Emissions (lb/d)	Emissions (lb/hr)	Emissions (lb/yr)	Emissions (ton/yr)
Other VOC	259.49	0.572	0.024	208.81	0.104
Total VOC	259.49	0.572	0.024	208.81	0.104

Total Emissions, Wastewater Sources

Chemical	Emissions (g/d)	Emissions (lb/d)	Emissions (lb/hr)	Emissions (lb/yr)	Emissions (ton/yr)
Other VOC	1,615.57	3.562	0.148	1,300.04	0.650
Total VOC	1,615.57	3.562	0.148	1,300.04	0.650

Application for Air Quality Permit to Construct

Renewable Diesel Project

Prepared for
Tesoro Refining & Marketing Company LLC
Dickinson Refinery

March 2018

Emission Unit Description in the Current PTO Number O16010	Updated Emission Unit Description for the Renewable Diesel Project (RDP)	Emission Unit (EU)	Status of EU Pursuant to the RDP	Description of Change Associated with the RDP
Sulfur recovery unit	Stripped sour water off-gas incinerator	H-1301	Physically Changed and/or Repurposed	All equipment will be idled except the Tail Gas Incinerator which will operate to treat stripped sour water off-gas
Hydrogen production plant steam de-aerator vent	Hydrogen plant steam de-aerator vent	V-1906	Existing and Unchanged	No change.
Not applicable; new emissions unit	Hydrogen plant steam de-aerator vent	V-2006	New	New steam de-aerator vent for the new hydrogen plant.
LPG loading	LPG loading	FUG-1	Existing and Unchanged	Renewable LPG will be loaded out of the Refinery.
Wastewater treatment plant	Wastewater treatment plant	FUG-2	Existing and Unchanged	No change.
Process equipment leaks in VOC service	Process equipment leaks in VOC service	FUG-3	Physically Changed and/or Repurposed	Updated equipment counts to reflect source operation post-RDP.
Gasoline dispensing facility (CCCCCC)	Gasoline dispensing facility (CCCCCC)	TK-GAS	Existing and Unchanged	No change.
Crude oil storage tank #1 with a nominal 75,000 bbl capacity (Kb)	Vegetable oil storage tank #1 with a nominal 75,000 bbl capacity	TK-1001	Physically Changed and/or Repurposed	Tesoro does not intend to operate the Crude storage tanks in the near term but would like to include in permit for potential future use as vegetable oil feed storage.
Crude oil storage tank #2 with a nominal 75,000 bbl capacity (Kb)	Vegetable oil storage tank #2 with a nominal 75,000 bbl capacity	TK-1002	Physically Changed and/or Repurposed	Tesoro does not intend to operate the Crude storage tanks in the near term but would like to include in permit for potential future use as vegetable oil feed storage.

Tesoro Dickinson Refinery

Appendix B - Emission Calculations
Table B-30 RDP Wastewater Treatment Plant Emissions (PTE)
EUI: FUG-2

Crude Distillation	Units	Value
OWS Flowrate [1]	gpm	140
VOC Emission Rate [2]	lbs/1,000 gal	0.2

Results		
VOC Emissions	tons/yr	7.36

Notes:
[1] Engineering estimate; RDP does not increase existing Refinery OWS Flowrate.
[2] Emission factor is from AP-42 Section 5.1-2 - Fugitive Emission Factors from Petroleum Refineries. Factor is for a covered oil/water separator.

Attachment 3

Control Cost Calculations

Attachment 3
MBBR (S-432)
Control Cost Evaluation for Domed Roof Tank

BAAQMD Capital Recovery Factors		
Primary Installation		
Current 10 Yr Treasury Bond (November 30, 2020)	0.84	%
Rounded 10Yr Treas + 2%	3	%
Interest Rate	3.00%	
Equipment Life	10	years
CRF	**0.1172**	

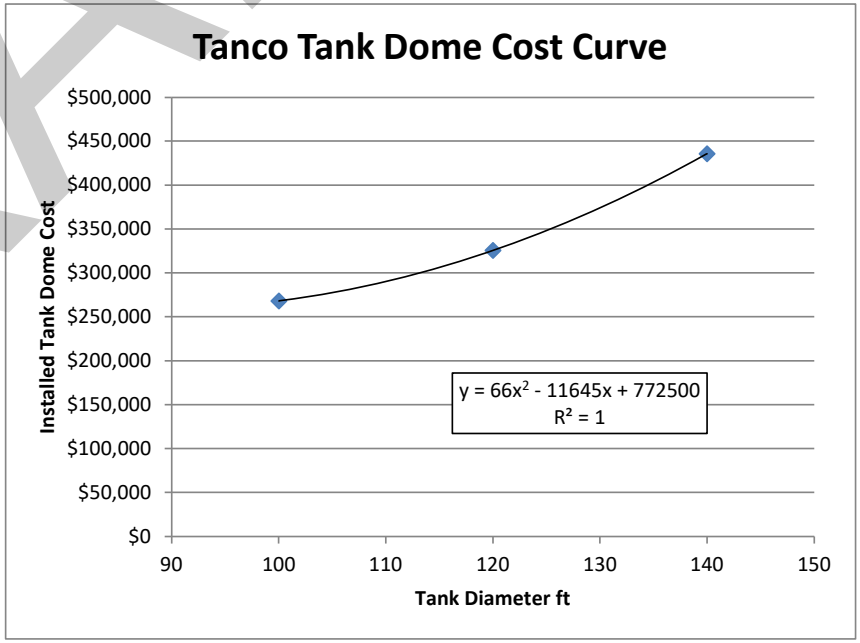
Simplified BAAQMD Cost Factors	
CFR	0.1172
Tax	0.01
Insur	0.01
G&A	0.02
O&M	0.05
Total	0.2072

Dome Roof Cost Estimate from Tanco Engineering Inc. - 7/27/2016

Diameter (ft)	100	120	140
Installed Cost	$268,000	$325,500	$435,800

Tank Diameter	100.0
Estimated Cost Tanco Domed Cover	$268,000
Design Costs	$143,000
Installation Costs	$570,000
Marathon Engineering and Construction Support	$172,000
Total	**$1,153,000**
Annual Cost	**$238,900**

Note: This calculation conservatively assumes that there are no differences in installation, design, or engineering/construction support costs not included in the Tanco quotes (geotechnical, civil, etc.)



	Annual VOC Emission Rate	
Annual VOC Emission Rate - Open Tank	26,105	lb/yr
	13.05	tons/yr
Annual VOC Emission Rate - Domed Tank	23,233	lb/yr
	11.62	tons/yr
Emission Reduction	1.44	tons/yr
Dome Annual Cost	**$238,900**	
Control Cost	**$166,000**	per ton
BAAQMD Max Cost for VOC control	**$17,500**	per ton

Attachment 3
MBBR (S-432)
Control Cost Evaluation for Domed Roof Tank with Piping to RTO

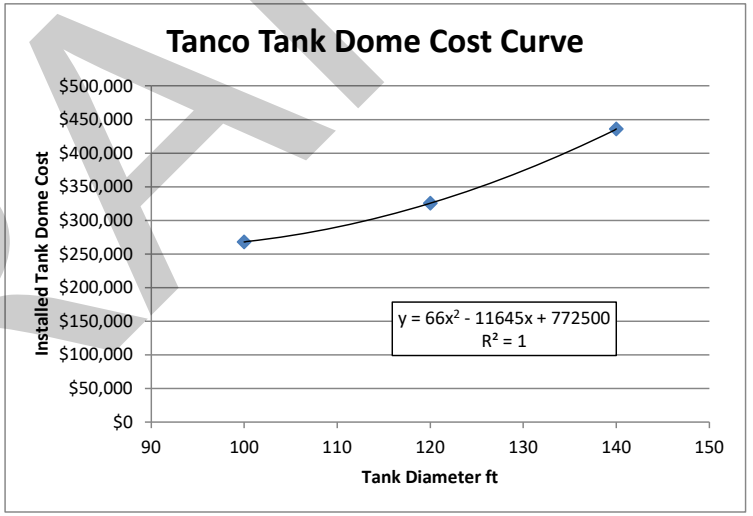
BAAQMD Capital Recovery Factors		
Primary Installation		
Current 10 Yr Treasury Bond (November 30, 2020)	0.84	%
Rounded 10Yr Treas + 2%	3	%
Interest Rate	3.00%	
Equipment Life	10	years
CRF	**0.1172**	

Simplified BAAQMD Cost Factors	
CFR	0.1172
Tax	0.01
Insur	0.01
G&A	0.02
O&M	0.05
Total	0.2072

Dome Roof Cost Estimate from Tanco Engineering Inc. - 7/27/2016

Diameter (ft)	100	120	140
Installed Cost	$268,000	$325,500	$435,800

Tank Diameter	100.0
Estimated Cost Tanco Domed Cover	$268,000
Design Costs	$143,000
Installation Costs	$570,000
Marathon Engineering and Construction Support	$172,000
200' 10" line to vapor recovery system	$15,152
Total	**$1,168,152**
Annual Cost	**$242,100**



Note: This calculation conservatively assumes that there are no differences in installation, design, or engineering/construction support costs not included in the Tanco quotes (geotechnical, civil, etc.)

	Annual VOC Emission Rate	
Annual VOC Emission Rate - Open Tank	26,105	lb/yr
	13.05	tons/yr
Annual VOC Emission Rate - Domed Tank	23,233	lb/yr
	11.62	tons/yr
Thermal Oxidizer Control Efficiency	98%	
Controlled Emission Rate	0.23	tons/yr

Total Annual Cost (RTO)	**$431,894**	(See detailed RTO control cost calculations)
Total Annual Cost (Dome)	**$242,100**	
Total Emission Reduction	12.82	tons/yr
Cost Effectiveness	**$52,600**	per ton
BAAQMD Max Cost for VOC control	**$17,500**	per ton

Attachment 3
MBBR (S-432)
Secondary Emissions from Natural Gas Combustion

Natural Gas Usage: 55 scfm
79,200 scf/day
Heating Value: 1,020 btu/scf

Pollutant	Emission Factor[2] (lb/MMscf)	Emission Factor[3] (lb/MMBtu)	Emission Rate (lb/day)[4]	Emission Rate (tpy)
NOx	100.00	0.098	7.92	1.45
VOC	5.50	0.005	0.44	0.08
SO_2	0.60	0.001	0.05	0.01

1 - Natural gas usage rate is based on the auxiliary fuel flow from the EPA Control Cost Estimation Spreadsheet for Thermal and Catalytic Oxidation.

2 - Emission factors for natural gas combustion are from Tables 1.4-1 and 1.4-2 of AP-42.

3 - Emission factors were converted from lb/MMscf to lb/MMBtu using an assumed higher heating value of 1,020 Btu/scf.

4 - Assumes 8,760 operating hours per year.

Attachment 3
MBBR (S-432)
Control Cost Evaluation for Domed Roof Tank with Piping to a Carbon Adsorber

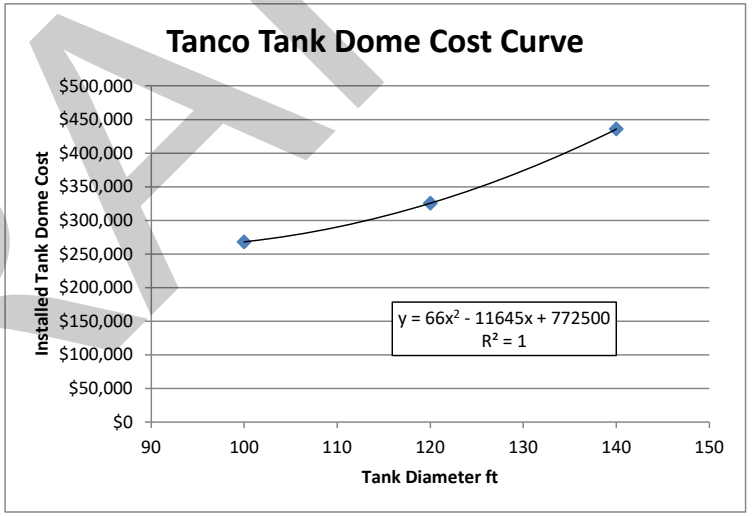
BAAQMD Capital Recovery Factors		
Primary Installation		
Current 10 Yr Treasury Bond (November 30, 2020)	0.84	%
Rounded 10Yr Treas + 2%	3	%
Interest Rate	3.00%	
Equipment Life	10	years
CRF	**0.1172**	

Simplified BAAQMD Cost Factors	
CFR	0.1172
Tax	0.01
Insur	0.01
G&A	0.02
O&M	0.05
Total	0.2072

Dome Roof Cost Estimate from Tanco Engineering Inc. - 7/27/2016

Diameter (ft)	100	120	140
Installed Cost	$268,000	$325,500	$435,800

Tank Diameter	100.0
Estimated Cost Tanco Domed Cover	$268,000
Design Costs	$143,000
Installation Costs	$570,000
Marathon Engineering and Construction Support	$172,000
200' 10" line to vapor recovery system	$15,152
Total	**$1,168,152**
Annual Cost	**$242,100**



Note: This calculation conservatively assumes that there are no differences in installation, design, or engineering/construction support costs not included in the Tanco quotes (geotechnical, civil, etc.)

Annual VOC Emission Rate		
Annual VOC Emission Rate - Open Tank	26,105	lb/yr
	13.05	tons/yr
Annual VOC Emission Rate - Domed Tank	23,233	lb/yr
	11.62	tons/yr
Carbon Adsorption Control Efficiency	54%	
Controlled Emission Rate	5.34	tons/yr

Total Annual Cost (Carbon Adsorption)	**$144,949**	(See detailed Carbon Adsorber control cost calculations)
Total Annual Cost (Dome)	**$242,100**	
Total Emission Reduction	7.71	tons/yr
Cost Effectiveness	**$50,200**	per ton
BAAQMD Max Cost for VOC control	**$17,500**	per ton

Data Inputs

Select the type of oxidizer: Regenerative Thermal Oxidizer

Enter the following information for your emission source:

Composition of Inlet Gas Stream				
Pollutant Name	Concentration (ppmv)	Lower Explosive Limit (LEL) (ppmv)*	Heat of Combustion (Btu/scf)	Molecular Weight
Ethanol	13	33,000	1,548	46.1

Note: The lower explosion limit (LEL), heat of combustion and molecular weight for some commonly used VOC/HAP are provided in the table below.

* Assumes entire waste gas stream is ethanol since this is the primary constituent

Enter the design data for the proposed oxidizer:

Number of operating hours/year	8,760	hours/year	
Inlet volumetric flow rate(Q_{wi}) at 77°F and 1 atm.	28,000	scfm	
Inlet volumetric flow rate(Q_{wi}) (actual conditions)	28,272	acfm	
Pressure drop (ΔP)	19	inches of water	* 23 inches of water is the default pressure drop for thermal oxidizers; 19 inches of water is the default pressure drop for catalytic oxidizers. Enter actual value, if known.
Motor/Fan Efficiency (ε)	60	percent*	* 60% is a default fan efficiency. User should enter actual value, if known.
Inlet Waste Gas Temperature (T_{wi})	73	°F	Ambient high temperature for Martinez, CA
Operating Temperature (T_{fi})	1,900	°F	* Note: Default value for Tfi is 2000°F for thermal regenerative oxidizers. Use actual value if known. Tfi for regenerative oxidizers typically between 1800 and 2000°F.
Destruction and Removal Efficiency (DRE)	98	percent	
Estimated Equipment Life	20	Years*	* 20 years is the typical equipment life. User should enter actual value, if known.
Heat Loss (η)	1	percent*	* 1 percent is a default value for the heat loss. User should enter actual value, if known. Heat loss is typically between 0.2 and 1.5%.

Percent Energy Recovery (HR) = 0 percent

Enter the cost data:

Desired dollar-year	2019				
CEPCI* for 2019	607.5	Enter the CEPCI value for 2019	541.7	2016 CEPCI	
Annual Interest Rate (i)	3	Percent			Based on Current 10 Yr Treasury Bond (November 30, 2020) + 2%
Electricity ($Cost_{elect}$)	0.00454	$/kWh			$0.00454 per kilowatthour, Industrial Price - California, August 2020, U.S. Energy Information Administration, https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_04_a
Natural Gas Fuel Cost ($Cost_{fuel}$)	0.00676	$/scf			$6.76 per thousand cubic feet, Industrial Price - California, August 2020, U.S. Energy Information Administration, https://www.eia.gov/dnav/ng/ng_pri_
Operator Labor Rate	$28.61	per hour			Plant and System Operators, All Other (51-8099), May 2019, U.S. Bureau of Labor Statistics, **https://www.bls.gov/oes/2019/may/oes518099.htm**
Maintenance Labor rate	$23.77	per hour			Maintenance Workers, Machinery (49-9043), May 2019, U.S. Bureau of Labor Statistics, https://www.bls.gov/oes/2019/may/oes499043.htm
Contingency Factor (CF)	10.0	Percent			* 10 percent is a default value for construction contingencies. User may enter values between 5 and 15 percent.

* CEPCI is the Chemical Engineering Plant Cost Escalation/De-escalation Index. The use of CEPCI in this spreadsheet is not an endorsement of the index for purposes of cost escalation or de-escalation, but is there merely to allow for availability of a well-known cost index to spreadsheet users. Use of other well-known cost indexes (e.g., M&S) is acceptable.

Data Sources for Default Values Used in Calculations:

Parameters for Common Compounds:

Compound	LEL (ppmv)	Heat of Combustion (Btu/scf)	Molecular Weight
Methane*	50,000	911	16.04
Ethane	30,000	1,631	30.07
Propane	21,000	2,353	44.09
Butane	19,000	3,101	58.12
Pentane	14,000	3,709	72.15
Hexane	11,000	4,404	86.17
Octane	10,000	5,796	114.23
Nonane	8,000	6,493	128.25
Decane	8,000	7,190	142.28
Ethylene**	27,000	1,499	28.05
Propylene	20,000	2,182	42.08
Cyclohexane	13,000	4,180	84.16
Benzene**	14,000	3,475	78.11
Toluene**	11,000	4,274	92.13
Methyl Chloride (Chloromethane)**	82,500	705	50.49

Footnotes
* Greenhouse gas.
** Hazardous air pollutant.

Design Parameters

The following design parameters for the oxidizer were calculated based on the values entered on the *Data Inputs* tab. These values were used to prepare the costs shown on the *Cost Estimate* tab.

Composition of Inlet Gas Stream		
Pollutant Name	Concentration in Waste Stream (ppmv) From Data Inputs Tab	Adjusted Concentration with Dilution Air (ppmv)
Ethanol	13	NA
Total	13	0

Constants used in calculations:

Temperature of auxiliary fuel (T_{af}) =	Reference Temperature (T_{ref}) =	77.0	°F
Density of auxiliary Fuel at 77 °F (ρ_{af}) =		0.0408	lb/ft^3
Heat Input of auxiliary fuel ($-\Delta h_{caf}$) =		21,502	Btu/lb
Density of waste gas at 77 °F (ρ_{wi}) =		0.0739	lb/ft^3
Mean Heat Capacity of Air (C_{pmair})	(For thermal oxidizers)	0.255	Btu/lb °F

Parameter	Equation	Calculated Value	Units	Calculated Value	Units
Sum of volume fraction of combustible components =	= ($\sum x_i$) =	13	ppmv		
Lower Explosive Limit of waste gas (LEL_{mix})	= $[\sum((x_j)/((\sum x_i) \times LEL_j))]^{-1}$ =	33,000	ppmv		
	Where x_j is the volume fraction and LEL_j the lower explosive limit for each combustible component in the waste gas.				
% LEL_{mix}	= (Total Combustible Conc. In Mixture/LEL_{mix}) × 100 =	0.04	percent	* Note: Since the LEL of the waste gas stream is below 25%, no dilution air is needed.	
Dilution Factor	= (LEL_{mix} x 0.249)/($\sum x_i$) =	Not applicable			
Lower Explosive Limit (LEL) of waste gas after addition of dilution air	= (Total Adjusted Conc. With Dilution Air/LEL_{mix}) × 100 =	Not Applicable			
Inlet volumetric flow rate(Qwi) at 77°F and 1 atm.	(From Data Inputs Tab) =	28,000	scfm		
Oxygen Content of gas stream	= 100 - ($\sum x_j \times 100/10^6$) x 0.209 =	20.90	percent		
Fan Power Consumption (FP)	= $[(1.17 \times 10^{-4}) \times Q_{wi} \times \Delta P]/\varepsilon$	104.7	kW		
Q_{wo}	≈ Q_{wi} =	28,000	scfm		
Operating temperature of oxidizer (T_{fi})	(From Data Inputs Tab)	1,900	°F		
Temperature of waste gas at outlet to preheater (T_{wo})	= Heat Recovery × (T_{fi} - T_{wi}) + T_{wi} =	73	°F		
Temperature of flue gas exiting the regenerative oxidizer (T_{fo})	= T_{fi} - 0.95(T_{fi} - T_{wi}) =	164	°F		
Heat Input of waste gas ($-\Delta h_{cwi}$)	= $\sum(-\Delta h_{ci})\ x_i$ Where ($-\Delta h_{ci}$) is the heat of combustion and x_i the fraction of component "i" at 77 °F.	0.02	Btu/scf	0.3	Btu/lb
Estimated Auxiliary Fuel Flow (Q_{af}) at 77 °F and 1 atm.	(Calculated using Equation 2.45 in Appendix B)	9.55	scfm		
Auxiliary fuel Energy Input =		8,375	Btu/min		
Minimum Energy required for combustion stabilization =	= 5% × Total Energy Input = 0.05 × ρ_{fi} × Q_{fi} × C_{pmfi} × (T_{fi} - T_{ref}) =	48,111	Btu/min		
Is the calculated auxiliary fuel sufficient to stabilize combustion? (Note: If the auxiliary fuel energy input > 5% of Total Energy Input, then the auxilary fuel is sufficient.)		No		Note: Additional auxiliary fuel equivalent to 5% of total energy input is required to stabilize combustion.	
Auxiliary fuel flow (Qaf) (adjusted for fuel required for combustion stabilization)at 77°F and 1 atm. =		55	scfm		
Total Volumetric Throughput (Q_{tot}) at 77 °F and 1 atm.	= Q_{fi} = Q_{wo} + Q_a + Q_{af} = Q_{wi} + Q_{af} =	28,055	scfm		

Capital Recovery Factor:

Parameter	Equation	Calculated Value
Capital Recovery Factor (CRF) =	$i(1+i)^n/(1+i)^n - 1$ =	0.0672
	Where n = Equipment Life and i= Interest Rate	

Cost Estimate

Direct Costs		
Total Purchased equipment costs (in 2019 dollars)		
Incinerator + auxiliary equipment[a] (A) =		
Equipment Costs (EC) for Regenerative Oxidizer	=[2.664 x 100,000 + (13.98 x Qtot)] x (2019 CEPI/2016 CEPCI) =	$738,607 in 2019 dollars
Instrumentation[b] =	0.10 × A =	$73,861
Sales taxes =	0.03 × A =	$22,158
Freight =	0.05 × A =	$36,930
	Total Purchased equipment costs (B) =	$871,557 in 2019 dollars

Footnotes
a - Auxiliary equipment includes equipment (e.g., duct work) normally not included with unit furnished by incinerator vendor
b - Includes the instrumentation and controls furnished by the incinerator vendor

Direct Installation Costs (in 2019 dollars)		
Foundations and Supports =	0.08 × B =	$69,725
Handlong and Errection =	0.14 × B =	$122,018
Electrical =	0.04 × B =	$34,862
Piping =	0.02 × B =	$17,431
Insulation for Ductwork =	0.01 × B =	$8,716
Painting =	0.01 × B =	$8,716
Site Preparation (SP) =		$0
Buildings (Bldg) =		$0
	Total Direct Installaton Costs =	$261,467
Total Direct Costs (DC) =	Total Purchase Equipment Costs (B) + Total Direct Installation Costs =	$1,133,024 in 2019 dollars

Total Indirect Installation Costs (in 2019 dollars)		
Engineering =	0.10 × B =	$87,156
Construction and field expenses =	0.05 × B =	$43,578
Contractor fees =	0.10 × B =	$87,156
Start-up =	0.02 × B =	$17,431
Performance test =	0.01 × B =	$8,716
	Total Indirect Costs (IC) =	$244,036
Continency Cost (C) =	CF(IC+DC)=	$137,706
Total Capital Investment =	**DC + IC +C =**	**$1,514,765 in 2019 dollars**

Direct Annual Costs		
Annual Electricity Cost	= Fan Power Consumption × Operating Hours/year × Electricity Price =	$4,166
Annual Fuel Costs for Natural Gas	= $Cost_{fuel}$ × Fuel Usage Rate × 60 min/hr × Operating hours/year	$194,854
Operating Labor	Operator = 0.5hours/shift × Labor Rate × (Operating hours/8 hours/shift)	$15,664
	Supervisor = 15% of Operator	$2,350
Maintenance Costs	Labor = 0.5 hours/shift × Labor Rate × (Operating Hours/8 hours/shift)	$13,014
	Materials = 100% of maintenance labor	$13,014
Direct Annual Costs (DC) =		**$243,062 in 2019 dollars**

Indirect Annual Costs		
Overhead	= 60% of sum of operating, supervisor, maintenance labor and maintenance materials	$26,425
Administrative Charges	= 2% of TCI	$30,295
Property Taxes	= 1% of TCI	$15,148
Insurance	= 1% of TCI	$15,148
Capital Recovery	= CRF[TCI-1.08(cat. Cost)]	$101,816
Indirect Annual Costs (IC) =		**$188,832 in 2019 dollars**
Total Annual Cost =	**DC + IC =**	**$431,894 in 2019 dollars**

Cost Effectiveness

Cost Effectiveness = (Total Annual Cost)/(Annual Quantity of VOC/HAP Pollutants Destroyed)

Total Annual Cost (TAC) =	$431,894	per year in 2019 dollars
VOC/HAP Pollutants Destroyed =	9.6	tons/year
Cost Effectiveness =	$45,016	per ton of pollutants removed in 2019 dollars

Data Inputs

Select the type of carbon adsorber system:	Fixed-Bed Carbon Adsorber with Steam Regeneration
For fixed-bed carbon adsorbers, provide the following information:	
Select the type of operation:	Continuous Operation
Select the type of material used to fabricate the carbon adsorber vessels:	Stainless Steel, 304
Select the orientation for the adsorber vessels:	Horizontal

Enter the design data for the proposed Fixed-Bed Carbon Adsorber with Steam Regeneration

Number of operating hours per year (Θ_s)	8,760	hours/year	
Waste Gas Flow Rate (Q)	28,272	acfm*	*acfm is actual cubic feet/min
VOC Emission Rate (m_{voc})	2.98	lbs/hour	
Required VOC removal efficiency (E)	54	percent	Based on a 10% adsorption rate for ethanol which is approximately 50% of the total VOC and a 98% adsorption rate for the remaining 50% of total VOC
Superficial Bed Velocity (v_b)	75.00	ft/min	
(n)	15	Years*	* 15 years is a default equipment life. User should enter actual value, if known.
Estimated Carbon life (n)	5	Years	
Total Number of carbon beds (N_{total})	3	Beds*	* 3 beds is the default. User should enter actual number of beds, if known.
Number of carbon beds adsorbing VOC when system is operating (N_A)	2	Beds*	* 2 beds is the default. User should enter actual number of beds, if known.
Total time for adsorption (Θ_A)	12	hours*	* 12 hours is a default value. User should enter actual value, if known.
Total time for desorption (Θ_D)	5	hours*	* 5 hours is a default value. User should enter actual value, if known.
Estimated Carbon Replacement Rate (CRR)	379	lbs/hour*	* 379 lbs./hour is a default value. User should enter actual value, if known.

Enter the Characteristics of the VOC/HAP:

Name of VOC/HAP	m - Xylene	*Xylene is not a waste gas stream constituent but was chosen in an effor to be overly conservative as it adsorbs well, unlike ethanol and methanol which are the two main waste gas constituents.	
Partial Pressure of m - Xylene in waste gas stream	0.001	psia	
Parameter "k" for m - Xylene	0.708	**Note:**	
		Typical values of "k" and "m" for some common VOCs are shown in Table A.	
Parameter "m" for m - Xylene	0.113		

Enter the cost data for the carbon adsorber:

Desired dollar-year	2019				
CEPCI* for 2019	607.5	CEPCI value for 2019		390.6	1999
Annual Interest Rate (i)	3	percent (Current bank prime rate)	Based on Current 10 Yr Treasury Bond (November 30, 2020) + 2%		

* CEPCI is the Chemical Engineering Plant Cost Index. The use of CEPCI in this spreadsheet is not an endorsement of the index for purpose of cost escalation or de-escalation, but is there merely to allow for availability of a well-known cost index to spreadsheet users. Use of other well-known cost indexes (e.g., M&S) is acceptable.

Electricity (P_{elec})	$0.0045	per kWh	$0.00454/kWh, Industrial Price - California, August 2020, U.S. Energy Information Administration, https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_04_a
Steam (P_s)	$5.00	per 1,000 lbs*	* $5.00/1,000 lbs is a default value. User should enter actual value, if known.
Cooling Water (P_{cw})	$9.32	per 1,000 gallons of water	$6.9697/100 ccf (748 gal) based on current CalWater prices, https://www.calwater.com/docs/rates/rates_tariffs/bar/20200201-Non-residential_Metered_Service_BAR.pdf
Operator Labor Rate	$28.61	per hour	Plant and System Operators, All Other (51-8099), May 2019, U.S. Bureau of Labor Statistics, https://www.bls.gov/oes/2019/may/oes518099.htm
Maintenance Labor Rate	$23.77	per hour	Maintenance Workers, Machinery (49-9043), May 2019, U.S. Bureau of Labor Statistics, https://www.bls.gov/oes/2019/may/oes499043.htm
Carbon Cost (CC)	$4.20	per lb	* $4.20/lb is a default value based on 2018 market price. User should enter actual value, if known.
Re-Sale Value of Recovered VOC (P_{voc})	$0.00	per lb	Recovered VOC/HAP cannot be sold or re-used onsite
Disposal/Treatment Cost for Recovered VOC (D_{voc})	$0.00	per lb*	* $0/lb is a default value for disposal and/or treatment of recovered VOC/HAP. User should enter actual value, if known.

If known, enter any additional costs for site preparation and building construction/modification:

Site Preparation (SP) =	$0	* Default value. User should enter actual value, if known.
Buildings (Bldg) =	$0	* Default value. User should enter actual value, if known.
Equipment Costs for auxiliary equipment (e.g., ductwork, dampers, and stack) (EC_{aux}) =	$32,000	* Default value. User should enter actual value, if known.
Contingency Factor (CF)	10.0 percent*	* 10 percent is a default value. The contingency factor should be between 5 and 15 percent.

Design Parameters

The following design parameters for the carbon adsorber were calculated based on the values entered on the *Data Inputs* tab. These values were used to prepare the costs shown on the *Cost Estimate* tab.

Type of Carbon Adsorber:	**Fixed-Bed Carbon Adsorber with Steam Regeneration**
Name of VOC Controlled:	**m - Xylene**

Parameter	Equation	Value	Units
Quantity of m - Xylene Recovered:			
Quantity of m - Xylene Recovered (Wvoc) =	$W_{voc} = m_{voc} \times \Theta_s \times E$ =	7.047	tons/year
Time required for Desorption (Θ_D) =		5	hours
Time for Adsorption (Θ_A) =		12	hours
Time Available for Desorption =	Θ_A (N_D/N_A) =	6	hours
Adsorber Parameters:			
Equilibrium Capacity at the Inlet ($W_{e(max)}$) =	$k \times P^m$ =	0.324	lb. VOC/lb. Carbon
Working Capacity (w_c) =	0.5 x $w_{e(max)}$ =	0.162	lb. VOC/lb. Carbon
Adjustment Factor for Adorber Vessel Material (F_m) =		1.0	(* Stainless Steel, 304)
Number of Bed Desorbing (N_D) =	N_{total} - N_A =	1	Bed
Number of Bed Adsorbing (N_A) =		2	Bed
Volumetric Flow Rate for each Vessel (Q') =	Q/N_A =	14,136	acfm/Bed
Carbon Bed Thickness (t_b) =	(M_c'/ρ_b)/(Q'/v_b), where the density of carbon (ρb) = 30 lb/sq.ft	0.02	ft.
Pressure Drop (ΔP_s) =	$t_b \times (0.03679 v_b + 1.107 \times 10^{-4} v_b^2) + 1$ =	1.07	inches
Cooling Fan Operating Time (Θ_{cf}) =	0.4 x Θ_D x ($N_A \times \Theta_s$)/Θ_A =	2,920	hours
Estimated Carbon Required:			
Estimated Carbon Consumption (M_c) for a continuously operated system =	(m_{voc}/w_c) x Θ_A (1 + N_D/N_A) =	331	lbs.
Carbon Required for each Vessel (M_c') =	$M_c/(N_A + N_D)$ =	110	lbs./Bed
Estimated Adsorber Vessel Dimensions and Surface Area:			
Vessel Orientation =		Horizontal	
Vessel Diameter (D) =	(0.127 x M_c' x v_b)/Q' =	0.07	ft.
Vessel Length (L) =	(7.87/Mc') x $(Q'/v_b)^2$ =	2,536.47	ft.
Surface Area of Adsorber Vessel (S) =	π x D x (L+D/2) =	592	sq.ft
Electricity Consumption:			
Electricity Consumed by the system fan (Q_{sf}) =	(0.746kW/hp) x 2.5×10^{-4} x Q x ΔP_s x Θ_s =	49,235	kWh/year
Electricity Consumed by the cooling fan (Q_{cf}) =	(0.746kW/hp) x 2.5×10^{-4} x Q_{cf} x ΔP_s x Θ_{cf} =	1,741	kWh/year
Electricity Consumed by the Cooling Water Fan (Q_{cwf}) =	(0.746kW/hp) x [2.52×10^{-4} x 100/η] x [Θ_{cwp}/(0.6 x Θ_D x N_A x Θ_D/Θ_A)x 60 mins/hour] =	128	kWh/year
Total Estimated Electricity Consumption (Q_{Elec}) =	Qsf + Qcf + Qcsf =	51,104	kWh/year
Steam Consumption:			
Total Steam Consumption (Q_{Steam}) =	= 3.5 x M_{voc} x Θ_s =	91,350	lbs./year
Cooling Water Consumption:			
Total Cooling Water Consumption (Q_{cw}) =	= 3.43 x C_s/P_s =	313,331	gallons/year
Number of times canister(s) replaced per year =	Θ_s / Θ_A =	2	
Adsorber Parameters for Carbon Canisters:			
Time for Adsorption (Θ_A) =	*Number of operating hours before carbon canister replacement* =	4,380	hours
Equilibrium Capacity at the Inlet ($W_{e(max)}$) =	$k \times P^m$ =	0.324	lb. VOC/lb. Carbon
Working Capacity (w_e) =	0.5 x $w_{e(max)}$ =	0.162	lb. VOC/lb. Carbon
Estimated Total Carbon Required (M_c) =	(m_{voc}/w_c) x Θ_A =	40,233	lbs.
Number of Carbon Canisters Required =	M_c/Carbon Canister Capacity	14	canisters
Total Quantity of Carbon Required for 14 Canisters =	Number of Carbon Canisters * Carbon Capacity per Canister =	42,000	lbs.
Capital Recovery Factor:			
Capital Recovery Factor for adsorber vessels and auxiliary equipment (CFRabsorber)=	$[i \times (1 + i)^n] / [(1 + i)^n - 1]$ = Where n = Equipment Life and i = Interest Rate	0.0838	
Capital Recovery Factor for carbon (CRF_{Carbon}) =	$[i \times (1 + i)^n] / [(1 + i)^n - 1]$ = Where n = Carbon Life and i = Interest Rate	0.2184	

Cost Estimate

Capital Costs

Estimated capital costs for a Fixed-Bed Carbon Adsorber with Steam Regeneration with the following characteristics:

VOC Controlled/Recovered = m - Xylene
Adsorber Vessel Orientation = Horizontal
Operating Schedule = Continuous Operation

Total Capital Investment (TCI) (in 2019 dollars)

Parameter	Equation	Cost
Costs for Each Carbon Adsorber Vessel (C_v) =	$271 \times F_m \times S^{0.778}$ =	$60,473
Total Cost for All Carbon Adsorber Vessels and Carbon(EC_{Adsorb}) =	$5.82 \times Q^{0.133} \times [C_c + (N_A + N_D) \times C_v]$ =	$272,197
Auxiliary Equipment (EC_{aux}) =	(Based on design costs or estimated using methods provided in Section 2)	$32,000
Total Purchased Equipment Costs for Carbon Adsorber (A) =	$= EC_{Adsorb} + EC_{aux}$ =	$304,197
Instrumentation =	0.10 × A =	Included in A
Sales taxes =	0.03 × A =	$9,126
Freight =	0.05 × A =	$15,210
	Total Purchased Equipment Costs (B) =	$328,533

Direct Installation Costs (in 2019 dollars)

Parameter	Equation	Cost
Foundations and Supports =	0.08 × B =	$26,283
Handling and Erection =	0.14 × B =	$45,995
Electrical =	0.04 × B =	$13,141
Piping =	0.02 × B =	$6,571
Insulation =	0.01 × B =	$3,285
Painting =	0.01 × B =	$3,285
Site Preparation (SP) =		$0
Buildings (Bldg) =		$0
	Total Direct Costs (DC) = B + (0.3 × B) + SP + Bldg =	$427,093

Total Indirect Installation Costs (in 2019 dollars)

Parameter	Equation	Cost
Engineering =	0.10 × B =	$32,853
Construction and field expenses =	0.05 × B =	$16,427
Contractor fees =	0.10 × B =	$32,853
Start-up =	0.02 × B =	$6,571
Performance test =	0.01 × B =	$3,285
	Total Indirect Costs (IC) =	$91,989
Contingency Cost (C) =	CF(IC+DC)=	$51,908

Total Capital Investment (TCI) =	**DC + IC + C = (1.28 × B) + SP + Bldg. + C =**	**$570,990**	**in 2019 dollars**

Annual Costs

Direct Annual Costs

Parameter	Equation	Cost
Annual Electricity Cost =	$Q_{Elec} \times P_{elec}$ =	$232
Annual Steam Cost (C_s) =	$3.50 \times m_{voc} \times \Theta_s \times P_s$ =	$457
Annual Cooling Water Cost (C_{cs}) =	$3.43 \times C_s/P_s \times P_{wc}$ =	$2,920
Operating Labor Costs:	Operator = 0.5 hours/shift × Labor Rate × (Operating hours/8 hours/shift)	$15,664
	Supervisor = 15% of Operator	$2,350
Maintenance Costs:	Labor = 0.5 hours/shift × Labor Rate × (Operating Hours/8 hours/shift)	$13,014
	Materials = 100% of maintenance labor	$13,014
Carbon Replacement Costs:	Labor = $CRF_{carbon} \times$ (Labor Rate × M_c)/CRR =	$5
	Carbon = $CRF_{carbon} \times CC \times M_c \times 1.08$ =	$328

Direct Annual Costs (DAC) =		**$47,982**	**in 2019 dollars**

Indirect Annual Costs

Parameter	Equation	Cost
Overhead	= 60% of sum of operator, supervisor, maintenance labor Plus maintenance materials	$26,425
Administrative Charges	= 2% of TCI	$11,420
Property Taxes	= 1% of TCI	$5,710
Insurance	= 1% of TCI	$5,710
Capital Recovery	= $CRF_{Adsorber} \times$ (TCI - [(1.08 x CC x M_c) + (LR x M_c/CRR)] =	$47,703

Indirect Annual Costs (IAC) =		**$96,967**	**in 2019 dollars**

Recovered Solvent Credit/Disposal Costs

Disposal Cost

Parameter	Equation	Cost
VOC Disposal/Treatment Costs ($Disposal_{cost}$)	$= m_{voc} \times \Theta_s \times D_{voc} \times E$ =	$0

VOC Recovery Credit

Parameter	Equation	Cost
Annual Recovery Credit for Condensate (RC)	$= m_{voc} \times \Theta_s \times P_{voc} \times E$ =	$0

Total Annual Cost (TAC) =	**DAC + IAC + C + $Disposal_{cost}$ - RC =**	**$144,949**	**in 2019 dollars**

Cost Effectiveness

Cost Effectiveness

Parameter	Equation	Cost	
Total Annual Cost =	TAC =	$144,949	per year in 2019 dollars
Annual Quantity of VOC Removed/Recovered =	$W_{voc} = m_{voc} \times \Theta_s \times E$ =	7.05	tons/year
Cost Effectiveness =	Total Annual Cost (TAC) / Annual Quantity of VOC Removed/Recovered =	$20,568.93	per ton of pollutants removed/recovered in 2019 dollars

BACT Guidelines at Other Air Districts

Air District	VOC	Date of Update
Texas Commission on Environmental Quality (TCEQ)	Specify which is applicable: 1. Uncontrolled VOC emissions < 10 tpy: none 2. 10 tpy < uncontrolled VOC emissions < 25 tpy: 28M leak detection and repair program. 75% credit for 28M. 3. Uncontrolled VOC emissions > 25 tpy: 28VHP leak detection and repair program. 97% credit for valves, 85% for pumps and compressors. 4. VOC vp < 0.002 psia: no inspection required, no fugitive emissions expected. 5. For emissions of approved odorous compounds (chlorine, ammonia, hydrogen sulfide, hydrogen cyanide and mercaptans only): AVO inspection twice per shift. Appropriate credit for AVO program.	2011
South Coast Air Quality Management District (SCAQMD)	All components in VOC service except for pumps, compressors and drains: 200 < leak < 1,000 ppm measured as methane shall be repaired within 14 days. Leak > 1,000 ppm shall be repaired according to Rule 1173. All pumps, compressor and drains: 500 < leak < 1,000 ppm measured as methane shall be repaired within 14 days. Leak > 1,000 ppm shall be repaired according to Rule 1173.	12/5/2003
San Joaquin Valley AQMD	Valves & Connectors: 100 ppm Pump & Compressor Seals: 500 ppm	7/22/2020
Santa Barbara AQMD	BACT Technologies. Valves, flanges, pump seals, compressor seals, pressure relief valves/devices, other components: 100 ppm	11/20/2017
Sacramento Metropolitan AQMD	None	n/a

EPA RACT/BACT/LAER Clearinghouse: Keyword "Equipment Leak"

RBLCID	FACILITY NAME	DATE DETERMINATION LAST UPDATED	PROCESS NAME	POLLUTANT	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	EMISSION LIMIT 1 UNIT	EMISSION LIMIT 1 AVG TIME CONDITION	EMISSION LIMIT 2	EMISSION LIMIT 2 UNIT	EMISSION LIMIT 2 AVGERAGE TIME CONDITION	POLLUTANT COMPLIANCE NOTES
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLEX	5/4/2016	VOC Emissions from Equipment Leaks	Volatile Organic Compounds (VOC)	Leak Detection and Repair (LDAR) Monitoring System	1.1	TONS/YR	ROLLING TWELVE (12) MONTH TOTAL	0			
IA-0111	DES MOINES SOYBEAN PROCESSING PLANT	7/6/2016	Equipment Leaks	Volatile Organic Compounds (VOC)	Leak Detection and Repair (LDAR) Monitoring System	788	TONS/YR	ROLLING 12-MONTH TOTAL	0			Work practice requirements so no short term limit.
IL-0115	WOOD RIVER REFINERY	7/6/2016	EQUIPMENT LEAKS/FUGITIVE EMISSIONS	Volatile Organic Compounds (VOC)	LDAR BUT LOWER LEAK DEFINITION FOR VALVES IN G/LL SERVICE (500 PPM) AND PUMP SEALS IN LL (2000 PPM); LOW EMISSION VALVES WHERE APPROPRIATE.	0			0			
IL-0119	PHILLIPS 66 PIPELINE LLC	9/14/2016	Equipment Leaks / Fugitive Emissions	Volatile Organic Compounds (VOC)	LDAR	0			0			40 CFR 63 Subpart H plus the following: b.The Permittee shall monitor affected components to detect leaks by the method specified in 40 CFR 63.180(b), except that a more stringent definition of a leak shall apply, i.e., an instrument reading of 500 parts per million or greater from valves in gas and light liquid service and an instrument reading of 2,000 ppm or greater from pumps in light liquid service shall be considered a leak. c.The Permittee shall install the following low emission components associated with the affected product tank (Tank 2003): i.Dual mechanical seals for all pumps in gas/vapor or light liquid service as defined by 40 CFR 63.161. ii.Low emission valves for all valves in gas/vapor or light liquid service as defined by 40 CFR 63.161.
IN-0173	MIDWEST FERTILIZER CORPORATION	5/4/2016	FUGITIVE EMISSIONS FROM EQUIPMENT LEAKS	Volatile Organic Compounds (VOC)	LEAK DETECTION AND REPAIR (LDAR) PROGRAM USING 40 CFR 60, SUBPART VVA PROCEDURES	0			0			
IN-0180	MIDWEST FERTILIZER CORPORATION	5/5/2016	FUGITIVE EMISSIONS FROM EQUIPMENT LEAKS	Volatile Organic Compounds (VOC)	LEAK DETECTION AND REPAIR (LDAR) PROGRAM USING 40 CFR 60, SUBPART VVA PROCEDURES	0			0			

*IN-0324	MIDWEST FERTILIZER COMPANY LLC	5/12/2022	Fugitive emissions from equipment leaks F-1	Volatile Organic Compounds (VOC)		0			0			Fugitive VOC emissions shall be controlled by a Leak Detection and Repair (LDAR) program. The leak detection and repair program specified in 40 CFR 60, Subpart VVa shall serve as BACT for VOC fugitive emissions.
*IN-0345	EVONIK CORPORATION TIPPECANOE LABORATORIES	3/23/2022	Bulk Chemical Manuf. Equipment Leaks/Fugitive	Volatile Organic Compounds (VOC)		0		MONTHLY SENSORY BASED MONITORING	0			(1)When equipment is operating as affected facilities under 40 CFR 63, Subpart GGG, VOC BACT for equipment leaks is an LDAR program as specified in 40 CFR 63.1255. (2)When equipment is operating as affected facilities under 40 CFR 63, Subpart DD, VOC BACT for equipment leaks is an LDAR program as specified in 40 CFR 63.691. (3)When equipment is operating as affected facilities under 40 CFR 63, Subpart FFFF, VOC BACT for equipment leaks is an LDAR program as specified in 40 CFR 63.2480. (4)When equipment is operating as affected facilities under 40 CFR 63 Subparts F, G, or H, VOC BACT for equipment leaks is an LDAR program as specified in 40 CFR 63, Subpart H. (5)The VOC BACT for equipment leaks
KY-0112	WESTLAKE VINYLS, INC.- PVC PLANT	4/6/2021	Fugitive Equipment Leaks [EU20]	Volatile Organic Compounds (VOC)	includes: proper labeling and following the requirements in 40 CFR 63, Subpart UU and following good work practices including: 1.Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes based on the material. 2. New and reworked buried connectors shall be welded. 3. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be reasonably accessible for leak checking during plant operation. 4. Damaged, leaking, or severely rusted valves, connectors, compressor seals, agitator seals, and pump seals found by visual inspection to be leaking (e.g., process fluids) shall be tagged and replaced or repaired. All leaking components that cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging.	0			0			For pumps subject to 401 KAR 51:017, the permittee shall install leakless pumps with dual mechanical seals or with a barrier fluid to reduce leaks. If a leakless pump is not feasible, the permittee shall submit justification as to its technical infeasibility. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through. In addition, all connectors in gas\vapor and light liquid service shall be monitored annually with an approved gas analyzer.
LA-0331	CALCASIEU PASS LNG PROJECT	6/19/2019	Fugitive Equipment Leaks	Volatile Organic Compounds (VOC)	Proper piping design and compliance with LAC 33:III.2111.	5	T/YR	ANNUAL TOTAL	0			

MD-0045	MATTAWOMAN ENERGY CENTER	5/13/2016	EQUIPMENT LEAKS	Volatile Organic Compounds (VOC)		0			0			VOC LAER FOR THE NATURAL GAS PIPELINE COMPONENTS ASSOCIATED WITH THE PIPELINE SHALL BE THE IMPLEMENTATION OF AN AUDIBLE, VISUAL, AND OLFACTORY (AVO) PROGRAM PLAN ON SITE FOR THE REVIEW UPON REQUEST BY MDE-ARMA. IN ACCORDANCE WITH THE AVO PROGRAM PLAN, THE INSPECTIONS SHALL BE DOCUMENTED, LEAKS IDENTIFIED FROM THE AVO ASSESMENT SHALL BE REPAIRED WITHIN FIVE DAYS OF DISCOVERY, REPAIRS DOCUMENTED, AND ASSOCIATED REPAIR RECORDS MAINTAINED.
OH-0368	PALLAS NITROGEN LLC	6/19/2019	Urea Process Equipment Leaks (F004)	Volatile Organic Compounds (VOC)	Leak detection and repair (LDAR) and comply with work practice standards in 40 CFR 60.482-1a â€“ 60.482-11a as applicable for all equipment in VOC service.	4.1	LB/H		17.9	T/YR	PER ROLLING 12 MONTH PERIOD	
OK-0148	BUFFALO CREEK PROCESSING PLANT	5/11/2018	Fugitive Equipment Leaks (Natural Gas Plant)	Volatile Organic Compounds (VOC)	LDAR.	0			0			Comply with baseline NSPS, Subpart OOOO.
OK-0156	NORTHSTAR AGRI IND ENID	5/11/2018	Equipment Leaks	Volatile Organic Compounds (VOC)	Leak Detection and Repair (LDAR)	0			0			NFPA 36/Monitoring
OK-0176	BPV GATHERING AND MARKETING CUSHING STATION	5/11/2018	FUGITIVE EQUIPMENT LEAKS	Volatile Organic Compounds (VOC)	Conduct and record AVO observations.	217.24	TONS/YEAR/FACILITY		0			40 CFR Part 112
OK-0180	CUSHING TERMINAL	9/10/2021	FUGITIVE EQUIPMENT LEAKS	Volatile Organic Compounds (VOC)	Conduct and record AVO observations. Prepare, implement, and maintain SPCC plan. Records of inspections, identified leaks, and corrective actions.	0			0			Addresses increase from additional (added) components.
*TN-0163	HOLSTON ARMY AMMUNITION PLANT	3/21/2019	Fugitive Equipment Leaks	Volatile Organic Compounds (VOC)	Comply with NSPS VVa work practices	0			0			
TX-0731	CORPUS CHRISTI TERMINAL CONDENSATE SPLITTER	5/16/2016	, Petroleum Refining Equipment Leaks/Fugitive Emissions	Volatile Organic Compounds (VOC)	Quarterly instrumental monitoring using a method 21 gas analyzer for all valves, pump seals, compressor seals, and agitator seals with a leak definition of 500 parts per million volume (ppmv) for valves and 2,000 ppmv for pump, compressor and agitator seals. Leaking components must be repaired within 15 days of detection of the leak.	36.6	TPY		0			
TX-0765	SUNOCO MARINE VESSEL LOADING OPERATIONS	7/6/2016	Petroleum Refining Equipment Leaks/Fugitive Emissions	Volatile Organic Compounds (VOC)	Quarterly instrumental monitoring using a method 21 gas analyzer for all valves, pump seals, compressor seals, and agitator seals with a leak definition of 500 ppmv for valves and 2,000 ppmv for pump, compressor and agitator seals. Leaking components must be repaired within 15 days of detection of the leak.	10.13	TPY		0			28VHP
TX-0797	CORPUS CHRISTI TERMINAL	7/29/2016	Petroleum Refining Equipment Leaks/Fugitive Emissions	Volatile Organic Compounds (VOC)	Fugitive Leak Detection and Repair (LDAR) per the 28 MID Monitoring program that requires quarterly monitoring of all components with a leak definition of 500 ppmv and directed maintenance.	500	PPM		33.1	T/YR		SIP Subchapter D â€“ Petroleum Refining, Natural Gas Processing, and Petrochemical Processes.
TX-0811	LINEAR ALPHA OLEFINS PLANT	11/16/2017	SOCMI Equipment Leaks	Volatile Organic Compounds (VOC)	Quarterly instrumental monitoring of all accessible piping components (pumps, compressors, valves, flanges) in vapor and light liquid service with a leak definition of 500 ppmv VOC. Weekly audio-visual-olfactory monitoring for all components in heavy liquid service. Upon detection of a leak, a first attempt must be made to repair within 5 days, and repairs must be	6.87	T/YR		0			MACT FFFF, 30 TAC 115, SUBCHAPTER H

TX-0812	CRUDE OIL PROCESSING FACILITY	11/16/2017	Equipment Leaks	Volatile Organic Compounds (VOC)	Quarterly instrumental monitoring of accessible pumps, compressors and valves in vapor or light liquid service, with leak definitions of 500 ppmv (valves) and 2,000 ppmv (pump and compressor seals). Upon detection of a leak, a first attempt to repair must be made within 5 days, and repairs must be completed within 15 days.	8.72	T/YR		0			NSPS GGG, GGGa, 30 TAC 115, SUBCHAPTER D
TX-0847	VALERO PORT ARTHUR REFINERY	4/4/2019	Equipment Leaks/Fugitive Emissions	Volatile Organic Compounds (VOC)	28 VHP	0			0			
TX-0903	SWEENY REFINERY	9/14/2021	Equipment Leaks/Fugitive Emission	Volatile Organic Compounds (VOC)	Fugitive Leak Detection and Repair (LDAR) per the 28MID, 28PI, 28CNTQ, and 28CNTA monitoring programs.	0			0			

EPA RACT/BACT/LAER Clearinghouse: Keyword "Fugitive"

RBLCID	FACILITY NAME	DATE DETERMINATION LAST UPDATED	PROCESS NAME	POLLUTANT	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	EMISSION LIMIT 1 UNIT	EMISSION LIMIT 1 AVG TIME CONDITION	EMISSION LIMIT 2	EMISSION LIMIT 2 UNIT	EMISSION LIMIT 2 AVGERAGE TIME CONDITION	POLLUTANT COMPLIANCE NOTES
FL-0368	NUCOR STEEL FLORIDA FACILITY	3/4/2022	Meltshop Baghouse & Fugitives	Volatile Organic Compounds (VOC)	Good combustion practice and process control along with a scrap management plan	0.3	LB/TON OF STEEL	3-HOUR AVG	18	LB/HOUR	3-HOUR AVG	
*IA-0117	SHELL ROCK SOY PROCESSING	4/20/2021	Fugitive VOC Sources	Volatile Organic Compounds (VOC)		0.14	GAL/TON	VOC	0			
IL-0115	WOOD RIVER REFINERY	7/6/2016	EQUIPMENT LEAKS/FUGITIVE EMISSIONS	Volatile Organic Compounds (VOC)	LDAR BUT LOWER LEAK DEFINITION FOR VALVES IN G/LL SERVICE (500 PPM) AND PUMP SEALS IN LL (2000 PPM); LOW EMISSION VALVES WHERE APPROPRIATE.	0			0			
IL-0119	PHILLIPS 66 PIPELINE LLC	9/14/2016	Equipment Leaks / Fugitive Emissions	Volatile Organic Compounds (VOC)	LDAR	0			0			40 CFR 63 Subpart H plus the following: b.The Permittee shall monitor affected components to detect leaks by the method specified in 40 CFR 63.180(b), except that a more stringent definition of a leak shall apply, i.e., an instrument reading of 500 parts per million or greater from valves in gas and light liquid service and an instrument reading of 2,000 ppm or greater from pumps in light liquid service shall be considered a leak. c.The Permittee shall install the following low emission components associated with the affected product tank (Tank 2003): i.Dual mechanical seals for all pumps in gas/vapor or light liquid service as defined by 40 CFR 63.161. ii.Low emission valves for all valves in gas/vapor or light liquid service as defined by 40 CFR 63.161.
IN-0173	MIDWEST FERTILIZER CORPORATION	5/4/2016	FUGITIVE EMISSIONS FROM EQUIPMENT LEAKS	Volatile Organic Compounds (VOC)	LEAK DETECTION AND REPAIR (LDAR) PROGRAM USING 40 CFR 60, SUBPART VVA PROCEDURES	0			0			
IN-0179	OHIO VALLEY RESOURCES, LLC	5/4/2016	FUGITIVE VOC EMISSIONS	Volatile Organic Compounds (VOC)	USE OF A LEAK DETECTION AND REPAIR (LDAR) PROGRAM USING 40 CFR 60, SUBPART VVA PROCEDURES.	0			0			
IN-0180	MIDWEST FERTILIZER CORPORATION	5/5/2016	FUGITIVE EMISSIONS FROM EQUIPMENT LEAKS	Volatile Organic Compounds (VOC)	LEAK DETECTION AND REPAIR (LDAR) PROGRAM USING 40 CFR 60, SUBPART VVA PROCEDURES	0			0			
IN-0200	ELI LILLY AND COMPANY-CLINTON LABORATORIES	6/8/2016	FUGITIVES VOC	Volatile Organic Compounds (VOC)		0			0			THE FUGITIVES VOC EMISSIONS SHALL BE MINIMIZED BY USE OF A LEAK DETECTION AND REPAIR PROGRAM WHICH REQUIRES TIMELY REPAIRS OF PIPING AND EQUIPMENT COMPONENTS FOUND LEAKING.
IN-0317	RIVERVIEW ENERGY CORPORATION	5/26/2021	Block 2000 fugitive emissions	Volatile Organic Compounds (VOC)	leak detection and repair (LDAR) program	151.18	TONS	12 CONSECUTIVE MONTHS	0			40 CFR 60, subpart GGGa
IN-0317	RIVERVIEW ENERGY CORPORATION	5/26/2021	Block 4000 fugitive emissions	Volatile Organic Compounds (VOC)	Leak detection and repair (LDAR) program	25.04	TONS	12 CONSECUTIVE MONTHS	0			40 CFR 60, subpart GGGa
*IN-0324	MIDWEST FERTILIZER COMPANY LLC	5/12/2022	Fugitive emissions from equipment leaks F-1	Volatile Organic Compounds (VOC)		0			0			Fugitive VOC emissions shall be controlled by a Leak Detection and Repair (LDAR) program. The leak detection and repair program specified in 40 CFR 60, Subpart VVa shall serve as BACT for VOC fugitive emissions.

*IN-0345	EVONIK CORPORATION TIPPECANOE LABORATORIES	3/23/2022	Bulk Chemical Manuf. Equipment Leaks/Fugitive	Volatile Organic Compounds (VOC)		0		MONTHLY SENSORY BASED MONITORING	0			(1)When equipment is operating as affected facilities under 40 CFR 63, Subpart GGG, VOC BACT for equipment leaks is an LDAR program as specified in 40 CFR 63.1255. (2)When equipment is operating as affected facilities under 40 CFR 63, Subpart DD, VOC BACT for equipment leaks is an LDAR program as specified in 40 CFR 63.691. (3)When equipment is operating as affected facilities under 40 CFR 63, Subpart FFFF, VOC BACT for equipment leaks is an LDAR program as specified in 40 CFR 63.2480. (4)When equipment is operating as affected facilities under 40 CFR 63 Subparts F, G, or H, VOC BACT for equipment leaks is an LDAR program as specified in 40 CFR 63, Subpart H. (5)The VOC BACT for equipment leaks for connectors in on-site waste service is an LDAR program as specified in 40 CFR 63, Subpart H, except connector
KY-0112	WESTLAKE VINYLS, INC.- PVC PLANT	4/6/2021	Fugitive Equipment Leaks [EU20]	Volatile Organic Compounds (VOC)	includes: proper labeling and following the requirements in 40 CFR 63, Subpart UU and following good work practices including: 1.Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes based on the material. 2. New and reworked buried connectors shall be welded. 3. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be reasonably accessible for leak checking during plant operation. 4. Damaged, leaking, or severely rusted valves, connectors, compressor seals, agitator seals, and pump seals found by visual inspection to be leaking (e.g., process fluids) shall be tagged and replaced or repaired. All leaking components that cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging.	0			0			For pumps subject to 401 KAR 51:017, the permittee shall install leakless pumps with dual mechanical seals or with a barrier fluid to reduce leaks. If a leakless pump is not feasible, the permittee shall submit justification as to its technical infeasibility. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through. In addition, all connectors in gas\vapor and light liquid service shall be monitored annually with an approved gas analyzer.
KY-0113	WESTLAKE CHEMICAL OPCO, LP	4/6/2021	EU# 025A (EPN FUG-ETH-VVa) Ethylene Plant Fugitives	Volatile Organic Compounds (VOC)	includes: proper labeling and following the requirements in 40 CFR 60, Subpart VVa and following good work practices including: 1.Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes based on the material. 2. New and reworked buried connectors shall be welded. 3. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be reasonably accessible for leak checking during plant operation. 4. Damaged, leaking, or severely rusted valves, connectors, compressor seals, agitator seals, and pump seals found by visual inspection to be leaking (e.g., process fluids) shall be tagged and replaced or repaired. All leaking components that cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging.	0			0			For pumps subject to 401 KAR 51:017, the permittee shall install leakless pumps with dual mechanical seals or with a barrier fluid to reduce leaks. If a leakless pump is not feasible, the permittee shall submit justification as to its technical infeasibility. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through. In addition, all connectors in gas\vapor and light liquid service shall be monitored annually with an approved gas analyzer.

KY-0113	WESTLAKE CHEMICAL OPCO, LP	4/6/2021	EU# 025B (EPN FUG-ETH) Ethylene Plant Fugitives	Volatile Organic Compounds (VOC)	includes: proper labeling and following the requirements in 40 CFR 60, Subpart VVa and following good work practices including: 1.Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes based on the material. 2. New and reworked buried connectors shall be welded. 3. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be reasonably accessible for leak checking during plant operation. 4. Damaged, leaking, or severely rusted valves, connectors, compressor seals, agitator seals, and pump seals found by visual inspection to be leaking (e.g., process fluids) shall be tagged and replaced or repaired. All leaking components that cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging.	0			0			For pumps subject to 401 KAR 51:017, the permittee shall install leakless pumps with dual mechanical seals or with a barrier fluid to reduce leaks. If a leakless pump is not feasible, the permittee shall submit justification as to its technical infeasibility. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through. In addition, all connectors in gas\vapor and light liquid service shall be monitored annually with an approved gas analyzer.
KY-0113	WESTLAKE CHEMICAL OPCO, LP	4/6/2021	EU# 025 (EPN FUG-ETH-YY) Ethylene Plant Fugitives	Volatile Organic Compounds (VOC)	includes: proper labeling and following the requirements in 40 CFR 63, Subpart YY and Subpart UU and following good work practices including: 1.Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes based on the material. 2. New and reworked buried connectors shall be welded. 3. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be reasonably accessible for leak checking during plant operation. 4. Damaged, leaking, or severely rusted valves, connectors, compressor seals, agitator seals, and pump seals found by visual inspection to be leaking (e.g., process fluids) shall be tagged and replaced or repaired. All leaking components that cannot be repaired until a scheduled shutdown	0			0			For pumps subject to 401 KAR 51:017, the permittee shall install leakless pumps with dual mechanical seals or with a barrier fluid to reduce leaks. If a leakless pump is not feasible, the permittee shall submit justification as to its technical infeasibility. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through. In addition, all connectors in gas\vapor and light liquid service shall be monitored annually with an approved gas analyzer.
KY-0114	WESTLAKE VINYLS, INC.- VINYLS PLANT	4/6/2021	FUG-MON-H Monomer Plant Fugitives	Volatile Organic Compounds (VOC)	MACT H LDAR program as required by the regulations, and promptly repairing any leaking components in accordance with the LDAR plan. 2.Leak is defined as a reading of 500 ppmv. 3.The permittee will install leakless pumps with dual mechanical seals or with a barrier fluid to reduce leaks, as possible. If a leakless pump is not feasible, the permittee shall submit justification as to its technical infeasibility. 4.The permittee will monitor new non-leakless pumps to a leak detection threshold of 500 ppm. 5.The permittee will utilize Good Work Practices. Good work practices include: 1.Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes based on the material. 2.New and reworked buried connectors	0			0			

					consistent with 40 CFR 63, Subpart H requirements. 2.Leak is defined as a reading of 500 ppmv. 3.Good work practices. (4) The permittee shall install leak-less pumps with dual mechanical seals or with a barrier fluid to reduce leaks. If a leak-less pump is not feasible, the permittee shall submit justification as to its technical infeasibility. Good work practices including: Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes based on the material. 2. New and reworked buried connectors shall be welded. 3. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be reasonably accessible for leak checking during plant operation.							the permittee shall install leakless pumps with dual mechanical seals or with a barrier fluid to reduce leaks. If a leakless pump is not feasible, the permittee shall submit justification as to its technical infeasibility. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through. In addition, all connectors in gas\vapor and light liquid service shall be monitored annually with an approved gas analyzer.
KY-0114	WESTLAKE VINYLS, INC.- VINYLS PLANT	4/6/2021	FUG-MON-NG Monomer Plant Fugitives in Natural Gas service	Volatile Organic Compounds (VOC)		0			0			
LA-0272	AMMONIA PRODUCTION FACILITY	5/4/2016	FUGITIVE EMISSIONS (FUG)	Volatile Organic Compounds (VOC)		0			0			THE PSD PERMIT DOES NOT ESTABLISH MASS EMISSION LIMITS FOR FUGITIVE EMISSIONS. NO LDAR PROGRAM PRESCRIBED.
LA-0277	COMONIMER-1 UNIT	4/28/2017	Fugitive Emissions	Volatile Organic Compounds (VOC)	Comply with requirements of 40 CFR 63 Subpart UU and LAC 33:III.2111	0			0			
LA-0282	ALLIANCE REFINERY	9/14/2016	Unit Fugitives for the Low Sulfur Gasoline Unit (294-FF, FUG 0004)	Volatile Organic Compounds (VOC)	Louisiana MACT Determination for Refinery Equipment Leaks (Fugitive Emission Sources) dated July 26, 1994	15.43	LB/HR	HOURLY AVERAGE	67.59	TPY	ANNUAL MAXIMUM	
LA-0283	ALLIANCE REFINERY	9/14/2016	UNIT FUGITIVES FOR LOW SULFUR GASOLINE UNIT (294-FF, FUG 0004)	Volatile Organic Compounds (VOC)	LDAR: Louisiana MACT Determination for Refinery Equipment Leaks (Fugitive Emission Sources) dated July 26, 1994	15.43	LB/HR	HOURLY AVERAGE	67.59	TPY	ANNUAL MAXIMUM	
LA-0284	ALLIANCE REFINERY	12/20/2016	Unit Fugitives for Loading Docks (406-FF, FUG 11)	Volatile Organic Compounds (VOC)	LDAR: 40 CFR 63 Subpart H	0			0			
LA-0288	LAKE CHARLES CHEMICAL COMPLEX	9/14/2016	Power Area Fugitives (FUG 12)	Volatile Organic Compounds (VOC)	Leak Detection and Repair (LDAR) Program: 40 CFR 63 Subpart FFFF	0.01	TPY	ANNUAL MAXIMUM	0			The LDAR program applies only to components conveying MON-regulated fuel gas to the boilers
LA-0290	LAKE CHARLES CHEMICAL COMPLEX GTL LAB-2 UNIT	4/28/2017	LAB-2 Unit Fugitive Emissions (FUG 11)	Volatile Organic Compounds (VOC)	Leak detection and repair (LDAR) program: 40 CFR 63 Subpart H	16.77	TPY	ANNUAL MAXIMUM	0			
LA-0291	LAKE CHARLES CHEMICAL COMPLEX GTL UNIT	9/19/2016	GTL Unit Fugitive Emissions (FUG 15)	Volatile Organic Compounds (VOC)	Leak detection and repair (LDAR) program: 40 CFR 63 Subpart FFFF	89.13	TPY	ANNUAL MAXIMUM	0			
LA-0294	DODSON DIVISION	12/20/2016	Fugitive Ink Emissions (039, FUG 4)	Volatile Organic Compounds (VOC)	Good housekeeping practices and the use of low VOC materials when possible. Good housekeeping practices include keeping containers closed and minimizing spills and leaks to the maximum extent practical.	0.34	LB/H	HOURLY MAXIMUM	1.21	T/YR	ANNUAL MAXIMUM	
LA-0295	WESTLAKE FACILITY	9/19/2016	Facility Fugitive Emissions (FUG 4)	Volatile Organic Compounds (VOC)	Leak detection and repair (LDAR): LAC 33:III.2122	0			0			40 CFR 60 Subpart DDD (referencing Subpart VV) is also applicable, but LAC 33:III.2122 is the overall most stringent program.
LA-0296	LAKE CHARLES CHEMICAL COMPLEX LDPE UNIT	4/28/2017	LDPE Fugitives (FUG 13)	Volatile Organic Compounds (VOC)	Leak Detection and Repair (LDAR): 40 CFR 60 Subpart VVa	17.44	TPY	ANNUAL MAXIMUM	0			
LA-0297	LAKE CHARLES CHEMICAL COMPLEX LLDPE UNIT	4/28/2017	LLDPE Fugitive Emissions (FUG 10)	Volatile Organic Compounds (VOC)	Leak Detection and Repair (LDAR): 40 CFR 63 Subpart FFFF	17.44	TPY	ANNUAL MAXIMUM	0			
LA-0298	LAKE CHARLES CHEMICAL COMPLEX GUERBET ALCOHOLS UNIT	4/28/2017	Guerbet Fugitive Emissions (FUG 14)	Volatile Organic Compounds (VOC)	Leak Detection and Repair (LDAR): LAC 33:III.2122	25.54	TPY	ANNUAL MAXIMUM	0			
LA-0299	LAKE CHARLES CHEMICAL COMPLEX ETHOXYLATION UNIT	4/28/2017	Fugitives (FUG 21)	Volatile Organic Compounds (VOC)	Leak Detection and Repair (LDAR): 40 CFR 63 Subpart FFFF	10.92	TPY	ANNUAL MAXIMUM	0			
LA-0300	LAKE CHARLES CHEMICAL COMPLEX ALUMINA UNIT	4/28/2017	Alumina Unit Fugitives (FUG 7)	Volatile Organic Compounds (VOC)	Leak Detection and Repair (LDAR): LAC 33:III.2122	21.38	TPY	ANNUAL MAXIMUM	0			
LA-0301	LAKE CHARLES CHEMICAL COMPLEX ETHYLENE 2 UNIT	4/28/2017	Steam Fugitive Emissions (FUG 17)	Volatile Organic Compounds (VOC)	Leak Detection and Repair (LDAR): LAC 33:III.2122	88.14	TPY	ANNUAL MAXIMUM	0			
LA-0301	LAKE CHARLES CHEMICAL COMPLEX ETHYLENE 2 UNIT	4/28/2017	Fugitive Emissions (FUG 19)	Volatile Organic Compounds (VOC)	Leak Detection and Repair (LDAR): 40 CFR 63 Subpart UU	90.31	TPY	ANNUAL MAXIMUM	0			
LA-0302	LAKE CHARLES CHEMICAL COMPLEX EO/MEG UNIT	4/28/2017	Fugitive Emissions (FUG 20)	Volatile Organic Compounds (VOC)	Leak Detection and Repair (LDAR): 40 CFR 63 Subpart H	26.51	TPY	ANNUAL MAXIMUM	0			
LA-0303	LAKE CHARLES CHEMICAL COMPLEX ZIEGLER ALCOHOL UNIT	4/28/2017	Fugitive Emissions (FUG 22)	Volatile Organic Compounds (VOC)	Leak Detection and Repair (LDAR): 40 CFR 63 Subpart FFFF	308.48	TPY	ANNUAL MAXIMUM	0			
LA-0307	MAGNOLIA LNG FACILITY	4/28/2017	fugitives	Volatile Organic Compounds (VOC)	Comply with LAC 33:III.2111	0			0			

*LA-0312	ST. JAMES METHANOL PLANT	5/1/2020	WWTF-13 - Wastewater Treatment Fugitives (FUG0001)	Volatile Organic Compounds (VOC)	Compliance with NESHAP Subpart F and NESHAP Subpart G. LDAR Monitoring.	0.29	LB/HR		0			
*LA-0312	ST. JAMES METHANOL PLANT	5/1/2020	PF-13 - Process Fugitives (FUG0002)	Volatile Organic Compounds (VOC)	Compliance with NESHAP Subpart H. LDAR Monitoring.	0			0			
LA-0314	INDORAMA LAKE CHARLES FACILITY	4/28/2017	Fugitive Emissions	Volatile Organic Compounds (VOC)	proper piping design, complying with LAC 33:III.2111, and conduct an LDAR meeting requirements of 40 CFR 63 Subpart UU	0			0			
*LA-0315	G2G PLANT	4/5/2021	Process Methanol Fugitives	Volatile Organic Compounds (VOC)	Compliance with 40 CFR 63 Subpart H LDAR program	0.08	LB/H	HOURLY MAXIMUM	0.36	T/YR	ANNUAL MAXIMUM	
*LA-0315	G2G PLANT	4/5/2021	Process Gasoline Fugitives	Volatile Organic Compounds (VOC)	Compliance with 40 CFR 63 Subpart H LDAR program	0.18	LB/H	HOURLY MAXIMUM	0.79	T/YR	ANNUAL MAXIMUM	
*LA-0315	G2G PLANT	4/5/2021	Wastewater System Fugitives	Volatile Organic Compounds (VOC)	Compliance with 40 CFR 63 Subpart H LDAR program	0.01	LB/H	HOURLY MAXIMUM	0.05	T/YR	ANNUAL MAXIMUM	
LA-0316	CAMERON LNG FACILITY	4/28/2017	fugitive emissions	Volatile Organic Compounds (VOC)	Complying with LAC 33:III.2111	0			0			
LA-0319	LAKE CHARLES CHEMICAL COMPLEX - COMONOMER-1 UNIT	4/28/2017	Fugitive Emissions FE-1	Volatile Organic Compounds (VOC)	Complying with 40 CFR 63 Subpart UU	0			0			
LA-0328	PLAQUEMINES PLANT 1	2/19/2019	Fugitive Emissions (Bio)	Volatile Organic Compounds (VOC)	Comply with 40 CFR 63 Subpart H	0.35	LB/H		0			
LA-0328	PLAQUEMINES PLANT 1	2/19/2019	PVC Unit Fugitives	Volatile Organic Compounds (VOC)	Comply with 40 CFR 63 Subpart H	0.263	LB/H		0			
LA-0331	CALCASIEU PASS LNG PROJECT	6/19/2019	Fugitive Equipment Leaks	Volatile Organic Compounds (VOC)	Proper piping design and compliance with LAC 33:III.2111.	5	T/YR	ANNUAL TOTAL	0			
LA-0346	GULF COAST METHANOL COMPLEX	8/6/2021	fugitives	Volatile Organic Compounds (VOC)	LDAR meets requirements of 40 CFR 63 Subpart H	0			0			
LA-0349	DRIFTWOOD LNG FACILITY	8/6/2021	Fugitives	Volatile Organic Compounds (VOC)	Good Work Practices, Comply with LAC 33:III.2111, 40 CFR 63 Subpart H, TT, or UU, as applicable	0			0			
LA-0355	GARYVILLE REFINERY	8/6/2021	Fugitives from Crude Unit, Coker Unit and FCCU	Volatile Organic Compounds (VOC)	Comply with 40 CFR 60 Subpart GGGa	0			0			
LA-0356	GARYVILLE REFINERY	8/6/2021	Fugitive Emissions (Unit 305, Unit 333, Refinery, GRL)	Volatile Organic Compounds (VOC)	Comply with 40 CFR 60 Subpart GGGa	0			0			
LA-0362	LAKE CHARLES REFINERY, AREA D	8/9/2021	Area D Process D Fugitives	Volatile Organic Compounds (VOC)	Compliance with the most stringent applicable Leak Detection and Repair (LDAR) program, which is Louisiana MACT Determination for Refineries with Consent Decree Enhancements.	24.44	LB/H		0			
LA-0364	FG LA COMPLEX	8/9/2021	Fugitive Emissions	Volatile Organic Compounds (VOC)	Compliance with applicable provisions 40 CFR 63 Subpart UU.	0			0			
LA-0364	FG LA COMPLEX	8/9/2021	Fugitive Emissions HON	Volatile Organic Compounds (VOC)	Compliance with applicable provisions 40 CFR 63 Subpart H.	0			0			
LA-0366	HOLDEN WOOD PRODUCTS MILL	4/30/2021	Shavings Bin and Truck Load-out Fugitives	Volatile Organic Compounds (VOC)		13.9	T/HR		0			
LA-0373	LAKE CHARLES CHEMICAL COMPLEX	8/9/2021	UO&I Fugitives - FUG0024	Volatile Organic Compounds (VOC)	Comply with 40 CFR 63 Subpart UU	0			0			
LA-0379	SHINTECH PLAQUEMINES PLANT 1	3/4/2022	PVC Unit Fugitive Emissions 2	Volatile Organic Compounds (VOC)	Comply with 40 CFR 63 Subpart H.	0.243	LB/HR		1.06	T/YR		
LA-0382	BIG LAKE FUELS METHANOL PLANT	3/4/2022	Fugitives (FUG0001)	Volatile Organic Compounds (VOC)	Comply with 40 CFR 63 Subpart H	0			0			
LA-0383	LAKE CHARLES LNG EXPORT TERMINAL	3/4/2022	Fugitives (FUG0001)	Volatile Organic Compounds (VOC)	Proper piping design and LDAR	0			0			
LA-0385	GARYVILLE REFINERY	3/4/2022	Refinery Fugitives	Volatile Organic Compounds (VOC)	Comply with 40 CFR 60 Subpart GGGa (for components servicing streams with 10% or more VOC)	0			0			
*LA-0388	LACC LLC US - ETHYLENE PLANT	5/12/2022	Ethylene Plant Fugitive Emissions	Volatile Organic Compounds (VOC)	Compliance with 40 CFR 63 Subpart UU	93.93	T/YR		0			
MS-0092	EMBERCLEAR GTL MS	11/7/2016	Process fugitives	Volatile Organic Compounds (VOC)	LDAR for all equipment in VOC service, equivalent to NSPS VVa	0			0			
OH-0358	RUMPKE SANITARY LANDFILL	5/4/2016	Fugitive emissions from 4 Gas Recovery Plants	Volatile Organic Compounds (VOC)		745.7	T/YR		0			Limits for non-methane organic compounds (NMOC). Subject to Part 60 Subpart WWW and Part 63 Subpart AAAA for landfills; 98% control efficiency or reduce NMOC at outlet to less than 20 ppm.

OH-0378	PTTGCA PETROCHEMICAL COMPLEX	6/19/2019	Fugitive Emissions (P807)	Volatile Organic Compounds (VOC)	requirements to the most stringent leak detection and repair (LDAR) regulation applicable to affected equipment/process units. The following identifies LDAR requirements for affected equipment/process units which have been determined to representative of BACT: i.40 CFR Part 63 Subpart UU as applicable to the ethylene manufacturing process with enhanced connector monitoring; ii.40 CFR Part 60 Subpart VVa as applicable to the polyethylene manufacturing process with enhanced connector monitoring; The LDAR programs indicated above which are representative of BACT shall implement the following enhanced connector monitoring requirements: i.connector monitoring subsequent to the initial monitoring required shall be performed on a quarterly basis; ii.if following the initial four (4) consecutive quarters, the percent leaking connectors in a process unit is less than 0.5 percent during the most recent quarterly monitoring event, then the frequency of connector monitoring can be reduced to semi-annual; iii.if following two (2) consecutive semi-	99.38	T/YR	PER ROLLING 12 MONTH PERIOD. SEE NOTES.	0			requirements to the most stringent leak detection and repair (LDAR) regulation applicable to affected equipment/process units. The following identifies LDAR requirements for affected equipment/process units which have been determined to representative of BACT: i.40 CFR Part 63 Subpart UU as applicable to the ethylene manufacturing process with enhanced connector monitoring; ii.40 CFR Part 60 Subpart VVa as applicable to the polyethylene manufacturing process with enhanced connector monitoring; The LDAR programs indicated above which are representative of BACT shall implement the following enhanced connector monitoring requirements: i.connector monitoring subsequent to the initial monitoring required shall be performed on a quarterly basis; ii.if following the initial four (4) consecutive quarters, the percent leaking connectors in a process unit is less than 0.5 percent during the most
OK-0153	ROSE VALLEY PLANT	7/29/2016	FUGITIVE EQUIPMENT	Volatile Organic Compounds (VOC)	LDAR IN COMPLIANCE WITH NSPS 000.	0			0			ALL FUGITIVE SOURCES WILL BE SUBJECT TO THE LDAR PROGRAM.
OK-0175	WILDHORSE TERMINAL	5/11/2018	Fugitive Emission Sources	Volatile Organic Compounds (VOC)		0			0			40 CFR Part 112 Prepare, implement, and maintain SPCC Plan. Records of quarterly inspections, identified leaks, and corrective actions shall be maintained.
OK-0176	BPV GATHERING AND MARKETING CUSHING STATION	5/11/2018	FUGITIVE EQUIPMENT LEAKS	Volatile Organic Compounds (VOC)	Conduct and record AVO observations.	217.24	TONS/YEAR/FACILITY		0			40 CFR Part 112
OK-0177	CUSHING SOUTH TANK FARM	3/4/2022	Fugitive emission source	Volatile Organic Compounds (VOC)	Prepare, implement, and maintain SPCC plan. Records of quarterly inspections, identified leaks, and corrective actions shall be maintained.	0			0			40 CFR Part 112.
OK-0180	CUSHING TERMINAL	9/10/2021	FUGITIVE EQUIPMENT LEAKS	Volatile Organic Compounds (VOC)	Conduct and record AVO observations. Prepare, implement, and maintain SPCC plan. Records of inspections, identified leaks, and corrective actions.	0			0			Addresses increase from additional (added) components.
*PA-0324	MARCUS HOOK	6/16/2021	Fugitive leaks	Volatile Organic Compounds (VOC)		500	PPM		0			LDAR program, leak definition of 500 ppm, 0.5% leak percetage rate for reduction in monitoring frequency
*PA-0330	SUPERIOR TUBE	9/24/2021	GENERAL SOURCE FUGITIVE EMISSIONS	Volatile Organic Compounds (VOC)	The permittee shall record the amount of VOC-containing solvent used by this spray booth on a weekly basis when in use, and perform monthly calculations to demonstrate compliance with the VOC emission limit for each 12 consecutive month period.	13.8	TONS	YEAR	0			
SC-0170	BP AMOCO CHEMICAL COMPANY - COOPER RIVER PLANT	6/6/2019	#1 OXIDATION UNIT FUGITIVES	Volatile Organic Compounds (VOC)	HON LDAR	0			0			FACILITY IS USING HON LDAR PROGRAM AS BACT LIMIT
SC-0170	BP AMOCO CHEMICAL COMPANY - COOPER RIVER PLANT	6/6/2019	#2 OXIDATION UNIT FUGITIVES	Volatile Organic Compounds (VOC)	HON LDAR	0			0			BACT LIMIT IS HON LDAR
SC-0182	FIBER INDUSTRIES LLC	4/12/2019	Fugitives	Volatile Organic Compounds (VOC)	Use of leakless types of components to replace individual chronically leaking components where possible and the use an LDAR program which includes the applicable provisions of 40 CFR 63, Subpart JJJ.	0			0			
SC-0183	NUCOR STEEL - BERKELEY	4/2/2019	Pickle Line Equipment (pickle line no. 3 fugitives)	Volatile Organic Compounds (VOC)	Proper Operation and Maintenance	0			0			VOC Minimization Plan
*TN-0163	HOLSTON ARMY AMMUNITION PLANT	3/21/2019	Fugitive Equipment Leaks	Volatile Organic Compounds (VOC)	Comply with NSPS VVa work practices	0			0			
TX-0656	GAS TO GASOLINE PLANT	5/12/2016	Fugitive Components	Volatile Organic Compounds (VOC)	LDAR 28 VHP	500	PPM		0			
TX-0657	BEAUMONT GAS TO GASOLINE PLANT	11/12/2020	Fugitive emissions in Gas to Gasoline Plant	Volatile Organic Compounds (VOC)	28 VHP Fugitive Monitoring Program	25.58	TPY		0			
TX-0661	OILTANKING APPELT TERMINAL	11/12/2020	Fugitive Sources	Volatile Organic Compounds (VOC)	LDAR	0.03	POUND	HOUR	0.13	TON	YEAR	
TX-0682	GALENA PARK TERMINAL	5/9/2016	Fugitives	Volatile Organic Compounds (VOC)	28 LAER monitoring program with a leak definition of 500 ppmv will be used for control of fugitives. A weekly visual inspection will also be performed on components in heavy liquid service	500	PPMV	LEAK DEFINITION	0			
TX-0711	CELANESE CLEAR LAKE PLANT	5/16/2016	Fugitives	Volatile Organic Compounds (VOC)	28 LAER leak detection and repair program	0			0			
TX-0721	PROPANE DEHYDROGENATION UNIT	1/31/2020	Fugitives	Volatile Organic Compounds (VOC)	VOC fugitives will be controlled by 28 MID LDAR programs.	0			0			

TX-0722	ORGANIC CHEMICAL MANUFACTURING	1/31/2020	Fugitives	Volatile Organic Compounds (VOC)	Chevron Phillipâ€™s proposes to utilize the 28 LAER leak detection and repair program with that addition of quarterly connector monitoring for fugitive components associated with the project.	0			0			
TX-0723	NATURAL GAS LIQUIDS PROCESSING PLANT	1/31/2020	Fugitives	Volatile Organic Compounds (VOC)	Piping, valves, pumps, compressors, and other fittings will be subject to a leak detection and repair program with some directed to flare control as minor vents. 28 LAER will be implemented	0			0			
TX-0731	CORPUS CHRISTI TERMINAL CONDENSATE SPLITTER	5/16/2016	, Petroleum Refining Equipment Leaks/Fugitive Emissions	Volatile Organic Compounds (VOC)	Quarterly instrumental monitoring using a method 21 gas analyzer for all valves, pump seals, compressor seals, and agitator seals with a leak definition of 500 parts per million volume (ppmv) for valves and 2,000 ppmv for pump, compressor and agitator seals. Leaking components must be repaired within 15 days of detection of the leak.	36.6	TPY		0			
TX-0752	INGLESIDE TERMINAL	12/3/2015	Fugitives	Volatile Organic Compounds (VOC)	28 VHP: Quarterly instrumental monitoring using a method 21 gas analyzer for all valves, pump seals, compressor seals, and agitator seals with a leak definition of 500 ppmv for valves and 2,000 ppmv for pump, compressor and agitator seals. Leaking components must be repaired within 15 days of detection of the leak.	5.4	T/YR		0			NSPS Kb and OOOO MACT EEEE
TX-0755	RAMSEY GAS PLANT	7/6/2016	Fugitive Components	Volatile Organic Compounds (VOC)	40 CFR Part 60, Subpart OOOO requirements and TCEQâ€™s 28 M Fugitive Monitoring requirements will be used to control fugitive emissions from each Ramsey Gas Plant.	500	PPMV	VALVES	10000	PPMV	PUMP AND COMPRESSER SEALS	40 CFR Part 60, Subpart OOOO
TX-0756	CCI CORPUS CHRISTI CONDENSATE SPLITTER FACILITY	7/6/2016	Fugitive Components	Volatile Organic Compounds (VOC)	Fugitive Leak Detection and Repair (LDAR) program that requires quarterly monitoring of valves with a leak definition of 500 ppmv. Quarterly monitoring of pump and compressor seals with a leak definition of 2,000 ppmv.	500	PPMV	VALVES	2000	PPMV	PUMP AND COMPRESSER SEALS	40CFR60 Subparts A and GGGa
TX-0759	PORT ARTHUR REFINERY	7/6/2016	Hydrocracking and Hydro-treating Fugitive Components	Volatile Organic Compounds (VOC)	(LDAR) program that requires quarterly monitoring of valves, pumps, and compressor seals with a leak definition of 500 ppmv. Enhancements to the LDAR program include: 1) Monitoring to be done with data loggers capable of assigning time stamps to individual monitoring events; 2) Repair of leaking components found during weekly physical inspections within 15 days; 3) First attempt of repair of any valve found with a VOC reading greater than 100 ppmv; 4) Conduct of annual training for all of all LDAR technicians in the application of Method 21 consistent with the requirements of the permit; 5) Performance of a third party audit by no later than December 31, 2015 and then at least once every two years thereafter to verify whether EPA Method 21 is being properly applied; 6) and Initiation of an optical gas imaging (OGi) enhanced monitoring program for equipment leaks at those process units subject to EPA Method 21. In addition to the enhanced program, Motiva has agreed to perform quarterly instrument	500	PPM	VALVES, PUMPS, SEALS	147.66	T/YR		
TX-0760	CORPUS CHRISTI TERMINAL	7/6/2016	Fugitives	Volatile Organic Compounds (VOC)	Fugitive Leak Detection and Repair (LDAR) per the 28 MID Monitoring program that requires quarterly monitoring of all components with a leak definition of 500 ppmv and directed maintenance.	500	PPMV		0			
TX-0765	SUNOCO MARINE VESSEL LOADING OPERATIONS	7/6/2016	Petroleum Refining Equipment Leaks/Fugitive Emissions	Volatile Organic Compounds (VOC)	Quarterly instrumental monitoring using a method 21 gas analyzer for all valves, pump seals, compressor seals, and agitator seals with a leak definition of 500 ppmv for valves and 2,000 ppmv for pump, compressor and agitator seals. Leaking components must be repaired within 15 days of detection of the leak.	10.13	TPY		0			28VHP
TX-0774	BISHOP FACILITY	7/6/2016	Fugitives	Volatile Organic Compounds (VOC)	28VHP fugitive monitoring program	4.61	TPY		0			NSPS VVa, MACT H
TX-0783	LBC HOUSTON BAYPORT TERMINAL	7/6/2016	Fugitives	Volatile Organic Compounds (VOC)	An enhanced leak detection and repair program (28LAER) that requires quarterly instrumental monitoring of all fugitive components (pumps, compressors, valves, connectors, seals, etc.) with directed maintenance.	500	PPMV		0			40 CFR Part 61, Subparts A, J, V
TX-0790	PORT ARTHUR LNG EXPORT TERMINAL	7/29/2016	LNG Export Facility - Natural Gas Fugitive Emissions	Volatile Organic Compounds (VOC)	Work practice - leak detection and repair program (TCEQâ€™s 28 VHP LDAR program)	21.65	T/YR		0			

TX-0797	CORPUS CHRISTI TERMINAL	7/29/2016	Petroleum Refining Equipment Leaks/Fugitive Emissions	Volatile Organic Compounds (VOC)	Fugitive Leak Detection and Repair (LDAR) per the 28 MID Monitoring program that requires quarterly monitoring of all components with a leak definition of 500 ppmv and directed maintenance.	500	PPM		33.1	T/YR		SIP Subchapter D â€“ Petroleum Refining, Natural Gas Processing, and Petrochemical Processes.
TX-0799	BEAUMONT TERMINAL	7/7/2016	Fugitives	Volatile Organic Compounds (VOC)	Uncontrolled VOC fugitive emissions are estimated to be greater than 25 tpy. Component fugitive emissions are calculated using component counts and the SOCMI without ethylene emission factors. Phillips 66 employs the 28VHP inspection and 28CNTQ monitoring program	33.18	T/YR		0			40 CFR Part 63, Subparts A, R, & EEEE
TX-0800	CORPUS CRUDE OIL TERMINAL	11/16/2017	Fugitives	Volatile Organic Compounds (VOC)	Uncontrolled VOC fugitive emissions are estimated to be less than 10 TPY. Fugitive components are monitored and minimized via an audio, olfactory, and visual (AVO) inspection once every four hours.	0.41	T/YR		0			
TX-0803	PL PROPYLENE HOUSTON OLEFINS PLANT	11/16/2017	Equipment Leak Fugitives	Volatile Organic Compounds (VOC)	LDAR (TCEQ 28LAER)	11.58	LB/H		0			
TX-0804	ADN UNIT	11/16/2017	Equipment Leak Fugitives	Volatile Organic Compounds (VOC)	LDAR program (TCEQ 28VHP)	5.41	LB/H		0			30 TAC Chapter 115 Subchapter B
TX-0808	HOUSTON FUEL OIL TERMINAL	11/16/2017	Fugitives at Marine Loading	Volatile Organic Compounds (VOC)	Monitoring under 28LAER (Lowest Available Emission Rate) Leak Detection and Repair program.	0.04	T/YR		0			
TX-0813	ODESSA PETROCHEMICAL PLANT	11/16/2017	FUGITIVES	Volatile Organic Compounds (VOC)	Quarterly instrumental monitoring of accessible pumps, compressors and valves in vapor or light liquid service, with leak definitions of 500 ppmv (valves) and 2,000 ppmv (pump and compressor seals). Upon detection of a leak, a first attempt to repair must be made within 5 days, and repairs must be completed within 15 days.	88.52	T/YR		0			NSPS DDD
TX-0815	PORT ARTHUR ETHANE SIDE CRACKER	11/16/2017	FUGITIVES	Volatile Organic Compounds (VOC)	28VHP LDAR Program	17.2	T/YR		0			NSPS VVa, NESHAP J,V,FF, MACT UU, YY, SIP(115 Subchapter D
TX-0818	FUEL OIL TERMINAL	6/28/2017	FUGITIVES MARINE LOADING	Volatile Organic Compounds (VOC)	Monitoring under 28LAER (Lowest Available Emission Rate) Leak Detection and Repair program.	0.16	T/YR		0			
TX-0823	LYONDELL CHEMICAL BAYPORT CHOATE PLANT	11/16/2017	FUGITIVES	Volatile Organic Compounds (VOC)	28 LAER	4.36	T/YR		0			NSPS VVa NESHAP H 30 TAC 115 SUBCHAPTER D
TX-0825	PASADENA TERMINAL	11/16/2017	Uncaptured Marine Loading Fugitives From Ships	Volatile Organic Compounds (VOC)	A minimum of three vessels per year for five years will undergo VOC collection efficiency testing to ensure compliance with 99.89% loading vapor collection efficiency of inerted ocean-going marine vessels	23.66	T/YR		0			MACT Y
TX-0836	CHOCOLATE BAYOU	11/12/2020	FUGITIVES	Volatile Organic Compounds (VOC)	28LAER LDAR	1.4	TON/YR		0			MACT FFFF
TX-0837	INVISTA S.A.R.L. VICTORIA PLANT	11/12/2020	FUGITIVES	Volatile Organic Compounds (VOC)	28VHP LDAR	202.3	TON/YR		0			
TX-0840	CORPUS CHRISTI TERMINAL	2/20/2019	FUGITIVES	Volatile Organic Compounds (VOC)	Fugitive Leak Detection and Repair (LDAR) per the 28 MID Monitoring program that requires quarterly monitoring of all components with a leak definition of 500 ppmv and directed maintenance.	0			0			NSPS Kb, MACT Y,R,EEEE, 30 TAC 115
TX-0843	VICTORIA PLANT	4/4/2019	FUGITIVES	Volatile Organic Compounds (VOC)	28VHP	203	T/YR		0			NSPS VVa MACT F, H 30 TAC 115
TX-0847	VALERO PORT ARTHUR REFINERY	4/4/2019	Equipment Leaks/Fugitive Emissions	Volatile Organic Compounds (VOC)	28 VHP	0			0			
TX-0849	MONT BELVIEU	2/19/2019	FUGITIVES	Volatile Organic Compounds (VOC)	28 VHP LAER	0			0			
TX-0850	CORPUS CHRISTI TERMINAL	2/19/2019	FUGITIVES	Volatile Organic Compounds (VOC)	28 MID	0			0			
TX-0851	RIO BRAVO PIPELINE FACILITY	2/19/2019	FUGITIVES	Volatile Organic Compounds (VOC)	28VHP	0			0			
TX-0852	CORPUS CHRISTI WATERFRONT TERMINAL	4/4/2019	Fugitive Components	Volatile Organic Compounds (VOC)	28LAER	0			0			
TX-0855	BUCKEYE SOUTH TEXAS GATEWAY TERMINAL	11/12/2020	Fugitives	Volatile Organic Compounds (VOC)	28 VHP, 28PI LDAR	0			0			
TX-0858	GULF COAST GROWTH VENTURES PROJECT	11/12/2020	Fugitive Components	Volatile Organic Compounds (VOC)	TCEQ 28VHP and 28CNTQ leak detection and repair (LDAR) programs for piping components in VOC service	0			0			
TX-0859	GULF COAST GROWTH VENTURES PROJECT RAILYARD	11/12/2020	Fugitive Components & Piping	Volatile Organic Compounds (VOC)	monitored quarterly using an approved portable hydrocarbon analyzer. Leaks are defined at 500 ppmv VOC for valves and flanges, and 2,000 ppmv VOC for pump seals. Components in heavy liquid service, which are exempt from instrumental monitoring, must be inspected weekly via audio, visual and olfactory (AVO)	0			0			

TX-0861	BUCKEYE TEXAS PROCESSING CORPUS CHRISTI FACILITY	11/12/2020	FUGITIVES	Volatile Organic Compounds (VOC)	28VHP LDAR	0			0			
TX-0862	BUCKEYE TEXAS HUB	11/12/2020	Fugitives	Volatile Organic Compounds (VOC)	28 VHP & 28CNTA LDAR	0			0			
TX-0863	POLYETHYLENE 7 FACILITY	11/12/2020	FUGITIVES	Volatile Organic Compounds (VOC)	28 MID	0			0			
TX-0864	EQUISTAR CHEMICALS CHANNELVIEW COMPLEX	11/12/2020	Fugitive Components	Volatile Organic Compounds (VOC)	28LAER & 28PI	500	PPMV		0			
TX-0865	EQUISTAR CHEMICALS CHANNELVIEW COMPLEX	11/12/2020	FUGITIVES	Volatile Organic Compounds (VOC)	28LAER, 28PI LDAR	0			0			
TX-0871	PORT ARTHUR REFINERY	11/12/2020	Fugitives	Volatile Organic Compounds (VOC)	28VHP leak detection and repair (LDAR)	0			0			
TX-0872	CONDENSATE SPLITTER FACILITY	11/12/2020	Fugitives (Routine)	Volatile Organic Compounds (VOC)	28VHP. Leak-less connectors.	15.63	LB/H		0			NSPS GGGa
TX-0873	PORT ARTHUR REFINERY	11/12/2020	FUGITIVES	Volatile Organic Compounds (VOC)	28 MID, 28 AVO and OGI fugitive programs. Authorized for infrared camera (28MID+).	0			0			
TX-0874	PORT ARTHUR REFINERY	11/12/2020	FUGITIVES	Volatile Organic Compounds (VOC)	28MID LDAR and 28CNTQ.	0			0			
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	11/12/2020	FUGITIVES	Volatile Organic Compounds (VOC)	TCEQ 28VHP and 28CNTQ leak detection and repair (LDAR) programs	500	PPMV		0			
TX-0877	SWEENY REFINERY	11/12/2020	FUGITIVES	Volatile Organic Compounds (VOC)	28 MID, 28CNTQ, and 28 PI programs. 28 MID: 97% control efficiencies for valves in gas/vapor and light liquid, 93% control efficiency for pumps light liquids and 30% for heavy liquid, 95% for compressors, 97% for relief valves. 28CNTQ: 97% control efficiencies for flanges/connectors in gas/vapor and light liquid and 30% for heavy liquid. 28PI: 30% control efficiencies for valves all phases, pumps all phases, flanges/connectors all phases, compressors, and relieve valves.	0			0			MACT CC, 30 TAC 115
TX-0879	MOTIVA PORT ARTHUR TERMINAL	11/12/2020	FUGITIVES	Volatile Organic Compounds (VOC)	28PET leak detection and repair program. Monthly Audio/Visual/Olfactory (AVO) inspection requirements	0			0			
TX-0879	MOTIVA PORT ARTHUR TERMINAL	11/12/2020	PROCESS FUGITIVES	Volatile Organic Compounds (VOC)	28VHP leak detection and repair program. 97% credit for valves, 85% for pumps and compressors.	0			0			
TX-0884	PROPANE DEHYDROGENATION (PDH) UNIT	11/12/2020	FUGITIVES	Volatile Organic Compounds (VOC)	28 LAER	0			0			NSPS Subpart VVa, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 MACT 40 CFR 63 Subpart FFFF, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing.
TX-0886	MONT BELVIEU NGL FRACTIONATION UNIT	11/12/2020	EQUIPMENT LEAK FUGITIVES	Volatile Organic Compounds (VOC)	28 LAER leak detection and repair (LDAR) program	0			0			NSPS OOOOa Ch. 115 Subchapter D Division 3
TX-0887	MIDLAND PLAINS MARKETING TERMINAL	11/12/2020	Fugitives	Volatile Organic Compounds (VOC)	The site-wide fugitive emissions are less than 10 tpy uncontrolled VOC emissions. LADR program and emission reduction credit is not applied.	0			0			
TX-0888	ORANGE POLYETHYLENE PLANT	11/12/2020	FUGITIVE COMPONENTS	Volatile Organic Compounds (VOC)	28 VHP, 28CNTA, 28PI leak detection and repair (LDAR) programs	0			0			NSPS VVa NESHAP J & V
TX-0890	ENTERPRISE PRODUCTS OPERATING MOUNT BELVIEU COMPLEX	11/12/2020	Fugitive components	Volatile Organic Compounds (VOC)	28 LAER LDAR	0			0			NSPS VVa NESHAP J, V
TX-0892	NEDERLAND TERMINAL	11/12/2020	fugitives	Volatile Organic Compounds (VOC)	28-VHP LDAR fugitive	0			0			
TX-0894	CHEVRON PHILLIPS CHEMICAL SWEENY COMPLEX	11/12/2020	Unit 81 Fugitives (EPN FUG-02)	Volatile Organic Compounds (VOC)	Piping components at the Sweeny site are currently monitored under the stringent 28LAER LDAR program. The proposed piping components in this amendment will be monitored using the 28LAER program. Valves in heavy liquid service will use the language in the 28LAER LDAR program that requires AVO inspection.	0			0			
TX-0899	LBC HOUSTON BAYPORT TERMINAL	12/1/2021	FUGITIVES	Volatile Organic Compounds (VOC)	Fugitive components will be monitored under the 28LAER program. This control meets LAER	0			0			
TX-0903	SWEENY REFINERY	9/14/2021	Equipment Leaks/Fugitive Emission	Volatile Organic Compounds (VOC)	Fugitive Leak Detection and Repair (LDAR) per the 28MID, 28PI, 28CNTQ, and 28CNTA monitoring programs.	0			0			
TX-0904	MOTIVA POLYETHYLENE MANUFACTURING COMPLEX	12/1/2021	FUGITIVES	Volatile Organic Compounds (VOC)	TCEQ 28VHP and 28CNTQ leak detection and repair (LDAR) programs	0			0			

TX-0906	PORT ARTHUR REFINERY	3/8/2022	FUGITIVES	Volatile Organic Compounds (VOC)	TCEQ 28VHP (LDAR) program	0			0				
TX-0908	NEWMAN POWER STATION	3/8/2022	Fugitives	Volatile Organic Compounds (VOC)	weekly AVO	0			0				
TX-0909	POLYETHYLENE UNIT 1792	5/10/2021	Fugitives	Volatile Organic Compounds (VOC)	28VHP	0			0				
TX-0910	POLYETHYLENE UNIT 1796	5/10/2021	FUGITIVES	Volatile Organic Compounds (VOC)	28 VHP	0			0				
TX-0912	MONT BELVIEU FRACTIONATOR	5/10/2021	FUGITIVES	Volatile Organic Compounds (VOC)	Implement a 28LAER Leak Detection and Repair program including monitoring for leaks using Method 21.	0			0				
TX-0914	BORGER REFINERY	3/8/2022	FUGITIVE COMPONENTS	Volatile Organic Compounds (VOC)	28VHP	0			0				
TX-0916	CEDAR BAYOU	3/8/2022	FUGITIVE COMPONENTS	Volatile Organic Compounds (VOC)	28 VHP	0			0				
TX-0918	CEDAR BAYOU PLANT	3/8/2022	FUGITIVE COMPONENTS	Volatile Organic Compounds (VOC)	28LAER	0			0				
*TX-0921	HOUSTON PLANT - 22052	6/14/2022	FUGITIVES	Volatile Organic Compounds (VOC)	28LAER	0			0				NSPA VV, MACT H
*TX-0922	HOUSTON PLANT - 46307	6/14/2022	FUGITIVES	Volatile Organic Compounds (VOC)	28 LAER	0			0				NSPS VV, MACT H
*TX-0924	HOUSTON PLANT - 19806	6/14/2022	FUGITIVES	Volatile Organic Compounds (VOC)	28 LAER	0			0				
TX-0929	FORMOSA POINT COMFORT PLANT	3/8/2022	FUGITIVES	Volatile Organic Compounds (VOC)	modified 28VHP LDAR program in VOC service. A more stringent 500ppmv leak definition of 28MID is used. Annual 28CNTA monitoring is voluntarily used.	0			0				
TX-0930	CENTURION BROWNSVILLE	3/8/2022	Fugitive Components	Volatile Organic Compounds (VOC)	Leak detection and repair (LDAR) monitoring and directed maintenance in accordance with the 28VHP program. Quarterly instrumental monitoring using a Method 21 gas analyzer.	0			0				
TX-0931	ROEHM AMERICA BAY CITY SITE	3/8/2022	Fugitives	Volatile Organic Compounds (VOC)	TCEQ 28VHP/28CNTQ (LDAR) Program	0			0				
TX-0933	NACERO PENWELL FACILITY	3/8/2022	Electrical Equipment Fugitive Leaks	Volatile Organic Compounds (VOC)	The manufacturerâ€™s recommendations for maintenance, repair, and recycling of SF6 recovered during maintenance will be followed. Pressure in breakers and switches will be monitored, and repair when pressure drops 10% below initial pressure will be initiated.	0			0				
*TX-0936	BILL GREEHEY REFINERY EAST PLANT	4/11/2022	REFINERY FUGITIVES	Volatile Organic Compounds (VOC)	28VHP, 28AVO	0			0				
*WI-0261	ENBRIDGE ENERGY - SUPERIOR TERMINAL	5/31/2022	Piping components / pumping fugitive	Volatile Organic Compounds (VOC)	Routine Leak Detection and Repair (LDAR) Quarterly or semiannual if leak rate is less than 0.5%. 500 ppm detection threshold. LDAR combining routine M21 as well as sound, sight and smell observations. May screen using Smart LDAR (IR cam) w/ M21 confirmation. Use of certified low leaking valves or valves fitted with certified low leaking valve packing technology except where demonstrated as not commercially available for a particular application. Pigging equipment shall be constructed to drain to a sump tank and depressurize prior to opening. Normally limited to routine maint. / inspection operation except for Line 61 where needed for batch segregation. See 13-DCF-129, 12-DCF-205.	0			0				
WI-0266	GREEN BAY PACKAGING, INC. - SHIPPING CONTAINER DIVISION	2/19/2019	Corrugator No. 4 (Fugitive F61)	Volatile Organic Compounds (VOC)	Use of Low VOC coating and additives: Average VOC content of all VOC-containing materials may not exceed 0.15% by weight, as applied on a monthly basis.	2.57	TON/MONTH		0				

WI-0279	CORPORATE/COMPANY NAMEENBRIDGE ENERGY LIMITED PARTNERSHIP -	3/8/2022	Process NameF01 â€" Piping Component/Pumping Fugitive	Volatile Organic Compounds (VOC)	Complying with Leak Detection and Repair (LDAR) Program	0			0			BACT is LDAR Program established on 17-DCF-091 Final Permit pg. 62-66 (I.G.1.a.3) including quarterly inspections and reporting. And The use of Certified Low-Leaking Valves technology except when commercially unavailable. â€œCertified Low-Leaking Valvesâ€ shall mean valves for which a manufacturer has issued either a written guarantee that the valve will not leak above 100 parts per million (ppm) for five years or a written guarantee, certification or equivalent documentation that the valve has been tested pursuant to generally-accepted good engineering practices and has been found to be leaking at no greater than 100 ppm. 17-DCF-091 Final Permit pg. 66-67 (I.G.1.a.3)
WI-0283	AFE, INC. â€"LCM PLANT	3/8/2022	F10 â€" Fugitive Wipe Cleaning Operations	Volatile Organic Compounds (VOC)	Concentration Control	0			0			The as applied VOC content of the solvent or solvent solution for industrial cleaning operations shall not exceed 0.25 pounds per gallon (0.03 kilograms per liter).

List of New Permit Conditions:
27583 – General Permit Conditions for Renewable Fuels Project
27584 – Permit Conditions for Process Units
27585 – Permit Conditions for S-1526
27586 – Permit Conditions for S-1600
27587 – Throughput Limits for Grandfathered Sources
27591 – Permit Conditions for A-2000
27592 – Permit Conditions for A-2001
27593 – Permit Conditions for A-2002
27596 – Permit Conditions for Fugitive Components
27597 – Permit Conditions for S-621
27598 – Permit Conditions for S-2023
27603 – Permit Conditions for S-651
27604 – Permit Conditions for Process Heaters
27610 – Permit Conditions for Wastewater Treatment

Permit Condition #27583

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project.

General:
1. The owner/operator shall ensure that the following sources are not used in the process of unloading renewable feedstock, producing renewable fuels, loading renewable fuels, handling waste related to renewable fuels production or processing, or any other activities associated with the Renewable Fuels Project: S-3, S-26, S-33, S-57, S-101, S-134, S-135, S-137, S-217, S-258, S-270, S-272, S-274, S-327, S-429, S-467, S-494, S-495, S-514, S-515, S-516, S-532, S-554, S-572, S-585, S-599, S-603, S-604, S-612, S-618, S-631, S-637 through S-642, S-646, S-647, S-662, S-664, S-690, S-691, S-694, S-696, S-701, S-702, S-705 through S-711, S-714, S-755, S-821, S-823, S-824, S-871, S-896, S-922, S-926, S-935, S-943, S-990, S-1038, S-1105, S-1106, S-1421, S-1461, S-1485, S-1489, S-1490, S-1491, S-1504 through S-1507, S-1521, S-1528, S-1549, and/or S-1555. Prior to operating any of the sources above with the renewable fuels process, the owner/operator shall submit a permit application and receive approval from the Air District.
(Basis: Regulation 2-1-403 Permit Conditions)

2. The owner/operator of Pretreatment Unit (S-2025), Diesel HDO Unit No. 3 (S-850), Diesel HDO Unit No. 2 (S-1003) Diesel Isomerization Unit (S-1007) and Diesel HDO Unit No. 1 (S-1008) shall not process any crude oil feedstock and/or any petroleum based material.
(Basis: Regulation 2-1-403 Permit Conditions)

Documentation:
The following permit conditions will be used to verify permitting actions/determinations and assumptions used for issuance of the Authority to Construct, which is based on preliminary information.

3. Prior to the issuance of the permit to operate, the owner/operator shall submit the following items to the Air District's Engineering Division (each referencing Permit Application #30768, Permit Condition #27583, Part 3):
a. Renewable Naphtha safety data sheet (SDS).
b. Vendor documentation for new aerators at S-830.
c. Final design drawings for Equalization Tank S-2010.
d. Final design drawings for Intermediate HDO Product Storage Tank S-621.
e. Final as-built Process Flow Diagrams for all changes associated with the Renewable Fuels Project.
f. Subsequent revisions to product safety data sheets (SDS) (Renewable Diesel, Renewable Propane, Renewable Naphtha, etc.).
(Basis: Regulation 2-1-403 Permit Conditions, Regulation 2-2-208 Cumulative Increase)

Contemporaneous Onsite Emission Reduction Credits

4. Within 60 days of the issuance of the authority to construct for the Renewable Fuels Project, the owner/operator shall submit a Device Data Update Form (Form DDU) to ensure the following sources used for contemporaneous onsite emission reduction credits to offset emissions increases for this project are permanently shutdown and their permits surrendered: S-432, S-590, S-802, S-815, S-816, S-817, S-825, S-901, S-904, S-908, S-912, S-950, S-955, S-956, S-957, S-958, S-959, S-960, S-971, S-972, S-975, S-977, S-979, S-983, S-987, S-988, S-1001, S-1009, S-1013, S-1020, S-1401, S-1411, S-1496, and A-1402. Please provide both the dates the sources stopped operating and the dates the sources were disconnected or dismantled.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-221 Offsets, Regulation 2-2-231 Equivalence Credit)

5. Within 30 days of the completion of the installation/replacement of all fugitive components in Permit Condition #27596, Part 11, the owner/operator of S-850, S-1002, S-1003, S-1007, S-1008, S-1526, S-1510, and S-1600 shall submit a final count of removed components by source associated with the Renewable Fuels Project for contemporaneous onsite emission reduction credits to offset emissions increases for this project. A total of 1.644 tons per year of POC emissions have been credited for the removal of the following fugitive components:

5,083	valves in gas service
4,494	valves in light liquid service
1206	valves in heavy liquid
25,955	connectors
8,595	flanges
98	PSV's/PRV's
20	compressors
80	pumps in light liquid service
27	pumps in heavy liquid service
497	process drains

If the removed fugitive component counts exceed or are less than the component counts stated above, the contemporaneous onsite emission reduction credits shall be adjusted as needed, subject to APCO approval, to reflect contemporaneous onsite emission reduction credits from actual removed component counts.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-221 Offsets, Regulation 2-2-231 Equivalence Credit)

New Source Performance Standards (NSPS) and National Emissions Standards for Hazardous Air Pollutants (NESHAP) Applicability Determination and Compliance:

6. The owner/operator of S-601, S-699, S-700, and/or S-819 shall determine the facility's total annual benzene quantity from facility waste within 90 days of achieving the maximum processing rate of 47,000 bpd, but no later than 180 days after the startup of Phase 3, i.e., the startup of S-1003 or S-1008 regardless of the capacity achieved, if applicable as defined in Part 9. Phase 3 is not required if the startup dates of S-1003 and S-1008 are within 90 days of each other since Phase 4 would be applicable. The owner/operator of S-601, S-699, S-700, and S-819 shall conduct a second test to determine the facility's total annual benzene quantity from facility waste within 90 days of achieving the maximum processing rate of 67,000 bpd, but no later than 180 days after the startup of Phase 4, regardless of the capacity achieved. The owner/operator shall determine total annual benzene quantity in accordance with 40 CFR Part 61, Subpart FF, §61.355. The results shall be submitted to the Air District's Engineering Division no later than 30 days from the date of the test to determine applicability to Subpart FF. After sampling is complete the Air District will confirm compliance with any applicable regulations and add any associated additional conditions as necessary to maintain compliance with any applicable regulatory requirements prior to issuance of the permit to operate.
(Basis: 40 CFR Part 61, Subpart FF, §61.340 - Applicability)

7. Within 180 days of the startup of each phase as defined in Part 9 of this permit condition or an alternative schedule approved by the Air District, the owner/operator of S-700, S-819, S-830, S-831, S-842, S-1026, S-2003, S-2010, S-2013, S-2016, and/or S-2017 shall determine the designation of process wastewater streams (Group 1 or Group 2) in accordance with §63.132 and 63.2485(c) and demonstrate compliance with Table 7 of 40 CFR Part 63,

Subpart FFFF. The results shall be submitted to the Air District's Engineering Division no later than 30 days from the date of the test to determine applicable requirements from Subpart FFFF. After sampling is complete the Air District will confirm compliance with any applicable regulations and add any associated additional conditions as necessary to maintain compliance with any applicable regulatory requirements prior to issuance of the permit to operate.
(Basis: 40 CFR Part 63, Subpart FFFF, §63.2485 – Requirements for Wastewater Streams)

8. The owner/operator of S-919, S-920, S-928 through S-934, S-937, S-973, S-1511, and/or S-1512 shall demonstrate that fuel gas combusted at these sources qualifies as an "other gas 1 fuel," as defined in §63.7575, in accordance with procedures established in §63.7521(f) through (i) and according to the frequency listed in §63.7575(c) and maintain records of the results of the testing as outlined in §63.7555(g). If the initial sample does not qualify as an "other gas 1 fuel," sources listed in this Part are not considered units designed to burn gas 1 subcategory and shall be in compliance with the emission and operating limits for the appropriate subcategory in Subpart DDDDD. The results shall be submitted to the Air District's Engineering Division no later than 30 days from the date of the test to determine applicable requirements from Subpart DDDDD. After sampling is complete the Air District will confirm compliance with any applicable regulations and add any associated additional conditions as necessary to maintain compliance with any applicable regulatory requirements prior to issuance of the permit to operate.
(Basis: 40 CFR 63, Subpart DDDDD, §63.7530(g) – Initial Fuel Speciation Analysis, Recordkeeping).

Initial Compliance Demonstration:
9. For the purpose of initial compliance demonstration for the Renewable Fuels Project, initial startup of each phase is defined as when all systems/units listed are in operation and shall be started up at the same time, unless otherwise specified:

	Systems/Units in Operation	Processing Capacity (Maximum Daily)
Phase 1	S-850 (Diesel HDO Unit No. 3) S-1007 (Diesel Isomerization Unit) Associated downstream units Stage 2 Wastewater Treatment	23,000 bpd
Phase 2	S-2025 (Pretreatment Unit) Stage 1 Wastewater Treatment	23,000 bpd
Phase 3*	S-1003 (Diesel HDO Unit No. 2) or S-1008 (Diesel HDO Unit No. 1)	43,000 bpd or 47,000 bpd**
Phase 4	S-1003 (Diesel HDO Unit No. 2) and S-1008 (Diesel HDO Unit No. 1)	67,000 bpd***

* The startup date of Phase 3 is defined as the startup of either S-1003 or S-1008, whichever is earlier. Phase 3 is not required if the startup dates of S-1003 and S-1008 are within 90 days of each other since Phase 4 would be applicable.
** 43,000 bpd is the maximum daily processing capacity when S-850 and S-1003 are in operation. 47,000 bpd is the maximum daily processing capacity when S-850 and S-1008 are in operation.
*** 67,000 bpd is the maximum daily processing capacity when S-850, S-1003, and S-1008 are all in operation.

In an event that the definition of the startup of any phase is changed or redefined, the owner/operator shall notify the Air District's Engineering Division to revise this part of the permit condition prior to conducting the initial compliance demonstration for that phase.
(Basis: Regulation 2-1-403 Permit Conditions)

10. The owner/operator shall conduct initial compliance source test on S-819 and S-1026 to demonstrate compliance with Permit Condition #7406, Parts B5 and B7. The owner/operator shall notify the Air District's Compliance and Enforcement Division, Source Test Section, and Engineering Division at least seven days in advance of the initial compliance source test such that the Air District may observe during testing. The results shall be

delivered to the Air District's Source Test Section no later than 60 days from the date of the test. Initial compliance source test shall be conducted according to the following schedule:

a. Within 90 days after achieving 23,000 bpd, but no later than 180 days after the startup date of Phase 1 regardless of the capacity achieved;

b. Within 90 days after achieving 23,000 bpd, but no later than 180 days after the startup date of Phase 2 regardless of the capacity achieved;

c. Within 90 days after achieving 43,000 or 47,000 bpd, but no later than 180 days after the startup date of Phase 3 regardless of the capacity achieved (if required per Part 9);

d. Within 90 days after achieving 67,000 bpd, but no later than 180 days after the startup date of Phase 4 regardless of the capacity achieved;

Phase 3 is not required if the startup dates of S-1003 and S-1008 are within 90 days of each other since Phase 4 would be applicable.

(Basis: Regulation 2-2-301 BACT, Regulation 2-2-302 Offsets, Regulation 2-5 Toxics)

11. The owner/operator shall conduct initial compliance source test on S-1511 and S-1512 in accordance with Permit Condition #23129, Part 26. The owner/operator shall notify the Air District's Compliance and Enforcement Division, Source Test Section, and Engineering Division at least seven days in advance of the initial compliance source test such that the Air District may observe during testing. The results shall be delivered to the Air District's Source Test Section no later than 60 days from the date of the test. Initial compliance source test shall be conducted according to the following schedule:

a. Within 90 days after achieving 23,000 bpd, but no later than 180 days after the startup date of Phase 2 regardless of the capacity achieved;

b. Within 90 days after achieving 43,000 or 47,000 bpd, but no later than 180 days after the startup date of Phase 3 regardless of the capacity achieved (if required per Part 9);

c. Within 90 days after achieving 67,000 bpd, but no later than 180 days after the startup date of Phase 4 regardless of the capacity achieved;

Phase 3 is not required if the startup dates of S-1003 and S-1008 are within 90 days of each other since Phase 4 would be applicable.

(Basis: Regulation 2-1-403 Compliance Demonstration)

12. The owner/operator of S-2014 and S-2015 shall conduct an Air District approved source test for potential generation of hydrogen sulfide. Hydrogen sulfide emissions shall not equal or exceed acute and/or chronic risk screening trigger levels of 1.9E-02 lbs/hour and/or 3.9E+02 lbs/year, respectively. The owner/operator shall notify the Air District's Compliance and Enforcement Division, Source Test Section, and Engineering Division at least seven days in advance of the initial compliance source test such that the Air District may observe during testing. The results shall be delivered to the Air District's Source Test Section no later than 60 days from the date of the test. Initial compliance source test shall be conducted according to the following schedule:

a. Within 90 days after achieving 23,000 bpd, but no later than 180 days after the startup date of Phase 2 regardless of the capacity achieved;

b. Within 90 days after achieving 43,000 or 47,000 bpd, but no later than 180 days after the startup date of Phase 3 regardless of the capacity achieved (if required per Part 9);

c. Within 90 days after achieving 67,000 bpd, but no later than 180 days after the startup date of Phase 4 regardless of the capacity achieved;

Phase 3 is not required if the startup dates of S-1003 and S-1008 are within 90 days of each other since Phase 4 would be applicable.

(Basis: Regulation 2-5 Toxics)

Material Speciation Lab Analyses:

13. Within 180 days of the startup of each phase or an alternative schedule approved by the Air District, the owner/operator shall conduct sampling and testing to determine the level of air toxics in the feed and product streams for the following process units: Hydrodeoxygenation Units (S-850, S-1003, S-1008), Diesel Isomerization Unit (S-1007), and No. 5 Gas Plant (S-1526). Sampling and testing shall be performed under normal operations for each feedstock (Soybean Oil, Corn Oil, Tallow). Sampling and testing shall be completed using ASTM D6730 light

liquid and gas streams, or D2425 for heavy liquid streams, unless alternative sampling and testing methods are approved by the Air District. The owner/operator shall notify the Air District's Source Test Section in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). The report shall be submitted to the Air District's Source Test Section and Engineering Division no later than 60 days from the date of completion of sampling and testing. The report shall include the following:

a. Material speciation lab results and testing method used for feed and product streams;

b. Type of feedstock used during the sampling and testing;

c. Feed/Processing Rate;

d. Comparison between lab results and speciation profiles provided as part of the permit application 30768; and

e. Reference to Permit Application #30768, Permit Condition #27583.

Prior to the issuance of the permit to operate, the Air District will use the sampling and testing results as detailed in Part 20 of this condition to verify material and/or process stream speciation assumptions and/or preliminary test data used in the engineering evaluation for the issuance of the authority to construct.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-5 Toxics)

Wastewater Lab Analyses:

14. Within 180 days of the startup of each phase or an alternative schedule approved by the Air District, the owner/operator of S-323, S-699, S-700, S-819, S-830, S-831, S-842, S-1026, S-2001, S-2003, S-2010, S-2013, S-2016, S-2017, and S-2025 shall conduct sampling and testing to determine wastewater stream speciation using the following test methods, unless alternative sampling and testing methods are approved by the Air District: EPA Method 350.1, EPA Method 1664A, SM 4500-S2, EPA Method 420.4, and/or EPA Method 624.1. The owner/operator shall notify the Air District's Source Test Section in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). The report shall be submitted to the Air District's Source Test Section and Engineering Division no later than 60 days from the date of completion of sampling and testing. The report shall include the following:

a. Wastewater stream lab results and testing method used;

b. Type of feedstock used during the sampling and testing;

c. Feed/Processing Rate and wastewater flow rate;

d. Comparison between lab results and speciation profiles provided as part of the permit application AN 30768; and

e. Reference to Permit Application #30768, Permit Condition #27583.

Prior to the issuance of the permit to operate, the Air District will use the sampling and testing results as detailed in Parts 20 and/or 24 of this condition to verify material and/or process stream speciation assumptions and/or preliminary test data used in the engineering evaluation for the issuance of the authority to construct.
(Basis: Regulation 2-1-403 Permit Conditions)

15. Within 180 days of the startup of each phase or an alternative schedule approved by the Air District, the owner/operator of S-656 and S-658 (Sour Water Tanks) shall conduct sampling and testing to determine sour water stream speciation using the following test methods, unless alternative sampling and testing methods are approved by the Air District: SW 8260B, Hach TNT 832, UOP 209-00B, EPA Method 610. The owner/operator shall notify the Air District's Source Test Section in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). The report shall be submitted to the Air District's Source Test Section and Engineering Division no later than 60 days from the date of completion of sampling and testing. The report shall include the following:

a. Sour water stream lab results and testing method used;

b. Type of feedstock used during the sampling and testing;

c. Feed/Processing Rate;

d. Comparison between lab results and speciation profiles provided as part of the permit application 30768; and

e. Reference to Permit Application #30768, Permit Condition #27583.

Prior to the issuance of the permit to operate, the Air District will use the sampling and testing results as detailed in Part 20 of this condition to verify material and/or process stream speciation assumptions and/or preliminary test data used in the engineering evaluation for the issuance of the authority to construct.
(Basis: Regulation 2-1-403 Permit Conditions, Regulation 2-5 Toxics)

16. The owner/operator of S-1526 shall conduct sampling and testing to determine fuel gas composition and speciation using the following test methods, unless alternative sampling and testing methods are approved by the Air District: ASTM D7833 and ASTM D5504. The owner/operator shall notify the Air District's Source Test Section in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). The report shall be submitted to the Air District's Source Test Section and Engineering Division no later than 60 days from the date of completion of sampling and testing. Initial compliance test shall be conducted according to the following schedule:

a. Within 90 days after achieving 23,000 bpd, but no later than 180 days after the startup date of Phase 1 regardless of the capacity achieved;

b. Within 90 days after achieving 23,000 bpd, but no later than 180 days after the startup date of Phase 2 regardless of the capacity achieved;

c. Within 90 days after achieving 43,000 or 47,000 bpd, but no later than 180 days after the startup date of Phase 3 regardless of the capacity achieved (if required per Part 9);

d. Within 90 days after achieving 67,000 bpd, but no later than 180 days after the startup date of Phase 4 regardless of the capacity achieved;

Refer to Part 9 of this permit condition for the definition of each phase. Phase 3 is not required if the startup dates of S-1003 and S-1008 are within 90 days of each other since Phase 4 would be applicable.

Prior to the issuance of the permit to operate, the Air District will use the sampling and testing results as detailed in Part 20 of this condition to verify material and/or process stream speciation assumptions and/or preliminary test data used in the engineering evaluation for the issuance of the authority to construct.
(Basis: Regulation 2-1-403 Permit Conditions, Regulation 2-5 Toxics, Regulation 2-2-208 Cumulative Increase)

17. Within 180 days of the startup of each phase or an alternative schedule approved by the Air District, the owner/operator of S-846, S-976, S-978, S-980, S-982, and S-985 shall conduct sampling and testing for total hydrocarbon concentration to determine cooling tower water speciation using the following test methods, unless alternative sampling and testing methods are approved by the Air District: EPA Method 8015D. Alternatively, the owner/operator may use cooling tower water lab analysis results for compliance with Air District Regulation 11, Rule 10. The report shall be submitted to the Air District's Engineering Division no later than 60 days from the date of completion of sampling and testing.
Prior to the issuance of the permit to operate, the Air District will use the sampling and testing results as detailed in Part 20 of this condition to verify material and/or process stream speciation assumptions and/or preliminary test data used in the engineering evaluation for the issuance of the authority to construct.
(Basis: Regulation 2-1-403 Permit Conditions)

True Vapor Pressure of Renewable Diesel

18. On a weekly basis, the owner/operator of S-1007 shall use ASTM D6378 (or ASTM 2879) to determine the true vapor pressure of renewable diesel, such that the measured true vapor pressure is representative of the maximum true vapor pressure of renewable diesel for that week. The results shall be used to calculate emissions from renewable diesel loading operations and to demonstrate compliance with Permit Condition #26406, Part 4, at Avon Wharf (S-1560) and to confirm exemption status of Amorco Wharf (S-55, Plant #14629) via Permit Condition 22455, Parts 13 and 14. The owner/operator shall submit the results to the Air District's Engineering Division no later than 30 days after the twelfth month of testing. After twelve months of testing, the owner/operator may propose a change in testing frequency based on an established consistent true vapor pressure of renewable diesel from testing. Written approval by the Air District's Engineering Division must be received by the owner/operator prior to a change in testing schedule.
(Basis: Regulation 2-1-403 Permit Conditions, Regulations 2-1-301/302)

19. The owner/operator may develop an Air District approved correlation between true vapor pressure and initial boiling point using ASTM D86 to comply with the above condition. Prior to conducting any tests, the owner/operator shall submit a testing plan and obtain approval from the Air District's Engineering Division. The testing plan shall include the following:

a. Testing schedule (i.e., number of tests/data points);
b. Parameters and test methods;
c. Acceptance criteria (i.e., correlated or uncorrelated);

The owner/operator shall obtain written approval from the Air District's Engineering Division prior to using the correlation, if any, for the determination of true vapor pressure.
(Basis: Regulation 2-1-403 Permit Conditions)

20. Prior to the issuance of the permit to operate for the sources listed in Parts 13, 14, 15, 16, and/or 17, sampling and testing results shall be used to verify material and/or process stream speciation assumptions and/or preliminary test data used in the engineering evaluation for the issuance of the authority to construct AN 30768. If the sampling and/or testing indicates any changes from the information used for the issuance of the authority to construct, the Air District may require changes to the permit conditions in order to address the changes and maintain compliance with any applicable regulatory requirements prior to issuance of the permit to operate. In addition, the health risk assessment conducted for the issuance of the authority to construct for the Renewable Fuels Project has identified benzene as the risk driver. If sampling and testing results exceed any of the emission rates listed below for any source, and/or identify any new toxic air contaminants not previously evaluated as part of the issuance of the authority to construct, the owner/operate shall conduct a health risk assessment for the Renewable Fuels Project to demonstrate compliance with Regulation 2, Rule 5. The health risk assessment shall be submitted with the sampling and testing results, as specified in Parts 13, 14, 15, 16, and 17, to the Air District's Engineering Division no later than 60 days from the date of completion of sampling and testing. Exceeding any of the emission rates below is not considered a violation provided that the owner/operator can demonstrate compliance with Regulation 2-5-302 project risk requirements.

Source No.	Benzene (lbs/hour)	Benzene (lbs/year)
S-432	6.5E-03	4.2E+01
S-651	3.7E-03	1.5E+01
S-850	3.2E-03	2.8E+01
S-1003	2.6E-03	2.3E+01
S-1008	1.9E-03	1.7E+01
S-1496	5.4E-04	4.6E+00
S-1526	5.9E-03	5.2E+01
S-1600/A-2000	3.9E-06	3.4E-02
S-2003	1.1E-04	9.7E-01
S-2016	1.7E-02	1.5E+02
S-2017	1.7E-02	1.5E+02

(Basis: Regulation 2-1-403 Permit Conditions, Regulation 2-5 Toxics)

21. The owner/operator of the Renewable Fuels Project shall document, monitor, and maintain the following records to demonstrate the non-applicability determination of a major modification (as defined in Regulation 2-1-234):

a. Description of the project;
b. Identification of all of the sources associated with the Renewable Fuels Project;
c. Description of the applicability calculations used to determine that the Renewable Fuels Project is not a "major modification" for that pollutant, including baseline actual emissions, projected actual emissions, and any "netting" that was used; and

d. Monitor and keep a record of emissions at each source associated with the Renewable Fuels Project (in tons per year on a calendar year basis).

These records shall be kept on-site for at least 5 years. All records shall be recorded in an Air District approved log and made available for inspection by Air District staff upon request.

After 5 calendar years of operation at Phase 4 (as defined in Part 9), the owner/operator shall submit a report to the Air District's Engineering Division and EPA stating (i) the facility name, address, telephone number, Application No. 30768, and (ii) the annual emissions for all sources associated with the Renewable Fuels Project to verify that the Renewable Fuels Project is not a major modification.
(Basis: Regulation 2-1-234.2 Increase Over Actual Emissions Baseline)

22. The owner/operator of S-1468, S-2002, S-2004, S-2005, S-2006, S-2014, S-2015, S-2016, S-2017, S-2018, S-2022, S-2024, and/or S-2026 shall conduct monthly sampling to ensure aqueous solution contains less than 1 percent (by weight) organic compounds.
(Basis: Regulation 2-1-123.2)

23. Within 180 days of the startup of each phase as defined in Part 9 or an alternative schedule approved by the Air District, the owner/operator of S-700 shall conduct sampling and testing to determine the true vapor pressure of the material stored in S-700. The true vapor pressure of the material does not exceed 0.5 psia. The owner/operator of S-700 shall notify the Air District's Source Test Section in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). The report shall be submitted to the Air District's Source Test Section and Engineering Division no later than 60 days from the date of completion of sampling and testing.
(Basis: Regulation 8-5-117 Limited Exemption)

24. Prior to the issuance of the permit to operate for S-819, S-830, S-831, S-842, S-1026, S-2001, S-2003, S-2010, S-2013, S-2016, and/or S-2017, the owner/operator of shall estimate emissions from the wastewater treatment plant based on design information (flow rates, equipment configuration, etc.) and facility-specific wastewater stream data from Part 14 of this condition. The owner/operator of S-819, S-830, S-831, S-842, S-1026, S-2001, S-2003, S-2010, S-2013, S-2016, and/or S-2017 shall estimate emissions at a maximum daily flowrate of 600 gpm and annual flowrate of 450 gpm using Toxchem wastewater treatment air emission estimation software. The owner/operator shall use the results to demonstrate compliance with Permit Condition #27610, Parts 3 through 6. In addition, the owner/operator shall use the results to evaluate the impact to the health risk assessment as specified in Part 20 of this condition. The report shall be submitted to the Air District's Source Test Section and Engineering Division no later than 120 days from the date of completion of sampling and testing from Part 14 of this condition. If the sampling and/or testing indicates any changes from the information used for the issuance of the authority to construct, the Air District may require changes to the permit conditions in order to address the changes and maintain compliance with any applicable regulatory requirements prior to issuance of the permit to operate.
(Basis: Regulation 2-1-403 Permit Conditions, Regulation 2-5 Toxics)

Permit Condition #27584

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project.

S-850 Diesel HDO Unit No. 3 (formerly No. 3 HDS Unit)
S-1002 Propane Dryers (formerly No. 1 HDS Unit)
S-1003 Diesel HDO Unit No. 2 (formerly No. 2 HDS Unit)
S-1007 Diesel Isomerization Unit (formerly 2nd Stage Hydrocracker Unit)
S-1008 Diesel HDO Unit No. 1 (formerly 1st Stage Hydrocracker Unit)
S-2025 Pretreatment Unit

1. The owner/operator shall ensure that Diesel Hydrodeoxygenation (HDO) Units S-850, S-1003, and/or S-1008 do not process more than 67,000 barrels of feedstock per calendar day combined and/or 17,520,000 barrels combined in any consecutive 12 month period.
(Basis: Regulation 2-2-208 Cumulative Increase)

2. The owner/operator of S-850 shall not exceed a processing rate of 23,000 barrels of feedstock per calendar day and/or 7,300,000 barrels in any consecutive 12 month period. (Basis: Regulation 2-2-208 Cumulative Increase)

3. The owner/operator of S-1003 shall not exceed a processing rate of 20,000 barrels of feedstock per calendar day and/or 6,570,000 barrels in any consecutive 12 month period.
(Basis: Regulation 2-2-208 Cumulative Increase)

4. The owner/operator of S-1008 shall not exceed a processing rate of 24,000 barrels of feedstock per calendar day and/or 7,300,000 barrels in any consecutive 12 month period.
(Basis: Regulation 2-2-208 Cumulative Increase)

5. The owner/operator shall ensure that the throughput for Propane Dryers S-1002 does not exceed 6,000 barrels of renewable propane per calendar day and/or 1,460,000 barrels of renewable propane in any consecutive rolling 12 month period.
(Basis: Regulation 2-2-208 Cumulative Increase)

6. The owner/operator shall ensure that the throughput for the Diesel Isomerization Unit S-1007 does not exceed 58,000 barrels of renewable diesel per calendar day and/or 48,000 barrels of renewable diesel, based on a rolling 365 day average.
(Basis: Regulation 2-2-208 Cumulative Increase)

7. The owner/operator of S-2025 shall not exceed a processing rate of 48,000 barrels of feedstock per calendar day and/or 17,520,000 barrels of feedstock in any consecutive rolling 12 month period.
(Basis: Regulation 2-2-208 Cumulative Increase)

8. To determine compliance with the above condition(s), the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including, but not necessarily limited to, the following information:

a. On a calendar day basis, type and amount of feedstock processed at each S-850, S-1003, and/or S-1008.
b. On a calendar day basis, amount of renewable propane processed at S-1002.
c. On a calendar day basis, amount of renewable diesel processed at S-1007.
d. On a calendar day basis, type and amount of feedstock processed at S-2025.
e. On a calendar day basis, the amount of material processed at each S-850, S-1003, S-1008, and/or S-1007, based on a rolling 365 day average.

These records shall be kept on-site for at least 5 years. All records shall be recorded in an Air District approved log and made available for inspection by Air District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable Air District Regulations.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 1-441)

9. The owner/operator of S-2025 shall not discharge any odorous substance which causes the ambient air at or beyond the property line to be odorous.
(Basis: Regulation 7, Regulation 1-301)

Permit Condition #27585

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project.

S-1526 No. 5 Gas Plant, Abated by A-2001 H2S Adsorption Vessels

1. The owner/operator shall ensure that the No. 5 Gas Plant S-1526 does not produce more than 9,000 barrels of renewable propane and renewable naphtha per calendar day combined and/or 1,825,000 barrels of renewable propane and renewable naphtha in any consecutive twelve month period.
(Basis: Regulation 2-2-208 Cumulative Increase)

2. The owner/operator shall ensure that the processing rate for the No. 5 Gas Plant S-1526 does not exceed 40 MMscf per calendar day.
(Basis: Regulation 2-2-208 Cumulative Increase)

3. The owner/operator of S-1526 shall ensure that the C-1 Deethanizer and C-3 Depropanizer are abated by A-2001 H2S Adsorption Vessels at all times.
(Basis: Regulation 2-5 Toxics)

4. The owner/operator of S-1526 shall ensure vapors from all vent streams are recovered and sent to the fuel gas system for combustion at S-919, S-920, S-928, S-929, S-930, S-931, S-932, S-933, S-934, S-937, S-973, S-1511, S-1512, and/or A-1584 with a minimum VOC destruction efficiency of 98% by weight.
(Basis: Table 1 of 40 CFR Part 63, Subpart FFFF)

5. To determine compliance with the above condition(s), the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including, but not necessarily limited to, the following information:

a. On a calendar day basis, amount of each renewable propane and renewable naphtha produced at S-1526;

b. On a calendar day basis, amount of renewable propane and renewable naphtha produced combined at S-1526;

c. On a consecutive 12 month basis, the amount of each renewable propane and renewable naphtha produced at S-1526;

d. On a consecutive 12 month basis, the amount of renewable propane and renewable naphtha produced combined at S-1526;

e. On a calendar day basis, amount of gas processed at S-1526;

These records shall be kept on-site for at least 5 years. All records shall be recorded in a District approved log and made available for inspection by Air District staff upon request. These recordkeeping requirements shall not replace the recordkeeping Requirements contained in any applicable District Regulations.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 1-441)

Permit Condition #27586

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project.

S-1600 Foul Water Strippers, Abated by A-2002 H2S Adsorption Vessels and A-2000 Sour Water Stripper Thermal Oxidizer

1. The owner/operator of S-1600 shall ensure that throughput does not exceed 13,706,224 barrels in any consecutive 12 month period and/or 47,870 barrels per calendar day.
(Basis: Regulation 2-2-208 Cumulative Increase)

2. The owner/operator shall ensure that S-1600 is abated by A-2002 H2S Adsorption Vessels and A-2000 Thermal Oxidizer at all times.
(Basis: Regulation 2-2-208 Cumulative Increase)

3. The owner/operator of S-1600 shall ensure that no hydrogen sulfide emissions are emitted into the atmosphere, measured at the outlet of A-2000.
(Basis: Regulation 2-5 Toxics)

4. The owner/operator of S-1600 shall ensure that ammonia does not exceed 0.11 lbs/hour and/or 963.6 lbs in any consecutive 12 month period, measured at the outlet of A-2000.
(Basis: Regulation 2-5 Toxics)

5. The owner/operator of S-1600 shall ensure that sulfuric acid mist does not exceed 7.9E-04 lbs/hour and/or 6.9 lbs in any consecutive 12 month period, measured at the outlet of A-2000.
(Basis: Regulation 2-5 Toxics)

6. The owner/operator of S-1600 shall conduct initial compliance source test to demonstrate compliance with Parts 3, 4 and 5. The owner/operator shall notify the Air District's Source Test Section in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). The report shall be submitted to the Air District's Source Test Section and Engineering Division no later than 60 days from the date of completion of testing. Initial compliance source test shall be conducted according to the following schedule:

a. Within 60 to 120 days after the startup of S-1600.

b. Within 60 to 120 days after the first H2S Adsorbent change-out in Phase 3, if applicable per Permit Condition 27583, Part 9.

c. Within 60 to 120 days after the first H2S Adsorbent change-out in Phase 4.

Phase 3 is not required if the startup dates of S-1003 and S-1008 are within 90 days of each other since Phase 4 would be applicable.
(Basis: Regulation 2-5 Toxics)

Permit Condition #27587

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project. Imposed throughput limits.

S-115 Bulk Plant (truck/rail); Caustic waste
S-601 Tank A-601, IFRT, Recovered Oil, Gas Oil
S-650 Tank A-650, EFRT, Sour Waste Water
S-692 Tank A-692, EFRT, Gasoline, Renewable Naphtha Storage Tank
S-699 Tank A-699, FRT, White, API Separator Recovered Oil, A-14 Vapor Recovery
S-700 Tank 2-A-700, FRT, Light grey, API Separator Sludge
S-819 API Oil-Water, Separator/Dissolved Nitrogen Flotation System, Abated by A-39 Thermal Oxidizer or A-14 Vapor Recovery

S-830 Wastewater Surge Ponds
S-831 Bio-Oxidation Pond Open Pond
S-842 Wastewater Treatment Plant Clarifiers, filters, and granular activated carbon
S-846 No. 3 HDS Cooling Tower
S-976 No. 5 Gas Plant Cooling Tower
S-978 Foul Water Stripper Cooling Tower
S-980 Hydrocracker Cooling Tower
S-982 No. 2 HDS Cooling Tower
S-985 No. 1 Gas Plant Cooling Tower

1. The owner/operator of S-115 shall ensure that caustic waste loading does not exceed 84,621 barrels in any consecutive 12 month period and/or 12,871 barrels in any consecutive 24 hour period. The owner/operator of S-115 shall not load any other material other than caustic waste.
(Basis: Regulation 2-2-208 Cumulative Increase)

2. The owner/operator of S-601 shall ensure that throughput does not exceed 243,882 barrels in any consecutive 12 month period and/or 6,105 barrels in any consecutive 24 hour period.
(Basis: Regulation 2-2-208 Cumulative Increase)

3. The owner/operator of S-650 shall ensure that throughput does not exceed 743,831 barrels in any consecutive 12 month period and/or 81,751 barrels in any consecutive 24 hour period.
(Basis: Regulation 2-2-208 Cumulative Increase)

4. The owner/operator of S-692 shall not exceed the following throughput limits during any consecutive 12 month period:
Gasoline and Renewable Naphtha – 2,650,447 barrels (111,318,774 gallons) in any consecutive 12 month period.
Gasoline and Renewable Naphtha – 54,882 barrels (2,305,044 gallons) in any consecutive 24 hour period.
Renewable Naphtha – 365,000 barrels (15,330,000 gallons) in any consecutive 12 month period.
Renewable Naphtha – 54,882 barrels (2,305,044 gallons) in any consecutive 24 hour period.
(Basis: Regulation 2-2-208 Cumulative Increase)

5. The owner/operator of S-699 shall ensure that throughput does not exceed 522,234 barrels in any consecutive 12 month period and/or 14,982 barrels in any consecutive 24 hour period.
(Basis: Regulation 2-2-208 Cumulative Increase)

6. The owner/operator of S-700 shall ensure that throughput does not exceed 1,166,667 barrels in any consecutive 12 month period and/or 23,039 barrels in any consecutive 24 hour period.
(Basis: Regulation 2-2-208 Cumulative Increase)

7. The owner/operator of S-846 shall ensure that the total cooling tower water recirculation rate shall not exceed 6,500 gallons per minute.
(Basis: Regulation 2-2-208 Cumulative Increase)

8. The owner/operator of S-976 shall ensure that the total cooling tower water recirculation rate shall not exceed 64,500 gallons per minute.
(Basis: Regulation 2-2-208 Cumulative Increase)

9. The owner/operator of S-978 shall ensure that the total cooling tower water recirculation rate shall not exceed 5,200 gallons per minute.
(Basis: Regulation 2-2-208 Cumulative Increase)

10. The owner/operator of S-980 shall ensure that the total cooling tower water recirculation rate shall not exceed 14,028 gallons per minute.

(Basis: Regulation 2-2-208 Cumulative Increase)

11. The owner/operator of S-985 shall ensure that the total cooling tower water recirculation rate shall not exceed 5,500 gallons per minute.
(Basis: Regulation 2-2-208 Cumulative Increase)

12. The owner/operator of S-819 shall ensure that throughput shall not exceed 32,537,143 barrels in any consecutive 12 month period and/or 435,936 barrels in any consecutive 24 hour period.
(Basis: Regulation 2-2-208 Cumulative Increase)

13. The owner/operator of S-830 shall ensure that throughput shall not exceed 35,522,066 barrels in any consecutive 12 month period and/or 319,476 barrels in any consecutive 24 hour period.
(Basis: Regulation 2-2-208 Cumulative Increase)

14. The owner/operator of S-831 shall ensure that throughput shall not exceed 35,522,066 barrels in any consecutive 12 month period and/or 319,476 barrels in any consecutive 24 hour period.
(Basis: Regulation 2-2-208 Cumulative Increase)

15. The owner/operator of S-842 shall ensure that throughput shall not exceed 35,522,066 barrels in any consecutive 12 month period and/or 319,476 barrels in any consecutive 24 hour period.
(Basis: Regulation 2-2-208 Cumulative Increase)

16. The owner/operator of S-846, S-976, S-978, S-980, and/or S-985 shall monitor the cooling tower water recirculation rate using strap-on flow meters or other method pre-approved by the Air District on a monthly basis in order to demonstrate compliance with parts, 7, 8, 9, 10, and 11. In addition, the owner/operator of S-976 shall continue to monitor the cooling water recirculation rate using a continuous flow meter. After three years of operation (36 tests), the owner/operator of S-846, S-976, S-978, S-980, and/or S-985 may propose for Air District approval a change in monitoring frequency based on established consistent and steady flow rates.

17. To determine compliance with the above condition(s), the owner/operator of S-115, S-601, S-650, S-692, S-699, S-700, S-819, S-830, S-831, S-842, S-846, S-976, S-978, S-980, and S-985 shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including, but not necessarily limited to, the following information:

a. Daily (calendar day) and monthly records of the type and amount of throughput at each source, total on a consecutive 12 month period.

b. Daily record of the cooling tower water recirculation rate at each source above and the basis for the recirculation rate used, i.e., S-976 has a continuous flow meter, the other sources shall use the higher of either the maximum recirculation rate or the measured rate per part 16.

c. The maximum recirculation rate at each Cooling Tower S-846, S-976, S-978, S-980, and S-985 as determined by either flow meter (S-976) and/or part 17.

These records shall be kept on-site for at least 5 years. All records shall be recorded in an Air District approved log and made available for inspection by Air District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable Air District Regulations.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 1-441)

Permit Condition #27591

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project.

A-2000 Sour Water Stripper Off-Gas Thermal Oxidizer, Abating S-1600 Foul Water Strippers

1. The owner/operator shall abate emissions from Source S-1600 with Abatement device A-2000 Thermal Oxidizer during all periods of operation. The owner/operator of S-1600 shall not exceed a vapor flow rate of 140 dscfm.

(Basis: Regulation 2-2-208 Cumulative Increase; Regulation 2-5 Toxics)

2. The owner/operator of S-1600 shall operate A-2000 to meet the following VOC destruction efficiency requirements:

a. A-2000 outlet VOC concentration of 10 ppmv or less; or

b. All of the following standards depending on the applicable A-2000 inlet VOC concentration:

c. VOC destruction efficiency > 98.5% if A-2000 inlet VOC concentration > 2,000 ppmv;

d. VOC destruction efficiency > 97% if A-2000 inlet VOC concentration > 200 to < 2,000 ppmv;

e. VOC destruction efficiency > 90% if A-2000 inlet VOC concentration < 200 ppmv.

(Basis: Regulation 2-2-208 Cumulative Increase)

3. The owner/operator of S-1600 shall operate A-2000 to meet a minimum ammonia destruction efficiency of 99.9%.

(Basis: Regulation 2-5 Toxics)

4. The owner/operator shall operate A-2000 to be at least 2,100 degrees F at the first furnace (Reduction furnace). The Air District may adjust this minimum temperature, if source test data demonstrates to the satisfaction of the Air District that an alternate temperature is necessary for or capable of maintaining compliance with Parts 2 and 3 above.

(Basis: Regulation 2-2-208 Cumulative Increase)

5. To determine compliance with the temperature requirement in these permit conditions, the owner/operator of S-1600 shall equip A-2000 with a temperature measuring device capable of continuously measuring and recording the temperature in A-2000. The owner/operator shall install, and maintain in accordance with manufacturer's recommendations, a temperature measuring device that meets the following criteria: the minimum and maximum measurable temperatures with the device are 0 degrees F and 2,500 degrees F, respectively, and the minimum accuracy of the device over this temperature range shall be 1.0 percent of full-scale.

(Basis: Regulation 2-2-208 Cumulative Increase)

6. The owner/operator of S-1600 shall report any non-compliance with Part 4 of this condition to the Director of the Compliance & Enforcement Division at the time that it is discovered. The submittal shall detail the corrective action taken and shall include the data showing the exceedance as well at the time of occurrence.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-5 Toxics)

7. The temperature limit in Part 4 shall not apply during an "Allowable Temperature Excursion", provided that the temperature controller setpoint complies with the temperature limit. An Allowable Temperature Excursion is one of the following:

a. A temperature excursion not exceeding 20 degrees F; or

b. A temperature excursion for a period or periods which when combined are less than or equal to 15 minutes in any hour; or

c. A temperature excursion for a period or periods which when combined are more than 15 minutes in any hour, provided that all three of the following criteria are met.

i. the excursion does not exceed 50 degrees F;

ii. the duration of the excursion does not exceed 24 hours; and

iii. the total number of such excursions does not exceed 12 per calendar year (or any consecutive 12-month period).

Two or more excursions greater than 15 minutes in duration occurring during the same 24-hour period shall be counted as one excursion toward the 12-excursion limit.

(Basis: Regulation 2-1-403)

8. For each Allowable Temperature Excursion that exceeds 20 degrees F and 15 minutes in duration, the owner/operator shall keep sufficient records to demonstrate that they meet the qualifying criteria described

above. Records shall be retained for a minimum of five (or two years) years from the date of entry, and shall be made available to the District upon request. Records shall include at least the following information:

a. Temperature controller setpoint;

b. Starting date and time, and duration of each Allowable Temperature Excursion;

c. Measured temperature during each Allowable Temperature Excursion;

d. Number of Allowable Temperature Excursions per month, and total number for the current calendar year; and

e. All strip charts or other temperature records.

(Basis: Regulation 2-1-403)

9. Not later than 60 days from the startup of A-2000, the owner/operator of S-1600 shall conduct District-approved source tests to determine initial compliance with the limits in Parts 1, 2, 3, and 4 for vapor flowrate, VOC concentration/destruction efficiency, ammonia destruction efficiency, and temperature, respectively. The owner/operator shall submit the source test results to the Air District's Source Test Section no later than 60 days after the source test. The owner/operator of A-2000 shall repeat the source tests once every 2 years.
(Basis: Regulation 2-2-208 Cumulative Increase)

10. The owner/operator of S-1600 shall obtain approval for all source test procedures from the Air District's Source Test Section prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements as specified in Volume IV of the District's Manual of Procedures. The owner/operator shall notify the Air District's Source Test Section, in writing, of the source test protocols and projected test dates at least 7 days prior to testing.
(Basis: Regulation 2-2-208 Cumulative Increase)

11. Prior to startup, the owner/operator of A-2000, shall submit final design specifications/vendor documentation to the Air District's Engineering Division.
(Basis: Regulation 2-1-403)

12. The owner/operator of A-2000 shall not exceed the following emission limits:

NOx	0.197	lbs/MMBtu or 50 ppmv at 15% O2 (averaged on 1-hour basis)
CO	0.030	lbs/MMBtu or 10 ppmv at 15% O2 (averaged on 1-hour basis)
SO2	0.204	lbs/MMBtu or 40 ppmv at 15% O2 (averaged on 1-hour basis)

(Basis: Regulation 2-2-208 Cumulative Increase)

13. The owner/operator of A-2000 shall ensure that emissions, including startups, shutdowns, upsets, and malfunctions, from A-2000, do not exceed the following limits in any consecutive 12 month period:

a.	SO2:	1.708 tons	(Basis: Cumulative Increase, Offsets)
b.	NOx:	1.651 tons	(Basis: Cumulative Increase, Offsets)
c.	CO:	0.251 tons	(Basis: Cumulative Increase)
d.	POC:	0.045 tons	(Basis: Cumulative Increase, Offsets)
f.	PM10:	0.062 tons	(Basis: Cumulative Increase, Offsets)
g.	PM2.5	0.062 tons	(Basis: Cumulative Increase, Offsets)
g.	Sulfuric Acid Mist:	0.003 tons	(Basis: Regulation 2, Rule 5)
h.	H2S:	0.000 tons	(Basis: Regulation 2, Rule 5)
i.	NH3:	0.482 tons	(Basis: Regulation 2, Rule 5)

14. Not later than 60 days from the startup of A-2000, the owner/operator shall conduct Air District-approved source tests to determine initial compliance with the limits in Part 12. During source testing, every test run shall be at least one hour. The owner/operator of A-2000 shall submit the source test results to the Air District's Source Test Section no later than 60 days after the source test. To demonstrate compliance with Part 13, the owner/operate shall record the natural gas usage on a monthly and rolling 12 consecutive month basis in an Air District approved log, in units of MMBtu per month and consecutive 12 month period, respectively, and perform emissions calculations for each pollutant identified in Part 13 using the latest approved source test emission

factors, in units of lbs/MMBtu multiplied by the natural gas usage in MMBtu per consecutive 12 month period. If source test is not available for POC, PM10, and/ PM2.5, the owner/operator may use emission factors from EPA AP-42, Table 1-4.2. The owner/operator of A-2000 shall repeat the source tests once every 2 years.
(Basis: Regulation 2-2-208 Cumulative Increase)

15. To determine compliance with the above condition(s), the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including, but not necessarily limited to, the following information:

a. Continuous temperature records for A-2000 per Part 4.

b. Record of all source test results and emission calculations per Parts 1, 2, 3, 12, and 13.

These records shall be kept on-site for at least 5 years. All records shall be recorded in an Air District approved log and made available for inspection by Air District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 1-441)

Permit Condition #27592

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project.

A-2001 H2S Adsorption Vessels #1 abating S-1526 No. 5 Gas Plant, two vessels setup in series

1. The owner/operator shall vent Source S-1526 at all times to Abatement Device A-2001, two H2S Adsorbent vessels arranged in series. Subsequently, the vapor from A-2001 shall be routed to the fuel gas system and combusted in boilers or heaters, or to the No. 1 Hydrogen Plant (S-1005) as feed. Influent vapor flow shall not exceed 28,000 scfm.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-5 Toxics)

2. The owner/operator of A-2001 shall monitor H2S with a continuous H2S analyzer in the fuel gas mixpot, or with an Air District approved handheld H2S monitor when continuous H2S analyzer malfunctions and/or is temporarily out of service due to routine maintenance, at the outlet of vessel that is last in series.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-5 Toxics)

3. The owner/operator of A-2001 shall record these monitor readings in a monitoring log at all times. The monitoring results shall be used to estimate the frequency of H2S Adsorbent change-out necessary to maintain compliance with conditions number 4 and 5 and shall be conducted on either a continuous or daily basis when continuous H2S analyzer malfunctions or is temporarily out of service for routine maintenance at the locations identified in Part 2. The owner/operator of A-2001 may propose for District review, based on actual measurements taken at the site during operation of the source, that the monitoring schedule be changed based on the decline in emissions and/or the demonstrated breakthrough rates of the H2S Adsorbent vessels. Written approval by the District's Engineering Division shall be received by the owner/operator prior to a change to the monitoring schedule.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-5 Toxics, Regulation 2-1-403 Permit Conditions)

4. The owner/operator of A-2001 shall change out the second to last H2S vessel with unspent H2S Adsorbent upon breakthrough, defined as the detection at its outlet of the higher of the following:

a. 50 % of the inlet stream concentration to the H2S Adsorbent vessel.

b. 250 ppmv or greater (measured as H2S).

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-5 Toxics)

5. The owner/operator of A-2001 shall change out the last H2S Adsorbent vessel with unspent H2S Adsorbent upon detection at its outlet of 35 ppmv or greater (measured as H2S).
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-5 Toxics)

6. The owner/operator of A-2001 shall maintain the following records for each month of operation of the sources:
    a. The hours and times of operation.
    b. Each monitor reading or analysis result for the day of operation they are taken.
    c. The type of monitoring used.
    d. Date, time, and the number H2S Adsorbent beds removed from service.
    e. Date and time of any H2S analyzer malfunctions and/or maintenance and when it returned to service.

All measurements, records and data required to be maintained by the owner/operator shall be retained and made available for inspection by the Air District for at least five years following the date the data is recorded.
(Basis: Regulation 2-2-208 Cumulative Increase)

7. The owner/operator of A-2001 shall report any non-compliance with parts 3, 4 and/or 5 to the Director of the Compliance & Enforcement Division at the time that it is discovered. The submittal shall detail the corrective action taken and shall include the data showing the exceedance as well at the time of occurrence.
(Basis: Regulation 2-2-208 Cumulative Increase)

Permit Condition #27593

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project.

A-2002 H2S Adsorption Vessels #2 abating S-1600 Foul Water Strippers, consisting of two vessels setup in series

1. The owner/operator shall vent Source S-1600 at all times to Abatement Device A-2002, two H2S Adsorbent vessels arranged in series. Subsequently, the vapor from A-2002 shall be abated by A-2000 Thermal Oxidizer. Influent vapor flow shall not exceed 140 dscfm limit established in Permit Condition #27591, Part 1. (Basis: Regulation 2-2-208 Cumulative Increase)

2. The owner/operator of A-2002 shall monitor H2S with a continuous H2S analyzer or other Air District approved method at the outlet of the vessel that is last in series prior to venting to the thermal oxidizer (A-2000). An Air District approved handheld H2S monitor may be used when the continuous H2S analyzer malfunctions and/or is temporarily out of service due to routine maintenance.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-5 Toxics, Regulation 2-1-403 Permit Conditions)

3. The owner/operator of A-2002 shall record these monitor readings in a monitoring log at the time they are taken. The monitoring results shall be used to estimate the frequency of H2S Adsorbent change-out necessary to maintain compliance with conditions number 4 and 5, and shall be conducted either on a continuous basis or daily basis when continuous H2S analyzer malfunctions or is temporarily out of service for routine maintenance at the locations identified in Part 2. The owner/operator of A-2002 may propose for District review, based on actual measurements taken at the site during operation of the source, that the monitoring schedule be changed based on the decline in emissions and/or the demonstrated breakthrough rates of the H2S Adsorbent vessels. Written approval by the District's Engineering Division shall be received by the owner/operator prior to a change to the monitoring schedule.
(Basis: Regulation 2-2-208 Cumulative Increase)

4. The owner/operator of A-2002 shall change out the second to last H2S Adsorbent vessel with unspent H2S Adsorbent upon breakthrough, defined as the detection at its outlet of the higher of the following:
    a. 50 % of the inlet stream concentration to the H2S vessel.
    b. 250 ppmv or greater (measured as H2S).
(Basis: Regulation 2-2-208 Cumulative Increase)

5. The owner/operator of A-2002 shall change out the last H2S Adsorbent vessel with unspent H2S Adsorbent prior to breakthrough, defined as the detection at its outlet of 250 ppmv (measured as H2S). The owner/operator of A-2002 shall ensure that the H2S concentration at outlet of the last H2S Adsorbent vessel does not exceed 250 ppmv (measured as H2S).

(Basis: Regulation 2-2-208 Cumulative Increase)

6. The owner/operator of A-2002 shall maintain the following records for each month of operation of the sources:
   a. The hours and times of operation.
   b. Each monitor reading or analysis result for the day of operation they are taken.
   c. The type of monitoring used.
   d. Date, time, and the number of H2S Adsorbent beds removed from service.

All measurements, records and data required to be maintained by the owner/operator shall be retained and made available for inspection by the Air District for at least five years following the date the data is recorded.
(Basis: Regulation 2-2-208 Cumulative Increase)

8. The owner/operator of A-2002 shall report any non-compliance with parts 3, 4 and/or 5 to the Director of the Compliance & Enforcement Division at the time that it is discovered. The submittal shall detail the corrective action taken and shall include the data showing the exceedance as well at the time of occurrence.
(Basis: Regulation 2-2-208 Cumulative Increase)

Permit Condition #27596

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project.

S-850 Diesel HDO Unit No. 3 (formerly No. 3 HDS Unit)
S-1003 Diesel HDO Unit No. 2 (formerly No. 2 HDS Unit)
S-1007 Diesel Isomerization Unit (formerly 2nd Stage Hydrocracker Unit)
S-1008 Diesel HDO Unit No. 1 (formerly 1st Stage Hydrocracker Unit)
S-1526 No. 5 Gas Plant, Abated by A-2001 H2S Adsorption Vessels
S-1600 Foul Water Strippers, Abated by A-2002 H2S Adsorption Vessels and A-2000 Thermal Oxidizer
S-2001 Stage 1 Wastewater Treatment Unit
S-2025 Pretreatment Unit

1. The owner/operator of S-850, S-1003, S-1007, S-1008, S-1526, S-1600, S-2001, and S-2025 shall install only the following types of valves: (1) bellows sealed, (2) live loaded, (3) graphitic packed, (4) quarter-turn (e.g., ball valves or plug valves), or equivalent as determined by the APCO.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-301 BACT, Regulation 2-2-302 Offsets)

2. The owner/operator of S-850, S-1003, S-1007, S-1008, S-1526, S-1600, S-2001, and/or S-2025 shall comply with a leak standard of 100 ppm of Total Organic Compounds (TOC) measured as C1 at any valve installed unless the owner/operator complies with the applicable minimization and repair provisions contained in Regulation 8-18.
(Basis: Regulation 2-2-301 BACT, Regulation 8-18)

3. The owner/operator of S-850, S-1003, S-1007, S-1008, S-1526, S-1600, S-2001, and S-2025 shall install graphitic-based gaskets on all flanges or connectors (gasketed) or equivalent as determined by the APCO, or the owner/operator demonstrates to the satisfaction of the APCO that the service requirements prevent this gasket material from being used.
(Basis: Regulation 2-2-301 BACT)

4. The owner/operator of S-850, S-1003, S-1007, S-1008, S-1526, S-1600, S-2001, and/or S-2025 shall comply with a leak standard of 100 ppm of TOC (measured as C1) at any flanges/connectors unless the owner/operator complies with the applicable minimization and repair provisions contained in Regulation 8-18.
(Basis: Regulation 2-2-301 BACT, Regulation 8-18)

5. The owner/operator of S-850, S-1003, S-1007, S-1008, S-1526, S-1600, S-2001, and/or S-2025 shall install double mechanical seals w/ barrier fluid; magnetically coupled pumps; canned pumps; magnetic fluid sealing technology; seal system with leakage vented to thermal oxidizer; or other BAAQMD approved equivalent control device; or Air

District approved control technology as determined by the APCO on all new/replaced pumps. The typical technologies listed above are not required for the following new/replaced pumps:

Tag Number	Description
004-P-10771	Sulfiding Agent Injection Pump
004-P-10772	Sulfiding Agent Injection Pump
067-P-10727	Sulfiding Agent Injection Pump
120-P-10734	Demulsifier Metering Pump
120-P-10735	Demulsifier Metering Pump
120-P-10736	Citric Acid Feed Pump
120-P-10737	Citric Acid Feed Pump
076-P-10725	Sulfiding Agent Injection Pump
120-P-10781	Lube Oil Pump
120-P-10782	Lube Oil Pump
120-P-10783	Lube Oil Pump
120-P-10784	Lube Oil Pump

All pumps shall be subject to the Part 14 inspection frequency. If any of the 12 pumps listed above is determined to have a leak greater than 100 ppm of TOC (measured as C1) and if the leak remains greater than 100 ppm of TOC (measured as C1) after repair, or if the pump is determined to have a leak greater than 100 ppm of TOC (measured as C1) a second time within a 5-year period, then the owner/operator shall install double mechanical seals w/ barrier fluid; magnetically coupled pumps; canned pumps; magnetic fluid sealing technology; seal system with leakage vented to thermal oxidizer; or other BAAQMD approved equivalent control device; or Air District approved control technology as determined by the APCO within 5 years or at the next schedule turnaround, whichever is sooner.
(Basis: Regulation 2-2-301 BACT)

6. The owner/operator of S-850, S-1003, S-1007, S-1008, S-1526, S-1600, S-2001, and/or S-2025 shall comply with a leak standard of 100 ppm of TOC (measured as C1) at any new/replaced pump (except pumps listed in Part 5) unless the owner/operator complies with the applicable minimization and repair provisions contained in Regulation 8-18.
(Basis: Regulation 2-2-301 BACT)

7. The owner/operator of S-850, S-1003, S-1007, S-1008, S-1526, S-1600, S-2001, and/or S-2025 shall install double mechanical seals w/ barrier fluid; gas seal system vented to a thermal oxidizer or other BAAQMD approved control device; or Air District approved control technology as determined by the APCO on all compressors. All compressors shall be subject to the Part 14 inspection frequency.
(Basis: Regulation 2-2-301 BACT)

8. The owner/operator of S-850, S-1003, S-1007, S-1008, S-1526, S-1600, S-2001, and/or S-2025 shall comply with a leak standard of 100 ppm of TOC (measured as C1) at any compressor unless the owner/operator complies with the applicable minimization and repair provisions contained in Regulation 8-18.
(Basis: Regulation 2-2-301 BACT)

9. The owner/operator of S-850, S-1003, S-1007, S-1008, S-1526, S-1600, S-2001, and/or S-2025 shall ensure that each pressure relief device installed is equipped with a rupture disk and vented back to the process, to the fuel gas system, or to an abatement device with a capture and destruction efficiency of at least 98% by weight.
(Basis: Regulation 2-2-301 BACT, Regulation 8-18-301 Leaks, Regulation 8-28 Episodic Releases, Regulation 2-5 Toxics)

10. The owner/operator of S-850, S-1003, S-1007, S-1008, S-1526, S-1600, S-2001, and/or S-2025 shall identify all new valves, connectors, pressure relief devices, compressors, and pumps with a unique permanent identification code and shall include all new fugitive equipment in the fugitive equipment monitoring and repair program. The owner/operator shall monitor all repaired equipment within 24 hours of the repair. The unique permanent identification code does not apply to quarter-inch or less tubing and connectors associated with analytical sampling systems.
(Basis: Regulation 8-18-402 Identification)

11. The owner/operator has been permitted to install/replace the following number of TOC service fugitive components:

1,283 valves in gas service
879 valves in light liquid service
1,026 valves in heavy liquid
5,078 connectors
4,569 flanges
28 PSV's/PRV's
10 compressors
21 pumps in light liquid service
29 pumps in heavy liquid service
86 process drains

The owner/operator shall not exceed 10.276 tons per year of POC emissions (measured as C1) from all fugitive components included in the above counts. Compliance with this provision shall be verified quarterly using methods described in Part 13. The results shall be submitted to the Air District within 30 days of the close of each calendar quarter after commencing with start-up of the system. The owner/operator shall keep documentation of fugitive component counts and corresponding POC emissions for at least five years from date of entry. For the purposes of these conditions POC emissions shall be considered equal to the TOC emissions as determined by the Regulations 2-2 and 8-18 LDAR program.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-302 Offsets, Regulation 2-5 Toxics, Regulation 8-18)

12. Within 30 days of the completion of the installation of all fugitive components in Part 11, the owner/operator shall submit a final component count for each source, final component count for the Renewable Fuels Project, and POC emissions estimate using the approved methods within these conditions to the Air District. Any replaced components shall be included as installed. If any of the fugitive component counts exceed or is less than a count stated above, the plant's cumulative increase emissions shall be adjusted as needed, subject to APCO approval, to reflect only the difference between emissions based on predicted component counts versus actual component counts. The amount of refund or additional offsets shall be handled or provided before issuance of the permit to operate.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-302 Offsets, Regulation 8-18)

13. The owner/operator shall calculate fugitive emissions utilizing Air District approved methods only. For leaking components, the owner/operator shall use the midpoint method, default zero factors, 10,000 ppm pegged factors, and/or other method approved by the Air District. The owner/operator shall include emissions estimates from all fugitive components associated with this application in order to demonstrate compliance with parts 11 and 15 through 22.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-301 BACT, Regulation 2-2-302 Offsets, Regulation 8-18)

14. The owner/operator shall conduct inspections of fugitive components of these conditions in accordance with the frequency below:

Valves: Quarterly

Connectors:	Biannual (twice a year)
Flanges:	Biannual (twice a year)
Pressure Relief Valves:	Quarterly
Compressors:	Quarterly
Pumps:	Quarterly
Process Drains:	Quarterly

(Basis: Regulation 2-2-301 BACT, Regulation 8-18)

15. The owner/operator of S-850 has been permitted for the following total number of TOC service fugitive components:

1,338 valves in gas/vapor service
603 valves in light liquid service
476 valves in heavy liquid
9,319 connectors
1,844 flanges
28 PSV's/PRV's
5 compressors
7 pumps in light liquid service
10 pumps in heavy liquid service
142 process drains

The owner/operator of S-850 shall not exceed 1.96 lbs per hour and/or 8.593 tons per year of POC emissions (measured as C1) from all fugitive components included in the above counts. Compliance with this provision shall be verified quarterly using methods described in Part 13. The results shall be submitted to the Air District within 30 days of the close of each calendar quarter after commencing with start-up of the system. The owner/operator shall keep documentation of fugitive component counts and corresponding POC emissions for at least five years from date of entry. For the purposes of these conditions POC emissions shall be considered equal to the TOC emissions as determined by the Regulations 2-2 and 8-18 LDAR program.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-302 Offsets, Regulation 2-5 Toxics, Regulation 8-18)

16. The owner/operator of S-1003 has been permitted for the following total number of TOC service fugitive components:

890 valves in gas/vapor service
729 valves in light liquid service
577 valves in heavy liquid
4,741 connectors
1,839 flanges
26 PSV's/PRV's
9 compressors
20 pumps in light liquid service
19 pumps in heavy liquid service
86 process drains

The owner/operator of S-1003 shall not exceed 1.57 lbs per hour and/or 6.864 tons per year of POC emissions (measured as C1) from all fugitive components included in the above counts. Compliance with this provision shall be verified quarterly using methods described in Part 13. The results shall be submitted to the Air District within 30 days of the close of each calendar quarter after commencing with start-up of the system. The owner/operator shall keep documentation of fugitive component counts and corresponding POC emissions for at least five years from date of entry. For the purposes of these conditions POC emissions shall be considered equal to the TOC emissions as determined by the Regulations 2-2 and 8-18 LDAR program.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-302 Offsets, Regulation 2-5 Toxics, Regulation 8-18)

17. The owner/operator of S-1007 has been permitted for the following total number of TOC service fugitive components:

1,481 valves in gas/vapor service
837 valves in light liquid service
394 valves in heavy liquid
5,789 connectors
1,769 flanges
13 PSV's/PRV's
3 compressors
22 pumps in light liquid service
18 pumps in heavy liquid service
0 process drains

The owner/operator of S-1007 shall not exceed 1.69 lbs per hour and/or 7.395 tons per year of POC emissions (measured as C1) from all fugitive components included in the above counts. Compliance with this provision shall be verified quarterly using methods described in Part 13. The results shall be submitted to the Air District within 30 days of the close of each calendar quarter after commencing with start-up of the system. The owner/operator shall keep documentation of fugitive component counts and corresponding POC emissions for at least five years from date of entry. For the purposes of these conditions POC emissions shall be considered equal to the TOC emissions as determined by the Regulations 2-2 and 8-18 LDAR program.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-302 Offsets, Regulation 2-5 Toxics, Regulation 8-18)

18. The owner/operator of S-1008 has been permitted for the following total number of TOC service fugitive components:

1,693 valves in gas/vapor service
108 valves in light liquid service
51 valves in heavy liquid
3,497 connectors
1,443 flanges
31 PSV's/PRV's
15 compressors
5 pumps in light liquid service
4 pumps in heavy liquid service
125 process drains

The owner/operator of S-1008 shall not exceed 1.15 lbs per hour and/or 5.049 tons per year of POC emissions (measured as C1) from all fugitive components included in the above counts. Compliance with this provision shall be verified quarterly using methods described in Part 13. The results shall be submitted to the Air District within 30 days of the close of each calendar quarter after commencing with start-up of the system. The owner/operator shall keep documentation of fugitive component counts and corresponding POC emissions for at least five years from date of entry. For the purposes of these conditions POC emissions shall be considered equal to the TOC emissions as determined by the Regulations 2-2 and 8-18 LDAR program.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-302 Offsets, Regulation 2-5 Toxics, Regulation 8-18)

19. The owner/operator of S-1526 has been permitted for the following total number of TOC service fugitive components:

784 valves in gas/vapor service
1,470 valves in light liquid service
0 valves in heavy liquid
2,452 connectors
1,584 flanges
23 PSV's/PRV's
2 compressors
28 pumps in light liquid service
0 pumps in heavy liquid service
71 process drains

The owner/operator of S-1526 shall not exceed 1.21 lbs per hour and/or 5.286 tons per year of POC emissions (measured as C1) from all fugitive components included in the above counts. Compliance with this provision shall be verified quarterly using methods described in Part 13. The results shall be submitted to the Air District within 30 days of the close of each calendar quarter after commencing with start-up of the system. The owner/operator shall keep documentation of fugitive component counts and corresponding POC emissions for at least five years from date of entry. For the purposes of these conditions POC emissions shall be considered equal to the TOC emissions as determined by the Regulations 2-2 and 8-18 LDAR program.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-302 Offsets, Regulation 2-5 Toxics, Regulation 8-18)

20. The owner/operator of S-1600 has been permitted for the following total number of TOC service fugitive components:

284 valves in gas/vapor service
351 valves in light liquid service
0 valves in heavy liquid
968 connectors
434 flanges
7 PSV's/PRV's
3 compressors
5 pumps in light liquid service
0 pumps in heavy liquid service
44 process drains

The owner/operator of S-1600 shall not exceed 0.36 lbs per hour and/or 1.582 tons per year of POC emissions (measured as C1) from all fugitive components included in the above counts. Compliance with this provision shall be verified quarterly using methods described in Part 13. The results shall be submitted to the Air District within 30 days of the close of each calendar quarter after commencing with start-up of the system. The owner/operator shall keep documentation of fugitive component counts and corresponding POC emissions for at least five years from date of entry. For the purposes of these conditions POC emissions shall be considered equal to the TOC emissions as determined by the Regulations 2-2 and 8-18 LDAR program.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-302 Offsets, Regulation 2-5 Toxics, Regulation 8-18)

21. The owner/operator of S-2001 has been permitted for the following total number of TOC service fugitive components:

100 valves in light liquid service
300 valves in heavy liquid
1,400 flanges
2 pumps in light liquid service

6 pumps in heavy liquid service

The owner/operator of S-2001 shall not exceed 0.47 lbs per hour and/or 2.042 tons per year of POC emissions (measured as C1) from all fugitive components included in the above counts. Compliance with this provision shall be verified quarterly using methods described in Part 13. The results shall be submitted to the Air District within 30 days of the close of each calendar quarter after commencing with start-up of the system. The owner/operator shall keep documentation of fugitive component counts and corresponding POC emissions for at least five years from date of entry. For the purposes of these conditions POC emissions shall be considered equal to the TOC emissions as determined by the Regulations 2-2 and 8-18 LDAR program.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-302 Offsets, Regulation 2-5 Toxics, Regulation 8-18)

22. The owner/operator of S-2025 has been permitted for the following number of TOC service fugitive components:

400 valves in heavy liquid
1,400 flanges
10 pumps in heavy liquid service

The owner/operator of S-2025 shall not exceed 0.48 lbs per hour and/or 2.088 tons per year of POC emissions (measured as C1) from all fugitive components included in the above counts. Compliance with this provision shall be verified quarterly using methods described in Part 13. The results shall be submitted to the Air District within 30 days of the close of each calendar quarter after commencing with start-up of the system. The owner/operator shall keep documentation of fugitive component counts and corresponding POC emissions for at least five years from date of entry. For the purposes of these conditions POC emissions shall be considered equal to the TOC emissions as determined by the Regulations 2-2 and 8-18 LDAR program.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-302 Offsets, Regulation 2-5 Toxics, Regulation 8-18)

Permit Condition #27597

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project.

S-621 Tank A-621, EFRT, Intermediate HDO Product

1. The owner/operator of S-621 shall ensure that throughput does not exceed 12,045,000 barrels in any consecutive 12 month period and/or 58,000 barrels per calendar day.
(Basis: Regulation 2-2-208 Cumulative Increase)

2. The owner/operator of S-621 shall ensure that the maximum true vapor pressure of material throughput to and/or stored in S-621 shall be less than or equal to 1.3 psia.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 8-5)

3. The owner/operator may store alternate liquid(s) other than the materials specified in Part 1 and/or usages in excess of those specified in Part 1 provided that the owner/operator can demonstrate that all of the following are satisfied:

a. Total POC and/or NPOC emissions from S-621 do not exceed 2,038 pounds in any consecutive twelve month period;

b. Total POC and/or NPOC emissions from S-621 do not exceed 8.1 pounds per calendar day;

c. The use of these materials does not result in any increase in toxic emissions equal to or above any trigger level contained in Table 2-5-1 in Regulation 2-5.
(Basis: Regulation 2-2-208 Cumulative Increase; Regulation 2-5 Toxics)

4. To determine compliance with the above parts, the owner/operator of S-621 shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:

a. Quantities and maximum true vapor pressures of each type of liquid stored at this source on a daily basis.

b. If a material other than those specified in Part 1 is stored, POC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part 3, on a daily basis;

c. Monthly throughput and/or emission calculations shall be totaled for each consecutive twelve month period.

All records shall be retained on-site for five years, from the date of entry, and made available for inspection by Air District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable Air District Regulations.

(Basis: Regulation 2-2-208 Cumulative Increase; Regulation 2-5 Toxics, Regulation 8-5)

5. The owner/operator of S-621 shall conduct a test to determine the maximum true vapor pressure and to demonstrate compliance with Part 2. Initial compliance test shall be conducted within 180 days of startup and results shall be submitted to the Air District's Engineering Division no later than 60 days from the date of completion. The owner/operator of S-621 repeat the test on a monthly basis. The owner/operator of S-621 may propose a change in testing frequency based on an established consistent maximum true vapor pressure of intermediate HDO product from testing.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 8-5)

Permit Condition #27598

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project.

S-2023 Tank TK-1044, Polymer Storage Tank

1. The owner/operator of S-2023 shall ensure that throughput does not exceed 250 barrels of polymer in any consecutive 12 month period and/or 30.9 barrels per calendar day.

(Basis: Regulation 2-2-208 Cumulative Increase)

2. The owner/operator of S-2023 shall ensure that the maximum true vapor pressure of material throughput to and/or stored in S-2023 shall be less than or equal to 0.86 psia.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 8-5)

3. The owner/operator of S-2023 may store alternate liquid(s) other than the materials specified in Part 1 and/or usages in excess of those specified in Part 1 provided that the owner/operator can demonstrate that all of the following are satisfied:

a. Total POC and/or NPOC emissions from S-2023 shall not exceed 38.6 pounds in any consecutive twelve month period;

a. Total POC and/or NPOC emissions from S-2023 shall not exceed 2.6 pounds per calendar day;

b. The use of these materials does not result in an increase in toxic emissions equal to or above any trigger level contained in Table 2-5-1 in Regulation 2-5.

(Basis: Regulation 2-2-208 Cumulative Increase; Regulation 2-5 Toxics)

4. To determine compliance with the above parts, the owner/operator of S-2023 shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:

a. Quantities and maximum true vapor pressures of each type of liquid stored at this source on a daily basis. Material safety data sheet may be used if it specifies maximum true vapor pressure.

b. If a material other than those specified in Part 1 is stored, POC/NPOC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part 3, on a daily basis;

c. Monthly throughput and/or emission calculations shall be totaled for each consecutive twelve month period.

All records shall be retained on-site for five years, from the date of entry, and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.

(Basis: Regulation 2-2-208 Cumulative Increase; Regulation 2-5 Toxics, Recordkeeping)

Permit Condition #27603

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project.

S-651 Tank A-651, EFRT, Oil/Water Mixture, Refinery Sour Waste Water

1. The owner/operator of S-651 shall ensure that throughput does not exceed 5,631,429 barrels of sour water in any consecutive 12 month period and/or 26,731 barrels per calendar day.

(Basis: Regulation 2-2-208 Cumulative Increase)

2. The owner/operator of S-651 shall ensure that the maximum true vapor pressure of material throughput to and/or stored in S-651 shall be less than or equal to 0.01 psia.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 8-5-117)

3. The owner/operator of S-651 may store alternate liquid(s) other than the materials specified in Part 1 and/or usages in excess of those specified in Part 1 provided that the owner/operator can demonstrate that all of the following are satisfied:

a. Total POC and/or NPOC emissions from S-651 shall not exceed 413.2 pounds in any consecutive twelve month period;

b. The use of these materials does not increase toxic emissions equal to or above any risk screening trigger level of Table 2-5-1 in Regulation 2-5.

(Basis: Regulation 2-2-208 Cumulative Increase; Regulation 2-5 Toxics)

4. To determine compliance with the above parts, the owner/operator of S-651 shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:

a. Quantities and maximum true vapor pressures of each type of liquid stored at this source on a daily basis.

b. If a material other than those specified in Part 1 is stored, POC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part 3, on a daily basis;

c. Monthly throughput and/or emission calculations shall be totaled for each consecutive twelve month period.

All records shall be retained on-site for five years, from the date of entry, and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable Air District Regulations.

(Basis: Regulation 2-2-208 Cumulative Increase; Regulation 2-5 Toxics)

Permit Condition #27604

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project.

S-919 No. 2 HDS Depent Reboiler (F19)
S-920 No. 2 HDS Charge Heater (F20)
S-928 HDN Reactor A Heater (F28)
S-929 HDN Reactor B Heater (F29)
S-930 HDN Reactor C Heater (F30)
S-931 Hydrocracker Reactor 1 Heater (F31)
S-932 Hydrocracker Reactor 2 Heater (F32)
S-933 Hydrocracker Reactor 3 Heater (F33)
S-934 Hydrocracker Stabilizer Reboiler (F34)
S-937 Hydrogen Plant Heater (F37)
S-973 No. 3 HDS Recycle Gas Heater (F55)
S-1511 Hot Oil Heater #1 (F78), Natural Gas, Fuel Gas, Abated by A-1511 SCR
S-1512 Hot Oil Heater #2 (F79), Backup, Natural Gas, Fuel Gas, Abated by A-1512 SCR

1. The owner/operator of S-919, S-920, S-928, S-929, S-930, S-931, S-932, S-933, S-934, S-937, and/or S-973 shall not burn any fuel gas having Total Sulfur (TS) greater than 162 ppm.
(Basis: Regulation 2-2-208 Cumulative Increase; Regulation 2-5 Toxics)

2. The owner/operator of S-919, S-920, S-928, S-929, S-930, S-931, S-932, S-933, S-934, S-937, and/or S-973 shall test for Total Sulfur (TS) concentration of fuel gas on a weekly basis. The results shall be submitted to the Air District's Engineering Division no later than 30 days after each month. After three years of operation (156 tests), the owner/operator of S-919, S-920, S-928, S-929, S-930, S-931, S-932, S-933, S-934, S-937, and/or S-973 may propose a change in testing frequency based on an established consistent TS of less than 35 ppm from testing. Written approval by the Air District's Engineering Division must be received by the owner/operator prior to a change in testing schedule.
(Basis: Regulation 2-2-208 Cumulative Increase)

3. To determine compliance with the above parts, the owner/operator of S-919, S-920, S-928, S-929, S-930, S-931, S-932, S-933, S-934, S-937, and/or S-973 shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:

a. Total Sulfur (TS) concentration
b. Type of feedstock used during the sampling and testing;
c. Feed/Processing Rate; and
d. Date and time of sampling and testing.

All records shall be retained on-site for five years, from the date of entry, and made available for inspection by Air District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable Air District Regulations.
(Basis: Regulation 2-2-208 Cumulative Increase)

4. Within 180 days of the startup of each source S-919, S-920, S-928, S-929, S-930, S-931, S-932, S-933, S-934, S-937, S-973, S-1511, and/or S-1512, the owner/operator shall conduct source testing to develop fuel gas combustion emissions factors for the following toxic air contaminant pollutants: Sulfuric Acid Mist, PAH (as B(a)P-equivalent), Ammonia, 1,4-Dichlorobenzene(p), Acetaldehyde, Arsenic, Benzene, Beryllium, Cadmium, Chromium (hexavalent), Copper, Cyanide and compounds, Ethyl benzene, Formaldehyde, Hexane, Hydrochloric acid, Hydrogen sulfide, Lead, Manganese, Mercury, Naphthalene, Nickel, Phenol, Propylene, Selenium, Toluene, Vanadium, and Xylenes. The owner/operator shall use test methods in the table below, or other District approved test methods. The owner/operator shall notify the Air District's Source Test Section in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). The report shall be submitted to the

Air District's Source Test Section and Engineering Division no later than 60 days from the date of completion of sampling and testing.

Pollutant	Test Method
Sulfuric Acid	EPA Method 8
PAH (as B(a)P-equivalent)	CARB 429
Ammonia	BAAQMD ST-1B
1,4-Dichlorobenzene(p)	EPA Method TO-15
Acetaldehyde	CARB 430
Arsenic	EPA Method 29
Benzene	EPA Method TO-15
Beryllium	EPA Method 29
Cadmium	EPA Method 29
Chromium (hexavalent)	CARB 425
Copper	EPA Method 29
Cyanide and compounds	CARB Method 426
Ethyl benzene	EPA Method TO-15
Formaldehyde	CARB 430
Hexane	EPA Method TO-15
Hydrochloric acid	EPA Method 26A
Hydrogen sulfide	EPA Method 11
Lead	EPA Method 29
Manganese	EPA Method 29
Mercury	EPA Method 29
Naphthalene	CARB 429
Nickel	EPA Method 29
Phenol	EPA Method TO-15
Propylene	EPA Method TO-15
Selenium	EPA Method 29
Toluene	EPA Method TO-15
Vanadium	EPA Method 29
Xylenes (isomers and mixture)	EPA Method TO-15

Prior to the issuance of the Permit to Operate for the sources above, fuel gas combustion emission factors from source testing shall be used to verify emission factors used in the engineering evaluation for the issuance of the Authority to Construct. If source testing results indicate an increase in any toxic air contaminants and/or identify any new toxic air contaminants not previously evaluated as part of the issuance of the Authority to Construct, the health risk assessment shall be updated in order to verify compliance with Regulation 2, Rule 5 prior to the issuance of the Permit to Operate.
(Basis: Regulation 2-2-208 Cumulative Increase; Regulation 2-5 Toxics)

5. Within 180 days of the startup of each source S-919, S-920, S-928, S-929, S-930, S-931, S-932, S-933, S-934, S-937, S-973, S-1511, and/or S-1512, the owner/operator shall conduct initial compliance source testing to determine the POC destruction efficiency per both Permit Condition #21053, Part 6 and Permit Condition #13605

Part 3. The owner/operator shall notify the Air District's Compliance and Enforcement Division, Source Test Section, and Engineering Division at least seven days in advance of the initial compliance source test such that the Air District may observe during testing. The results shall be delivered to the Air District's Source Test Section no later than 60 days from the date of the test. If the POC destruction efficiency is greater than or equal to 99.5%, the source testing results show compliance with the assumptions used in analysis for the issuance of the authority to construct of the Renewable Fuels Project and no further action will be required. If the POC destruction efficiency is less than 99.5%, the owner/operator shall submit a new permit application to address the non-compliance with Permit Condition #13605, Part 3.

Permit Condition #27610

Application 30768 (TBD 2022 – Initial Issuance): Martinez Renewable Fuels Project.

S-2013 Tank A-432, Open-Top, Moving Bed Biofilm Reactor (formerly S-432)
S-1026 DNF Effluent Air Stripper, Abated by A-39 Thermal Oxidizer
S-2010 Tank A-876, FRT, Stage 1 WWTP, Equalization Tank (formerly S-1496)
S-2001 Stage 1 Wastewater Treatment Unit
S-2003 DAF Unit

1. The owner/operator of S-2001, S-2003, S-2010, and/or S-2013 shall not exceed a wastewater flow exceeding 864,000 gallons per calendar day (600 gallons per minute) and/or 236,520,000 gallons per consecutive 12 month period (450 gallons per minute). The owner/operator of S-2001, S-2003, S-2010, and/or S-2013 shall monitor wastewater flow rates using a continuous flow meter and recorder.
(Basis: Regulation 2-2-208 Cumulative Increase)

2. To determine compliance with the above condition, the owner/operator of S-2001, S-2003, S-2010, and/or S-2013 shall maintain the following records:

a. Daily and monthly records of the quantity of wastewater processed at this source.
b. Monthly records totaled for each consecutive 12-month period.

All records shall be retained onsite for five years from the date of entry, and made available for inspection by Air District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any Air District Regulation.
(Basis: Regulation 2-2-208 Cumulative Increase)

3. The owner/operator of S-2013 shall ensure that POC emissions do not exceed 26,105 pounds per consecutive 12 month period and/or 85.5 pounds per calendar day using only Air District approved methodologies.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-301 BACT, Regulation 2-2-302 Offsets)

4. The owner/operator of S-2010 shall ensure that POC emissions do not exceed 2,675 pounds per consecutive 12 month period and/or 7.3 pounds per calendar day using only Air District approved methodologies.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-302 Offsets)

5. The owner/operator of S-2003 shall ensure that POC emissions do not exceed 122 pounds per consecutive 12 month period and/or 0.3 pounds per calendar day using only Air District approved methodologies.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-302 Offsets)

6. The owner/operator of S-2001 shall ensure that POC emissions do not exceed 4,083 pounds per consecutive 12 month period and/or 11.2 pounds per calendar day using only Air District approved methodologies.
(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-2-302 Offsets)

Condition #: 267 ~~S1401, S1405~~ **(Archived)**

COND# 267

Application 14374(September 2006)- Sulfur Pit Vent (S1405) reroute and abatement requirements Application 15949 (May 2007): Add EPA Consent Decree requirements (Case No. SA-05- CA-0569-RF: United States of America v. Valero Refining Company - California, et. al.).

Modified by Application 16798 (November 2007). Added Part 4b.

Application 17913 (May 2009). Delete S1420 (which is part of A1402 SCOT Unit)

Application 30729 (September 2020) - Revised Part 2 to include SO2 mass emission rate for low sulfur production and added Parts 6, 7, 8 and 9.

Application 30768 (TBD 2022). Deleted S-1401, S-1405, S-1411, A-1402, A-1525 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

~~S1401 Sulfur Recovery Unit~~
~~S1405 Sulfur Collection Pit~~

1. Deleted. S-1401, S-1405, S-1411, A-1402, A-1525 are shutdown via Application 30768. ~~Permittee/Owner/Operator shall ensure that the SCOT unit is scheduled for maintenance to coincide with the turnaround of either the Coker or the FCCU. (Basis: cumulative increase)~~

2. Deleted. S-1401, S-1405, S-1411, A-1402, A-1525 are shutdown via Application 30768. ~~Permittee/Owner/Operator shall ensure that the sulfur dioxide (SO2) emission rate does not exceed 4 lb/ton of sulfur processed, except during any calendar day when sulfur production is less than 30 tons/day, in which the permittee/owner/operator shall ensure that the SO2 mass emission rate does not exceed 120 lbs/day. (Basis: cumulative increase)~~

3. Deleted. S-1401, S-1405, S-1411, A-1402, A-1525 are shutdown via Application 30768.~~In a District approved log, Permittee/Owner/Operator shall record daily SO2 emissions and sulfur production on a monthly basis. The District approved log shall retained on site for not less than 5 years from date of last entry and it shall be made available to the District staff upon request. (Basis: cumulative increase)~~

4. Deleted. S-1401, S-1405, S-1411, A-1402, A-1525 are shutdown via Application 30768.~~a. Permittee/Owner/Operator shall abate the Sulfur Collection Pit (S-1405) by either the Sulfuric Acid Plant (SAP) (S-1411) or the Sulfur Recovery Unit (SRU) (S-1401) whenever S-1405 is being filled with sulfur or when S-1401 is in operation. (Basis: cumulative increase) b. Until April 1, 2008, if S-1411 is shutdown, the Owner/Operator may temporarily route S-1405 emissions to the S-1401 SRU stack. During this temporary operation, all S-1405 emissions must be included in the S-1401 emissions that are monitored for SO2 emissions compliance with NSPS Subpart J. (Basis: EPA consent decree, paragraph 226)~~

5. Deleted. S-1401, S-1405, S-1411, A-1402, A-1525 are shutdown via Application 30768.~~The S-1401 Sulfur Recovery Unit is an "affected facility" under 40 CFR 60 Subpart J. The owner/operator shall comply with all applicable provisions of 40 CFR Subparts A and J for Sulfur Recovery Units and shall monitor and report in accordance with 40 CFR 60.7, 60.13, and 60.105 for all emission points (stacks) to the atmosphere for tail gas emissions except during periods of startup, shutdown, or malfunction of S-1401 Sulfur Recovery Unit or during malfunction of the A-1402 SCOT tail gas unit/incinerator. (Basis: NSPS Subparts A and J, EPA Consent Decree paragraphs 221, 222, 224, 225, and 227)~~

6. Deleted. S-1401, S-1405, S-1411, A-1402, A-1525 are shutdown via Application 30768.~~During any period when sulfur production is less than~~

~~30 tons/day, the owner/operator shall not exceed the following total combined natural gas consumption limits at S-1401, A-1402, and A-1525:~~
~~a. 137,531 MMBtu in any consecutive 12 month period~~
~~b. 57.3 MMBtu/hour~~
~~(Basis: Regulations 2-1-233, 2-5-214)~~

7. Deleted. S-1401, S-1405, S-1411, A-1402, A-1525 are shutdown via Application 30768.~~During any period when sulfur production is less than 30 tons/day, the owner/operator shall maintain hourly records of natural gas consumption at S-1401, A-1402, and A-1525 in an Air District approved log. These logs shall be kept for at least 5 years and shall be made available to the Air District upon request. (Basis: Regulations 2-1-233, 2-5-214, recordkeeping)~~

8. Deleted. S-1401 is shutdown via Application 30768.~~During any period when sulfur production is less than 30 tons/day, the owner/operator of S-1401 shall not exceed 2.58 lbs/hr of sulfuric acid mist. (Basis: Regulations 2-1-233, 2-5-214)~~

9. Deleted. S-1401 is shutdown via Application 30768.~~During any period when sulfur production is less than 30 tons/day for more than 21 days per calendar year, the owner/operator of S-1401 shall conduct an Air District approved source test to demonstrate compliance with Part 8. (Basis: Regulations 2-1-233, 2-5-214)~~

Condition #: 2326 ~~**S950**~~ **(Archived)**

Application 30768 (TBD 2022). Deleted S-950 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

1. Deleted. S-950 is shutdown via Application 30768.~~Aggregate duration of emission from sootblowing shall not exceed 6 minutes per billion BTU gross heat release during any 24 hour period when burning fuel oil.~~

2. Deleted. S-950 is shutdown via Application 30768.~~Such emissions shall be less than Ringelmann 3 or equivalent obscuration when burning fuel oil.~~

Condition #: 7397 ~~**S901**~~ **(Archived)**

S901 No. 7 Boiler

Application 30768 (TBD 2022). Deleted S-901, A-30 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

1. Deleted. S-901 and A-30 are shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that the total ammonia injection at A-30, electrostatic precipitator, does not exceed 1,800 lb. in any consecutive 24 hour period (75 lb/hr basis). (basis: toxics)~~

2. Deleted. S-901 and A-30 are shutdown via Application 30768.~~To verify compliance with Condition No. 1, the Permittee/Owner/Operator of A-30 shall install and maintain a District-approved aqueous ammonia flow meter and recorder. Permittee/Owner/Operator shall ensure that the records are made available for District inspection and kept for a period of at least five years after date of entry. (basis: toxics, cumulative increase, offsets)~~

~~As an alternative to such ammonia flow monitoring, the owner/operator of A-30 may elect to conduct a District-approved flow rate test that demonstrates that the maximum ammonia injection rate cannot exceed 75 lb/hr. (basis: toxics)~~

3. Deleted. S-901 and A-30 are shutdown via Application 30768.~~S-901, boiler #7 shall burn only gaseous fuels. (basis: cumulative increase)~~

Condition #: 7405 ~~**S590**~~ **(Archived)**

Application 6876 (1992)

Administratively Changed by ~~Applicatin~~Application 18861 (June 2009) Removed completed parts and parts redundant with District Regulations

Application 30768 (TBD 2022). Deleted S-590 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

S590 DEA Flash Drum

1. Deleted. S-590 is shutdown via Application 30768.~~(Condition completed: fugitive component count submit- ted in accordance with authority to construct condition; cumulative increase adjusted to 14.1 lb/day POC)~~

2. Deleted. (Redundant with Regulation 8, Rule 18)

3. Deleted. (Redundant with Regulation 8-28)

Condition #: 7410 ~~**S607, S606**~~ **(Archived)**

S606 50 Unit Wastewater Air Stripper A
S607 50 Unit Wastewater Air Stripper B

Application 30768 (TBD 2022). Deleted S-606, S-607, S-950 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

1. Deleted. S-606, S-607, and S-950 are shutdown via Application 30768. ~~Permittee/Owner/Operator shall ensure that the air strippers S-606 and S-607 are not operated unless they are abated at all times by furnace S-950. (basis: cumulative increase, toxics)~~

2. Deleted. S-606 and S-607 are shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that the total stripped gas throughput from the air strippers S-606 and S-607 does not exceed 700 SCFM. (basis: cumulative increase, toxics)~~

3. Deleted. S-950 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that non-methane hydrocarbon emissions to the atmosphere from furnace S- 950 do not exceed 20 ppm (calculated as C1) on a rolling one hour average basis.~~
~~(basis: cumulative increase)~~

4. Deleted. S-950 is shutdown via Application 30768. ~~Permittee/Owner/Operator shall ensure that H2S emissions to the atmosphere from furnace S-950 do not exceed 1 ppm on a rolling one hour average basis. (basis: toxics)~~

5. Deleted. S-606, S-607, and S-950 are shutdown via Application 30768. ~~Permittee/Owner/Operator shall ensure that furnace S-950 is not used to abate stripped gas from the air strippers S-606 and S-607 unless S-950 is operated with a furnace temperature of at least 1500oF. This minimum temperature may be adjusted by the District if source test data demonstrate that an alternate temperature is necessary for or capable of maintaining compliance with Condition Nos. 3 and 4.~~
~~(basis: cumulative increase)~~

6. Deleted. S-606, S-607, and S-950 are shutdown via Application 30768. ~~Permittee/Owner/Operator shall install, maintain, and operate a District- approved continuous temperature monitor/recorder to verify compliance with Condition No.5.~~
~~(basis: cumulative increase)~~

7. Deleted. S-606, S-607, and S-950 are shutdown via Application 30768. ~~Permittee/Owner/Operator shall maintain a District approved log in a file containing all measurements, records, charts, and other data which are required of this conditional permit, as well as all other data and calculations necessary to determine compliance with the conditions of this permit. Permittee/Owner/Operator shall ensure that this District approved log in the file includes, but is not limited to:~~

~~a. The hours of operation of each permitted piece of equipment.~~
~~b. Each monitor reading, recording, or analysis result for the day of operation they are taken.~~

~~Permittee/Owner/Operator shall ensure that this material is kept available for District inspection for a period of at least 5 years following the date on which such measurements, records, or data are made or recorded. (basis: toxics, cumulative increase)~~

New Permit Condition #27713 (For AC Issuance)

Condition #: 8077 ~~**S904,**~~ **S57, S850,** ~~**S851,**~~ **S854,** ~~**S908, S909, S912, S913, S915, S916, S917, S856,**~~ **S919,** ~~**S921,**~~ **S922,** ~~**S927,**~~ **S928, S929, S930, S931, S932, S933, S934, S935, S937, S920,** ~~**S901, S950,**~~ **S952, S953, S973,** ~~**S974, S1009, S1401,**~~ **S1421, S954, S323,** ~~**S951, S971, S972,**~~ **S1007, S1008**
[Note: Bubble limits to be evaluated in Application No. 30806]

Application 27769 The No. 3 HDS Unit (1981)

PERMIT NO. 3318 (1991): REFINERY MODERNIZATION PROJECT PERMIT CONDITIONS NEW PERMIT CONDITIONS FOR PERMIT NO. 3318 Permit

Application 14047: Clarify conditions to allow owner/operator to shutdown ammonia injection to A-31 SCR during both startup and shutdown of S-974 (Part A2A).

Application 19300 (December 2008) Added S-904 No. 6 Boiler House

Application 19647 (March 2009) Consolidate With Condition 4357

Administratively Revised by Application 19874 (July 2009) Updates for Combustion Sources

Administratively Changed by Application 21711 (May 2010) Deleted Parts A10-A14 (redundant or completed items). Revised Part B6B and deleted Part B6D (S848 out of service)

Administratively Changed by Application 24056 (June 2012). Corrected source list and CO limits and monitoring in Part B7.

Administratively Changed by Application 26272 (May 2014). Lowered mass emission limits of Parts B2A and B2B to reflect emission credits granted for the Coker Modification Project (Application 17798) and the transfer of the No 2 Hydrogen Plant to Air Products.

Administratively Changed per Part B12F (March 2015) Reduced NOx limits in Parts B2A and B2B by the reductions required by Regulation 9, Rule 10 Amendments.

Modified by Application 27309 (August 2015). Increased startup and shutdown duration and emissions for S-973 and S- 974 in Part A2A.

Revised by Application 23322 (January 2016). Added Parts C3 and C4 for S-928 through S-935 based on Application 548.

Administratively Changed by Application 28445 (September 2017). Removed S-963.

Administratively changed by Application 28419. Adjusted limits in Part B2 consistent with the emission reduction credits approved for S-963 in Banking Certificate 1625.

Application 30729 (September 2020) - Revised Part B9 to include SO2 mass emission rate for low sulfur production.

Administratively changed by Application 29278 (February 2021). Revised Parts A10, A13, A14, A17, B6B, B7B, B7C, B7D, B8B, B9Bii, B12A, B12B and B12I.

Application 30768 (TBD 2022). Deleted Parts B6A, B7D, B8D, B9A, B9B, B9C and Revised Parts B4A, B4B, B4C, B6D, B7B, B7D due to the shutdown of S-851, S-856, S-901, S-904, S-908, S-909, S-912, S-913, S-915, S-916, S-917, S-921, S-927, S-950, S-951, S-955, S-956, S-957, S-958, S-959, S-960, S-971, S-972, S-974, S-1009, and S-1401 as part of Marathon's Renewable Fuels Project. Revised limits in part A2.A to accommodate the shutdown of S-974 and revision of applicability to S-973. Deleted Parts B3A.ii and B3B.iii as the facility will no longer process crude oil. Deleted Parts B6C, C1, C3 and referenced Permit Condition #27584 for new processing rates and recordkeeping requirements. Application 30806 has been submitted to address the bubble condition and Alternative NOx Compliance Plan for Regulation 9, Rule 10.

Appendices A-D
Hyperlink to Appendix A to go here.

https://www.baaqmd.gov/~/media/files/engineering/title-v-per mitsits/b2758_b2759/b2758-9_2005-08_reopen_02a.pdf?la=en Hyperlink to Appendix B to go here.
https://www.baaqmd.gov/~/media/files/engineering/title-v-per mits/b2758_b2759/b2758-9_2005-08_reopen_02b.pdf?la=en

Hyperlink to Appendix C to go here.

https://www.baaqmd.gov/~/media/files/engineering/title-v-per mits/b2758_b2759/b2758-9_2005-08_reopen_02c.pdf?la=en Hyperlink to Appendix D to go here.
https://www.baaqmd.gov/~/media/files/engineering/title-v-per mits/b2758_b2759/b2758-9_2005-08_reopen_02d.pdf?la=en

S57 Tank A-57
S323 Tank A-323
S850 No. 3 HDS Unit (Permitted by Application 27769)
~~S851 Ammonia Recovery Unit (Permitted by Application 27769)~~
S854 East Air Flare (Permitted by Application 27769)
~~S856 Spare DEA Stripper (Permitted by Application 27769)~~
~~S901 No. 7 Boiler~~
~~S904 No. 6 Boiler~~
~~S908 No. 3 Crude Heater (F8)~~
~~S909 No. 1 Feed Prep Heater (F9)~~
~~S912 No. 1 Feed Prep Heater (F12)~~
~~S913 No. 2 Feed Prep Heater (F13)~~
~~S915 Platformer Intermediate Heater~~
~~S916 No. 1 HDS Heater (F16)~~
~~S917 No. 1 HDS Prefract Reboiler (F17)~~
S919 No. 2 HDS Depent Reboiler (F19)
S920 No. 2 HDS Charge Heater (F20)
~~S921 No. 2 HDS Charge Heater (F21)~~
S922 No. 5 Gas Debutanizer Reboiler (F22)
~~S927 No. 2 Reformer Heat/Reheating (F27)~~
S928 HDN Reactor A Heater (F28)
S929 HDN Reactor B Heater (F29)
S930 HDN Reactor C Heater (F30)
S931 Hydrocracker Reactor 1 Heater (F31)
S932 Hydrocracker Reactor 2 Heater (F32)
S933 Hydrocracker Reactor 3 Heater (F33)
S934 Hydrocracker Stabilizer Reboiler (F34)
S935 Hydrocracker Splitter Reboiler (F35)
S937 Hydrogen Plant Heater (F37)
~~S950 50 Unit Crude Heater (F50)~~
~~S951 No. 2 Reformer Aux Reheater (F51)~~
S952 Internal Combustion Engine
S953 Internal Combustion Engine
S954 Internal Combustion Engine
~~S955 Internal Combustion Engine~~
~~S956 Internal Combustion Engine~~
~~S957 Internal Combustion Engine~~
~~S958 Internal Combustion Engine~~
~~S959 Internal Combustion Engine~~
~~S960 Internal Combustion Engine~~
~~S971 No. 3 Reformer UOP Furnace (F53)~~
~~S972 No. 3 Reformer Debutanizer Reboiler (F54)~~
S973 No. 3 S973 No. 3 HDS Recycle Gas Htr (F55) (Permitted by Application 27769)
~~S974 No. 3 HDS Fract Feed Heater (F56) (Permitted by Application 27769)~~

~~S1009 Alkylation Unit~~
S1024 No 3 HDS Feed Tank (Permit Exemption by Application 27769)

~~S1401 Sulfur Recovery Unit~~
S1421 Sour Water Feed Tank (Permitted by Application 27769)

A2A. For S-973~~974~~, the total start-up or shutdown period during which S-973~~974~~ may be operated without ammonia injection at A- 31, No. 3 HDS Selective Catalytic Reduction Unit, shall not exceed 72 hours per start-up or shutdown. For S-973~~974~~, the total combined start-up and shutdown time shall not exceed 432 hours during any rolling 12 consecutive month period. During the start up or shutdown period for S-973~~974~~, NOx emissions from S-973~~974~~ shall not exceed ~~146~~ 130.5 pounds during any rolling 24 consecutive hour period. During the startup or shutdown period for S-973~~974~~, NOx emissions from S-973 ~~and S-974 combined (when there is one combined emission point for S-973 and S-974)~~ shall not exceed ~~146~~ 130.5 pounds during any rolling 24 consecutive hour period. For S-973~~974~~, sum total NOx emissions occurring during start up and shutdown shall not exceed 2628 pounds during any rolling 12 consecutive month period. NOx emissions from S-973 ~~and S-974 combined (when there is one combined emission point for S-973 and S-974)~~ shall not exceed 2628 pounds during any rolling 12 consecutive month period. (basis: cumulative increase, offsets)

A2B. Permittee/Owner/Operator shall begin ammonia injection at A-31 as soon as the temperature of the exhaust at the inlet of A-31 reaches 530 degrees Fahrenheit. (basis: cumulative increase, offsets)

A8. Deleted. (NOx CEM installed on S908. Semiannual CO Source Test required in Condition 18372, Part 34.)

A10. Deleted. (Completed. All new valves in volatile hydrocarbon service or ammonia service installed for Permit 3318 were "low emission" valves as specified.)

A11. Deleted. (Final fugitive component count not required because POC emissions Cap not changed.)

A12. Deleted. (All new pumps in volatile hydrocarbon service installed for Permit 3318 were double mechanical seals with a barrier fluid which either: 1) is at a higher pressure than the seal pressure, or 2) is vented to a closed system, or 3) an equivalent sealing system approved by the APCO.)

A13. Deleted. (Completed. Permittee/Owner/Operator installed at least one magnetically-driven pump or equivalent equipment approved by the APCO.)

A14. Deleted. (Completed. Permittee/Owner/Operator has implemented an inspection and maintenance program for all pumps, compressors, valves, and flanges associated with this project in accordance with District Regulations 18, 25, and 28)

A16. For the purposes of these permit conditions, all source testing and monitoring requirements will be subject to the following general provisions:
1. At least two weeks prior to testing, Permittee/Owner/Operator shall contact the District's Source Test Section, in writing, to provide notification of the testing procedure, date and time, and to obtain details on source testing requirements. Source test procedures are subject to approval of the APCO.
2. Deleted. (Authority to Construct requirement to submit CEM specifications and plans for approval has been completed.)
3. Deleted. (Authority to Construct requirement to submit plans showing sampling facilities for approval has been completed.)

(basis: MOP Volume IV)

A17. Deleted. (Completed upon implementation and issuance of the Permit to Operate. The mitigation measures in the Mitigation Monitoring Program for which the District is listed as the Responsible Entity are considered to be permit conditions for Permittee/Owner/Operator for the purposes of this Authority to Construct. These mitigation measures are specified in the Mitigated Negative Declaration adopted by the District on December 16, 1991. (basis: cumulative increase, offsets))

B1. Definitions.

a. "Permitted annual emissions" shall mean the allowable emissions for a calendar year authorized by these conditions.
b. "Total annual emissions" shall mean the actual emissions which occur in any calendar year.
c. "Total monthly emissions" shall mean the actual emissions which occur in any calendar month.
d. "Calendar day" (CD) of "calendar day basis" shall mean an average value determined by dividing the yearly total by 365.
e. "Stream day" (SD) or "stream day basis" shall mean the total value occurring on any one 24-hour day, from midnight to midnight, and is the actual daily rate.
f. "Calendar month" shall mean any month of the year measured from 12:01 A.M. on the first day of that month to midnight on the last day of that month.
g. "Calendar year" or "year" shall mean the year measured from 12:01 A.M., January 1 to midnight, December 31.
h. "permitted Monthly Maximum Emissions" shall mean the maximum allowable emissions for any calendar month authorized by these conditions.
i. "Permitted Monthly Compensatory Emissions" shall mean the allowable emissions in a calendar month before compensatory emission reductions are required.
j. "Startup" shall mean that period of time during which the piece of equipment in question is put into normal operation from an inactive status by following a prescribed series of separate steps or operations, not to exceed 8 hours. Permittee/Owner/Operator may develop and present specific alternate startup times for certain units. If approved by the APCO, these specific startup times will be used in place of the standard 8 hour time period for the given units.
k. "Shutdown" shall mean that period of time during which the piece of equipment in question is taken out of service from a normal operating mode to an inactive status following a prescribed series of separate steps of operations, not to exceed 8 hours. Permittee/Owner/Operator may develop and present specific alternate shutdown times for certain units. If approved by the APCO, these specific shutdown times will be used in place of the standard 8 hour time period for the given units.
l. "Light hydrocarbon service" shall mean the handling or service of liquid of gas-liquid streams with a true vapor pressure greater than 0.5 psia.

(basis: definitions)

B2. Emissions. The specific emission points covered by the various limitations listed in B2A-B2D below are set forth in Table A of the Appendix to these Conditions.

B2A. Listed below are the permitted annual emission limits for the emission points covered by this permit. If the permitted annual emission limit for any pollutant is exceeded, the applicable provisions of Part B3A shall apply.
Particulates 414.358 tons/year
Hydrocarbons 216.830 tons/year
NOx 1166.375 tons/year

SO2 1674.373 tons/year
CO 482.039 tons/year
(basis: cumulative increase, removal of Air Products No.2 Hydrogen Plant S-1030 and S-1031 from cap March 2012. First permitted in 1991 via Application 3318. Total reductions: NOx- 16.1 tons/yr; CO- 21.9 tons/yr; HC- 3.9 tons/yr; SO2-
4.5 tons/yr; PM- 12.9 tons/yr)

B2B. Listed below are the permitted monthly maximum emission limits for the emission points covered by this permit. If the permitted monthly maximum emission limit for any pollutant is exceeded, the applicable provisions of Part B3B shall apply.
Particulates 43.613 tons/month
Hydrocarbons 76.594 tons/month
NOx 197.893 tons/month
SO2 441.864 tons/month
CO 49.420 tons/month (basis: cumulative increase)
B2C. Listed below are the permitted monthly compensatory emission limits applicable to the emission points covered by this permit and Permittee/Owner/Operator shall ensure that the emission limits are met. If the permitted monthly compensatory emission limit for any pollutant is exceeded, the applicable provisions of Part B3C shall apply.
Particulates 42 tons/month
CO 49.1 tons/month
(basis: cumulative increase, BACT, offsets)

B2D. If, at the end of any calendar month, the total emissions accumulated so far in that calendar year exceed the permitted annual emissions prorated to the number of months elapsed so far that year plus the amounts set forth below, the informational requirements of Part B3D shall apply.
Particulates 9 tons
Hydrocarbons 35 tons
NOx 69 tons
SO2 258 tons
CO 8.1 tons
(basis: cumulative increase, offsets)

B2E. The limits set forth in B2A & B2B above are legal limits which must not be exceeded. Accordingly, in the event that any such limit ever is exceeded, Permittee/Owner/Operator will be immediately subject to the applicable sanctions in Part B3 below. (basis: cumulative increase, offsets)

B3. Emission Reductions. The following conditions will apply as appropriate, when any of the various permitted emission limits set forth in Part B2 above are exceeded.

B3A. If any of the permitted annual emission limits of B2 are exceeded, the following conditions shall apply:
i. Permittee/Owner/Operator shall install and maintain on a permanent basis abatement equipment as specified in the Environmental Management Plan (or such other abatement measures approved by the Air Pollution Control Officer which will achieve equivalent emission reductions), to control emissions of the pollutant of concern so as to offset the excess at a ratio of 2:1 (i. e. for every ton per year by which the applicable limit is exceeded, the hardware to be installed or other measures to be taken shall achieve a permanent emission reduction of 2 tons per year). The limits in Condition B2A will be reduced accordingly;

ii. Deleted. The facility will no longer process crude oil via Application 30768.~~Permittee/Owner/Operator shall not process more than 108,000 barrels of crude oil per stream day or more than 97,000 barrels of crude oil per day averaged over any one calendar month until the emission reductions required under Part B3A.i. are achieved; and~~

iii. the permitted annual emissions limit for the pollutant of concern shall be reduced by the amount by which said limit was exceeded on a prorated calendar monthly basis, until the emission reductions required under Part B3A.i. above are achieved. (basis: cumulative increase, offsets, bubble)

B3B. If any of the permitted monthly maximum emission limits of B2B are exceeded, the following conditions shall apply:

i. The excess shall be charged against the permitted annual limit in B2A above which is applicable to that pollutant by twice the amount by which the limit in B2B is exceeded; provided, however, that if such monthly excess occurs during December, then, to the extent that such excess cannot be charged as provided above without causing the annual limit to be exceeded, it will be charged once against the current calendar year and once against the following calendar year;

ii. Permittee/Owner/Operator shall either (a) install and maintain on a permanent basis abatement equipment or take measures which will achieve equivalent emission reductions as specified in the Environmental Management Plan to control emissions of the pollutant of concern so as to offset the excess at a ratio of 2:1 (i. e. for every ton per month by which the applicable limit is exceeded, the hardware to be installed or other measures to be taken shall achieve a permanent emission reduction of 2 tons per month); or (b) take such other abatement measures approved by the Air Pollution Control Officer which will prevent a recurrence of the type of incident which caused the excess; and

iii. Deleted. The facility will no longer process crude oil via Application 30768.~~Permittee/Owner/Operator shall not process more than 108,000 barrels of crude oil per stream day or more than 97,000 barrels of crude oil per day averaged over any one calendar month until the emission reductions or other measures required under Part B3B.ii. above are achieved. (basis: cumulative increase, offsets)~~

B3C. If any of the permitted monthly compensatory emission limits of B2C are exceeded, then the excess shall be charged against the permitted annual limit in B2A above which is applicable to that pollutant by twice the amount by which the limit in B2C is exceeded; provided, however, that if such monthly excess occurs during December, then, to the extent that such excess cannot be charged as provided above, without causing the annual limit to be exceeded, it will be charged once against the current calendar year and once against the following calendar year. However, this provision shall only apply when the sanctions set forth in Part B3B above are not triggered. (basis: cumulative increase, offsets)

B3D. If any of the limits of B2D are exceeded, Permittee/Owner/Operator shall submit to the District within 30 days of the end of that calendar month a revised Environmental Management Plan in accordance with Part B14 below, which shall indicate the steps to be taken to assure that the permitted annual emission limits in B2A will be met for that calendar year. (basis: cumulative increase, offsets)

B3E. Reductions of hydrocarbon may be used to offset increases NOx at a ratio of 1:1, provided that Permittee/Owner/Operator demonstrates to the satisfaction of the Air Pollution Control Officer that the increased NOx emissions will not cause or contribute to an excess of any ambient air quality standard for NO2 at the point of maximum ground level impact, as defined in Section 2-2-206 of the District's Rules and Regulations. (basis: cumulative increase, offsets)

B3F. In the event that Permittee/Owner/Operator installs abatement equipment to achieve 2:1 offsets on a permanent basis (or takes measures which will achieve equivalent permanent emission reductions) pursuant to Part B3B.ii.(a) above, any such emission reductions will be credited towards emission reductions which may be required under Part B3A.i. above for that same calendar year, provided the generation of offsets complies with applicable requirements of the SIP adopted version of Regulation 2, Rule 2. (basis: cumulative increase, offsets)

B4. Monitoring. The following monitoring instruments listed shall be installed, calibrated, maintained and operated by Permittee/Owner/Operator:

B4A. An instrument to continuously monitor and record the H2S concentrations in fuel gas. being fed to the following new or modified units, which will be required to comply with the New Source Performance Standard for the burning of fuel gas (0.23 grams of H2S/dry standard m3 on a 3-hour average basis): No. 3 HDS Recycle Gas Heater, S-973 No. 3 HDS Fractionator Feed Heater~~, S-974 Nos. 51, 53, and 54 Furnaces (S-951, S- 971, and S-972, respectively)~~
(basis: NSPS)

B4B. An instrument to continuously monitor nitrogen oxide emissions and oxygen concentration in the flue gas from the following units: No. 3 HDS Recycle Gas Heater, S-973 No. 3 HDS Fractionator Feed Heater, ~~S-974 No. 3 Crude Unit, No. 8 Furnace, S-908 Hydrocracker Stabilizer Reboiler (F34),~~ S-934 Hydrocracker Splitter Reboiler (F35), S-935 No. 5 Gas Plant Debutanizer Reboiler (F22), S-922 (basis: cumulative increase, offsets)

B4C. An instrument to continuously or sequentially monitor stack oxygen concentrations on each of, and an instrument to monitor fuel usage by, the following units:
~~#1 Feed Prep. - Furnace #9, S-909,~~
~~#1 Feed Prep. - Furnace #12, S-912,~~
~~#2 Feed Prep. - Furnace #13, S-913,~~
~~#1 HDS - #16 Heater, S-916,~~
~~#1 HDS - #17 Prefractionator Reboiler, S-917,~~
#2 HDS - #20 Charge Heater, S-920,
~~#2 HDS - #21 Charge Heater, S-921,~~
HDN Reactor - #28 Furnace, S-928,
HDN Reactor - #29 Furnace, S-929,
HDN Reactor - #30 Furnace, S-930,
Hydrocracker - #31 Furnace, S-931,
Hydrocracker - #32 Furnace, S-932,
Hydrocracker - #33 Furnace, S-933
(basis: cumulative increase, offsets)

To the extent that it is technologically feasible to do so, all of the required stack oxygen concentration monitors shall be equipped with oxygen analyzer controlled by feedback systems set at oxygen levels which will yield the minimum amount of nitrogen oxides while still achieving complete combustion. If such feedback systems are not feasible for any of these units, Permittee/Owner/Operator shall substitute alternative controls to be approved by the Air Pollution Control Officer. (basis: cumulative increase, offsets)

B4D. All other instruments listed on Table D of the Appendix to these Conditions, which are not specifically referred to in B4A-B4C above. (basis: cumulative increase, offsets)

B5. Reporting and Record Keeping. The following conditions will document Permittee's/Owner's/Operator's emissions on a monthly basis, in addition to satisfying the requirements of Regulation 10- 1-402 of District

regulations. These reporting requirements do not eliminate the need to comply with any other District reporting and record keeping requirements.

B5A. Permittee/Owner/Operator shall maintain a file containing all measurements, records, charts and other data which are required to be collected pursuant to the various provisions of this conditional permit, as well as all other data and calculations necessary to determine actual emissions from all emission points covered by this permit. This file, which may contain confidential or proprietary data, shall include, but not be limited to: the data collected from all in-stack monitoring instruments, the records on fuel input rates and relevant records of crude oil and other hydrocarbons processed. Estimates of emissions from all units covered by this permit which are included under the limits set forth in Part B2 above shall be calculated in accordance with Tables B & C of the Appendix to these Conditions. This material shall be kept available for District inspection for a period of at least 5 years following the date on which such measurements, records or data are made or recorded. (basis: cumulative increase, offsets)

B5B. Permittee/Owner/Operator shall make a monthly report to the District, within 30 days after the end of each month, which shall specify the emissions from all operations covered by this permit during the previous month, and shall state in detail the basis therefore. The reporting format for such reports shall be structured so as to enable the Air Pollution Control Officer to readily determine compliance with the provisions of this Conditional Permit, and shall be subject to the approval of the APCO. Any computer programs utilized by Permittee/Owner/Operator to calculate emissions from any operations covered by this permit shall also be subject to the approval of the APCO. (basis: cumulative increase, offsets)

B5C. Permittee/Owner/Operator shall conduct monthly audits of all emission and fuel rate monitoring systems required under Part B4 above to insure that instrument accuracy is maintained.
Permittee/Owner/Operator shall promptly repair all malfunctioning systems and replace any system that has a chronic problem. A record of the results of all such audits shall be maintained as part of the file required under B5A above. (basis: cumulative increase, offsets)

B6. Process Unit Design.

B6A. Deleted. S-851 is shutdown via Application 30768. ~~The design feed rate to the Ammonia Recovery Plant shall be at least 75 tons/day. (basis: cumulative increase)~~

B6B. Deleted. (The S-850 process unit work was completed and the unit capacity design was confirmed and limited by Part B6C.)

B6C. Deleted. See Permit Condition #27584 for new processing rates via Application 30768. ~~The No. 3 HDS Unit (S-850) shall not process more than 70,000 barrels per stream day. (basis: cumulative increase, offsets)~~

B6D. Deleted. (S848 no longer in service.) B7. Combustion Controls.
B7A. Except during periods of startup or shutdown, emissions of nitrogen oxides (calculated as NO2) and carbon monoxide shall not exceed the following limits.

NOx (ppmvd)	CO (ppmvd)	Unit(s)
~~10~~	~~50~~	~~S-908~~
40	N/A	S-973 ~~and S-974~~
60	N/A	~~S-917,~~ S-919, S-922, ~~S-927,~~ S-934, S-935
~~75~~	~~N/A~~	~~S-971 and S-972~~

~~Except for S-908, t~~These limits shall be based on an 8 hour average and corrected to 3% excess oxygen on a dry basis. ~~For S-908, the limit shall be based on a 3 (three) hour average and corrected to 3% excess oxygen.~~ (basis: cumulative increase, offsets, BACT)

B7B. The ~~sum of the~~ maximum firing rate~~s~~ of ~~the first two units listed in B4B above (~~S-973 ~~and S-974)~~ shall not exceed ~~159~~ 110 MMBTU/hr. (basis: cumulative increase, offsets)

B7C. Deleted. (The requirement to demonstrate NOx emissions do not exceed 160 lb. NOx per billion BTUs heat input is subsumed by the requirements of Regulation 9, Rule 10 which requires a more stringent limit of 33 lb NOx per billion BTUs heat input and is demonstrated daily in the quarterly 9-10 NOx compliance reports.)

B7D. Deleted. S-917 is shutdown via Application 30768.~~For the furnace S917, Permittee/Owner/Operator shall demonstrate by source test that NOx emissions do not exceed 60 ppmvd, at 3% oxygen, averaged over 8 hours, when firing refinery fuel gas at, or as nearly as practicable to the maximum daily firing rates which occurred during the previous 6 months. Such demonstration shall be made annually. (basis: cumulative increase, offsets)~~

For the furnaces deleted from 4C above, namely sources ~~908, 917,~~ 919, 934, 935, and 937, Permittee/Owner/Operator shall demonstrate by source test that NOx and CO emissions do not exceed the emission limits in Part B7A, when firing refinery fuel gas at operating conditions specified in District- approved source test protocol. Such demonstration shall be made annually. (basis: cumulative increase, offsets)

B8. Hydrocarbon Controls.

B8A. All new compressor seals in hydrocarbon service associated with this project shall be vented to a closed gas system, except for two high purity hydrogen make-up compressors at the new No. 3 HDS Unit. The vapors from the seals on the three (3) existing compressors S-952, S-953, and S-954 shall be collected and vented directly to the compressor inlets, or a closed gas system. (basis: cumulative increase, offsets, BACT)

B8B. Deleted. (Completed. Construction of all new pumps in light hydrocarbon service were equipped with double mechanical seals as required.)

B8C. Hydrocarbon vapors associated with the two existing tanks S-57 and S-323 shall be controlled by venting to the vapor recovery system, and tank S-57 may only store or contain materials which have a vapor pressure of 1.5 psia or less. This condition is in place to assure that offsets provided as part of Application No. 27769 are permanent. S- 323 was modified via 2004 Application 10667. See Condition 13605. (basis: cumulative increase, offsets, BACT)

B8D. Deleted. No. 4 Gas Plant and associated compressors (S-955 through S-960) are shutdown via Application 30768.~~In the event that No. 4 Gas Plant modifications are not constructed, Permittee/Owner/Operator shall retrofit eight (8) pumps in light hydrocarbon service with double mechanical seals or equivalent. In the event that the hydrogen recovery unit is not completed, Permittee/Owner/Operator shall receive a credit of three (3) lb per calendar day against the total fugitive hydrocarbon emissions as listed in Table E of the Appendix to this Conditional Permit. (basis: cumulative increase, offsets)~~

B9. Sulfur Recovery Facilities.

B9A. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Within 48 months of the issuance of the Authority to Construct upon which this Conditional Permit is based, the Claus unit at the sulfur Recovery facility shall be in final compliance with the substantive requirements of Section 9-1-305.4 of the~~

~~District's Rules and Regulations, which will require such unit to achieve a sulfur removal efficiency that will result in emission of no more than 4 pounds of SO2 per ton of sulfur processed. This limitation shall be achieved by means of the installation at the Clause unit of a new tail gas unit with a minimum capacity adequate to achieve this degree of control. In the event that the Authority to Construct upon which this Conditional Permit is based is challenged or appealed before the District's Hearing Board or before any court of competent jurisdiction, the deadline for final compliance set forth hereinabove will be extended until 48 months after the final judicial or quasi-judicial resolution of any such challenge or appeal; but, in no such event shall such deadline be extended beyond January 1, 1989. For any period when sulfur production is less than 30 tons/day, the permittee/owner/operator shall ensure that the SO2 emission rate does not exceed 120 lbs/day as allowed by Condition 267. (Basis: Cumulative Increase, Regulations 2-1-233, 2-5-214)~~

B9B. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~In emergency situations where the entire sulfur removal capability of the sulfur recovery facility is not operating, the refinery shall take immediate actions to assure that total SO2 emissions from both the refinery and the sulfur recovery facility will not exceed 29 tons/stream day. These actions shall include, not need not be limited to, the following:~~

i. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Condense and store foul water stripper overhead.~~

ii. Deleted. (Pursuant to Condition 7397, Part 3, Coke is no longer a permitted fuel at S-904.)

iii. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Reduce Hydrocracker HDN feed rate to 12,000 bbl/stream day.~~

iv. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Discontinue burning of fuel oil, except as required to maintain combustion stability and operating safety of the No. 5 and No. 6 Boilers.~~

v. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Reduce feed rate to the Coker and to the FCCU, and use all available de-sulfurized feed- stock as FCCU feed.~~

vi. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Shut off feed to No. 1, No. 2, and No. 3 HDS Units and "hot sweep" the reactors.~~

vii. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~If any emission monitor for SO2 is not operating properly, conduct a daily source test for the source in question. Such source tests shall consist of three continuous 30 minute measurements, taken at least 30 minutes apart, of the SO2 concentration and stack gas flow rates. The average of these three measurements shall be used as the basis for establishing SO2 emissions for purposes of calculation.~~

viii. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Calculate the emissions of SO2 from all flares at the refinery, and report same to the District as part of the next monthly report required under B5B above.~~

ix. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Report this event to the BAAQMD by telephone as soon as possible with due regard to safety, and submit a written follow-up, detailing the specific measures taken by Permittee/Owner/Operator to control SO2 emissions during the event, as part of the next monthly report required under B5B above. Measures other than those referred to in i.-vi. above, may be substituted for any of said measures, if Permittee/Owner/Operator can satisfy the Air Pollution Control Officer that total sulfur dioxide emissions from both the refinery and the sulfur recovery facilities will not exceed 29 tons/stream day.~~

(basis: cumulative increase, offsets)

B9C. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~When the Sulfur Plant is shutdown and Acid Plant is operating, the refinery will immediately take the following actions to insure the H2S going to the sulfur recovery facility is within the capacity of the Acid Plant under then-current~~

~~operating conditions, and will not result in the emissions or more than 23 tons/stream day of SO2 from both the refinery and the sulfur recovery facility.~~

i. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Condense and store sufficient foul water stripper overhead, and/or~~

ii. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Reduce feed rate to the Hydrocracker HDN,and/or~~

iii. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Reduce feed rate to the Coker, and/or~~

iv. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Reduce feed rate to the No. 1 HDS Unit, and/or~~

v. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Reduce feed rate to the No. 2 HDS Unit, and/or~~

vi. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Reduce feed rate to the No. 3 HDS Unit.~~

vii. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Calculate the emissions of SO2 from all flares at the refinery, and report same to the District as part of the next monthly report required under B5B above.~~

viii. Deleted. Sulfur Recovery Facilities S-1401 and S-1411 are shutdown via Application 30768.~~Report this event to the BAAQMD by telephone, within one (1) working day, and submit a written follow-up, detailing the measures taken to control SO2 emissions during the event, as part of the next monthly report required under B5B above. Measures other than those referred to in i. vi. above may be subsituted for any of said measures, if Owner/Operator can satisify the Air Pollution Control Officer that total sulfur dioxide emissions from both the refinery and the sulfur recovery facilites will not exceed 23 tons/stream day. (basis: cumulative increase, offsets)~~

B10. Access.

B10A. The APCO or his/her representatives and the U. S. Environmental Protection Agency shall have access to appropriate portions of the refinery and wharf, to conduct source tests or inspections in accordance with Section 1-440 of the District's Rules and Regulations, and the provisions of the Clean Air Act.

B10B. The APCO or his/her representatives and the U. S. Environmental Protection Agency shall have the right to inspect and audit all records which are required to be maintained by Part B5 above, and any other records in Permittee's/Owner's/Operator's possession which will disclose the nature of quantity of emissions from refinery and marine operations. (basis: cumulative increase, offsets)

B11. Enforcement.

Violation by Permittee/Owner/Operator of any of the conditions set forth in this Conditional Permit shall subject Permittee/Owner/Operator to enforcement action under Chapter 4 of Part 4 of Division 26 of the California Health and Safety Code, and to enforcement action by the U. S. Environmental Protection Agency pursuant to the Clean Air Act (42 U.S.C. 7401, et seq.) As appropriate, each and every such violation shall be deemed to be a discrete and separate violation with respect to which the District will be entitled to take legal action. (basis: cumulative increase, offsets)

B12. Miscellaneous.

B12A. Deleted. (The No. 1 Isomerization Unit was dismantled as required.)

B12B. Deleted. (Tanks A-142 and A-319 were dismantled as required.)

B12C. All equipment, facilities, and systems installed or used pursuant to, or to achieve compliance with the terms and conditions of, this Conditional Permit shall at all times be maintained in good working order and be operated with due regard for the goal of complying with the terms and conditions of this permit and with all applicable District regulations.

B12D. Nothing in these conditions shall be construed to allow the violation of any law or of any rule or regulation of the Bay Area Air Quality Management District, the State of California or the United States Environmental Protection Agency.

B12E. Any emission reductions which Permittee/Owner/Operator may be required to undertake in accordance with Part B3 above shall not be eligible to be credited as emission reductions against any subsequent projects for purposes of calculating "cumulative increases", nor shall they be eligible to be "banked" in accordance with the District's New Source Review Rule.

However, any emission reductions which Permittee/Owner/Operator achieves in accordance with the Rules and Regulations of the District, above and beyond those reductions required pursuant to this Conditional Permit, may be so credited or "banked".

B12F. In the event of changes in District regulations which will require actual reductions in the amount of emissions from existing sources which would otherwise be allowed under the terms of this Conditional Permit, the annual limits set forth in Part B2 above shall be reduced by the APCO by an amount equivalent to what would be required under any such rule change.

B12G. The baseline emissions for purposes of the permit analysis of any proposed new or modified units, which may in the future be proposed to be built by Permittee/Owner/Operator within the boundaries of the Golden Eagle Refinery, will be the limits set forth in Part B2A above, as may be amended to reflect subsequent revisions to District rules pursuant to Part B12F or subsequent deposits to or withdrawals from the District's emissions bank, rather than actual emissions after the baseline period of 1977-1979 (which was used as the basis for issuance of this permit), if doing so is allowed pursuant to the SIP adopted version Section 604.2 of Regulation 2, Rule 2.

B12H. In the course of constructing the project covered by this Conditional Permit, Permittee/Owner/Operator shall install no more valves, pumps, flanges, process drains and compressors for this project than are listed in Table E of the Appendix to this Permit, unless the emissions associated therewith are accompanied by intra-source emission reductions on a 1:1 basis. Permittee/Owner/Operator shall provide written confirmation of compliance with this condition within 90 days after the start-up of the new No. 3 HDS Unit.

B12I. Deleted. (Current permit regulations require offsets for emission increases associated with any tank changing to non-exempt service. The bubble adjustment of Part G is no longer an option.)

B12J. Instrument downtime (including, but not limited to, in-stack monitors and other instruments whose readings are used to calculate emissions) caused by malfunction, upset, breakdown, repair, maintenance or failure where such instrument downtime exceeds a continuous 24-hour period shall be handled as follows for purposes of calculating emissions: Emissions shall be determined by reference to the recorded value for that instrument from the last calendar day (or other relevant period) immediately preceding the day on which the instrument in question became inoperable, for which there was a valid reading, unless the Air Pollution Control Officer determines on the basis of other evidence (such as, but not limited to, the results of source tests conducted during

the period in which the instrument is not operating, or changes in operating conditions of the unit in question) that some other value more reasonably reflects the actual emissions during the period in question.

B12K. Emissions in excess of applicable emission limitations resulting from breakdowns, malfunctions or other causes for which a variance, an interim variance, or an emergency variance is granted by the Hearing Board, or for which the Air Pollution Control Officer grants relief in accordance with Section 1-112 of the District's Rules and Regulations, may be excluded by the Hearing Board or Air Pollution Control Officer, as appropriate, from those emission totals which are counted towards compliance with the limits set forth in Part B2 above; provided, however, that this provision shall not excuse Permittee/Owner/Operator from the obligation to report to the District pursuant to B5B above the actual emissions from the emission points covered by this permit during the period covered by any such relief. This part (part B12K) of this condition is not federally enforceable.

B12L. If Permittee/Owner/Operator can demonstrate by modeling to the satisfaction of the Air Pollution Control Officer, consistent with the requirements of the SIP adopted version of Regulation 2, Rule 2 and applicable provisions of the federal Code of Regulations, that increased emissions of carbon monoxide from all emission points covered by this permit will not interfere with the attainment or maintenance of all applicable air quality standards for CO within the District, then the various limits for carbon monoxide set forth in Part B2 of this permit shall be adjusted accordingly. (basis: cumulative increase, offsets)

B13. Severability.

The provisions of this Conditional Permit are intended to be severable, and, if any individual condition or provision hereof is held to be invalid by order of any court of competent jurisdiction, or for any other reason, the remainder of this Conditional Permit shall not be affected thereby. (basis: cumulative increase, offsets)

B14. Environmental Management Plan.

Sixty days prior to star up of the No. 2 Hydrogen Plant (S- 994) HDS Unit, an initial Environmental Management Plan (EMP) shall be submitted to the District for review by the Air Pollution Control Officer. (basis: cumulative increase, offsets)

This plan shall specify how Permittee/Owner/Operator will assure that the permitted annual and monthly maximum emission limits set forth in Parts B2A and B2B above will not be exceeded, and also shall describe feasible options for providing emissions reductions which would be required under Part B3 above, if any of the emissions limits of Parts B2A and B2B were exceeded. The options to be described shall include the installation of various types of abatement equipment which would achieve permanent offsets, and the adoption by Permittee/Owner/Operator of various operational limitations and other short-term control measures which would limit emissions. Both long-term and short-term control options shall be discussed. The purpose of this plan is to provide assurance that Permittee/Owner/Operator is capable of taking all reasonable steps to assure that the various limits established by this Conditional Permit will be complied with, and to expedite any installation of abatement equipment if it is ever required.

The EMP shall be updated and resubmitted to the District for review by the APCO, whenever any of the limits set forth in Part B2D above are exceeded, or within 1 year after the most recent EMP submittal, whichever comes first. However, in the even that EMP submittal is triggered by an excess of any of the limits of Part B2D, that resubmittal shall also describe in detail the means by which Permittee/Owner/Operator will assure that the permitted annual emissions limit of Part B2A will not be exceeded for that calendar year, and shall describe in detail specific control techniques available, and the sources to which they would be most applicable, in the event that permanent offsets were needed.

To the extent that any EMP submittal contains confidential information, such information shall be afforded the protection provided by applicable laws, rules and regulations.

Once the APCO has reviewed an EMP submittal, the District staff's comments and recommendations on it shall be forwarded to Permittee/Owner/Operator as expeditiously as practicable. Within 30 days after its receipt of such comments and recommendations, Permittee/Owner/Operator shall either (1) revise the EMP to reflect such comments and recommendations; or (2) attach as an Appendix to the EMP all comments and recommendations which Permittee/Owner/Operator did not include in its EMP revision together with a detailed explanation as to why each comment and recommendation was not adopted or included in the EMP itself. (basis: cumulative increase, offsets)

CHANGES TO PERMIT NO. 548 (THE HYDROCRACKER EXPANSION PROJECT):

C1. Deleted. See Permit Condition #27584 for new processing rates via Application 30768. ~~The HDN/Hydrocracker (S1007, S1008) feed rate shall not exceed 35,000 barrels per calendar day, or 37,000 barrels per stream day. Permittee/Owner/Operator may submit a permit application to change or remove this condition. (basis: cumulative increase, offsets)~~

C2. Deleted. See Permit Condition #27584 for new requirements via Application 30768. ~~In a District approved log, Permittee/Owner/Operator shall record the throughput of petroleum/VOC feed material to S-1007 in units of barrels per stream day.~~

C3. Permittee/Owner/Operator shall not exceed 20 MMBtu/hr on a calendar day basis and 175,200 MMBtu/yr on any of the furnaces S928 through S933. (basis: cumulative increase)

C4. Permittee/Owner/Operator shall not exceed 135 MMBtu/hr on a calendar day basis and 1,182,600 MMBtu/yr on either furnace S934 or S935. (basis: cumulative increase)

New Permit Condition #27716 (for AC Issuance)

Condition #: 8350 ~~**S1006,**~~ **S919, S920, S1003, S1002**

S1002 Propane Dryers (formerly No. 1 HDS Unit)~~No. 1 HDS Unit~~
S1003 Diesel HDO Unit No. 2 (formerly No. 2 HDS Unit)~~No. 2 HDS Unit~~
~~S1006 No. 1 HDA Unit~~
~~S915 Platformer Intermediate Heater (F15)~~
~~S916 No. 1 HDS Heater (F16)~~
~~S917 No. 1 HDS Prefract Reboiler (F17)~~
S919 No. 2 HDS Depent Reboiler (F19)
S920 No. 2 HDS Charge Heater (F20)
~~S921 No. 2 HDS Charge Heater (F21)~~

Application #6468
Modified by Application #14325
Administratively Changed by Application 18861 (June 2009)

Removed completed parts and parts redundant with District Regulations
Application 22615 (January 2011)

Administratively Changed By Application 23322 (January 2016) Added Firing Rate Limits A5, A6, B5, B6, B7 and C5 To Furnaces In Accordance With 1987 Application 164 and 1991
Application 6468.

Application 30768 (TBD 2022). Deleted Parts A5, A6, B7, and C1 through C5 due to the shutdown of S915, S916, S917, S-921, and S1006 as part of Marathon's Renewable Fuels Project. Deleted A1, A4, B1, and B4, as S-1002 and S-1003 no longer operate as HDS units. See Permit Condition #27584 for new permit conditions associated with Renewable Fuels Project. Application 30806 has been submitted to address the bubble condition and Alternative NOx Compliance Plan for Regulation 9, Rule 10.

Diesel Fuel Modification Project Permit Condition 8350 Permit Conditions for S-1002, No. 1 HDS Unit:

A1. Deleted. S-1002 process unit is shutdown, but existing propane dryers are repurposed for LPG via Application 30768. See Permit Condition #27584. ~~Permittee/Owner/Operator shall ensure that the No. 1 HDS Unit (S-1002) does not process more than 28,000 barrels of naphtha per day, based on a rolling 365-day average and that not more than 10,220,000 barrels of feed is processed at S-1002 during each 12 consecutive month period. (basis: cumulative increase)~~

A2. Completed. (Final fugitive count submitted 3/24/94, showing emissions less than the initial 5.04 lb/day limit.

A3. Deleted. (Completed. All new hydrocarbon vapor pressure relief valves associated with this project are vented to the refinery flare gas recovery system.)

A4. Deleted. S-1002 process unit is shutdown, but existing propane dryers are repurposed for LPG via Application 30768. See Permit Condition #27584.~~Permittee/Owner/Operator shall maintain a District- approved file containing all measurements, and other data required to demonstrate compliance with the limits in this condition. This file shall include, but is not limited to, the daily throughput of naphtha processed by S-1002 summarized on a monthly basis. This material shall be kept available for District inspection for a period of at least 5 years following the date on which such measurements, records or data are made or recorded. (basis:cumulative increase)~~

A5. Deleted. S916 is shutdown via Application 30768. ~~Permittee/Owner/Operator of S-916 shall not exceed 55 MMBtu/hr on a calendar day basis and 481,800 MMBtu/yr. (basis: cumulative increase)~~

A6. Deleted. S917 is shutdown via Application 30768. ~~Permittee/Owner/Operator of S-917 shall not exceed 18 MMBtu/hr on a calendar day basis and 157,680 MMBtu/yr. (basis: cumulative increase)~~

Permit Conditions for S-1003, No. 2 HDS Unit:

B1. Deleted. S-1003 is repurposed to function as a diesel hydrodeoxygenation (HDO) unit via Application 30768. See Permit Condition #27584. ~~Permittee/Owner/Operator shall ensure that the No. 2 HDS Unit (S-1003) does not process more than 40,000 barrels of diesel per day, based on a rolling 365-day average and that not more than 14,600,000 barrels of feed is processed at S-1003 during each 12 consecutive month period. (basis: cumulative increase)~~

B2. Deleted. (Final fugitive count submitted 3/24/94, showing emissions less than the initial estimates)

B3. Deleted. (Completed. All new hydrocarbon vapor pressure relief valves associated with this project are vented to the refinery flare gas recovery system)

B4. Deleted. S-1003 is repurposed to function as a diesel hydrodeoxygenation (HDO) unit via Application 30768. See Permit Condition #27584.~~Permittee/Owner/Operator shall maintain a District-approved file containing all measurements and other data required to demonstrate compliance with the limits in this condition. This file shall include, but is not limited to, the daily throughput of diesel processed by S-1003, summarized on a monthly basis. This material shall be kept available for District inspection for a period of at least 5 years following the date on which such measurements, records or data are made or recorded. (basis: cumulative increase)~~

B5. Permittee/Owner/Operator of S-919 shall not exceed 111 MMBtu/hr on a calendar day basis and 972,360 MMBtu/yr. (basis: cumulative increase)

B6. Permittee/Owner/Operator of S-920 shall not exceed 63 MMBtu/hr on a calendar day basis and 551,880 MMBtu/yr. (basis: cumulative increase)

B7. Deleted. S921 is shutdown via Application 30768. ~~Permittee/Owner/Operator of S-921 shall not exceed 63 MMBtu/hr on a calendar day basis and 551,880 MMBtu/yr. (basis: cumulative increase)~~

Permit Conditions for S-1006, No. 1 Reformer Unit to be converted to No. 1 HDA Unit:

C1. Deleted. S1006 is shutdown via Application 30768. ~~Permittee/Owner/Operator shall ensure that the No. 1 HDA Unit (S-1006) throughput rate does not exceed 20,000 barrels per day, based on a rolling 365-day average and that not more than 7,300,000 barrels of feed is processed at S-1006 during each 12 consecutive month period. (basis: cumulative increase)~~

C2. Deleted. S1006 is shutdown via Application 30768. ~~Deleted. (Final fugitive count submitted 3/24/94, showing emissions less than the initial estimates)~~

C3. Deleted. S1006 is shutdown via Application 30768.~~Deleted. (Completed. Aall new hydrocarbon vapor pressure relief valves associated with this project are vented to the refinery flare gas recovery system)~~

C4. Deleted. S1006 is shutdown via Application 30768.~~Permittee/Owner/Operator shall maintain a District-approved file containing all measurements and other data required to demonstrate compliance with the limits in this condition. This file shall include, but is not limited to, the No. 1 HDA Unit (S-9006) throughput rate, summarized on a monthly basis. This material shall be kept available for District inspection for a period of at least 5 years following the date on which such measurements, records or data are made or recorded. (basis: cumulative increase)~~

C5. Deleted. S915 is shutdown via Application 30768.~~Permittee/Owner/Operator of S-915 shall not exceed 50 MMBtu/hr on a calendar day basis and 438,000 MMBtu/yr. (basis: cumulative increase)~~

~~(basis: cumulative increase)~~

New Permit Condition #27717 (for AC Issuance)

Condition #: 10696 **S656, S658~~, S815, S816, S817~~**

Application 12205. Modified Permit conditions to reflect the new changes in the Foul Water Stripper Charge System

Administratively Changed by Application 18861 (June 2009) Removed completed parts and parts redundant with District Regulations

Administratively Changed by Application 21711 (May 2010) Deleted Part 4.

Application 30768 (TBD 2022). Removed S815, S816, and S817 due to the shutdown of these sources as part of Marathon's Renewable Fuels Project. Administratively removed S529 and S530, which were previously demolished. Removed the term "refinery" in Part 1 as the facility is no longer classified as a refinery. Added highest actual consecutive 24-hour and 12-month throughputs for S-656 and S-658.

~~S529 Tank A-529~~
~~S530 Tank A-530~~
S656 Tank A-846
S658 Tank A-847
~~S815 No. 1 Feed Prep Unit~~
~~S816 No. 2 Feed Prep Unit~~
~~S817 No. 3 Crude Unit~~

1. Volatile organic compound emissions from sources ~~S-815, S-816, S-817, S-529, S-530,~~ S-656~~,~~ and S-658 shall be abated at all times by the vapor recovery system A-12 operating in conjunction with the No. 5 Gas Plant and the ~~refinery~~ flare gas recovery system, with an overall abatement efficiency of at least 95%. (basis: Regulation 1-301, toxics)

2. Deleted. (Redundant with Regulation 8, Rule 18)

3. Deleted. (Completed. All new hydrocarbon vapor, pressure relief valves associated with this project are vented to the refinery flare gas recovery system.

4. Deleted. (Final fugitive count submitted January 22, 1999 and additional offsets provided in 2010 via Application 12205)

5. The owner/operator of S-656 shall ensure that throughput does not exceed 13,706,224 barrels in any consecutive 12 month period and/or 47,870 barrels in any consecutive 24 hour period. (Basis: Regulation 2-2-208 Cumulative Increase)

6. The owner/operator of S-658 shall ensure that throughput does not exceed 13,706,224 barrels in any consecutive 12 month period and/or 47,870 barrels in any consecutive 24 hour period. (Basis: Regulation 2-2-208 Cumulative Increase)

Condition #: 11433 ~~**S901, S802**~~ **(Archived)**

S802 FCCU Fluid Catalytic Cracker S901 No. 7 Boiler
Permit Condition ID 11433 Plant 14628 S-802 and S-901, the FCCU/CO Boiler Plant:

Administratively Revised via Application 15212 (March 2007) Added Valero Consent Decree (EPA Case No. SA-05CA-0569) Requirements Parts 7 through 12.

Administratively Revised via Application 19647 (March 2009) Consolidation of Bubble Condition 4357 with Condition 8077

Administratively Revised via Application 17500 (June 2009) Clarification of Consent Decree Requirements, adding Parts 13 - 16.

Altered by Application 23075 (May 2011)

Altered by Application 28073 (February 2017), updated consent decree requirements to parts 7 through 16, and Added Part 17, based on 2016 Tesoro Consent Decree (EPA Case No. SA-16-cv-00722)

NOTE: The consent decree referenced in this condition is: Case No. SA-16-CV-00722; United States of America, et. al., v. Tesoro Marketing & Refining Company LLC, et.al. in the United States District Court, Western District of Texas, Filed07/18/2016, Entered on September 28, 2016 Reference to this consent decree as the basis for any requirement in this permit condition is for historical purposes only. For Title V purposes, the basis for any requirement that references this consent decree is not the consent decree, but rather the BAAQMD NSR permit that establishes the permit condition pursuant to BAAQMD Regulation 2-1-403. Any such requirement shall be permanent and enforceable regardless of the status of the consent decree; provided, however, that nothing in this provision is intended to prohibit applications for permit modification pursuant to BAAQMD Regulation 2, Rules 1 and 6, where the applicable permit requirement is being replaced with a more stringent requirement or the requirement is rendered obsolete (e.g., the emission unit is permanently retired and the BAAQMD permits have been surrendered).

Application 30768 (TBD 2022). Deleted S-802 and S-901 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project. Application 30806 has been submitted to address the bubble condition and Alternative NOx Compliance Plan for Regulation 9, Rule 10.

1. Deleted. S-802 and S-901 are shutdown via Application 30768. ~~The FCCU/CO Boiler Plant, Sources S-802/S-901, shall be abated at all times of operation by the electrostatic precipitator A-30 operating properly as designed.(basis: cumulative increase, BACT, offsets)~~

2. Deleted. S-802 and S-901 are shutdown via Application 30768. ~~Total emissions to the atmosphere from the FCCU/CO Boiler Plant, Sources S-802/S-901, shall not exceed the following limits in any calendar year.~~

~~PM/PM10 . . . . . 151.5 ton/year~~
~~POC . . . . . 5.8 ton/year~~
~~NOx . . . . . 354.4 ton/year~~
~~SO2 . . . . . 1335.5 ton/year~~
~~CO . . . . . 121.9 ton/year~~
~~(basis: cumulative increase, BACT, offsets)~~

~~a. The owner/operator shall continuously monitor and record SO2 and NOx emissions exiting A30 to determine compliance with Part 2. Any new CEMs shall be reviewed and pre-approved the District Source Test Manager.(basis: cumulative increase, BACT)~~

~~b. The owner/operator shall install a continuous opacity monitor to ensure that the emission is not greater than 20% opacity for a period or periods aggregating more than three minutes in any hour when the boiler is burning CO gas from the FCCU. (basis: Reg. 6-1-302)~~

3. Deleted. (All new hydrocarbon vapor pressure relief valves associated with this project are vented to the refinery flare gas recovery system.)

4. Deleted. S-802 and S-901 are shutdown via Application 30768.~~To demonstrate compliance with the emission limits of part 2 above and Condition ID 8077, part B2, the Owner/Operator shall monitor and calculate all emissions, in lb/day, of NOx, CO, POC, PM/PM10, and SO2, associated with the FCCU/CO Boiler Plant, S-802 and S-901, and summarize and report these emissions to the District on a monthly basis, in accordance with the procedures and requirements specified in Condition ID 8077, part B5. (basis: cumulative increase, BACT, offsets)~~

5. Deleted. S-802 and S-901 are shutdown via Application 30768.~~The Owner/Operator may submit for District review approved source test data to develop new emission factors for CO and precursor organic compounds, POC, to be used as alternatives to the emission factors specified in Permit No. 22769 (the No. 3 HDS Permit), if it can be shown that the new data are more representative of actual emissions. (basis: cumulative increase, offsets)~~

6. Deleted. S-802 and S-901 are shutdown via Application 30768.~~The Owner/Operator shall maintain a District approved file containing all measurements, records, charts, and other data which are required to be collected pursuant to the various provisions of this conditional permit, as well as all other data and calculations necessary to determine the emissions from the emission points covered by this permit, according to the procedures specified in Permittee/Owner/Operator's Permit No. 22769 (the No. 3 HDS Permit).~~

~~This material shall be kept available for District staff inspection for a period of at least 5 years following the date on which such measurements, records or data are made or recorded. (basis: cumulative increase, offsets, BACT)~~

7. Deleted. S-802 and S-901 are shutdown via Application 30768.~~a. NOx concentration emission limits from the FCCU Regenerator shall not exceed 52.5 ppmvd at 0% O2, measured as a 365-calendar day rolling average, and 175.1 ppmvd at 0% O2, measured as a 24-hour average, as determined at the FCCU Complex Main Stack. The first 365-day period ends 10/1/2015. (basis: Regulation 2-1-403, Consent Decree Paragraphs 43a, 43d)~~

~~b. Effective July 1, 2017, NOx emissions from the FCCU shall not exceed 40 ppmvd at 0% O2, measured as a 7-calendar day rolling average, as determined at the FCCU CO Boiler exit stack (as opposed to measuring the gases existing the FCCU Catalyst Regenerator prior to entering the FCCU CO Boiler). (basis: Regulation 2-1-403 and Consent Decree Paragraphs 43b, 43d)~~

~~c. Effective July 1, 2018, NOx emissions from the FCCU shall not exceed 20 ppmvd at 0% O2, measured as a 365-calendar day rolling average, as determined at the FCCU CO Boiler exit stack. The first 365-day period ends 7/1/2018. (basis: Regulation 2-1-403 and Consent Decree Paragraphs 43b, 43d)~~

~~d. The NOx emission limits in 7a, b, and c do not apply when the FCCU CO Boiler is operating and firing only refinery fuel gas (i.e not processing gases from the FCCU Catalyst Regenerator. (basis: Regulation 2-1-403 and Consent Decree Paragraph 43c)~~

8. Deleted. S-802 and S-901 are shutdown via Application 30768.~~SO2 emissions from the FCCU and CO Boiler (S-802 and S-901) shall not exceed 25 ppmvd at 0% O2, measured as a 365-calendar day rolling average, and 50 ppmvd at 0% O2, measured as a 7-calendar day rolling average. (basis: Regulation 2-1-403, Consent Decree Appendix A-2 Paragraph B1a)~~

9. Deleted. S-802 and S-901 are shutdown via Application 30768.~~CO emissions from the FCCU and CO Boiler (S-802 and S- 901) shall not exceed 180 ppmvd at 0% O2, measured as a 365-day rolling average, and shall apply at all times. The first 365-day period ends 10/1/2015. (basis: Regulation 2-1-403 and Consent Decree Paragraph 45)~~

10. Deleted. S-802 and S-901 are shutdown via Application 30768.~~Particulate concentration emissions limits from the FCCU and CO Boiler (S-802 and S-901) shall not exceed 1 pound per 1000 pounds of coke burned (front half only according to Method 5B or 5F, as appropriate), measured as a one-hour average over three performance test runs. (basis: Regulation 2-1-403 and Consent Decree Appendix A-2, Paragraph C4a)~~

11. Deleted. S-802 is shutdown via Application 30768.~~The FCCU Regenerator (S-802) shall be an affected facility under 40 CFR 60 Subpart J for carbon monoxide (CO), opacity, particulate matter, and sulfur oxides (SO2) and the Owner/Operator shall comply with all applicable provisions of 40 CFR 60 Subparts A and J for FCCU Regenerators. The NSPS Subpart J limits for SO2, CO, opacity, and particulate matter, shall not apply during periods of startup, shutdown or malfunction of the FCCU or malfunction of the applicable control equipment. (basis: Regulation 2-1-403 and Consent Decree Appendix A-2 Paragraphs B2, C4b, C5, D7b, D8)~~

12. Deleted. S-802 and S-901 are shutdown via Application 30768.~~a. The FCCU short term NOx limits in Part 7 (40 ppmvd at 0% O2, measured as a 7-calendar day rolling average, 175.1 ppm at 0% O2, measured as a 24-hr average) shall not apply during FCCU startup, shutdown or malfunction. The FCCU long term limits (20 ppmvd at 0% O2, measured as a 365 day rolling average, 52.5 ppm at 0% O2, measured as a 365 day rolling average) shall apply at all times, including periods of startup, shutdown or malfunction. (basis: Regulation 2-1-403 and Consent Decree Paragraph 43c)~~

~~b. The short-term SO2 limit in Part 8 (50 ppmvd at 0% O2, measured as a 7-calendar day rolling average) shall not apply during periods of FCCU feed hydrotreater outage provided the owner/operator complies with the FCCU Feed Hydrotreater Outage Plan at all times (including periods of startup, shutdown or malfunction of the hydrotreater). (basis: Regulation 2-1-403 and Consent Decree Appendix A-2, Paragraph B1b)~~

13. Deleted. S-802 and S-901 are shutdown via Application 30768.~~The Owner/Operator shall use NOx and O2 CEMS to demonstrate compliance with the NOx emission limits in Part 7. The CEMS shall be installed,certified, calibrated, operated, and maintained in accordance with the applicable provisions of 40 CFR 60.13 and 40 CFR 60, Appendices A, B, and F. (basis: Regulation 2-1-403 and Consent Decree Paragraphs 44)~~

14. Deleted. S-802 is shutdown via Application 30768.~~The Owner/Operator of S-802 shall use SO2 and O2 CEMS to demonstrate compliance with the SO2 emission limits in Part 8. The CEMS shall be installed, certified, calibrated, operated, and maintained in accordance with the applicable provisions of 40 CFR 60.13 and 40 CFR 60, Appendices A, B, and F. (basis: Regulation 2-1-403 and Consent Decree Appendix A-2, Paragraph B3)~~

15. Deleted. The entry of the 2005 Consent Decree satisfied the notification requirements in accordance with Rule 2- 1-403 and Consent Decree Appendix A-2 Paragraphs B2, C5 and D8.

16. Deleted. S-802 and S-901 are shutdown via Application 30768.~~The Owner/Operator shall conduct the accuracy tests listed below on any CEMS used to comply with this permit condition unless that CEMS is otherwise subject to the requirements of NSPS Subparts A and J. These accuracy tests are allowed in lieu of the requirements of Part 60, Appendix F Paragraphs 5.1.1, 5.1.3 and 5.1.4. (basis: Regulation 2-1-403 and Consent decree Paragraphs 44, 46 and Appendix A-2, Paragraphs B3 and D9)~~

~~a. Conduct either a RAA or a RATA on each CEMS at least once every three (3) years.~~

~~b. Conduct a CGA on each CEMS each calendar quarter during which a RAA or a RATA is not performed.~~

~~c. Conduct a FAT, as defined in BAAQMD regulations or procedures, if desired, in lieu of any required RAA or CGA.~~

17. Deleted. S-802 and S-901 are shutdown via Application 30768.~~The Owner/Operator shall neither generate nor use any NOx or SO2 emission reductions resulting from compliance with Parts 7 [CD NOx limit], 8 [CD SO2 limit] and 11 [CD NSPS J] as emission reduction credits or offsets in any PSD, major nonattainment NSR, or minor NSR permit or permit proceeding (including, but not limited to, in any netting analysis to avoid PSD or NSR permitting). For any PSD or NSR applicability determinations after November 23, 2005, the emission limitations required in Parts 7 [CD NOX limit], 8 [CD SO2 limit] and 11 [CD NSPS J] shall be used to adjust downward the baseline actual emissions as required in 40 CFR Section 52.21(b)(48) or in the equivalent BAAQMD PSD or NSR requirement. Except for PSD, major nonattainment NSR, or minor NSR permit rules and regulations, nothing in this Part is intended to contravene, impair, be inconsistent with, or otherwise restrict compliance options available to the Owner/Operator under the SIP to demonstrate compliance with any emission limitation or other standard applicable to the Martinez refinery (including without limitation any provision established or imposed under the SIP governing intra-facility emission trading). However, the Owner/Operator shall not trade or sell any emissions reductions to another refinery or plant. To the extent allowed by applicable permitting requirements, nothing in this Part is intended to prohibit Tesoro from seeking to use or generate emission reductions from the emissions unit covered by Parts 7 [CD NOx limit], 8 [CD SO2 limit] and 11 [CD NSPS J] to the extent that the proposed emission reductions represent the difference between baseline actual emissions (as adjusted downward by the emission limitations required in Parts 8 [CD SO2 limit] and 11 [CD NSPS J]) and more stringent limits that Tesoro may elect to accept for this emissions unit in a permitting process. (Basis: Regulation 2-1-403 and Consent Decree Paragraphs 159, 161).~~

New Permit Condition #21178 (for AC Issuance)

Condition #: 11609 ~~**S1009,**~~ **S1008**

S32103 Fugitive Components Compressor Seals and Pump Seals

~~Permit conditions for Plant 14628, A-40 to abate fugitive Emissions from 6 existing pumps, serving gasoline to pipelines in Tract 6: (application 13815)~~

Administratively Changed by Application 21711 (May 2010). Deleted Parts A3, C3 and D3 (completed flowrate tests) and Parts B1 through B6 (A41 is out of service). Revised B6A.
Application 30768 (TBD 2022). Deleted Parts B1 through B6A due to the shutdown of S1009 (Alkylation Unit) as part of Marathon's Renewable Fuels Project. Revised Part E to indicate pumps are associated with S-554 and S-695.

Permit conditions for Plant 14628, A-40 to abate fugitive Emissions from 6 existing pumps, serving gasoline to pipelines in Tract 6÷ (application 13815):

A1. The Electric Thermal Oxidizer, A-40, shall have a minimum VOC destruction efficiency of 95% by weight, minimum of 0.5 second residence time, and minimum operating temperature of 1400oF. (basis: cumulative increase, toxics)

A2. The Electric Thermal Oxidizer, A-40, shall have a continuous temperature monitor. Each pump duct shall have a flow indicator. (basis: cumulative increase, toxics)

A3. Completed (Source Test conducted 12/9/1994; reported to BAAQMD on 12/20/1994).

A4. Permittee/Owner/Operator shall provide the District with notice 7 days in advance of connecting/removing a pump to A-40. The notice shall include the location of the pump and its identification number. In no case shall the total number of pumps connected to A-40 exceed 20. (basis: cumulative increase, toxics)

A5. When A-40 is in operation, the owner/operator of A-40 shall:
1. Record in a District approved log the date and time that pump seal vapors are abated by A-40.
2. Monitor twice daily and record in a District approved log the operating temperature of A- 40. Records shall be kept on site and made available for District inspection and be retained for at least 5 years from the date on which the record was made. (basis: cumulative increase)

Permit conditions for plant 14628, either A-41 or A-14 to abate fugitive emissions from 8 existing pumps, serving Alkylation Unit, (application 14138):

B1. Deleted. (A41 is no longer in operation; VOC destruction efficiency of A14 Vapor Recovery System to Gas Plant and 40# Refinery Fuel Gas System does not need to be specified)

B2. Deleted. (A41 is no longer in operation)

B3. Deleted. (A41 is no longer in operation)

B4. Deleted. (A41 is no longer in operation)

B5. Deleted. (A41 is no longer in operation)
B6. Deleted. (Each of the 8 pumps' single seals were replaced with District approved dual mechanical seals with a barrier fluid and operated such that the barrier fluid pressure is higher than the process liquid pressure)

B6A. Deleted. S1009 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that total organic compound emissions from each Alkylation Unit dual seal pump vented to the A14 vapor recovery system does not exceed 100 ppm, subject to the leak repair provisions of Regulation 8, Rule 18. (basis: cumulative increase, Reg. 8 - 18, BACT)~~

Permit conditions for plant 14628, A-42 to abate fugitive emissions from 8 existing pumps, serving Hydrocracker Unit, (application 14432):

C1. The Hydrocracker Electric Thermal Oxidizer, A-42, shall have a minimum VOC destruction efficiency of 95% by weight. The Electric Thermal Oxidizer A-42 shall maintain a minimum of 0.5 second residence time, and minimum operating temperature of 1400oF. (basis: cumulative increase, offsets)

C2. The Electric Thermal Oxidizer, A-42, shall have a continuous temperature monitor. Each pump duct shall have a flow indicator. (basis: cumulative increase, offsets)

C3. Completed. (Source Test conducted within 60 days of startup as specified)

C4. Permittee/Owner/Operator shall provide the District with notice 7 days in advance of connecting/removing a pump to A-42. The notice shall include the location of the pump and its identification number. In no case shall the total number of pumps connected to A-42 exceed 20. (basis: cumulative increase, offsets)

C5. When A-42 is in operation, the owner/operator of A-42 shall keep the following records:

a. Record in a district approved log the date and time the pump seal vapors are abated by A-42.
b. Monitor twice daily and record in a District approved log the operating temperature of A-42. Records shall be kept on site and made available for District inspection and be retained for at least 5 years from the date on which the record was made. (basis: cumulative increase, offsets)

Permit conditions for plant 14628, A-43 to abate fugitive Emissions on 5 existing pumps, serving Tract 3, (application 14432):

D1. The Electric Thermal Oxidizer, A-43, shall have a minimum VOC destruction efficiency of 95% by weight. The Electric Thermal Oxidizer A-43 shall maintain a minimum of 0.5 second residence time, and minimum operating temperature of 1400oF.
(basis: cumulative increase, offsets)

D2. The Electric Thermal Oxidizer, A-43, shall have a continuous temperature monitor. Each pump duct shall have a flow indicator. (basis: cumulative increase, offsets)

D3. Completed. (Source Test conducted within 60 days of startup as specified)

D4. Permittee/Owner/Operator shall provide the District with notice 7 days in advance of connecting/removing a pump to A-43. The notice shall include the location of the pump and its identification number. In no case shall the total number of pumps connected to A-43 exceed 20. (basis: cumulative increase, offsets)

D5. When A-43 is in operation, the owner/operator of A-43 shall keep the following records:
a. Record in a District approved log the date and time that pump seal vapors are abated by A-43. (basis: cumulative increase, offsets)
b. Monitor twice daily and record in a District approved log the operating temperature of A-43. Records shall be kept on site and made available for District inspection and be retained for at least 5 years from the date on which the record was made. (basis: cumulative increase, offsets)

Permit conditions for plant 14628, A-14 to abate fugitive emissions on ~~10~~ 4 existing pumps, serving ~~No 1. Isomerization~~S-554 and S-695 (applications 14432 and 30768):

E1. All VOC emissions from pump seals of the ~~ten~~ 4 pumps, S- 32103, ~~in the No. 1 Isomerization Unit~~ associated with S-554 and S-695 shall be vented to and controlled at all times by the ~~Refinery~~ Vapor Recovery System A-14.
(basis: cumulative increase, offsets)

E2. The No.1 Gas Plant Vapor Recovery System, A-14, shall have a minimum VOC destruction efficiency of 95% by weight. (basis: cumulative increase, offsets)

E3. When A-14 is in operation, the owner/operator of A-14 shall keep the following records:
a. The daily operating time of A-14. Records shall be kept on site and made available for District inspection and be retained for at least 5 years from the date on which the record was made. (basis: cumulative increase, offsets)

New Permit Condition #27719 (for AC Issuance)

Condition #: 12016 S1038

Condition ID #12016
Application 10912 Clean Fuels Project Permit Conditions

Administratively Revised by Application 19874 (July 2009) Updates for Combustion Sources Administratively Revised by Application 21711 (May 2010). Delete Parts 9.1.5, 9.1.6, 9.2.3, 9.2.4, 9.3, 9.4.4, 9.5, 9.10.1, 9.10.2, 9.11.1, 9.11.2 and 9.11.3.

Administratively Revised by Application 30768 (TBD 2022). As part of Marathon's Renewable Fuels Project, many sources/units are shutdown. Specified sources installed or modified as part of the Clean Fuels Project and remains subject to these permit conditions after Renewable Fuels Project.

Unless specified otherwise, the following permit conditions apply only to sources installed or modified as part of the Clean Fuels Project.

S-850 Diesel HDO Unit No. 3 (formerly No. 3 HDS Unit)
S-1003 Diesel HDO Unit No. 2 (formerly No. 2 HDS Unit)
S-1007 Diesel Isomerization Unit (formerly Hydrocracker Unit [Hydrocracker 2nd Stage])
A-40 Thermal Oxidizer
A-42 Hydrocracker Electric Thermal Oxidizer
A-43 Tract 3 Electric Thermal Oxidizer

9.1 Source Tests / Continuous Emission Monitors

For any source test or continuous emission monitor/recorder (CEM) required by any permit condition associated with the Clean Fuels Project, the following shall apply:

1. For the purposes of determining compliance with any of the emission limits in these Clean Fuels Project permit conditions (including emission limits with averaging times that exceed the typical source test duration), the applicable source test methods in the District's Manual of Procedures shall be sufficient for documenting compliance and non-compliance. All source testing and monitoring shall be done in accordance with the District Manual of Procedures. Written source testing protocol shall be submitted to the District Source Test Division for review and approval at least 30 days prior to conducting the source test. (Basis: cumulative increase, offsets, BACT)

2. The District Source Test Division shall be notified in writing of the date and time of any source test, at least 2 weeks prior to conducting the source test. (Basis: cumulative increase, offsets, BACT)

3. The initial source tests required by these permit conditions shall be conducted according to the following schedule:
a. within 60 days of startup; or
b. within 30 days of achieving maximum production rate, if maximum production is not achieved within the first 30 days following startup, not to exceed 150 days from initial startup.
(Basis: cumulative increase, offsets, BACT)

4. Written source test results shall be submitted to the District Source Test Division and the District permit engineer within 60 days of completion of the source test, unless an extension is approved by the District. In all cases, written source test results must be received by the District within 150 days of startup. (Basis: cumulative increase, offsets, BACT)

5. Completed. (Permittee/Owner/Operator provided the location of all sampling ports, platforms, etc... to the District Source Test Division for review and approval.)

6. Completed (Permittee/Owner/Operator submitted the CEM design to the District Source Test Section for review and approval.

7. Each CEM shall be installed, maintained, calibrated and operated in accordance with all applicable District regulations. Permittee/Owner/Operator shall use a computer or stripchart to record, store, and report a summary of the CEM data for the monthly report. For any CEM that is used to verify compliance with a concentration limit that is averaged over a specified time period, average concentrations shall be calculated. These average concentrations shall be summarized in the monthly report. (Basis: cumulative increase, offsets, BACT)

9.2 Record Keeping & Monthly Reporting

1. Permittee/Owner/Operator shall keep records of all necessary information to demonstrate compliance with all permit conditions associated with the Clean Fuels Project. All records shall be retained for at least two years from the date of entry, and shall be made available to the District upon request. This includes, but is not limited to, records of source test data, CEM data, fuel usage, emission calculations and fugitive component counts. Permittee/Owner/Operator shall also keep all records required by NSPS and NESHAP regulations. (Basis: cumulative increase, offsets, NSPS, NESHAP)

2. Deleted. (All information required to determine compliance was submitted March 1, 1995.)
3. Deleted. (Monthly Reporting Requirements included in Condition 8077 and in Regulation 9, Rule 10)
4. Deleted. (Annual Reporting Requirements included in Condition 8077 and in Regulation 9, Rule 10)

9.3 Offsets
1. Deleted. (Final fugitive count and list of installed sources submitted with Application 21711 and additional offsets provided in 2010 via Application 10912)

9.4 Fugitives
(Basis: cumulative increase, offsets)
Conditions 9.4-1 through 9.4-4 for fugitive emissions apply only to POC gaseous and light-liquid services.
1. Deleted. (The Authority to Construct design requirements for fugitive components are completed.)
2. Deleted. (The Authority to Construct design requirement for compressors is completed.)
3. Deleted. (The Authority to Construct design requirement definition of light liquid service for fugitive components is no longer needed.)
4. Deleted. (Final fugitive count submitted with Application 21711 and additional offsets provided in 2010 via Application 10912. Facility is permitted to emit 15.83 tons/yr POC from the Clean Fuels Project)

9.5 Deleted.
(Fuel Gas System requirements triggered by NSPS and BACT. Since there were no new or modified combustion sources installed, these requirements are not applicable)

9.6 Combustion Sources (S-1033, S-1034, S-1035 and S-1036)
These sources were not installed and conditions associated with these sources have been deleted. (Basis: cumulative increase)

9.7 Storage Tanks (S-773, S-774, S-776, S-777, S-778, S-779, S-783, S-784, S-785, S-786, and S-787)
These sources were not installed and conditions associated with these sources have been deleted. (Basis: cumulative increase)

9.8 Flares (A-33 and A-35)

These control devices were not installed and conditions associated with these control devices have been deleted. (Basis: cumulative increase)

9.9 Cooling Towers (S-989, S-993, and S-994)
These sources were not installed and conditions associated with these sources have been deleted. (Basis: cumulative increase)

9.10 Toxics
1. Deleted. (Final Project Risk did not exceed 4.5 in a million.)
2. Deleted. (Final fugitive count submitted with Application 21711 and additional offsets provided in 2010 via Application 10912. Facility is permitted to emit 21.26 tons/yr POC from the Clean Fuels Project)

9.11 Summary of Refinery Cap Revisions (Refer to Appendix B, Tables B-1 and B-2.)
1. Deleted. (The S-903 element of the CFP was not installed.)
2. Deleted. (The CFP S773 and S774 element was not installed.)
3. Deleted. (The CFP S937 element was not installed.)
4. Deleted. (The Authority to Construct requirement to revise S-850 throughput in Condition 8077 was completed.)

Condition #: 13509 ~~**S955, S956, S957, S958, S959, S960**~~ **(Archived)**

~~S955 IC Engine, Compressor 4064, Abated by A955 SCR~~
~~S956 IC Engine, Compressor 4065, Abated by A956 SCR~~
~~S957 IC Engine, Compressor 4066, Abated by A957 SCR~~
~~S958 IC Engine, Compressor 4067, Abated by A958 SCR~~
~~S959 IC Engine, Compressor 4068, Abated by A959 SCR~~
~~S960 IC Engine, Compressor 4096, Abated by A960 SCR~~

The following conditions are effective January 1, 1997 on sources S-955, S-956, S-957, S-958, S-959 and S-960,

Application #15392 (1996): Add SCRs for NOx Control

Administratively changed by Application 19419 (June 2009): Removed redundant parts 2 & 3 and completed part 4.

Administratively changed by Application 23848 (June 2012): Updated to show sources abated by SCRs (Tesoro 2011 TV Appeal Item 5).

Application 30768 (TBD 2022). Deleted S-955, S-956, S-957, S-958, S-959, S-960 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

1. Deleted. S-955, S-956, S-957, S-958, S-959, S-960 are shutdown via Application 30768.~~This engine shall be fired exclusively on natural gas. (basis: toxics)~~
2. Deleted (basis: NOx emissions limit Redundant with Regulation 9-8-301.2)
3. Deleted (basis: CO emissions limit Redundant with Regulation 9-8-301.2)
4. Deleted (basis: Initial Source Test completed prior to the granting of the permit to operate August 1, 1996)

New Permit Condition #27720 (for AC Issuance)

Condition #: 13605 S323, S1528

Application #25142 (March, 1996)

Amended by Application #10667 (November, 2004):

Increase vapor pressure from 2 to 9 psia, decrease throughput from 11,000,000 barrels/yr to 2,000,000 barrels/yr, add source testing to determine POC destruction efficiency of A-14 Vapor Recovery and process heaters.

Application 19415, (February 2009) added S-1528 Alkylate Railcar Unloading Rack.

Administratively Changed by Application 24362 (June 2012) Removed S-913 from the source test requirements of Part 4 since no longer fired with 40# fuel gas.

Administratively changed by Application 29278 (February 2021). Revised Part 4 to allow 60 days to submit source test reports.

Application 30768 (TBD 2022). Revised Parts 4 and 5 due to the shutdown of S-908, S-909, and S-912 and updated fuel gas users for vapor recovery as part of Marathon's Renewable Fuels Project.
S-323 Fixed Roof Tank; Tank A-323, Capacity: 924K Gallons, Storing: ~~Alkylate Gasoline Blending Components~~Recovered oils and residuals from the wastewater treatment system, abated by A-14 Vapor Recovery System

S-1528 Alkylate Railcar Unloading Rack, for unloading into S-323

1. The Owner/Operator shall ensure that the net throughput of all VOC/petroleum materials at S-323 (Tank 323) and S-1528 does not exceed 2,000,000 barrels during each rolling consecutive 12-month period. A level-monitoring device in S-323 will measure the height of the tank. The change in height will be used to calculate throughput. (basis: cumulative increase)

2. The owner/operator may store hydrocarbon materials other than gasoline and alkylate blending components in S-323 provided the following two criteria are met:
a. the Reid vapor pressure of the alternate material is not greater than 7.6 psia (true vapor pressure not greater than 9.0 psia at 70 F), and
b. POC emissions, based on the maximum throughput in part 1, do not exceed 1922.79 pounds per year; and
c. the resulting toxic risk from the tank does not cause the tank to fail a risk screen analysis. (basis: cumulative increase, toxics)

3. Notwithstanding any provision of District regulations allowing for either the maintenance or malfunction of A-14 due to a valid break down at No. 1 Gas Plant vapor recovery compressor(s), the Owner/Operator shall ensure that fixed roof tank S-323 vent to existing vapor recovery unit, A-14, or an equivalent District-approved abatement system, having a minimum overall VOC control efficiency of 99.5% on a mass basis. In accordance with the NSPS requirements of 40 CFR 60, Subpart Kb, Owner/Operator shall ensure that this tank is maintained leak-free (less than 500 ppm above background as methane). (basis: cumulative increase, NSPS)

4. To determine compliance with part 3, the owner/operator shall conduct a District approved source test at each of the following sources every 5 years in the year prior to the Title V Permit Renewal (initial compliance has been demonstrated in a source test for AN 6201 by TIAX October 28, 2003).

~~S-908 No. 8 Furnace @ No. 3 Crude Unit~~
~~S-909 No. 9 Furnace @ No. 1 Feed Prep.~~
~~S-912 No. 12 Furnace @ No. 1 Feed Prep.~~
S-919 No. 2 HDS Depent Reboiler (F19)
S-920 No. 2 HDS Charge Heater (F20)
S-928 HDN Reactor A Heater (F28)
S-929 HDN Reactor B Heater (F29)
S-930 HDN Reactor C Heater (F30)
S-931 Hydrocracker Reactor 1 Heater (F31)
S-932 Hydrocracker Reactor 2 Heater (F32)
S-933 Hydrocracker Reactor 3 Heater (F33)
S-934 Hydrocracker Stabilizer Reboiler (F34)
S-937 Hydrogen Plant Heater (F37)
S-973 No. 3 HDS Recycle Gas Heater (F55), Abated by A-31 SCR
S-1511 Hot Oil Heater #1 (F78), Abated by A-1511 SCR
S-1512 Hot Oil Heater #2 (F79), Abated by A-1512 SCR
A-1584 Trailer Mounted Combustor, 42.3 MMBtu/hr, John Zink, PECS Unit

For each source, the owner/operator must measure the following:
the fuel feed rate in pounds/hr
the POC emission rate at the stack
the flue gas flow rate in SCFM at the stack
the oxygen content of the stack flue gas the stack temperature
the destruction efficiency of POC as measured across the combustion device

The owner/operator shall submit individual copies of the results of the source tests (along with related calculations and process data) to the District's Engineering Division, Compliance and Enforcement Division, and Source Test Division within 60 days of the source test (basis: Cumulative Increase, Toxic Risk Screen, Offsets, Regulation 1-238)

5. To determine compliance with the above parts, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including, but not necessarily limited to, the following information:
a. On a monthly basis, type and amount of liquids transferred through S-1528 and stored in S-323 and Reid vapor pressure ranges of such liquids.
b. The throughput of material shall be added and recorded in the log for each rolling month and for each rolling consecutive 12- month period.
c. The time, date, duration, and reason for each instance that S-323 is not abated by A-14. These records shall be kept on-site for at least 5 years. All records shall be recorded in a District approved log and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. (basis: Cumulative Increase, Toxic Risk Screen, Offsets, Regulation 1-441, Regulation 8-5- 501, Regulation 1-238)

New Permit Condition #27721 (for AC Issuance)

Condition #: 16685 S933, S932, S931, S930, S926, S928, ~~S927,~~ S922, S934, ~~S921,~~ S929, S935, ~~S951, S971,~~ S973, ~~S974,~~ S920, S937, S919, ~~S916, S917, S950,~~ S904~~, S972, S908, S909, S912, S913, S915~~

Avon Refinery
Condition Added 09/02/99

Application 18739 (November 2008) Removal of S-903 & S-924

Application 19300 (December 2008) Removed S-904 No. 6 Boiler House (because S-904 is included in Condition 17322)

Administratively Revised via Application 19647 (March 2009) Consolidation of Bubble Condition 4357 with Condition 8077

Administratively Deleted by Application 19874 (July 2009) Updates for Combustion Sources - Combined with Condition 18372.

Administratively Reinstated Part 1 by Application 21464 (April 2010)

Application 23194 (August 2011) S-904 Burner Replacement Alteration (added clarifying language regarding firing limits and corrected basis of Part 1)
Authority to Construct cancelled March 2013.

Application 23322 (February 2013) Corrected firing rates for S-915, S-919, S-928 through S-933, S-934 and S-935.

Administratively Revised by Application 25523 (August 2015). Revised S-926.

Administratively Revised by Application 27309 (August 2015). Corrected firing rates of S-973 and S-974.

Administratively Revised by Application 25523 (Sept 2015) Revised S-926.

Administratively Revised by Application 23322 (January 2016).

Application 30768 (TBD 2022). Revised Part 1 due to the shutdown of S-908, S-909, S-912, S-913, S-915, S-916, S-917, S-921, S-927, S-950, S-951, S-971, S-972, and S-974 as part of Marathon's Renewable Fuels Project. Application 30806 has been submitted to address the bubble condition and Alternative NOx Compliance Plan for Regulation 9, Rule 10.

Part #1:
Permittee/Owner/Operator shall ensure that each combustion source listed below does not exceed its indicated maximum firing rate (higher heating value), expressed in the units of million BTU per day (MMBTU/day). These firing rates are sustainable maximum firing rates. The sustainable hourly firing rates, used for billing purposes, are established by dividing the maximum daily firing rates by 24 hours. These firing limits are enforceable not-to-exceed limits but are not considered enforceable New Source Review emissions limits since these sources were not subject to Regulation 2, Rule 2 when this condition was created.

District Source Number (#)	Firing Rate Used for Fees MMBTU/hr)	Firing Rate Enforceable Limit (MMBTU/day)	District/ Permittee Source Description

~~S-908~~	~~220~~	~~5280~~	~~#8 Furnace No. 3 Crude Heater~~
~~S-909~~	~~145~~	~~3480~~	~~#9 Furnace #1 Feed Prep. Heater~~
~~S-912~~	~~135~~	~~3240~~	~~#12 Furnace -#1 Feed Prep. Heater~~
~~S-913~~	~~59~~	~~1416~~	~~#13 Furnace -#2 Feed Prep. Heater~~
~~S-915~~	~~50~~	~~1200~~	~~#15Furnace –Plat former Intermediate Heater~~
~~S-916~~	~~55~~	~~1320~~	~~#16 Furnace -#1 HDS Heater~~
~~S-917~~	~~18~~	~~432~~	~~#17 Furnace -#1 HDS Prefractionator Reboiler~~
S-919	111	2664	#19Furnace -#2 HDS Depentanizer Reboiler
S-920	63	1512	#20 Furnace -#2 HDS Charge Heater
~~S-921~~	~~63~~	~~1512~~	~~#21 Furnace -#2 HDS Charge Heater~~
S-922	130	3120	#22 Furnace -#5 Gas Debutanizer Reboiler
S-926	130	3120	#26 Furnace -#2 Reformer Splitter Reboiler
~~S-927~~	~~280~~	~~6720~~	~~#27 Furnace -#2 Reformer Heater AND Reheating~~
S-928	20	480	#28 Furnace –HDN Reactor A Heater
S-929	20	480	#29 Furnace –HDN ReactorB Heater
S-930	20	480	#30 Furnace –HDN Reactor C Heater
S-931	20	480	#31 Furnace –Hydrocracker Reactor 1 Heater
S-932	20	480	#32 Furnace –Hydrocracker Reactor 2 Heater
S-933	20	480	#33 Furnace –Hydrocracker Reactor 3 Heater
S-934	135	3240	#34 Furnace –Hydrocracker Stabilizer Reboiler
S-935	135	3240	#35 Furnace –Hydrocracker Splitter Reboiler
S-937	743	17832	#37 Furnace –Hydrogen Plant Heater
~~S-950~~	~~440~~	~~10560~~	~~#50 Furnace – 50 Unit Crude Heater~~
~~S-951~~	~~30~~	~~720~~	~~#51 Furnace -#2 Reformer Auxiliary Reheater~~
~~S-971~~	~~300~~	~~7200~~	~~#53 Furnace -#3 Reformer UOP Furnace~~
~~S-972~~	~~45~~	~~1080~~	~~#54 Furnace -#3 Reformer Debutanizer Reboiler~~
S-973	110	2640	#55 Furnace-No 3 HDS Recycle Gas Heater
~~S-974~~	~~55~~	~~1320~~	~~#56 Furnace-No 3 HDS Fractionator Feed Heater~~

(basis: Regulation 2-1-403, ~~Bubble Condition 4357/8077 for S917 via Application 19647, 1987 NSR Application 164 for S-917,~~ 1987 NSR Application 548 for S- 928 through S-935~~, 1991 NSR Application 6468 for S-915 and S-916~~)

Condition #: 17322 ~~**S904**~~ **(Archived)**

Condition # 17322
APPLICATION 19418, PLANT NO. 14628
Application 19300 (December 2008) Remove S-904 Backup CO Boiler Service
Administratively Revised via Application 19647 (March 2009)

Consolidation of Bubble Condition 4357 with Condition 8077 Administratively Revised by Application 19874 (July 2009), Updates for Combustion Sources
Application 23194 (August 2011) S-904 Burner Replacement Alteration (revised firing rate limits in Part 1, added clarifying language regarding firing limits, corrected basis of Part 1 and 1a, added Part 1b)
Authority to Construct Cancelled March 2013. Part 1 revised to pre-AC firing rate.
Application 27054 (December 2015) Revised Part 1 firing rate.

Application 30768 (TBD 2022). Deleted Parts 1 through 8 due to the shutdown of S-904 as part of Marathon's Renewable Fuels Project. Added a note for the shutdown of S-916 and S-921.

Conditions for Industrial Boiler S-904 (No. 6 Boiler):

1. Deleted. S-904 is shutdown via Application 30768. ~~Permittee/Owner/Operator shall ensure that Boiler S-904 is not fired above its maximum firing rate of 745 MMBTU/hr (HHV) heat input at any time. (basis: Application 19418 alteration; Application 27054 alteration)~~

a. Deleted. S-904 is shutdown via Application 30768. ~~1a. S-904, boiler #6 shall burn only gaseous fuels. (basis: Application 6792 alteration)~~

b. Deleted.

2. Deleted. S-904 and A-904 shutdown via Application 30768. ~~Permittee/Owner/Operator shall ensure that Boiler S-904 is retrofitted with and abated by A-904, in accordance with the District approved control plan submitted under Regulation 9-10-401. (basis: Regulation 9-10-401)~~

3. Deleted. (Fuel flow meter installed)

4. Deleted. S-904 is shutdown via Application 30768. ~~Permittee/Owner/Operator shall ensure that Boiler S-904 is equipped with District approved, in-stack continuous emission monitoring systems (CEMS) for nitrogen oxides (NOx), carbon monoxide (CO), and oxygen (O2) prior to July 1, 2000. The CEMS shall be maintained in good working order in accordance with the District Manual of Procedures, Volume V. (basis: Regulation 9-10-302, Regulation 9-10-305)~~

a. (4a)Deleted. (S-904 no longer providing backup CO Boiler service so the requirements of 1-520.6 and 6-1-302 no longer apply.) S-904 is shutdown via Application 30768.

5. Deleted. S-904 is shutdown via Application 30768. ~~Permittee/Owner/Operator shall ensure that ammonia stack emissions from Boiler S-904 resulting from the operation of A-904 SCR system shall not exceed 20 ppmv, dry @ 3% O2. (basis: toxics)~~

6. Deleted. S-904 is shutdown via Application 30768. ~~Permittee/Owner/Operator shall ensure that a semiannual source test shall be performed for ammonia, in accordance with the District Manual of Procedures. In addition to the requirements in this regulation, Permittee/Owner/Operator shall ensure that the following procedures are followed:~~

~~a. Permittee/Owner/Operator shall submit a source test protocol to the Manager of the District's Source Test Section at least seven (7) days prior to the test, for District approval and to provide District staff the option of observing the testing.~~

~~b. Permittee/Owner/Operator shall ensure that source test conditions are representative of the normal operating ranges and conditions of the boiler.~~

~~c. Permittee/Owner/Operator shall ensure that within 60 days of test completion, a comprehensive report of the test results shall be submitted to the District's Director of Enforcement.~~

~~d. Deleted. (Initial source test completed. Semiannual ammonia source test now included in part 6.)~~

7. Deleted. (Redundant with Regulation 9-10-504.1) S-904 is shutdown via Application 30768.

8. Deleted. (S-904 included in bubble condition 8077. Added via application 19300.) S-904 is shutdown via Application 30768.

CONDITIONS FOR FURNACES S-916 AND S-921:
(S-916 and S-921 are shutdown via Application 30768.)

9. Deleted. (Maximum firing rates of S-916 and S-921 are included in Condition 16685, Part 1.)

10. Deleted. (New burners were not installed in S-916 and S-921 consistent with the revised Alternative Compliance Plan dated July 23, 2002.)

11. Deleted. (The fuel meter requirement is redundant with Regulation 9-10-502.2.)

12. Deleted. (New burners were not installed in S-916 and S-921 consistent with the revised Alternative Compliance Plan dated July 23, 2002.)
13. Deleted. (New burners were not installed in S-916 and S-921 consistent with the revised Alternative Compliance Plan dated July 23, 2002. Monitoring and Source Test requirements for existing burners are located in NOx Box Condition 18372.)
14. Deleted. (The recordkeeping requirement is redundant with a more stringent Regulation 9-10-504.)
15. Deleted. (Redundant with Condition 8077, Part B2)

New Permit Condition #27722 (for AC Issuance)

Condition #: 17477 S1465, S1464, S1463, S1461

Application 669 Tank Reconfiguration Project Tracts 4 & 6 (2000-2001)

Application 17537/17538 (2008) Remove Completed And Redundant Tank Conditions

Administratively Changed By Application 21711 (May 2010). Deleted Parts B1 Through B6.

Modified by Application 27799 (October 2017).
Reformate Upgrade Project. Changed conditions for S-1464. AUTHORITY TO CONSTRUCT CANCELLED OCTOBER 2019. NEW CONDITIONS FOR S-1464 DELETED.

Application 30768 (TBD 2022). Deleted Parts C1, C2, C5, and C6. S-1463 has been repurposed to store renewable feedstocks only and is exempt from permitting per Regulation 2-1-123.3.6. Revised Parts D1, D4, D5, E1, E4, E5 to include renewable diesel as storage material. Updated storing material for S-1464 and S-1465.

S-1461 External Floating Roof Tank; Capacity: 240,000 BBL, Storing: Crude Oil

A1) Permittee/Owner/Operator shall ensure that the total throughput of all VOC/petroleum materials to S-1461 does not exceed 50,000,000 barrels (2,100,000,000 gallons) during any 12 consecutive month period. (basis: cumulative increase, toxics)

A2) Permittee/Owner/Operator shall ensure that the true vapor pressure of each and all VOC/petroleum materials throughput to and/or stored in S-1461 is less than or equal to 10 psia. (basis: cumulative increase)

A3) Deleted. Compliance with the tank design criteria was verified when S-1461 was granted a Permit to Operate in 2001 via Application 669.

A4) Deleted. Final fitting count was verified for S-1461 in a 2008 audit. Offsets were adjusted in August 2002 via Application 669.

A5) VOC/petroleum material other than Crude Oil may be throughput to or stored at S-1461, if all of the following are satisfied:
a). the storage of each material complies with all other conditions applicable to this source
b). the storage of each material complies with all other applicable regulatory requirements
c). the Permittee/Owner/Operator creates and maintains District approved records which demonstrate to the District's satisfaction that no toxin listed in Table 2-5-1 is emitted from S-1461 in an amount in excess of the toxin's respective trigger level set forth in Table 2-5- 1.
(basis: cumulative increase, toxics)

A6) On a monthly basis, the Permittee/Owner/Operator shall record the throughput of each VOC/petroleum material throughput to S-1461, in gallon or barrel units, by name (e. g., Kerosene, Crude Oil, Jet A) in a District approved log for each month and each rolling 12 consecutive month period. The District approved log shall be retained on site for not less than 5 years from date of last entry and be made available to District staff upon request. (basis: cumulative increase, toxics)

S-1462 External Floating Roof Tank; Capacity: 240,000 BBL, Storing: Crude Oil or HDS Gas Oil

B1) Deleted. (Source not constructed; Application 699 Authority to Construct cancelled in 2002.)

B2) Deleted. (Source not constructed; Application 699 Authority to Construct cancelled in 2002.)

B3) Deleted. (Source not constructed; Application 699 Authority to Construct cancelled in 2002.)

B4) Deleted. (Source not constructed; Application 699 Authority to Construct cancelled in 2002.)

B5) Deleted. (Source not constructed; Application 699 Authority to Construct cancelled in 2002.)

B6) Deleted. (Source not constructed; Application 699 Authority to Construct cancelled in 2002.)

S-1463 External Floating Roof Tank, Capacity: 240,000 BBL, Storing: ~~Crude Oil or HDS Gas Oil~~Renewable Feedstock

C1) Deleted. S-1463 is exempt from permitting per Regulation 2-1-123.3.6 as part of Marathon's Renewable Fuels Project. ~~Permittee/Owner/Operator shall ensure that the total throughput of all VOC/petroleum materials to S-1463 does not exceed 50,000,000 barrels (2,100,000,000 gallons) during any 12 consecutive month period. (basis: cumulative increase, toxics)~~

C2) Deleted. S-1463 is exempt from permitting per Regulation 2-1-123.3.6 as part of Marathon's Renewable Fuels Project.~~Permittee/Owner/Operator shall ensure that the true vapor pressure of each and all VOC/petroleum materials throughput to and/or stored in S-1463 is less than or equal to 10 psia. (basis: cumulative increase)~~

C3) Deleted. Compliance with the tank design criteria was verified when S-1463 was granted a Permit to Operate in 2001 via Application 669.

C4) Deleted. Final fitting count for S-1463 was verified in a 2008 audit. Offsets were adjusted in August 2002 via Application 669.

C5) Deleted. S-1463 is exempt from permitting per Regulation 2-1-123.3.6 as part of Marathon's Renewable Fuels Project. ~~VOC/petroleum material other than Crude Oil or HDS Gas Oil may be throughput to or stored at S- 1463, if all of the following are satisfied:~~

~~a) the storage of each material complies with all other conditions applicable this source~~
~~b) the storage of each material complies with all other applicable regulatory requirements~~
~~c) the Permittee/Owner/Operator creates and maintains District approved records which demonstrate to the District's satisfaction that no toxin listed in Table 2-5-1 is emitted from S-1463 in an amount in excess of the toxin's respective trigger level set forth in Table 2-5-1.~~
~~(basis: cumulative increase, toxics)~~

C6) Deleted. S-1463 is exempt from permitting per Regulation 2-1-123.3.6 as part of Marathon's Renewable Fuels Project.~~On a monthly basis, the Permittee/Owner/Operator shall record the throughput of each VOC/petroleum material throughput to S-1463, in gallon or barrel units, by name (e. g., Kerosene, Crude Oil, Jet A) in a District approved log for each month and each rolling 12 consecutive month period. The District approved log shall be retained on site for not less than 5 years from date of last entry and be made available to District staff upon request. (basis: cumulative increase, toxics)~~

S-1464 External Floating Roof Tank, Capacity: 100,000 BBL, Storing: ~~Jet A,~~ Petroleum Diesel, ~~or Kerosene~~Renewable Diesel

D1) The owner/operator of S-1464 shall not exceed any of the following throughput limits:
Petroleum/Renewable Diesel – 10,000,000 barrels (420,000,000 gallons) during any consecutive twelve month period
Petroleum/Renewable Diesel – 72,000 barrels (3,024,000 gallons) during any calendar day
(Basis: Cumulative Increase, toxics) ~~The total throughput of all VOC/petroleum materials to S-1464 shall not exceed 10,000,000 barrels (420,000,000 gallons) during any 12 consecutive month period. (basis: cumulative increase, toxics)~~

D2) The true vapor pressure of each and all ~~VOC~~POC/petroleum materials throughput to and/or stored in S-1464 shall be less than or equal to 0.2 psia. (basis: cumulative increase)

D3) Deleted. Final fitting count was verified for S-1464 in a 2008 audit. Offsets were adjusted in August 2002 via Application 669.

D4) The owner/operator of S-1464 may store alternate liquid(s) other than the materials specified in Part D1 and/or usages in excess of those specified in Part D1, provided that the owner/operator can demonstrate that all of the following are satisfied:
a. Total POC and/or NPOC emissions combined from S-1464 do not exceed 921 pounds in any consecutive twelve-month period;
b. Total POC and/or NPOC emissions combined from S-1464 do not exceed 9.8 pounds per calendar day;
c. The use of these materials does not increase toxic emissions equal to or above any toxic air contaminant trigger level of Table 2-5-1 in Regulation 2-5;
~~The owner/operator of S-1464 shall not store any material containing NPOC.~~
(Basis: Cumulative Increase; Toxics)
~~VOC/petroleum material other than Jet A, Diesel, and Kerosene may be throughput to or stored at S-1464, if all of the following are satisfied:~~

~~a) the storage of each material complies with all other conditions applicable this source~~
~~b) the storage of each material complies with all other applicable regulatory requirements~~
~~c) the Permittee/Owner/Operator creates and maintains District approved records which demonstrate to the District's satisfaction that no toxin listed in Table 2-5-1 is emitted from S-1464 in an amount in excess of the toxin's respective trigger level set forth in Table 2-5-1.~~
~~(basis: cumulative increase, toxics)~~

D5) To determine compliance with the above parts, the owner/operator of S-1464 shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:
a. Quantities and true vapor pressure of each type of liquid stored at this source on a daily and monthly basis.

b. If a material other than those specified in Part D1 is stored, POC, NPOC, and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part D4, on a daily basis;
c. Daily and monthly throughput and/or emission calculations shall be totaled for each consecutive twelve-month period.
All records shall be retained on-site for five years, from the date of entry, and made available for inspection by Air District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. (Basis: Cumulative Increase; Toxics)
~~On a monthly basis, the Permittee/Owner/Operator shall record the throughput of each VOC/petroleum material throughput to S-1464, in gallon or barrel units, by name (e. g., Kerosene, Crude Oil, Jet A), in a District approved log for each month and each rolling 12 consecutive month period. The District approved log shall be retained on site for not less than 5 years from date of last entry and be made available to District staff upon request. (basis: cumulative increase, toxics)~~

S-1465 External Floating Roof Tank, Capacity: 100,000 BBL, Storing: ~~Jet A or~~ Petroleum Diesel ~~or Kerosene~~Renewable Diesel

E1) The owner/operator of S-1465 shall not exceed the following throughput limits:
Petroleum/Renewable Diesel – 10,000,000 barrels (420,000,000 gallons) during any consecutive twelve month period
Petroleum/Renewable Diesel – 72,000 barrels (3,024,000 gallons) during any calendar day
(Basis: Cumulative Increase, toxics) ~~Permittee/Owner/Operator shall ensure that the total throughput of all VOC/petroleum materials to S-1465 does not exceed 10,000,000 barrels (420,000,000 gallons) during any 12 consecutive month period. (basis: cumulative increase, toxics)~~

E2) Permittee/Owner/Operator shall ensure that the true vapor pressure of each and all ~~VOC~~POC and/or NPOC~~/~~petroleum materials throughput to and/or stored in S-1465 is always less than or equal to 0.2 psia. (basis: cumulative increase)

E3) Deleted. Final fitting count was verified for S-1465 in a 2008 audit. Offsets were adjusted in August 2002 via Application 669.

E4) The owner/operator of S-1465 may store alternate liquid(s) other than the materials specified in Part E1 and/or usages in excess of those specified in Part E1, provided that the owner/operator can demonstrate that all of the following are satisfied:
a. Total POC and/or NPOC emissions combined from S-1465 do not exceed 921 pounds in any consecutive twelve-month period;
b. Total POC and/or NPOC emissions combined from S-1465 do not exceed 9.8 pounds per calendar day;
c. The use of these materials does not increase toxic emissions to equal to or above any toxic air contaminant trigger level of Table 2-5-1 in Regulation 2-5.
~~The owner/operator of S-1465 shall not store any material containing NPOC.~~
(Basis: Cumulative Increase; Toxics)
~~VOC/petroleum material other than Jet A, Diesel, or Kerosene may be throughput to or stored at S-1465, if all of the following are satisfied:~~

~~a) Permittee/Owner/Operator ensures that the storage of each material complies with all other conditions applicable this source~~
~~b) Permittee/Owner/Operator shall ensure that the storage of each material complies with all other applicable regulatory requirements~~

~~c) the Permittee/Owner/Operator creates and maintains District approved records which demonstrate to the District's satisfaction that no toxin listed in Table 2-5-1 is emitted from S-1465 in an amount in excess of the toxin's respective trigger level set forth in Table 2-5-1.~~
~~(basis: cumulative increase, toxics)~~

E5) To determine compliance with the above parts, the owner/operator of S-1465 shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:
a. Quantities and true vapor pressure of each type of liquid stored at this source on a daily and monthly basis.
b. If a material other than those specified in Part E1 is stored, POC, NPOC, and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part E4, on a daily basis;
c. Daily and monthly throughput and/or emission calculations shall be totaled for each consecutive twelve-month period.
All records shall be retained on-site for five years, from the date of entry, and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. (Basis: Cumulative Increase; Toxics)
~~On a monthly basis, the Permittee/Owner/Operator shall record the throughput of each VOC/petroleum material throughput to S-1465, in gallon or barrel units, by name (e. g., Kerosene, Crude Oil, Jet A) in a District approved log for each month and each rolling 12 consecutive month period. The District approved log shall be retained on site for not less than 5 years from date of last entry and be made available to District staff upon request. (basis: cumulative increase, toxics)~~

Condition #: 17837 ~~**S817**~~ **(Archived)**

S-817 No. 3 Crude Unit

Application 30768 (TBD 2022). Deleted S-817 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

1. Deleted. S-817 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that the total throughput of all feed materials (i.e., crude oil, slop oil, etc.) to the No. 3 Crude Unit shall not exceed 63,000 barrels per calendar day.~~
~~(basis: Reg. 2-1-234.3, Reg. 2-1-403, Reg. 2-6-503)~~

2. Deleted. S-817 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that the total throughput of all feed materials to the No. 3 Crude Unit shall not exceed 22,995,000 barrels per rolling 365 consecutive day period.~~
~~(basis: Reg. 2-1-234.3, Reg. 2-1-403, Reg. 2-6-503)~~

3. Deleted. S-817 is shutdown via Application 30768.~~In a District approved log, the Permittee/Owner/Operator shall record the volume (in barrels) of all feed materials throughput to the No. 3 Crude Unit during each calendar day and during each rolling 365 consecutive calendar day period. The permittee shall retain the District approved log on site for not less than 5 years from date of last entry and the permittee shall be make the log available to the District staff upon request.~~
~~(basis: Reg. 2-1-234.3, Reg. 2-1-403, Reg. 2-6-503)~~

New Permit Condition #27723 (for AC Issuance)

Condition #: 18372 **S973, ~~S974, S971, S951,~~ S937, S935, ~~S950, S904, S972, S908, S909, S912, S913, S915, S916, S917,~~ S919, S920, ~~S921,~~ S922, S926, ~~S927,~~ S928, S929, S930, S931, S932, S933, S934**
[Note: Alternative NOx Compliance Plan to be evaluated in Application No. 30806]

Plant #14628

Application #2209 (October 2001) Regulation 9, Rule 10 Compliance Plan

Application 16484 (December 2003) Initial Title V Permit

Application 15682 (April, 2007) Initial establishment of NOx box parameters. Delete part 4.

Application 14752 (January 2007) S-927 modification of Part 18.

Application 16888 (April 2008) Modification of S-913

Application 16889 (June 2008) Modification of S-951

Modified by App. 18739 (Nov 2008) Removal of S924 from Parts 27 and 31

Application 19300 (December 2008) Removed S-904 Backup CO Boiler Service

Application 18748 (December 2008) Modification of S-919

Application 19647 (March 2009) Consolidate with Condition 4357

Administratively Revised by Application 19874 (July 2009) Updates for Combustion Sources

Application 20359 (June 2009) Modification of S-920

Application 21072 (October 2009) Modification of S-912

Application 20259 (February 2010) Modification of S-909
Application 17470 (February 2010) Modification of S-916
Application 21732 (May 2010) Modification of S-919

Administratively Reinstated Source List, Part 3 and
Part 27 by Application 21464 (April 2010)

Application 21797 (June 2010) Modification of S-913
Application 21787 (July 2010) Modification of S-926
Application 22149 (Sept 2010) Modification of S-919
Application 22580 (November 2010) Modification of S-920
Application 22582 (November 2010) Modification of S-926
Application 22971 (March 2011) Modification of S-913
Application 23339 (June 2011) Modification of S-920
Application 23871 (December 2011) Modification of S-916

Application 23006 (February 2013) Revised Introduction to remove source details and reference to Application 23194, Removed language that clarified Part 3 firing rates are not NSR rates, Revised Parts 20, 21, 22 and 27 to correct S-972 abatement, Revised Parts 29 and 31 to allow compliance with the 2010 Amendment to Regulation 9, Rule 10, and Revised Parts 32A, 33, and 33A2 to reflect a 60 day allowance to submit Source Test Reports.

Application 25007 (January 2013) Modification of S-913
Application 24921 (March 2013) Modification of S-916
Application 26159 (July 2014) Modification of S-920

Application 26422 (June 2015) Modification of S-920

Administratively changed by Application 29278 (February 2021). Revised Parts 27 and 31A to reflect the NOx CEMs installed on S909, S912, S913, S916, S919, S920, S921 and S926; and revised Part 33 and deleted Parts 29, 30, 31B, 31C and 31D since these parts were superceded by the October 16, 2013 amendment to Regulation 9, Rule 10.

Application 30768 (TBD 2022). Revised Parts 2, 3, 27, 31 and Deleted Parts 18, 19, 20, 22, due to the shutdown of S-904, S-908, S-909, S-912, S-913, S-915, S-916, S-917, S-921, S-927, S-950, S-951, S-971, S-972, and S-974 as part of Marathon's Renewable Fuels Project.

~~S-904 No. 6 Boiler~~
~~S-912 No. 1 Feed Prep Heater F-12~~
~~S-913 No. 2 Feed Prep Heater F-13~~
~~S-916 No. 1 HDS Charge Heater F-16~~
S-919 No. 2 HDS Depentanizer Reboiler F-19
S-920 No. 2 HDS Charge Heater F-20
~~S-921 No. 2 HDS Charge Heater F-21~~
S-922 No. 5 Gas Plant Debutanizer Reboiler F-22
S-926 No. 2 Reformer Splitter Reboiler F-26
~~S-927 No. 2 Reformer Reactor Feed Preheater F-27~~
~~S-950 No. 50 Unit Crude Feed Heater F-50~~
~~S-971 No. 3 Reformer UOP Furnace F-53~~
~~S-972 No. 3 Reformer Debutanizer Reboiler F-54~~

1. Deleted. (The fuel meter requirement is redundant with Regulation 9-10-502.2.)

2. Permittee/Owner/Operator shall ensure that each of ~~S-912, S-913, S-916,~~ S-919, S-920, ~~S-921,~~ S- 922, and/or S-926 ~~, S-927, S-950, S-971, and S-972~~ is fired exclusively on natural gas and/or ~~refinery~~ fuel gas. (basis: Regulation 9, Rule 10)

3. Permittee/Owner/Operator shall ensure that the maximum firing rate of each source listed does not exceed the corresponding HHV maximum firing rate, based on an operating day average (the amount of fuel fired over each 24 hour day divided by 24:

Source (#)	Maximum Firing Rate (HHV) (MMBtu/hr)	(MMBtu/yr)
~~S-912~~	~~135~~	~~1,182,600~~
~~S-913~~	~~59~~	~~516,840~~
~~S-916~~	~~55~~	~~481,800~~
S-919	65	569,400
S-920	63	551,880

~~S-921 63 551,880~~
S-922 130 1,138,800
S-926 145 1,270,200
~~S-927 280 2,452,800~~
~~S-950 440 3,854,400~~
~~S-971 300 2,628,000~~
~~S-972 45 394,200~~
(basis: Regulation 9, Rule 10)

4. (Deleted: Specific NOx limits should not have been applied to S-912 and S-926, since they are both regulated under Regulation 9-10-301.)

5. Deleted. Replaced with Part 30.
6. Deleted. Replaced with Part 31.
7. Deleted. Replaced with Part 31.
8. Deleted. Replaced with Part 31.
9. Deleted. Replaced with Part 31.
10. Deleted. Replaced with Part 31.

11. Deleted. S-921 is out of service. If returned to service, this part is replaced with Part 31.

12. Deleted. NOx CEM installed on S-922.
13. Deleted. Replaced with Part 31.
14. Deleted. Replaced with Part 32.
15. Deleted. Replaced with Part 33.
16. Deleted. Replaced with Part 34.
17. Deleted. Replaced with Part 35.
18. Deleted. S-927 is shutdown via Application 30768.~~Combustion exhaust from S-927 shall be ducted to and continuously abated by A-1431 whenever a fuel is fired at S-927, except startup and shutdown as defined by Regulation 9-10-218 and on a temporary basis for catalyst regeneration at S-1004 No. 2 Catalytic Reformer. The exhaust gasses From S-927 and A-1431 shall be measured by a District approved CEM that continuously monitors and records the emission rate of NOx, CO, and O2 in the exhaust gasses, including periods when S-927 is operated without SCR abatement. (basis: Regulation 9, Rule 10, Bubble Condition 4357/8077 via Application 19647)~~

19. Deleted. S-950 is shutdown via Application 30768.~~Combustion exhaust from S-950 shall be ducted to and continuously abated by A-1432 whenever a fuel is fired at S-950 and the exhaust gasses from A-1432 shall be measured by a District approved CEM that continuously monitors and records the emission rate of NOx, CO, and O2 in the exhaust gasses. (basis: Regulation 9, Rule 10)~~

20. Deleted. S-971 and S-972 are shutdown via Application 30768.~~Combustion exhaust from S-971 shall be ducted to and continuously abated by A-1433 whenever a fuel is fired at S-971 and the exhaust gasses from A-1433 shall be vented to stack P-76. Combustion exhaust from S-972 shall be vented to stack P-76. The combined exhaust gases from S-971/A-1433 and S-972 shall be measured by a District approved CEM that continuously monitors and records the emission rate of NOx, CO, and O2 in the exhaust gasses. (basis: Regulation 9, Rule 10)~~

21. Deleted via Application 23006. The portion of Authority to Construct granted via Application 2209 authorizing the abatement of S-972 with A-1433 was never exercised.

22. Deleted. S-927, S-950, and S971 are shutdown via Application 30768. ~~For each of S-927, S-950 and S-971 ammonia slip from the SCR system abating the source shall not exceed 20 ppmv, dry, corrected to 3% oxygen. (basis: toxics)~~

23. Deleted. (The recordkeeping requirement is redundant with Regulation 9-10-504.)

24. Deleted. (The source test log requirement was effective until January 1, 2005, when the NOx Box recordkeeping requirements became effective.)

25. Deleted. (The fuel use recordkeeping requirement is redundant with a more stringent Regulation 9-10-504.)

26. Deleted. (S-904 no longer providing backup Coker CO Boiler service so the requirements of 9-10-304 no longer apply.)

27. The following sources are subject to the ~~refinery~~facility-wide NOx emission rate and CO concentration limits in Regulation 9-10. (Basis: Regulation 9-10-301, 303 & 305)

S#	Description	CEM (NOx/CO)
~~S904~~	~~No. 6 Boiler House~~	~~Y/Y~~
~~S908~~	~~No. 3 Crude Heater~~	~~Y/N~~
~~S909~~	~~No. 1 Feed Prep Heater (F9)~~	~~Y/N~~
~~S912~~	~~No. 1 Feed Prep Heater (F12)~~	~~Y/N~~
~~S913~~	~~No. 2 Feed Prep Heater (F13)~~	~~Y/N~~
~~S915~~	~~Platformer Intermediate Heater (F15)~~	~~N/N~~
~~S916~~	~~No. 1 HDS Heater (F16)~~	~~Y/N~~
~~S917~~	~~No. 1 HDS Prefract Reboiler (F17)~~	~~N/N~~
S919	No. 2 HDS Heater (F19)	Y/N
S920	No. 2 HDS Heater (F20)	Y/N
~~S921~~	~~No. 2 HDS Heater (F21)(out of service)~~	~~Y/N~~
S922	No. 5 Gas Plant Debutanizer Reboiler	Y/N
S926	No.2 Reformer Splitter Reboiler (F26)	Y/N
~~S927~~	~~No. 2 Reformer Feed Preheater (F27) & A1431~~	~~Y/Y~~
S928	HDN Reactor A Heater (F28)	N/N
S929	HDN Reactor B Heater (F29)	N/N
S930	HDN Reacator C Heater (F30)	N/N
S931	Hydrocracker Reactor 1 Heater (F31)	N/N
S932	Hydrocracker Reactor 2 Heater (F32)	N/N
S933	Hydrocracker Reactor 3 Heater (F33)	N/N
S934	Hydrocracker Stabilizer Reboiler(F34)	Y/N
S935	Hydrocracker Splitter Reboiler (F35)	Y/N
S937	Hydrogen Plant Heater (F37)	Y/N
~~S950~~	~~No. 50 Unit Curde Feed Heater (F50) & A1432~~	~~Y/Y~~
~~S951~~	~~No. 2 Reformer Aux Reheater (F51)~~	~~N/N~~
~~S971~~	~~No. 3 ReformerFeed Preheater (F53) & A1433~~	~~Y/Y~~
~~S972~~	~~No. 3 Reformer Dubtanizer Reboiler (F54)~~	~~Y/Y~~
S973	No. 3 HDS Recycle Gas Heater (F55)	Y/N
~~S974~~	~~No. 3 HDS Fract Feed Heater (F56)~~	~~Y/N~~

28. The owner/operator of each source with a maximum firing rate greater than 25 MMBtu/hr listed in Part 27 shall properly install, properly maintain, and properly operate an O2 monitor and recorder. (Basis: Regulation 9-10-502)

29. Deleted. Superseded by the October 16, 2013 amendment of Regulation 9, Rule 10, Section 502.1.2.

30. Deleted. The initial NOx Box specifications have been established.

31. Except as provided in part 31B OR 31C and 31D, the owner/operator shall operate each source within the NOx Box ranges listed below at all times of operation. During periods of startup, shutdown, or curtailed operation, and for sources temporarily out of service, the owner/operator may choose to comply with either 31B OR 31C. This part shall not apply to any source that has a properly operated and properly installed NOx CEM. (Basis: Regulation 9-10-502)

A. NOx Box ranges

Source No./|Emission Factor (lb/MMBtu)/Min O2 at Low Firing(O2% , MMBtu/hr)/Max O2 at Low Firing(O2%, MMBtu/hr)/Min O2 at High Firing(O2% , MMBtu/hr)/Mid O2 at Mid/High Firing (polygon)(O2% , MMBtu/hr)/Max O2 at High Firing(O2% , MMBtu/hr)

~~915/0.143/0, 4.00 @ 20% or 6.00 @ 30%/8.0, 4.00 @ 20% or 6.00 @ 30%/0, 20.00/N/A/8.0, 20.00~~

~~915/0.098/8.0, 4.00 @ 20% or 6.00 @ 30%/>8.0, 4.00 @ 20% or 6.00 @ 30%/8.0, 20.00/N/A/>8.0, 20.00~~

~~917/0.061/0, 3.60 @ 20% or 5.4 @ 30%/(Note 1), 3.60 @ 20% or 5.4 @ 30%/0, 18.00/N/A/(Note 1), 18.00~~

928/0.044/0.0, 4.00 @ 20% or 6.00 @ 30%/< 6.0, 4.00 @ 20% or 6.00 @ 30%/0.0, 20.00/N/A/<6.0, 20.00

928/0.073/6.0, 4.00 @ 20% or 6.00 @ 30%/> 6.0, 4.00 @ 20% or 6.00 @ 30%/6.0, 20.00/N/A/>6.0, 20.00

929/0.024/0.0, 4.00 @ 20% or 6.00 @ 30%/< 6.0, 4.00 @ 20% or 6.00 @ 30%/0.0, 20.00/N/A/< 6.0, 20.00

929/0.087/6.0, 4.00 @ 20% or 6.00 @ 30%/> 6.0, 4.00 @ 20% or 6.00 @ 30%/6.0, 20.00/N/A/> 6.0, 20.00

930/0.033/0.0, 4.00 @ 20% or 6.00 @ 30%/< 6.0, 4.00 @ 20% or 6.00 @ 30%/0.0, 20.00/N/A/<6.0, 20.00

930/0.077/6.0, 4.00 @ 20% or 6.00 @ 30%/> 6.0, 4.00 @ 20% or 6.00 @ 30%/6.0, 20.00/N/A/>6.0, 20.00

931/0.034/0.0, 4.00 @ 20% or 6.00 @ 30%/< 9.0, 4.00 @ 20% or 6.00 @ 30%/0.0, 20.00/N/A/<9.0, 20.00

931/0.073/9.0, 4.00 @ 20% or 6.00 @ 30%/> 9.0, 4.00 @ 20% or 6.00 @ 30%/9.0, 20.00/N/A/>9.0, 20.00

932/0.037/0.0, 4.00 @ 20% or 6.00 @ 30%/< 4.0, 4.00 @ 20% or 6.00 @ 30%/0.0, 20.00/N/A/<4.0, 20.00

932/0.053/4.0, 4.00 @ 20% or 6.00 @ 30%/> 4.0, 4.00 @ 20% or 6.00 @ 30%/4.0, 20.00/N/A/>4.0, 20.00

933/0.035/0.0, 4.00 @ 20% or 6.00 @ 30%/< 5.0, 4.00 @ 20% or 6.00 @ 30%/0.0, 20.00/N/A/<5.0, 20.00

933/0.050/5.0, 4.00 @ 20% or 6.00 @ 30%/> 5.0, 4.00 @ 20% or 6.00 @ 30%/5.0, 20.00/N/A/>5.0, 20.00

~~951/0.143/5.2, 2.68/9.2, 2.21/4.2, 7.78/8.3, 19.3/14.1, 12.7~~

~~951/0.175/12.1, 0.78/13.6, 1.73/9.2, 2.21/N/A/14.1, 12.7~~

The limits listed above are based on a calendar day averaging period for both firing rate and O2%.

B. Deleted. Superseded by the October 16, 2013 amendment of Regulation 9, Rule 10, Section 502.1.2.
C. Deleted. Superseded by the October 16, 2013 amendment of Regulation 9, Rule 10, Section 502.1.2.
D. Deleted. Superseded by the October 16, 2013 amendment of Regulation 9, Rule 10, Section 502.1.2.

32. NOx Box Deviations (Basis: Regulation 9-10-502)
A. The owner/operator may deviate from the NOx Box (either the firing rate or oxygen limit) provided that the owner/operator conducts a district approved source test which reasonably represents the past operation outside of the established ranges. The source test representing the new conditions shall be conducted no later than the next regularly scheduled source test period, or within eight months, whichever is sooner. The source test results will establish whether the source was operating outside of the emission factor utilized for the source. The source test results shall be submitted to the district source test manager within 60 days of the test. The owner/operator may request, and the APCO may grant, an extension of 15 days for submittal of results. As necessary, a permit amendment shall be submitted.

1. Source Test <= Emission Factor

If the results of this source test do not exceed the higher NOx emission factor in Part 31, or the CO limit in Part 35, the unit will not be considered to be in violation during this period for operating out of the "box."

a.The facility may submit an accelerated permit program permit application to request an administrative change of the permit condition to adjust the NOx Box operating range(s), based on the new test data.

2. Source Test > Emission Factor

If the results of this source test exceed the permitted emission concentrations or emission rates then the actions described below must be followed:

a.Utilizing measured emission concentration or rate, the owner/operator shall perform an assessment, retroactive to the date of the previous source test, of compliance with Regulation 9-10-301. The unit will be considered to have been in violation of Regulation 9-10-301 for each day the facility was operated in excess of the refinery wide limit.

b.The facility may submit a permit application to request an alteration of the permit condition to change the NOx emission factor and/or adjust the operating range, based on the new test data.

B. Reporting - The owner/operator must report conditions outside of box within 96 hours of occurrence.

33. For each source subject to Regulation 9-10-502.1.2, the owner/operator shall conduct source tests on the schedule listed below. The source tests are performed in order to measure NOx, CO, and O2
at the as-found firing rate, or at conditions reasonably specified by the APCO. The source test results shall be submitted to the district source test manager within 60 days of the test. The owner/operator may request, and the APCO may grant, an extension of 15 days for submittal of results.
(Basis: Regulation 9-10-502)

A. Source Testing Schedule

1. Heaters < 25 MMBtu/hr

One source test per consecutive 12 month period. The time interval between source tests shall not exceed 16 months.

2. Heaters => 25 MMBtu/hr

Two source tests per consecutive 12 month period. The time interval between source tests shall not exceed 8 months and not be less than 5 months apart.

The source test results shall be submitted to the district source test manager within 60 days of the test. (Basis: Regulation 9-10-502)

3. If a source has been shutdown longer than the period allowed between source testing periods (e. g. <25 MMBtu/hr-> 12 mos or > 25 MMBtu/hr - > 8 mos), the owner/operator shall conduct the required source test within 30 days of start up of the source.

B. Source Test Results > NOx Box Emission Factor

If a source test measures an emission factor higher than the emission factor in the Permit to Operate, then the higher emission factor shall become the new emission factor for determining compliance. The owner/operator may re-test at operating conditions substantially similar to those during the original test and appeal the change in emission factor to the APCO within 60 days. The owner/operator may submit source test data with a permit application to establish a lower emission factor for a device that has been altered in a way that reduces the emission rate. Source test results shall be submitted to the APCO within 60 days of any test.

34. For each source listed in Part 27 with a NOx CEM installed, that does not have a CO CEM installed, the owner/operator shall conduct semi-annual district approved CO source tests at as-found conditions. The time interval between source tests shall not exceed 8 months. District conducted CO emission tests associated with District-conducted NOx CEM field accuracy tests may be substituted for the CO semi-annual source tests. (Basis: Regulation 9-10-502, 1-522)

35. For any source listed in Part 27 with a maximum firing limit greater than 25 MMBtu/hr for which any two source test results over any consecutive five year period are greater than or equal to 200 ppmv CO at 3% O2, the owner/operator shall properly install, properly maintain, and properly operate a CEM to continuously measure CO and O2. The owner/operator shall install the CEM within the time period allowed in the District's Manual of Procedures. (Basis: Regulation 9-10-502, 1-522)

36. In addition to records required by Regulation 9-10-504, the facility must maintain records of all source tests conducted to demonstrate compliance with Parts number 27 and 31. These
records shall be kept on site for at least five years from the date of entry in a District approved log and be made available to District staff upon request. (Basis: Recordkeeping, Regulation 9-10-504)

Condition #: 18539 ~~**S908, S1470**~~ **(Archived)**

Administratively Revised via Application 19647 (March 2009) Consolidation of Bubble Condition 4357 with Condition 8077

Administratively Revised by Application 19874 (July 2009) Updates for Combustion Sources Unchanged when S-1470 was altered by Application 26000 (July 2014)

Administratively changed by Application 29278 (February 2021). Revised Part 17B to allow 60 days to submit source test reports.

Application 30768 (TBD 2022). Deleted S-908 and S-1470 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

~~S-908 Furnace F8; No. 3 Crude Heater, Alco, Maximum Firing Rate: 220 MMBtu/hr, Refinery Fuel Gas, Natural Gas abated by A-908 Selective Catalytic Reduction System~~

~~S-1470 Furnace F-71; No. 3 Crude Vacuum Distillation Column Feed Heater, Maximum Firing Rate: 30 MMBtu/hr with low NOx burners and abated by A-908 Selective Catalytic Reduction System~~

1. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that S-1470 is fired exclusively on natural gas or refinery fuel gas. (basis: cumulative increase, toxics)~~
2. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that S-1470 is not operated unless it is equipped with a District approved, fuel flow meter that measures the volume of fuel throughput to S-1470 in units of standard cubic feet. (basis: cumulative increase)~~

3A Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that no refinery fuel gas is fired at S-1470 until a District approved calorimeter is installed and operating at S-1470. Until the District approved calorimeter is installed and operating at S-1470, natural gas shall be the only fuel fired at S-1470. Until the instance when a fuel other than only natural gas is first fired at S-1470, there is no requirement for the Permittee/Owner/Operator to sample the natural gas fired at S-1470 to determine its BTU content. (basis: BACT, cumulative increase, offsets, toxics)~~

3B. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that once refinery fuel gas is first fired at S-1470 and thereafter, all gaseous fuel fired at S-1470 shall be analyzed using a District approved calorimeter and the results of the analyses shall be recorded using a District approved data logging system. At least 4 times each hour, the calorimeter and data logging system shall measure and record the heating value of the gaseous fuel fired at S-1470 in British thermal units per standard cubic foot of fuel. (basis: BACT, cumulative increase, offsets, toxics)~~

4. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that the total reduced sulfur content of gaseous fuel fired at S-1470 does not exceed 35 ppmv, based on a rolling 365 day average. (basis: cumulative increase, BACT, offsets)~~
5. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that the total reduced sulfur content of the fuel gas fired at S-1470 does not exceed 100 ppmv, based on a rolling 24 hour average. (basis: BACT)~~
6. Deleted. S-1470 is shutdown via Application 30768.~~When firing refinery fuel gas, Permittee/Owner/Operator of S-1470 shall operate a District approved device that at least four times per hour, samples the fuel gas to be fired at S-1470 and in ppmv units, measures and records the total reduced sulfur content of the fuel gas. These measurements and recordings shall disclose the rolling 24 hour average value of the total reduced sulfur concentration in the fuel gas in ppmv units as well as the the value of total reduced sulfur concentration in the fuel gas, based on a rolling 365 day average. (basis: BACT)~~
7. Deleted. S-1470 is shutdown via Application 30768.~~When firing refinery fuel gas, at least four times per hour, Permittee/Owner/Operator shall measure and record the total reduced sulfur content of the fuel gas fired at S-1470, in ppmv units. (basis: BACT)~~

8. Deleted. S-908 and S-1470 are shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that S-1470 is not operated unless it is equipped with a District approved continuous emissions monitoring device that continuously measures and records the concentration of nitrogen oxides, in ppmv units, in the combustion exhaust from S- 1470 and S-908, corrected to 3% oxygen, dry, and the device must measure and record the oxygen concentration of the combustion exhaust from S-1470 and S-908.~~
~~(basis: cumulative increase, BACT, offsets)~~

9. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that the total fuel use at S-1470 does not exceed 262,800 MMBTU during any rolling 12 consecutive month period.~~
~~(basis: cumulative increase, toxics, offsets)~~

10. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that NOx emissions from S-1470 do not exceed 10 ppmv, dry, at 3% oxygen, based on a three hour average. (basis: BACT, cumulative increase, offsets)~~

11. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that CO emissions from S-1470 do not exceed 50 ppmv, dry, at 3% oxygen. (basis: BACT, cumulative increase, offsets)~~

12. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that POC emissions from S-1470 do not exceed 0.683 ton per rolling consecutive 12 month period. (basis: cumulative increase, offsets)~~

13. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that PM-10 emissions from S-1470 do not exceed 0.946 ton per rolling consecutive 12 month period. (basis: cumulative increase, offsets)~~

14. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that SO2 emissions from S-1470 do not exceed 1.793 ton per rolling consecutive 12 month period. (basis: cumulative increase, BACT, offsets)~~

15. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that ensure that S-1470 is abated by A-908 at all times that a fuel is fired at S-1470 except for 144 hours during any rolling 12 consecutive month period. The 144 hours is for start up of S-1470. At all times other than the 144 hours per 12 consecutive month period, while a fuel is fired at S- 1470, S-1470 shall be abated by A-908 and there shall be ammonia injection at A-908. (basis: BACT)~~

16. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that ammonia slip from A-908 does not exceed 20 ppmv, dry, at 3% oxygen, based on a 3 hour average. The owner/operator of A-908 shall conduct an annual source test, in accordance with the District's Manual of Procedures, to demonstrate compliance with the NH3 emission limit.~~
~~(basis: cumulative increase, toxics, Bubble Condition 8077 per Application 19647)~~

17. Deleted. (Initial Source Test completed April 10, 2002.)

17a. Deleted. S-1470 is shutdown via Application 30768.~~At least once per calendar year, Permittee/Owner/Operator shall ensure that a District approved source test is conducted for S-1470 measuring its CO emission rate and that the testing is done in compliance with the District's Manual of Procedures. (basis: Regulation 2-1-403; Regulation 9-10)~~

17b. Deleted. S-1470 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that within 60 days of the date of completion of the (each) District approved source test required by condition 18539 part 17A, two identical copies of the results of the source test, each referencing S1470, condition 18539 part 17A and part 17B, and plant #14628 are received by the District and that both copies are addressed to the District's Permit Services Division. (basis: Regulation 2-1-403; Regulation 9-10)~~

18. Deleted. S-908 and S-1470 are shutdown via Application 30768.~~In a District approved log, Permittee/Owner/Operator shall record, for S-1470 and S-908, the amount of each fuel fired at each source, the Btu value of the fuel fired at each source, the concentration of nitrogen oxides in the exhaust from S-1470 and S-908, the oxygen content in the combustion exhaust from S-1470 and S-908. For the fuel gas fired at S-1470, Permittee/Owner/Operator shall record the total reduced sulfur content and hydrogen sulfide content, sampled 4 times each hour, averaged over each 365 consecutive day period and averaged over each 24 consecutive hour~~

~~period. The log shall be retained on site for at least 5 years from date of last entry, and shall be made available to the District staff upon request~~
~~(basis: cumulative increase, offsets)~~

18a. Deleted. S-908 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that the maximum firing rate of S908 does not exceed the 1,927,200 MMBtu/yr based on the HHV of each fuel fired, during every 365 consecutive day period: (basis: cumulative increase)~~

19. Deleted. (S-906 and S-907 have been removed from service.)

20. Deleted. S-1470 is shutdown via Application 30768.~~If, based on District approved source test results, emissions from S-1470 exceed permitted and/or offset emission levels, Permittee/Owner/Operator shall provide additional District approved emission reduction credits to the District in the amount and of the type determined by the District to be due. (basis: offsets)~~

New Permit Condition #27724 (for AC Issuance)

Condition #: 19199 ~~**S802,**~~ **S817,** ~~**S975,**~~ **S982, S1106**

Permit Application #2508

Permit Application 13803: Clarify conditions to allow owner/operator to bypass A-1106 SCR during shutdown of S-1106 (part H9)

Permit Application 17928: Administratively changed section F to remove S1100 Iso-Octene unit that was never built.

Administratively Changed by Application 18861 (June 2009) Removed completed parts and parts redundant with District Regulations

Administratively Changed by Application 21711 (May 2010) Delete Part D2 and E2.

Administratively changed by Application 29278 (February 2021). Revised Parts H12 and H13 to allow 60 days to submit source test reports.

Application 30768 (TBD 2022). Deleted Parts C5, D1 through D8, G0, G5, G9 and H0 through H15 due to the shutdown of S-802 and S-975 as part of Marathon's Renewable Fuels Project. Revised source description for S-982 in Part E.

Logistical Improvements

A1. Completed. (Final Fugitive Counts were provided 6/7/04 and offsets were adjusted.)
A2. Completed. (Final Fugitive Counts were provided 6/7/04 and offsets were adjusted.)
A3. Deleted. (Connector Design Requirements Completed and Leak Limits redundant with Regulation 8-18-304)
A4. Deleted. (Valve Design Requirements Completed and Leak Limits redundant with Regulation 8-18-302)
A5. Permittee/Owner/Operator shall ensure that total organic compound emissions from each pump shall not exceed 100 ppm, subject to the leak repair provisions of Regulation 8, Rule 18. (basis: BACT, Reg. 8-18)
A6. Deleted. (Process Sample System Design Requirements Completed)
A7. Deleted. (Process Drain Design Requirements Completed)
A8. Deleted. (Pressure Relief Valve Design Requirements Completed and redundant with Regulation 8-28-302. All PRDs vent to the refinery fuel gas system or an abatement device with >=98% efficiency.)

Two New Flare Gas Recovery Compressors Each with a Maximum Rated Capacity of 4 MMSCFD

B1. Completed. (Final Fugitive Counts were provided 2/27/03 and offsets were adjusted.)
B2. Completed. (Final Fugitive Counts were provided 2/27/03 and offsets were adjusted.)
B3. Deleted. (Connector Design Requirements Completed and Leak Limits redundant with Regulation 8-18-304)
B4. Deleted. (Valve Design Requirements Completed and Leak Limits redundant with Regulation 8-18-302)
B5. Permittee/Owner/Operator shall ensure that total organic compound emissions from each pump shall not exceed 100 ppm, subject to the leak repair provisions of Regulation 8, Rule 18. (basis: BACT, Reg. 8-18)
B6. Deleted. (Process Sample System Design Requirements Completed)
B7. Deleted. (Process Drain Design Requirements Completed)
B8. Deleted. (Pressure Relief Valve Design Requirements Completed and redundant with Regulation 8-28-302. All PRDs vent to the refinery fuel gas system or an abatement device with >=98% efficiency.)

S-802 Fluid Catalytic Cracking Unit (No. 4 Gas Plant) FCCU Naphtha Splitter

C1. Completed. (Final Fugitive Counts were provided 3/~~37~~27/03 and offsets were adjusted.)
C2. Completed. (Final Fugitive Counts were provided 3/~~37~~27/03 and offsets were adjusted.)
C3. Deleted. (Connector Design Requirements Completed and Leak Limits redundant with Regulation 8-18-304)
C4. Deleted. (Valve Design Requirements Completed and Leak Limits redundant with Regulation 8-18-302)
C5. Deleted. S-802 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that total organic compound emissions from each pump shall not exceed 100 ppm, subject to the leak repair provisions of Regulation 8, Rule 18. (basis: BACT, Reg. 8-18)~~
C6. Deleted. (Process Sample System Design Requirements Completed)
C7. Deleted. (Process Drain Design Requirements Completed)
C8. Deleted. (Pressure Relief Valve Design Requirements Completed and redundant with Regulation 8-28-302. All PRDs vent to the refinery fuel gas system or an abatement device with >=98% efficiency.)

S-975 No. 4 Gas Plant Cooling Tower; Marley, 13- 24A, with 4 Pumps, Sum Total Maximum Capacity: 4,140,000 Gallons/Hr

D1. Deleted. S-975 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that the total cooling tower water recirculation rate at S- 975 does not exceed 4,140,000 gallons per hour or 69,000 gallons per minute. (basis: cumulative increase, offsets, BACT)~~
D2. Completed. (Circulation Rate Source Test conducted June 2, 2003)
D3. Deleted. S-975 is shutdown via Application 30768.~~The total dissolved solids content of the cooling tower water at S-975 shall not exceed 5000 milligrams per liter. (basis: cumulative increase, offsets)~~
D4. Deleted. S-975 is shutdown via Application 30768.~~At least once each quarter, Permittee shall sample the cooling tower water at S-975 and subject the sample to a District approved laboratory analysis to determine its total dissolved solids content. (basis: cumulative increase, offsets)~~
D5. Deleted. S-975 is shutdown via Application 30768.~~The POC content of the cooling tower water at S- 975 shall not exceed 100 ppm gasoline range organics (EPA Method 8015) and 100 ppm diesel range organics (EPA Method 8015) as measured at the cooling water return line or at the basin or at any other location at S-975, as determined by the results of EPA laboratory method 8015. (basis: BACT)~~
D5A. deleted (basis: Startup conditions completed: The value XXXX ppm in condition #5 above shall be set by the District after the District has obtained and reviewed laboratory data generated pursuant to these conditions. (basis: start-up, BACT))
D6. Deleted. S-975 is shutdown via Application 30768.~~Within 45 days after the date that the change of conditions authorization letter is issued by the District for S-975 pursuant to application #2508, Permittee/Owner/Operator shall sample the cooling tower water at S-975 at the cooling water return line twice each WEEK and at the basin once each MONTH. After twenty six (26) weeks of District approved sampling and sample analysis data,~~

~~Permittee/Owner/Operator shall sample the cooling tower water at S-975 at the cooling water return line ONCE each WEEK and Permittee/Owner/Operator shall ensure that each sample is subjected to analysis by EPA laboratory method 8015. The results of the laboratory analysis shall disclose the organic content of the S-975 cooling tower water. Permittee/Owner/Operator shall ensure that the results of the each laboratory analysis along with the laboratory report of each analysis shall be available on site for inspection by District staff not later than two weeks (14 calendar days) after the date on which the sample was taken from S-975. (basis: BACT)~~

D7. Deleted. S-975 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that there is a District approved sample point at the cooling tower water return line for S-975 where cooling tower water in route to S-975 can be sampled. (basis: BACT)~~

D8. Deleted. S-975 is shutdown via Application 30768.~~In a District approved log, Permittee/Owner/Operator shall record each date and location from which each sample of cooling tower was taken and the purpose of the sample. Permittee/Owner/Operator shall record the results of the laboratory analyses conducted pursuant to the requirements of these conditions along with copies of the laboratory results that disclose the date of the sampling, the location from which the sample was taken, the organic content of the cooling tower water determined by the laboratory method, the total dissolved solids content of the sample, the date of the analysis and name and address of the laboratory that conducted the analysis. The District approved log shall be retained on site for at least 5 years from last entry and be made available to the District staff upon request. (basis: cumulative increase, offsets, BACT)~~

S-982 Diesel HDO Unit No. 2 (S-1003) Cooling Tower~~No. 2 Hydrodesulfurization Unit; Cooling Tower;~~
Capacity: 1,080,000 Gallons Per Hour

E1. Permittee/Owner/Operator shall ensure that the total cooling tower water recirculation rate at S- 982 shall not exceed 1,080,000 gallons per hour or 18,000 gallons per minute. (basis: cumulative increase, offsets, BACT)

E2. Completed. (Circulation Rate Source Test conducted June 2, 2003)

E3. The total dissolved solids content of the cooling tower water at S-982 shall not exceed 5000 milligrams per liter. (basis: cumulative increase, offsets)

E4. At least once each quarter, Permittee shall sample the cooling tower water at S-982 and subject the sample to a District approved laboratory analysis to determine its total dissolved solids content. (basis: cumulative increase, offsets)

E5. The POC content of the cooling tower water at S-982 shall not exceed 100 ppm gasoline range organics (EPA Method 8015) and 100 ppm diesel range organics (EPA Method 8015) as measured at the cooling water return line or at the basin or at any other location at S-982, as determined by the results of EPA laboratory method 8015. (basis: BACT)

E5A. Deleted (basis: Startup conditions completed: The value XXXX ppm in condition #5 above shall be set by the District after the District has obtained and reviewed laboratory data generated pursuant to these conditions. (basis: start-up, BACT))

E6. Within 45 days after the date that the change of conditions authorization letter is issued by the District for S-982 pursuant to application #2508, Permittee/Owner/Operator shall sample the cooling tower water at S-982 at the cooling water return line twice each WEEK and at the basin once each MONTH. After twenty six (26) weeks of District approved sampling and sample analysis data, Permittee/Owner/Operator shall sample the cooling tower water at S-982 at the cooling water return line ONCE each WEEK and Permittee/Owner/Operator shall ensure that each sample is subjected to analysis by EPA laboratory method 8015. The results of the laboratory analysis shall disclose the organic content of the S-982 cooling tower water. Permittee/Owner/Operator shall ensure that the

results of the each laboratory analysis along with the laboratory report of each analysis shall be available on site for inspection by District staff not later than two weeks (14 calendar days) after the date on which the sample was taken from S-982. (basis: BACT)

E7. Permittee/Owner/Operator shall ensure that there is a District approved sample point at the cooling tower water return line for S-982 where cooling tower water in route to S-982 can be sampled. (basis: BACT)

E8. In a District approved log, Permittee/Owner/Operator shall record each date and location from which each sample of cooling tower was taken and the purpose of the sample.
Permittee/Owner/Operator shall record the results of the laboratory analyses conducted pursuant to the requirements of these conditions along with copies of the laboratory results that disclose the date of the sampling, the location from which the sample was taken, the organic content of the cooling tower water determined by the laboratory method, the total dissolved solids content of the sample, the date of the analysis and name and address of the laboratory that conducted the analysis. The District approved log shall be retained on site for at least 5 years from last entry and be made available to the District staff upon request. (basis: cumulative increase, offsets, BACT)

S-1100 Iso-Octene Unit, Maximum Production Capacity: 3000 BPD (1,095,000 BPY)

F0. Deleted. (S-1100 Iso-Octene Unit was not built)
F1. Deleted. (S-1100 Iso-Octene Unit was not built)
F2. Deleted. (S-1100 Iso-Octene Unit was not built)
F3. Deleted. (S-1100 Iso-Octene Unit was not built)
F4. Deleted. (S-1100 Iso-Octene Unit was not built)
F5. Deleted. (S-1100 Iso-Octene Unit was not built)
F6. Deleted. (S-1100 Iso-Octene Unit was not built)
F7. Deleted. (S-1100 Iso-Octene Unit was not built)
F8. Deleted. (S-1100 Iso-Octene Unit was not built)
F9. Deleted. (S-1100 Iso-Octene Unit was not built)

S-1105 No. 4 Hydrodesulfurization Unit; Maximum Capacity: 40,080 BPD (14,629,200 BPY)

G0. Permittee/Owner/Operator shall ensure that the total throughput of hydrocarbon material/feed material to S-1105 does not exceed 40,080 barrels during each calendar day. (basis: Regulation 2-2- 419)
G1. Completed. (Final Fugitive Counts for provided 4/17/03 and offsets were adjusted.)
G2. Completed. (Final Fugitive Counts for provided 4/17/03 and offsets were adjusted.)
G3. Deleted. (Connector Design Requirements Completed and Leak Limits redundant with Regulation 8-18-304)
G4. Deleted. (Valve Design Requirements Completed and Leak Limits redundant with Regulation 8-18-302)
G5. Permittee/Owner/Operator shall ensure that total organic compound emissions from each pump shall not exceed 100 ppm, subject to the leak repair provisions of Regulation 8, Rule 18. (basis: BACT, Reg. 8-18)
G6. Deleted. (Process Sample System Design Requirements Completed)
G7. Deleted. (Process Drain Design Requirements Completed)
G8. Deleted. (Pressure Relief Valve Design Requirements Completed and redundant with Regulation 8-28-302. . All PRDs vent to the refinery fuel gas system or an abatement device with >=98% efficiency.) G9. In a District approved log, Permittee/Owner/Operator shall record the amount of feed material throughput to S 1105 each day, each month, and for each 12 consecutive month period. The District approved log shall be retained on site for at least 5 years from date of last entry and shall be made available to the District staff upon request. (basis: cumulative increase)

S-1106 Furnace; FU72, No. 4 Hydrodesulfurization Reactor Feed Heater, Natural Gas Fired, Maximum Firing Rate (HHV): 30 MMBtu/hr abated by A-1106 Selective Catalytic Reduction System

H0. Permittee/Owner/Operator shall ensure that the maximum fuel firing rate at S-1106 does not exceed 30 MMBtu/hr averaged over each calendar day by dividing the fuel use rate during each day by 24. (basis: cumulative increase)
H1. Permittee/Owner/Operator shall ensure that no fuel other than natural gas is fired at S-1106. (basis: cumulative increase, toxics)
H2. Permittee/Owner/Operator shall ensure that S- 1106 is not ~~be~~ operated unless it is equipped with a District approved fuel flow meter that measures the volume of fuel throughput to S-1106 in units of standard cubic feet. (basis: cumulative increase)
H3. Permittee/Owner/Operator shall ensure that the total fuel use at S-1106 does not exceed 225.257 million standard cubic feet of natural gas during any rolling 12 consecutive month period. (basis: cumulative increase, toxics, offsets)
H4. Permittee/Owner/Operator shall ensure that NOx emissions from S-1106 do not exceed 10 ppmv, dry, at 3% oxygen, based on a three hour average, after abatement at A-1106. (basis: BACT, cumulative increase, offsets)
H5. Permittee/Owner/Operator shall ensure that CO emissions from S-1106 do not exceed 50 ppmv, dry, at 3% oxygen, based on a three hour average. (basis: BACT, cumulative increase, offsets)
H6. Permittee/Owner/Operator shall ensure that POC emissions from S-1106 do not exceed 0.619 ton per rolling consecutive 12 month period (or the equivalent emission rate prorated to the time period during which emissions are measured/calculated). (basis: cumulative increase, offsets)
H7. Permittee/Owner/Operator shall ensure that PM-10 emissions from S-1106 do not exceed 0.856 ton per rolling consecutive 12 month period (or the equivalent emission rate prorated to the time period during which emissions are measured/calculated). (basis: cumulative increase, offsets)

H8. Permittee/Owner/Operator shall ensure that SO2 emissions from S-1106 shall not exceed 0.068 ton per rolling consecutive 12 month period (or the equivalent emission rate prorated to the time period during which emissions are measured/calculated). (basis: cumulative increase, BACT, offsets)
H9. Permittee/Owner/Operator shall ensure that S- 1106 is abated by A-1106 at all times that a fuel is fired at S-1106 except for not more than 144 hours during any rolling 12 consecutive month period and during shutdown as defined by Regulation 9-10-218. The 144 hours is for start-up of S-1106.

At all times other than the 144 hours per 12 consecutive month period and during shutdown as defined by Regulation 9-10-218, while a fuel is fired at S-1106, S-1106 shall be abated by A-1106 and there shall be ammonia injection at A-1106. (basis: BACT)
H10. Permittee/Owner/Operator shall ensure that ammonia slip from A-1106 does not exceed 20 ppmv, dry, at 3% oxygen averaged over any 3 hour period. (basis: toxics)
H11. Notwithstanding any provision of District regulations allowing for the malfunction of or lack of operation of the CEM, Permittee/Owner/Operator shall not operate S-1106 without a District approved continuous emissions monitoring device that continuously measures and continuously records the concentration of nitrogen oxides, in ppmv units, in the combustion exhaust from S-1106 corrected to 3 ppmv oxygen, dry; and the device shall continuously measure and continuously record the oxygen concentration in the combustion exhaust from S-1106. (basis: cumulative increase, BACT, offsets)
H12. Once each calendar year Permittee/Owner/Operator shall ensure that a District approved source test is conducted that measures CO emissions from S-1106. The first CO source test for S-1106 shall be conducted within 60 days after the first date that fuel is first fired at S-1106. The District approved source test shall measure the emission rate of CO from S-1106 and the amount of oxygen in the S-1106 exhaust. Because of this condition S-1106 does not need a CEM for CO.

Permittee/Owner/Operator shall ensure that within 60 days of the date of completion of the (each) District approved source test, two identical copies of the results of the source test, each referencing permit application #2508, S-1106, and plant #14628 are received by the District and that one copy is addressed to the District's Source Test Manager, and that the other copy is addressed the District's ~~Permit Services~~Engineering Division. (basis: start-up, offsets, BACT, cumulative increase, toxics)
H13. Permittee/Owner/Operator shall ensure that a District approved source test is conducted that measures emissions from S-1106 and that the source test for S-1106 is conducted within 60 days after the first date that fuel is first fired at S-1106. The District approved source test shall measure the emission rate of NOx, CO, POC, SO2, ammonia, and PM-10 from S-1106 while it is operated at a fuel feed rate of 22857 SCF of natural gas per hour or more. For NOx, CO, and ammonia, the measurement shall be based on a three hour average. If the fuel firing rate of S-1106 during the testing is less than 22857 SCF natural gas per hour, then Permittee/Owner/Operator shall conduct a subsequent District approved source test at S-1106 every twelve months thereafter, until a District approved source test is completed while S-1106 is fired at 22857 SCF of natural gas per hour or more during the entire test period.

Permittee/Owner/Operator shall ensure that within 60 days of the date of completion of the (each) District approved source test, two identical copies of the results of the source test, each referencing permit application #2508, S-1106, and plant #14628 are received by the District and that one copy is addressed to the District's Source Test Manager, and that the other copy is addressed the District's ~~Permit Services~~Engineering Division. (basis: start-up, offsets, BACT, cumulative increase, toxics)
H14. In a District approved log, Permittee/Owner/Operator shall record, for S-1106, the amount of each fuel fired in units of standard cubic feet, the concentration of nitrogen oxides in the exhaust from S-1106 in ppmv corrected to 3% oxygen, the oxygen content in the combustion exhaust from S-1106, each time period during which S-1106 is operated without abatement by A-1106 and each time period during which S-1106 is operated without ammonia injection at A-1106. The District approved log shall be retained on site for at least 5 years from date of last entry and shall be made available to the District staff upon request. (basis: cumulative increase, offsets)
H15. If, based on District approved source test results, emissions from S-1106 exceed permitted and/or offset emission levels, Permittee/Owner/Operator shall provide additional District approved emission reduction credits to the District in the amount and of the type(s) determined by the District to be due, to offset the emissions that are in excess of permitted and/or offset emission levels. (basis: offsets)

New Permit Condition #27725 (for AC Issuance)

Condition #: 19528 **S1465, S952, S953, S954, S1012, S1013, ~~S1415,~~ S1524, S945, S944, S854, S943**

Modified by App 18739 (Nov 2008) Removal of S924 from Part 6

Administratively Modified by Application 19326 (Feb2009), Removed Part 2 and 2A

Administratively changed by Application 19419 (June 2009). Updated to remove parts 7 and 7A redundant with District regulations.

Administratively Revised by Application 19874 (July 2009) Updates for Combustion Sources

Administratively Revised in August 2009 to add Part 19 for Gas Turbine S963.

Administratively Revised in September 2009 by Application 18261 Title V Renewal. Added Parts 20 and 20A for S-1411 SAP CAM.

Administratively Changed by Application 21711 (May 2010). Deleted Parts 8/8A. Deleted S1416 from Part 10/10A. Renumbered Part 11C.

Administratively Changed by Application 23232 (April 2012). Added Parts 21, 22 and 23: 40 CFR 64 CAM requirements for S963 Gas Turbine.

Revised by Application 27030 (November 2015). Removal of Part 14a. A-9 was demolished.

Administratively Changed by Application 27791 (October 2016). Corrected Part 21, 40 CFR 64 CAM requirements for S963 Gas Turbine.

Administratively Changed by Application 28445 (September 2017). Removed Parts 19, 21, 22 and 23 for S-963.

Application 30768 (TBD 2022). Revised Parts 4, 7, 7A, 8, 8A, 15 and deleted Parts 9, 9A, 10, 10A, 13, 15, 20 due to the shutdown of S-99, S-909, S-912, S-913, S-915, S-916, S-921, S-1401, S-1405, S-1411, S-1415 as part of Marathon's Renewable Fuels Project. Administratively removed Part 14 for S-810 and S-821, which were previously shutdown. Added note to Parts 3 and 3A due to the shutdown of S-901.

1. Deleted. (Redundant with Title V Standard Conditions I.J.1 and I.J.2.)

2. Deleted. (The source test requirements in Regulation 8-44-601 are more stringent.)

2A. Deleted. (Part 2 source test requirements replaced by Regulation 8-44-601.)

3. Deleted. (Source Test not required. S-901 now has a CO CEM.) S-901 is shutdown via Application 30768.

3A. Deleted. (Source Test not required. S-901 now has a CO CEM.) S-901 is shutdown via Application 30768.

4. ~~For each of S-909, S-912, S-913, S-915, S-916, S-919, S-920, and S-921, Permittee/Owner/Operator~~ The owner/operator of S-919 and S-920 shall ensure that not less frequently than twice each calendar year a District approved source test is conducted for each source measuring its NOx and CO emission rate using a District approved source test method and that each test is conducted in compliance with the District's Manual of Procedures. ~~Permittee/Owner/Operator shall ensure that the first District approved source for each of S909, S912, S913, S915, S916, S919, S920, and S921 is completed before July 31, 2004.~~
(basis: Regulation 2-1-403; Regulation 9-10, Regulation 2-6-503)

4A. Permittee/Owner/Operator shall ensure that within 60 days of the date of completion of the (each) District approved source test required by condition 19528 part 4, two identical copies of the results of the source test along with supporting documentation, each referencing the subject source number, condition 19528 part 4 and part 4A, and plant #~~12758~~ B2758 are received by the District and that both copies are addressed to the District's ~~Permit Services~~Engineering Division.
(basis: Regulation 2-1-403; Regulation 9-10, Regulation 2-6-503)

5. Deleted. (Sources either have a CEM or the Source Tests requirements are included in Condition 18372, Parts 33A2 or 34.)

5A. Deleted. (Sources either have a CEM or the Source Tests requirements are included in Condition 18372, Parts 33A2 or 34.)

6. Deleted. (Source Test Requirements now included in Condition 18372, Part 33A1.)

6A. Deleted. (Source Test Requirements now included in Condition 18372, Part 33A1.)

7. Deleted. (Monitoring requirements for S-952, S- 953, and S-954~~, S-955, S-956, S-957, and S-960~~ are required quarterly per Regulation 9-8-503). S-955, S-956, S-957, and S-960 are shutdown via Application 30768.

7A. Deleted. (Monitoring requirements for S-952, S- 953, and S-954~~, S-955, S-956, S-957, and S-960~~ are required quarterly per Regulation 9-8-503). S-955, S-956, S-957, and S-960 are shutdown via Application 30768.

8. Deleted. ~~(Monitoring requirements for S-955, S-956, S- 957, S-958, S-959, and S-960 are required quarterly per Regulation 9-8-503)~~ Sources S-955 through S-960 are shutdown via Application 30768.

8A. Deleted. ~~(Monitoring requirements for S-955, S-956, S- 957, S-958, S-959, and S-960 are required quarterly per Regulation 9-8-503)~~Sources S-955 through S-960 are shutdown via Application 30768.

9. Deleted. S-1401 is shutdown via Application 30768.~~For S1401, Permittee/Owner/Operator shall ensure that not less frequently than once each calendar year a District approved source test is conducted for S-1401 measuring its SO3 and H2S04 emission rate per dry standard foot of exhaust volume, expressed as 100% H2S04. This monitoring requirement shall become effective April 1, 2004.~~
~~(basis: Regulation 6-330, Regulation 2-1-403, Regulation 2-6-503)~~

9A. Deleted. S-1401 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that within 60 days of the date of completion of the (each) District approved source test required by condition 19528 part 9, two identical copies of the results of the source test and supporting documentation, each referencing S-1401, condition 19528 part 9 and part 9A, and plant #12758 are received by the District and that both copies are addressed to the District's Permit Services Division. (basis: Regulation 2-1-403; Regulation 6-330, Regulation 2-6-503)~~

10. Deleted. S-1415 is shutdown via Application 30768.~~For S-1415, Permittee/Owner/Operator shall ensure that not less frequently than once every 60 months, a District approved source test is conducted in compliance with the District's Manual of Procedures, measuring POC emission rate and carbon concentration in ppm, dry. (basis: Regulation 8-2; Regulation 2-1-403, Regulation 2-6-503)~~

10A. Deleted. S-1415 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that within 60 days of the date of completion of the (each) District approved source test required by condition 19528 part 10, two identical copies of the results of the source test along with supporting documentation, each referencing the subject source number, condition 19528 part 10 and part 10A, and plant #14628 are received by the District and that both copies are addressed to the District's Permit Services.~~
~~(basis: Regulation 2-1-403; Regulation 8-2, Regulation 2-6-503)~~

Conditions for monitoring smoking flares (S-854, S-944, S-945, S-992, S-1012, and S-1517):

11. Deleted. (See discussion in Rev. 3 Statement of Basis)

11A. Deleted. (See discussion in Rev. 3 Statement of Basis)

11B) For the purposes of these conditions, a flaring event is defined as a flow rate of vent gas flared in any consecutive 15 minutes period that continuously exceeds 330 standard cubic feet per minute (scfm). If during a flaring event, the vent gas flow rate drops below 330 scfm and then increases above 330 scfm within 30 minutes,

that shall still be considered a single flaring event, rather than two separate events. For each flaring event during daylight hours (between sunrise and sunset), the owner/operator shall inspect the flare within 15 minutes of determining the flaring event, and within 30 minutes of the last inspection thereafter, using video monitoring or visible inspection following the procedure described in Part 11C of this condition.
(basis: Regulation 2-6-409.2)

11C) The owner/operator shall use the following procedure for the initial inspection and each 30- minute inspection of a flaring event.

a. If the owner/operator can determine that there are no visible emissions using video monitoring, then no further monitoring is necessary for that particular inspection.

b. If the owner/operator cannot determine that there are no visible emissions using video monitoring, the owner/operator shall conduct a visual inspection outdoors using either:

i.) EPA Reference Method 9; or
ii.) Survey the flare by selecting a position that enables a clear view of the flare at least 15 feet, but not more than 0.25 miles, from the emission source, where the sun is not directly in the observer's eyes.

c. If a visible emission is observed, the owner/operator shall continue to monitor the flare for at least 3 minutes, or until there are no visible emissions, whichever is shorter.

d. The owner/operator shall repeat the inspection procedure for the duration of the flaring event, or until a violation is documented in accordance with Part 11D. After a violation is documented, no further inspections are required until the beginning of a new calendar day. (basis: Regulation 6-1-301, 2-1-403)

11D) The owner/operator shall comply with one of the following requirements if visual inspection is used:
If EPA Method 9 is used, the owner/operator shall comply with Regulation 6-1-301 when operating the flare. If the procedure of 4.b.ii is used, the owner/operator shall not operate a flare that has visible emissions for three consecutive minutes. (basis: Regulation 2-6-403)

11E) The owner/operator shall keep records of all flaring events, as defined in Part 11B. The owner/operator shall include in the records the name of the person performing the visible emissions check, whether video monitoring or visual inspection (EPA Method 9 or visual inspection procedure of Part 11C of this condition) was used, the results of each inspection, and whether any violation of this condition (using visual inspection procedure in Part 11C of this condition) or Regulation 6-1-301 occurred (using EPA Method 9). (basis: Regulation 2-6-501; 2-6-409.2)

12. This condition applies to each organic liquid storage tank that is exempt from Regulation 8, Rule 5, Storage of Organic Liquids, due to Permittee/Owner/Operator's assertion or belief that the tank's contents comply with the exemption in Regulation 8-5-117 for storage of organic liquids with a true vapor pressure of less than or equal to 25.8 mm Hg (0.5 psia). Whenever the type of organic liquid in the tank is changed, the Permittee/Owner/Operator shall verify that the true vapor pressure at the storage temperature is less than or equal to 25.8 mm Hg (0.5 psia). The Permittee/Owner/Operator shall use Lab Method 28 from Volume III of the District's Manual of Procedures, Determination of the Vapor Pressure of Organic Liquids from Storage Tanks. For materials listed in Table 1 of Regulation 8 Rule 5, the Permittee/Owner/Operator may use Table 1 to determine the material's true vapor pressure, rather than Lab Method 28. If the results are above 25.8 mm Hg (0.5 psia), Permittee/Owner/Operator shall report non- compliance in accordance with Standard Condition I.F and shall submit a complete permit application to the District to obtain a new Permit to Operate for the tank not more than 180 days from discovery that the true vapor pressure of the material in the tank is greater than 25.8 mm Hg (0.5

psia). This monitoring requirement shall take effect on April 1, 2004. (basis: Regulation 8-5, Regulation 2-1-403, Regulation 2-6-503)

12A. When laboratory testing is conducted to determine the true vapor pressure of the material stored in a tank subject to condition 19528 part 12, in a District-approved log, Permittee/Owner/Operator shall record the results of the testing, the laboratory method used, along with the identity of tank by District assigned source number where the material was sampled/stored. Permittee shall retain the log for not less than five years from the date of the recording in the log. Permittee/Owner/Operator shall ensure that the log is made available to District staff upon request. (basis: Regulation 8- 5, Regulation 2-1-403, Regulation 2-6-503)

13. Deleted. A-4 and S-99 are shutdown via Application 30768.~~With a frequency not less than once per month, Permittee/Owner/Operator shall visually inspect the outlet at A-4 while it is abating S-99 and Permittee/Owner/Operator shall note whether any visible emissions are present at the A-4 exhaust point venting to atmosphere. If there are visible emissions, Permittee/Owner/Operator shall immediately take corrective action to eliminate the visible emissions. Upon completion of each inspection, in a District approved log, Permittee/Owner/Operator shall record whether there are visible emissions or not and, when visible emissions are detected, the corrective action taken to eliminate the visible emissions. During each month that S-99 is not in operation for the entire month, Permittee/Owner/Operator need not complete this inspection for S-99. This monitoring requirement shall take effect on April 1, 2004. (basis: Regulation 2-1-403, Regulation 2-6-503)~~

14. Deleted. S-810 and S-821 are shutdown.~~With a frequency not less than once per day, Permittee/Owner/Operator shall visually inspect S-810, S-821 and Permittee/Owner/Operator shall note whether any visible emissions are present at S-810, S-821. If there are visible emissions, Permittee/Owner/Operator shall immediately take corrective action to eliminate the visible emissions. Upon completion of each inspection, in a District approved log, Permittee/Owner/Operator shall record whether there are visible emissions or not and, when visible emissions are detected, the corrective action taken to eliminate the visible emissions. During each month that S-821 is not in operation for the entire month and when there is no petroleum coke stored at S-821, Permittee/Owner/Operator need not complete this inspection for S-821. This monitoring requirement shall take effect on April 1, 2004. (basis: Regulation 2-1-403, Regulation 2-6-503)~~

14A. Deleted. (A-9 Precipitator removed from service).

15. Deleted. A-1420 was removed from service in 2006 when S-1405 became abated by S-1411 or S-1401.) Sources S-1401, S-1405, and S-1411 are shutdown via Application 30768.~~With a frequency not less than once per month, Permittee/Owner/Operator shall visually inspect the outlet at A-1420 while it is abating S-1405 and Permittee/Owner/Operator shall note whether any visible emissions are present at the A-1420 exhaust point venting to atmosphere. If there are visible emissions, Permittee/Owner/Operator shall immediately take corrective action to eliminate the visible emissions. Upon completion of each inspection, in a District approved log, Permittee/Owner/Operator shall record whether there are visible emissions or not and, when visible emissions are detected, the corrective action taken to eliminate the visible emissions. During each month that S- 1405 is not in operation for the entire month, Permittee/Owner/Operator need not complete this inspection for S-1405. This monitoring requirement shall take effect on April 1, 2004. (basis: Regulation 2-1-403, Regulation 2-6-503)~~

16. Deleted. (Redundant with Title V Standard Condition I.J.3)

17. Deleted. (63 Subpart UUU requirements have been completed.)

18. Deleted. (63 Subpart UUU requirements have been completed.)

19. Deleted. (S-963 removed from service)

20. Deleted. S-1411 is shutdown via Application 30768.~~For S1411, Permittee/Owner/Operator shall ensure that not less frequently than once each calendar year a District approved source test is conducted for S-1411 measuring its SO3 and H2S04 emission rate per dry standard foot of exhaust volume, expressed as 100% H2S04. (basis: Regulation 6-1-330, Regulation 2-1-403, Regulation 2-6-503; 40 CFR 64)~~

20A. Deleted. S-1411 is shutdown via Application 30768.~~Permittee/Owner/Operator shall ensure that within 60 days of the date of completion of the (each) District approved source test required by condition 19528 part 20, two identical copies of the results of the source test and supporting documentation, each referencing S-1411, condition 19528 part 20 and part 20A, and plant #14628 are received by the District and that both copies are addressed to the District's Engineering Division.~~
~~(basis: Regulation 2-1-403; Regulation 6-1-330, Regulation 2-6-503, 40 CFR 64)~~

21. Deleted. (S-963 removed from service)

22. Deleted. (S-963 removed from service)

23. Deleted. (S-963 removed from service)

New Permit Condition #27726 (for AC Issuance)

Condition #: 21053 S134, S137, S323, ~~S432,~~ S603, ~~S908, S909, S912, S1401, S1404, S1411~~S-919, S-920, S-928, S-929, S-930, S-931, S-932, S-933, S-934, S-937, S-973, S-1511, S-1512, A-1584.

Condition 21053

Tesoro Refining and Marketing Company
150 Solano Way Martinez, CA 94533

Application 17928 (October 2008) Removed demolished sources S317, S324, S431, S457, S46, S21 and S991. Administratively changed by Application 19328 (June 2009), removal of S700 from Part 6.

Administratively Changed by Application 24362 (June 2012). Removed S-913 from the source test requirements of Parts 6 and 7 since no longer fired with 40# fuel gas.

Administratively changed by Application 29278 (February 2021). Revised Parts 3 and 7 to allow 60 days to submit source test reports.

Application 30768 (TBD 2022). Deleted Part 2 due to the shutdown of S1401, S1404, and S1411 as part of Marathon's Renewable Fuels Project. Removed S-432 from Part 6 as S-432 is repurposed to function as a moving bed biofilm reactor, i.e., no longer a storage tank (See S-2013). Updated fuel gas users in Parts 6 and 7. Removed S-323 from this permit condition as conditions refer to Permit Condition 13605. Revised Part 7 due to the shutdown of S-908, S-909, and S-912.

Administratively removed S318, S367, and S513 from Part 6 as sources are shut down.

1. Deleted. (See discussion of Compliance with Regulation 9-1-313.2 in the Revision 2 Statement of Basis).

2. Deleted. S1401, S1404, and S1411 are shutdown via Application 30768.~~The Owner/Operator shall monitor and record on a monthly basis the visible emissions from Sources S-1401, S-1404, and S-1411 to demonstrate compliance with Regulation 6-301 (Ringlemann 1 or 20% opacity). These records shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: Regulation 6-1-301]~~

3. Deleted. Duplicate with Permit Condition 13605, Part 3.~~The Owner/Operator shall conduct an annual District approved source test on the S-323, to demonstrate that the combined collection/destruction efficiency of A-14 is no less than 99.5%, by weight, for VOC. The Owner/Operator shall submit the test results to the District's Compliance and Enforcement Division and the District's Engineering Division no less than 60 days after the test. These records shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: BAAQMD Condition 13605, Part 3 and 4, and BAAQMD Regulation 2-1-403]~~

4. To allow sufficient time to prepare test plans, train employees, and install any necessary equipment, the monitoring requirements are effective April 1, 2004.

5. Deleted. (See discussion of Compliance with Regulation 9-1-313.2 in the Revision 2 Statement of Basis).

6. The owner/operator of the listed tanks shall abate them by the A14 Vapor Recovery System at all times of operation, except as allowed in Regulation 8-5. A14 Vapor Recovery System compresses the vapors to be mixed with the ~~refinery~~ fuel gas system for combustion in ~~S908, S909, or S912~~units specified in Part 7. The owner/operator will meet a POC destruction efficiency of at least 95% by weight.

Tanks: ~~S318, S367,~~ S134, S137~~, S513~~ (basis: 60.113bc(2))

Tanks: ~~S323, S432,~~ S603 (basis: 63.646(a),63.120(d)(5))

7. The owner/operator shall conduct a District approved source test at each of the following sources (initially per permit condition #27604 part 5) and at least once every 5 years in the year prior to the Title V Permit Renewal:

S-919 No. 2 HDS Depent Reboiler (F19)
S-920 No. 2 HDS Charge Heater (F20)
S-928 HDN Reactor A Heater (F28)
S-929 HDN Reactor B Heater (F29)
S-930 HDN Reactor C Heater (F30)
S-931 Hydrocracker Reactor 1 Heater (F31)
S-932 Hydrocracker Reactor 2 Heater (F32)
S-933 Hydrocracker Reactor 3 Heater (F33)
S-934 Hydrocracker Stabilizer Reboiler (F34)
S-937 Hydrogen Plant Heater (F37)
S-973 No. 3 HDS Recycle Gas Heater (F55), Abated by A-31 SCR
S-1511 Hot Oil Heater #1 (F78), Abated by A-1511 SCR
S-1512 Hot Oil Heater #2 (F79), Abated by A-1512 SCR
A-1584 Trailer Mounted Combustor, 42.3 MMBtu/hr, John Zink, PECS Unit
~~S-908 No. 8 Furnace @ No. 3 Crude Unit~~
~~S-909 No. 9 Furnace @ No. 1 Feed Prep.~~
~~S-912 No.12 Furnace @ No. 1 Feed Prep.~~

to measure for each source each of the following:

the fuel feed rate in pounds/hr
the POC emission rate at the stack
the flue gas flow rate in SCFM at the stack

the oxygen content of the stack flue gas
the destruction efficiency of POC/VOC as measured across the Furnace/combustion device.

The owner/operator shall ensure that two copies of the results of the source testing along with related calculations and relevant process data are received by the District's Engineering Division not more than 60 days following the date of the source test.

(Basis: Regulation 2-2-208 Cumulative Increase, Regulation 2-5 Toxics, Regulation 2-2-302 Offsets, Regulation 1-238 Parametric Monitor)

Condition #: 21100 ~~S1496~~ **(Archived)**

Condition #21100:

Application #8002 (December 11, 2003)

Amended by Application #9728 (June 25, 2004): Increase vapor pressure from 8 to 11 psig, decrease throughput from 5,500,000 barrels/yr to 2,500,000 barrels/yr, add monitoring.

Amended by Application 10659: Clarification of conditions including "net" versus "total" throughput limit.

Administratively Changed by Application 24362 (June 2012) Removed S 913 from the source test requirements of Part 4 since no longer fired with 40# fuel gas.

Application 30002 (August 2020) Change of Condition Added preventative maintenance condition to Part 2.

Administratively changed by Application 29278 (February 2021). Revised Part 4 to allow 60 days to submit source test reports.

~~Application 30002 (August 2020) Change of Condition Added preventative maintenance condition to Part 2.~~

Application 30768 (TBD 2022). Deleted Parts 1 through 5. S-1496 is no longer routed to A-14 Vapor Recovery System as part of project since emissions will be less than 10 pounds per highest day. Tank service and method of operation is converted from storage of hydrocarbon materials to operate as an equalization tank for wastewater treatment. A new source number, S-2010, has been assigned. See Permit Condition 27610.

S-1496 Fixed Roof Tank; Tank A-876, Capacity: 80,000 Barrels, Storing: Wastewater. Please see new Permit Condition 27610 for new daily and consecutive 12 month throughput limits and mass emissions. ~~Heavy Reformate with Pentanes, Straight Run Heavy Naphtha abated by A-14 Vapor Recovery System~~

1. Deleted. No longer a storage tank. See Permit Condition 27610.~~The total net throughput at tank S-1496 shall not exceed 2,500,000 barrels in any consecutive 12 month period. The owner/operator shall use a radar monitoring device to measure the height of the tank. The owner/operator shall use the change in height to calculate throughput.~~
~~.(basis: Cumulative Increase, Toxic Risk Screen, Offsets)~~

2. Deleted. No longer a storage tank. See Permit Condition 27610.~~Notwithstanding any provision of District regulations allowing for the malfunction of A-14 due to a valid break down at No. 1 Gas Plant vapor recovery compressor(s), the owner/operator shall ensure that S- 1496 (excluding the pressure vacuum relief valve vent), including the pressure vent at S 1496, is abated by A-14 at all times. During the preventative maintenance on A-14 Vapor Recovery System S-1496 does not need to be abated by A-14. The A-14 Vapor Recovery System shall have a~~

~~destruction efficiency of at least 99.5% by weight as measured across the combustion device(s) burning the vapors from the fuel gas system. .(basis: Cumulative Increase, Toxic Risk Screen, Offsets, Regulation 8-5, NSPS, Regulation 10 Subpart Kb)~~

3. Deleted. No longer a storage tank. See Permit Condition 27610.~~Materials stored in S-1496 shall be limited to the following:~~
~~Heavy reformate, heavy reformate with pentanes, fractionator splitter bottoms, conventional gasoline stock, heavy naphtha, or straight run gasoline with a true vapor pressure less than 11 psia.~~
~~A liquid other than those specified above may be stored in S-1496, provided that all of the following criteria are met:~~
~~True vapor pressure must be less than 11 psia~~
~~POC emissions, based on the maximum throughput in part 1, do not exceed 8,868 pounds per year; and~~
~~toxic emissions in lbs/year, based on the maximum throughput in part 1, do not exceed any risk screening trigger level.~~
~~.(basis: Cumulative Increase, Toxic Risk Screen, Offsets)~~

4. Deleted. No longer a storage tank. See Permit Condition 27610.~~To determine compliance with part 2, the owner/operator shall conduct a District approved source test at each of the following sources every 5 years in the year prior to the Title V Permit Renewal (initial compliance has been demonstrated in a source test for AN 6201 by TIAX on October 28, 2003).~~
~~S-908 No. 8 Furnace @ No. 3 Crude Unit~~
~~S-909 No, 9 Furnace @ No. 1 Feed Prep~~
~~S-912 No. 12 Furnace @ No/ 1 Feed Prep~~
~~For each source, the operator must measure the following:~~
~~. the fuel feed rate in pounds/hr~~
~~. the POC emission rate at the stack~~
~~. the flue gas flow rate in SCFM at the stack~~
~~. the oxygen content of the stack flue gas~~
~~. the stack temperature~~
~~. the destruction efficiency of POC as measured across the combustion device~~

~~The owner/operator shall submit individual copies of the results of the source tests (along with related calculations and process data) to the District's Engineering Division, Enforcement Division, and Source Test Division within 60 days of the source test. .(basis: Cumulative Increase, Toxic Risk Screen, Offsets, Regulation 1-238)~~

5. Deleted. No longer a storage tank. See Permit Condition 27610.~~To determine compliance with the above parts, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including, but not necessarily limited to, the following information:~~
~~a. On a monthly basis, type and amount of liquids stored and true vapor pressure ranges of such liquids.~~
~~b. The throughput of material shall be added and recorded in the log for each month and for each rolling consecutive 12 month period.~~
~~c. The time, date, duration, and reason for each instance that S-1496 is not abated by A-14. These records shall be kept on site for at least 5 years. All records shall be recorded in a District approved log and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. (basis: Cumulative Increase, Toxic Risk Screen, Offsets, Regulation 1-441, Regulation 8-5-501, Regulation 1-238)~~

New Permit Condition #27727 (for AC Issuance)

Condition #: 21849 S1025, S613, S696, S908, S909, S912, S1504

Application #10668 (October 29, 2004): Loading Rack Modernization Project
Application #13493 (October, 2005): Modification of emission limit from S-1025 to the RACT and Regulation 8-33-301 level of 0.08 lb POC per 1000 gallon of material loaded.
Administratively Changed by Application 18861 (June 2009) Removed completed parts and parts redundant with District Regulations
Application 17928/17458 (2008) Remove Demolished and OOS Sources
Application 21023 (January 2010): increase ethanol throughput of S-1504 from 400,000 bbl/yr to 1,200,000 bbl/yr.
Administratively changed by Application 23981 (April 2012): Updated Part 11 to remove 5 year source test link to Title V renewal, removed S-913 from source test requirement (no longer on 40# fuel gas system, and increased time allowed for submitting source test report to 60 days.
Administratively Changed by Application 24362 (June 2012): Removed S-913 from the source test requirements of Part 11 since no longer fired with 40# fuel gas.
Application #31305 (November 2021): Part 11 - Updated emission limit to 0.04 lb POC per 1000 gallon of material loaded per Regulation 8-33-301 and added A-1584 to source test requirement.

S-613 Vapor Recovery Tank A-613: Fixed Roof Tank, Capacity 420K Gallons, Storing: Organic Vapor
S-696 Tank A-696; Internal Floating Roof Tank, Capacity 630K Gallons, Storing: Gasoline
S-1025 Bulk Terminal Bottom Loading Facilities: Gasoline, ~~Naphtha, Kerosene,~~ Diesel, ~~Fuel Oil, Ethanol~~Renewable Diesel
S-1504 Bulk Terminal Unloading Rack: Ethyl Alcohol

Fugitive Components
1. Completed. (Final Fugitive Count submitted 6/9/05 and offsets were adjusted.)
2. Completed. (Final Fugitive Count submitted 6/9/05 and offsets were adjusted.)
3. Deleted. (Valve Design Requirements Completed and Leak Limits redundant with Regulation 8-18-302)
4. Deleted. (Connector Design Requirements Completed and Leak Limits redundant with Regulation 8-18-304)
5. Deleted. (Pump Design Requirements Completed and Leak Limits redundant with Regulation 8-18-303)
6. Deleted. (Pressure Relief Valve Design Requirements Completed and redundant with Regulation 8-28302. All PRDs vent to the refinery fuel gas system or an abatement device with >=98% efficiency.)
7. Deleted. (Completed. All fugitive components have been added to the refinery fugitive monitoring and repair program)

S-1025 Bulk Plant Bottom Loading Facilities: Gasoline, ~~Naphtha, Kerosene,~~ Diesel, ~~Fuel Oil, Ethanol~~Renewable Diesel
8. The owner/operator of S-1025 shall apply for the proper certification from the California Air Resources Board (CARB) for the A-14 Vapor Recovery System prior to startup. (basis: Regulation 8-33-301, 302)
9. The owner/operator of S-1025 Bulk Plant Loading Facilities shall not exceed the following throughputs. 64,457 barrels (2,707,194 gallons) per day 18,615,000 barrels (781,830,000 gallons) per any 12 month consecutive period (basis: toxic risk screen)
10. The owner/operator of S-1025 shall not transfer any material other than gasoline, ~~naphtha, kerosene,~~ diesel, ~~fuel oil, or ethanol~~or renewable diesel. (basis: toxic risk screen)
11. To ensure that the S-1025 Bulk Plant Unloading Rack does not exceed an emission factor greater than 0.04 lb POC per 1000 gallons of material loaded, the owner/operator shall:
    a. not operate S-1025 unless vented to S-613 Vapor Recovery Tank and A-14 Vapor Recovery System.
    b. install a sample line from each of the pressure-vacuum valves located at the loading racks, which is easily accessible by District personnel to determine any valve leakage.
    c. install and maintain a pressure switch at the knockout pot, V-61, located at the interface of the vapor outlet of the S-1025 Loading Rack and the inlet to the A-14 Vapor Recovery and S-613 Vapor Recovery Tank Systems. The pressure switch shall be set at 18 inches of water column as measured at the cargo

tank/vapor coupler interface located the furthest from the knockout pot, V-61. If the pressure exceeds 18 inches, a high pressure alarm will shutdown loading rack operations.

d. conduct District approved source tests to determine POC destruction efficiency at the following sources every 5 years (initial compliance has been demonstrated in a source test for AN 6201 by TIAX on October 28, 2003). Initial source testing for AN 30768 is contained in permit condition 27604 part 5.

~~S-908 No. 8 Furnace @ No. 3 Crude Unit~~
~~S-909 No. 9 Furnace @ No. 1 Feed Prep.~~
~~S-912 No. 12 Furnace @ No. 1 Feed Prep.~~
S-919 No. 2 HDS Depent Reboiler (F19)
S-920 No. 2 HDS Charge Heater (F20)
S-928 HDN Reactor A Heater (F28)
S-929 HDN Reactor B Heater (F29)
S-930 HDN Reactor C Heater (F30)
S-931 Hydrocracker Reactor 1 Heater (F31)
S-932 Hydrocracker Reactor 2 Heater (F32)
S-933 Hydrocracker Reactor 3 Heater (F33)
S-934 Hydrocracker Stabilizer Reboiler (F34)
S-937 Hydrogen Plant Heater (F37)
S-973 No. 3 HDS Recycle Gas Heater (F55), Abated by A-31 SCR
S-1511 Hot Oil Heater #1 (F78), Abated by A-1511 SCR
S-1512 Hot Oil Heater #2 (F79), Abated by A-1512 SCR
A-1584 Trailer Mounted Combustor, 42.3 MMBtu/hr, John Zink, PECS Unit

For each source, the owner/operator must measure the following:
the fuel feed rate in pounds/hr
the POC emission rate at the stack
the flue gas flow rate in SCFM at the stack
the oxygen content of the stack flue gas
the stack temperature
the destruction efficiency of POC as measured across the combustion device
the amount of gasoline loaded during the test

The owner/operator shall submit individual copies of the results of the source tests (along with related calculations and process data) to the District's Engineering Division, Enforcement Division, and Source Test Section within 60 days of the source test.
(basis: Cumulative Increase, Toxic Risk Screen, Regulation 8-33-301, Regulation 1-238, BACT)

12. To determine compliance with the parts 8-11, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including, but not necessarily limited to, the following information:
    a. California Air Resources Board certification of A-14.
    b. On a daily basis, type and quantity of product loaded.
    c. The throughput of material shall be added and recorded in the log for each month and for each rolling consecutive 12 month period.
    d. The time, date, duration, and reason for each instance that S-1025 is not abated by S-613 or A-14.

These records shall be kept on site for at least 5 years. All records shall be recorded in a District approved log and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.

(basis: Cumulative Increase, Toxic Risk Screen, Offsets, Regulation 1-441, Regulation 1-238)

S-1504 Bulk Plant Unloading Rack: Ethanol

13. The owner/operator of S-1504 Bulk Plant Unloading Rack shall not exceed the following throughput: 1,200,000 barrels per any 12 month consecutive period

(basis: cumulative increase, offsets, toxic risk screen)

14. The owner/operator of S-1504 shall not transfer any material other than fuel grade ethanol. (basis: cumulative increase, offsets, toxic risk screen)

15. To determine compliance with parts 13 and 14, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including, but not necessarily limited to, the following information:
    a. On a daily basis amount of ethanol transferred.
    b. The throughput of material shall be added and recorded in the log for each month and for each rolling consecutive 12 month period.

These records shall be kept on site for at least 5 years. All records shall be recorded in a District approved log and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.

(basis: Cumulative Increase, Toxic Risk Screen, Offsets, Regulation 1-441, Regulation 1-238, Regulation 8-6-501)

Condition #: 21910 ~~S912~~ **(Archived)**

Condition #21910:

Application 10750 (December 2004): Temporary Permit for alteration to install burner oxygen lancing.

Application 30768 (TBD 2022). Deleted S-912 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

S-912 No. 1 Feed Prep Heater (Furnace F-12), 135 MMBtu/hr fired with refinery fuel gas and natural gas alteration to install burner oxygen lancing

1. Deleted. S-912 is shutdown via Application 30768. ~~Within 30 days of startup the owner/operator shall conduct a District approved source test measuring NOx, CO, and O2 at the as-found firing rate. The source test results shall be submitted to the Engineering Division and the District source test manager within 45 days of the test. (basis: Cumulative Increase, Offsets)~~

2. Deleted. S-912 is shutdown via Application 30768. ~~If the source test shows that there is an increase in emissions as compared with previous source tests (within the variation allowed by the District Source Test Division), the owner/operator shall submit an application for a "modification" to S-912 No. 1 Feed Prep Heater (Furnace F-12). Offsets due to the District from increased emissions during the equipment testing period (Temporary Permit to Operate) will be added to the new application for the modification. (basis: Cumulative Increase, Offsets)~~

3. Deleted. S-912 is shutdown via Application 30768. ~~The owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including, but not necessarily limited to, the following information:~~

~~a. On a daily basis, the fuel use based on the high heating value (HHV).~~

~~b. The fuel use shall be added and recorded in the log for each month and for each rolling consecutive 12 month period.~~

~~c. The time, date, and duration that oxygen lancing is used at S-912.~~

~~These records shall be kept on-site for at least 5 years. All records shall be recorded in a District-approved log and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. (basis: Cumulative Increase, Offsets, Regulation 1-441, Regulation 1-238)~~

Condition #: 22150 ~~**S802**~~ **(Archived)**

Modified by App. 18739 (Nov 2008) Removal of S903 & A8

Application 19300 (Dec 2008) Remove S-904 Backup CO Boiler Service and A-11

Administratively Revised by Application 19874 (July 2009) Updates for Combustion Sources

Administratively changed by Application 29278 (February 2021). Revised Part 2 to allow 60 days to submit source test reports.

Application 30768 (TBD 2022). Deleted A-30, S-803, and S-901 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

For ESP A30 abating CO Boiler S901

1. Deleted. A-30, S-803, and S-901 are shutdown via Application 30768.~~In order to ensure compliance with Regulation 6-1-310, the owner/operator of A-30 FCCU Electrostatic Precipitator shall conduct continuous monitoring of ESP opacity. (Basis: Regulation 6-1-310, 2-6-503)~~

2. Deleted. A-30, S-803, and S-901 are shutdown via Application 30768.~~Each time opacity of emissions from A-30 FCCU Electrostatic Precipitator exceeds 30%, except for one 6-minute average opacity reading in any 1-hour period, the owner/operator shall conduct a source test to determine compliance with Regulation 6-1-310. Each time the opacity exceeds this range, the owner/operator shall conduct a source test to determine compliance with Regulation 6-1-310. The owner/operator shall conduct the source test within 60 days of detection of the exceedence. (Basis: Regulation 6-1-310, 2-6-503)~~

3. Deleted. (Exceedance reporting is redundant with Title V Standard Condition I.F)

Condition #: 22590 ~~**S904**~~ **(Archived)**

Application 13076 (October 18, 2005): Addition of natural gas pilots.
Application 19300 (Dec 2008) Remove S-904 Backup CO Boiler Service
Application 23194 (August 2011) S-904 Burner Replacement Alteration (added clarifying language regarding firing limits and corrected bases of Part 1 and Part 2) Authority to Construct cancelled March 2013 S-904 No. 6 Boiler, 775 MMBtu/hr: installation of 12 natural gas pilots with a combined maximum firing rate of 54 MMBtu/hr; MAXIMUM firing rate of burners and pilots limited to 775 MMBtu/hr

The firing limits contained in this condition are enforceable not-to-exceed limits used as a basis for the alteration project that added pilots to S-904 via Application 13076. These firing limits are not considered firm New Source Review emissions limits since S-904 was not subject to Regulation 2, Rule 2 when this condition was created.
Application 30768 (TBD 2022). Deleted S-904 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

1. Deleted. S-904 is shutdown via Application 30768.~~The owner/operator shall equip the natural gas line to the pilots with a dedicated fuel flow meter. (Basis: monitoring)~~

2. Deleted. S-904 is shutdown via Application 30768.~~The owner/operator shall ensure that S-904 Boiler is not fired above its maximum firing rate of 775 MMBtu/hr (HHV) at any time. The total amount of fuel burned at S-904 at the natural gas pilots and the burners shall not exceed 775 MMBtu/hr. (Basis: Application 13076 alteration)~~

3. Deleted. (Redundant with Regulation 9-10-504.1)

Condition #: 22693 ~~**S1009**~~ **(Archived)**

Application 13401 (December 2005)
Altered by Application 16082 (July 2007), addition of V-66 Degassing Drum
Application 30768 (TBD 2022). Deleted S-1009 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

S-1009 Alkylation Unit: Mitigation of Atmospheric Releases, 2-PRVs on the C-2 DIB column to be vented to the V-104 Flare Knockout Pot with gases vented to the Flare Header (S-854 East Air Flare, S-944 North Steam Flare, S-945 South Steam Flare, S-992 Emergency Flare, and S-1012 West Air Flare).
Process wastewater to be degassed by V-66.

1. Deleted. (Final fugitive component count provided September 2008 when S-1009 was granted a Permit to Operate. Facility has been permitted for 28 valves in gas service, 46 valves in light liquid service, 3 PRVs in liquid service, and 171 flanges.)

2. Deleted. (Offsets provided for additional fugitive emissions in October 2008 prior to S-1009 being granted a Permit to Operate. Facility is permitted for total fugitive POC emissions of 0.110 tons.)

3. Deleted. (The Authority to Construct design requirements for valves was verified when S-1009 was granted a Permit to Operate in October 2008.)
4. Deleted. (The Authority to Construct design requirements for flanges/connectors was verified when S-1009 was granted a Permit to Operate in October 2008.)

5. Deleted. No pumps were installed.

6. Deleted. (The Authority to Construct design requirements for Pressure Relief Valves was verified when S-1009 was granted a Permit to Operate in October 2008.)

7. Deleted. (Redundant with Regulation 8-18. Fugitive components associated with this application were incorporated into the facility LDAR program upon startup.)

8. Deleted. (The Authority to Construct design requirements for Pressure Relief Valves on C-2 DIB Column was verified when S-1009 was granted a Permit to Operate in October 2008.)

9. Deleted. S-1009 is shutdown via Application 30768.~~Immediately after the startup of the V-104 System, the 10" tie in line downstream of the two pressure safety valves on the C-2 DIB column shall be blinded. (basis: Regulation 8-28-304.2)~~

New Permit Condition #27728 (for AC Issuance)

Condition #: 23129 ~~S1510,~~ **S1511, S1512,** ~~S1513, S1514, S1515, S1516,~~ **S1517**

Application 14141/14144 Coker Modification Project

Modified by Application 16389/16390 and Application 18311 (Modify Part 26 - Initial source tests for heaters).

Modified by Application 20679 July 2009 (Change throughput in Part 3)

Modified by Application 21744 November 2010 (Corrected S-1511 and S-1512 emissions and added Coker Vent emissions to S-1510. Revised Part 19)

Application 24065 (July 2012) Revised Part 56 to include purge gas.

Application 27030 (November 2015). Revised Parts 38, 39 and
42 (S-659, S-660 and A-9 Demolished) and Parts 53 and 56 for increased S-1517 Purge and Pilot Gas rates.

Application 29416 (September 2018). Added Parts 59 through 70 for S-1517

Administratively changed by Application 29278 (February 2021). Revised Part 26 to allow 60 days to submit source test reports.

Application 30768 (TBD 2022). Deleted Parts 1 through 3, 6 through 9, 29 through 49, and revised Parts 5 and 59 due to the shutdown of S-1510, S-1513, S-1514, S-1515, and S-1516 as part of Marathon's Renewable Fuels Project. Sources S-1511 and S-1512 remain operational, but no longer support the Delayed Coker Unit. Instead, S-1511 and S-1512 are repurposed to support the Pretreatment Unit S-2025. Removed the term "refinery" from "refinery fuel gas" as refinery fuel gas is referred to petroleum refinery fuel gas.

The following permit conditions will be imposed to ensure that the proposed project complies with all applicable District, State, and Federal Regulations. The conditions limit operational parameters such as fuel use, stack gas emission concentrations, and mass emission rates. Permit conditions will also specify abatement device operation and performance levels. For compliance assurance purpose, conditions specifying emission monitoring, source testing, and record keeping requirements are included. Furthermore, pollutant mass emission limits (in units of lb./hr) will ensure that daily and annual emission rate limitations are not exceeded.

Compliance with CO and NOx limitations will be verified by continuous in-stack emission monitors (CEMs) that will be in operation during all heater operating modes, including start up and shutdown. Compliance with SO2 and H2S limits will be determined by monitoring the total reduced sulfur (TRS) concentration level in the refinery fuel gas with a TRS analyzer. If natural gas is burned, the sulfur content will be assumed to be the same as natural gas specifications.
Compliance with POC and PM10 mass emission limits will be demonstrated by annual source testing.

Delayed Coker (S-1510)

1. Deleted. S-1510 is shutdown via Application 30768.~~The owner/operator of source S-1510 shall not exceed Ringlemann No. 1.0, for three minutes in any consecutive 60 minutes period. (basis: Regulation 6-1).~~
2. Deleted. S-1510 is shutdown via Application 30768.~~The owner/operator of the delayed coker (S-1510) shall wash the pad area surrounding the Coke Pit and dewatering pad (where coke drops from the coker) at least once per day when the coker is operating or when coke is being removed from the coke drums. (basis: cumulative increase)~~

3. Deleted. S-1510 is shutdown via Application 30768.~~The owner/operator of S-1510 delayed coker shall not process more than 55,000 barrels per day (12 midnight to 12 midnight), and 20,075,000 barrels in any consecutive 12 month period. (basis: Cumulative increase)~~

4. The owner/operator of all sources (~~S-1510 through S-1517,~~ S-1511, S-1512, S-1517, A-1511, A-1512~~, A-1514, A-1515~~) shall inspect and maintain all new valves, pumps and flanges/connectors associated with this project according to District Regulation 8-18. (basis: Regulation 8-18)

5. The owner/operator of all sources (~~S-1510 through S-1517, A-1511, A-1512, A-1514, A-1515~~S-1511 and S-1512) shall ensure that each new pressure relief valve installed in hydrocarbon service is vented to the ~~refinery~~ fuel gas system or an abatement device with a capture/destruction efficiency of 98 wt% POC, or more, approved for this use in advance by the District. (basis: Regulation 8-28, BACT)

6. Deleted. S-1511, S-1512, and S-1517 do not have any process sample systems and S-1510 will be shutdown.~~The owner/operator of all sources (S-1510 through S-1517, A-1511, A-1512, A-1514, A-1515) shall ensure that each new process sample system in light liquid service installed is a closed loop, continuous flow design and in no event shall there be any line purging to process drains. (basis: cumulative increase)~~

7. Deleted. [Final fugitive component count provided August 1, 2008. The Owner/Operator has been permitted to install fugitive components (992 gas service valves, 535 light liquid service valves, 15 pumps and 3080 connectors) with a total POC emission rate of 2.745 tons/yr for the entire Coker Modification Project.]

8. Deleted. S-1510 is shutdown via Application 30768.~~To demonstrate compliance with the above conditions, the owner/operator shall maintain the following records in a District approved log:~~

~~a. The daily record of the throughput~~

~~b. The monthly record of the throughput summarized on a consecutive 12 month basis These records shall be kept on site and made available for District inspection for a period of at least 5 years from the date on which a record is made. (basis: recordkeeping)~~

Delayed Coker Heater #1 and #2 (S-1511 and S-1512)

9. Deleted. S-1510 is shutdown via Application 30768.~~The owner/operator of source S-1510 shall not exceed Ringlemann No. 1.0, for three minutes in any consecutive 60 minutes period. (basis: Regulation 6-1).~~

10. The owner/operator shall burn in sources S-1511 and/or S-1512 only natural gas or ~~refinery~~ fuel gas. (basis: cumulative increase, BACT)

11. The owner/operator shall not burn in sources S-1511 and/or S-1512 ~~refinery~~ fuel gas having total reduced sulfur (TRS) greater than 100 ppmv, based on 24 hour average and 35 ppmv, based on consecutive 365 day average. (basis: BACT)

12. Except as described below, the owner/operator of sources S-1511 and/or S-1512 shall not exceed 7 ppmv NOx (calculated as NO2) corrected to 3% oxygen dry (based on a three hour average), and 35 ppmv CO, corrected to 3% oxygen dry (based on a three hour average). (basis: BACT)

a. During startup, shut down and malfunction periods, the owner/operator of source S-1511 and/or S-1512 shall not exceed 50 ppmv NOx (calculated as NO2) corrected to 3% oxygen dry (based on a three hour average), and 400 ppmv CO, corrected to 3% oxygen dry (based on a three hour average). Startup, shutdown or malfunction shall not exceed 144 hours during any consecutive 12 month period. (basis: cumulative increase, offsets)

b. For up to 100 days per consecutive 12 month period, during periods of reduced furnace firing (such as spalling or reduced rates due to unit shutdowns or other reasons), the owner/operator of source S-1511 and/or S-1512 shall not exceed 50 ppmv CO at 3% O2 dry (based on a three hour average). (basis: cumulative increase, offsets)

13. The owner/operator shall not exceed 10 ppmv ammonia at 3% O2 dry at the outlet of A-1511 and/or A-1512. (basis: cumulative increase, toxics)

14. The owner/operator shall not exceed 2,014,800 MMBtu of ~~refinery~~ fuel gas and natural gas combined at each source (S-1511 and/or S-1512) in any consecutive 12 month period. (basis: cumulative increase)

15. The owner/operator shall ensure that the total sulfur content in the natural gas shall not exceed 1.0 grain per 100 scf of natural gas. The owner/operator shall use PG&E specification or equivalent pipeline quality natural

gas. Compliance will be demonstrated through records that show the specification of natural gas by the supplier. (basis: BACT for both PM10 and SO2 when firing natural gas)

16. Deleted. Duplicate with Part 15. ~~The owner/operator shall ensure that the total sulfur content in the natural gas shall not exceed 1.0 grain per 100 scf of natural gas. The owner/operator shall use PG&E specification or equivalent pipeline quality natural gas. Compliance will be demonstrated through records that show the specification of natural gas by the supplier. (basis: BACT for PM10 when firing natural gas)~~

17. The owner/operator of sources S-1511 and S-1512, A-1511 and/or A-1512 shall comply with the requirement of Regulation 2-2-306 for sulfuric acid mist emissions (SAM). (basis: PSD)

18. The owner/operator of S-1511, S-1512, A-1511 and/or A-1512 shall ensure that the emissions from A-1511 or A-1512 shall not exceed 230 mg/dsm (0.10 gr/dscf or 160 ppmv (dry basis)) of H2S average over 3 hours at the inlet of S-1511 or S-1512, or 20 ppmv (dry basis) of SO2 at the outlet of A-1511 or A-1512 except as allowed by NSPS Subpart J and Subpart A for startup, shutdown, or malfunction. (basis: ~~NSPS 40 CFR 60, Subpart J~~Regulation 2-2-208, Cumulative Increase)

19. When burning ~~refinery~~ fuel gas in S-1511 and/or S-1512, the owner/operator of S-1511, S-1512, A-1511 and/or A-1512 shall install a total reduced sulfur (TRS) or SO2 continuous monitoring and recording system to verify compliance with the requirement of Part 18. The owner/operator shall maintain the equipment in accordance with manufacturer's recommendations. (basis: Regulation 2-2-208, Cumulative Increase~~NSPS (40 CFR 60, Subpart J)~~)

20. The owner/operator shall abate Heater #1 and Heater #2 (S-1511 and/or S-1512) with Selective Catalyst Reduction systems (A-1511 and/or A-1512), respectively at any time that S-1511 and/or S-1512 are in operation, except for 144 hours each in any consecutive 12 month period during startup, shutdown and malfunction. (basis: cumulative increase)

21. The owner/operator shall install, calibrate, maintain, and operate a District approved continuous emission monitoring (CEM) device that continuously measures and records the concentration of nitrogen oxides (calculated as NO2), in ppmv units, in the combustion exhaust from
A-1511 and A-1512, corrected to 3% oxygen, dry. This CEM device shall be in operation at all times when S-1511 and/or S-1512 operate except as allowed in the District's Manual of Procedures, which includes maintenance and malfunction. (basis: cumulative increase, BACT, offsets)

22. The owner/operator shall install, calibrate, maintain, and operate a District approved continuous emission monitoring (CEM) device that continuously measures and records the concentration of carbon monoxide (CO), in ppmv units, in the combustion exhaust from A-1511 and A-1512, corrected to 3% oxygen, dry. This CEM device shall be in operation at all times when S-1511 and/or
S-1512 operate except as allowed in the District's Manual of Procedures, which includes maintenance and malfunction. (basis: cumulative increase, BACT, offsets)

23. The owner/operator shall install, calibrate, maintain, and operate a District approved continuous emission monitoring (CEM) device that continuously measures and records the concentration of oxygen in the combustion exhaust from A-1511 and A-1512. This CEM device shall be in operation at all times when S-1511 and/or S-1512 operate except as allowed in the District's Manual of Procedures, which includes maintenance and malfunction. (basis: cumulative increase, BACT, offsets)

24. The owner/operator shall install, operate and maintain a District approved fuel flow meter that measures the volume of fuel throughput to S-1511 and/or S-1512 in units of standard cubic feet. (basis: cumulative increase)

25. The owner/operator shall install, operate and maintain a District approved calorimeter that measures the heating value when ~~refinery~~ fuel gas is fired at S-1511 and/or S-1512. (basis: BACT, cumulative increase, offsets, toxics)

26. The owner/operator shall conduct District approved initial source tests on Heaters S-1511 and S-1512 to demonstrate compliance with the NOx, CO, TRS, NH3, PM10 and SAM levels in Parts 11, 12, 13, and 17. For purposes of SAM, the applicant shall also test for SO3 and ammonium sulfates. Source tests conducted while firing natural gas shall demonstrate compliance with the NOx, CO, NH3 and PM10 levels. Source tests conducted while

firing ~~refinery~~ fuel gas shall demonstrate compliance with the NOx, CO, TRS, NH3, PM10 and SAM levels. The required source tests are as follows:

a. Deleted. (The initial source test was completed from August 12 through August 14, 2008)

b. Deleted. (The initial source test for part a. was at firing rates above 80% of maximum firing)

c. Heaters S-1511 and/or S-1512 firing ~~refinery~~ fuel gas only at as-found conditions (within 60 days after the ~~refinery~~ fuel gas is first used). If Heater S-1511 and/or S-1512 is operating at 80% or more of maximum firing rate during this source test, then the requirements for source test (d) shall have been met for that heater.

d. Heaters S-1511 and/or S-1512 firing ~~refinery~~ fuel gas only (within 60 days after 80% or more of maximum firing rate is first reached on ~~refinery~~ fuel gas).

The test results from source tests ~~(a)~~ shall be forwarded to the District within 60 days of completion of the field tests, but no later than 150 days of initial startup. Subsequent test results shall be forwarded to the District within 60 days of completion of the field tests. The owner/operator shall notify the District of the following events:

i. The actual date that each Heater first fires at 80% of maximum firing rate on natural gas within 15 days after such date.

ii. The actual date that the Heaters first fire ~~refinery~~ fuel gas within 15 days after such date.

iii. The actual date that each Heater first fires at 80% of maximum firing rate on ~~refinery~~ fuel gas within 15 days after such date. (basis: compliance demonstration, PSD avoidance)

The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section prior to conducting any tests. The owner/operator shall notify the District's Source Test Section in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). As indicated above, the Owner/Operator shall measure the contribution of condensable PM (back half) to the total PM10 emissions. However, the Owner/Operator may propose alternative measuring techniques to measure condensable PM such as the use of a dilution tunnel or other appropriate method used to capture semi-volatile organic compounds. Source test results shall be submitted to the District within 45 days of conducting the tests except as otherwise required above.

27. The owner/operator shall maintain all records and reports required by this permit in a District approved log. These records shall be kept on site and made available for District inspection for a period of at least 5 years from the date on which a record is made. (basis: Regulation 2-6-501)

28. When burning ~~refinery~~ fuel gas in sources S-1511 and/or S-1512, the owner/operator shall record the consecutive 3 hour average total reduced sulfur content of the ~~refinery~~ fuel gas. On an annual basis, the owner/operator shall report:

a. the daily fuel consumption

b. hourly total reduced sulfur content (as averaged over 24 consecutive hours)

c. annual average reduced sulfur content.

The report shall be sent to the District's Director of Compliance and Enforcement, and the Manager of the Permit Evaluation Section no later than 60 days after the end of the calendar year. The owner/operator may request a change to total reduced sulfur content monitoring requirements if the fuel gas stream is demonstrated to be inherently low in sulfur. (basis: BACT, offsets, cumulative increase)

Coker Screen/Crusher (S-1513) and Conveyors & Dewatering Pad

29. Deleted. S-1513 is shutdown via Application 30768. ~~The owner/operator of S-1513 shall not exceed 1,277,500 wet tons of coke in any consecutive 12 month period. (basis: cumulative increase, BACT)~~

30. Deleted. S-1513 is shutdown via Application 30768. ~~The owner/operator of S-1513 shall keep the moisture of the coke product to 5% by weight or more. (basis: cumulative increase)~~

31. Deleted. S-1513 is shutdown via Application 30768. ~~The owner/operator of S-1513 shall not exceed Ringelmann No. 1.0, or 20% opacity visible emissions, for three minutes in any consecutive 60 minute period.~~

~~(basis: Regulation 6-1)~~

32. Deleted. S-1513 is shutdown via Application 30768.~~The owner/operator shall use a water spray abatement system with chemical suppressant, if necessary, and take other control measures, as necessary, to maintain compliance with Regulation 6-1. (basis: Regulation 6-1, BACT)~~

33. Deleted. S-1513 is shutdown via Application 30768.~~The owner/operator shall completely enclose all coke conveyors downstream of the crusher and use water sprays to minimize particulate emissions from crushing operations. (basis: BACT)~~

34. Deleted. S-1513 is shutdown via Application 30768.~~The owner/operator shall inspect S-1513 for visible emissions no less than once per day when the equipment is in operation. If there are visible emissions, the owner/operator shall immediately take corrective action to eliminate the visible emissions. Upon completion of each inspection, in a District approved log, the owner/operator shall record the visible emission observation, and when visible emissions are detected, the corrective action taken to eliminate the visible emissions. During each day that S-1513 is not in operation for the entire day and when there is no petroleum coke stored or processed at S-1513, the owner/operator need not complete this inspection for S-1513. (basis: Regulation 2-1-403, Regulation 2-6-503).~~

35. Deleted. S-1513 is shutdown via Application 30768.~~The owner/operator shall use water sprays, as necessary, to minimize particulate emissions from the surfaces of the coke piles on the Coke Dewatering Pad. If particulate emissions from the Coke Dewatering Pad result in 3 or more visible emission violations within a six month period, or two public nuisance violations within a 5 year period, the owner/operator shall install additional controls, as approved by the District, which may include one or more of the following:~~

~~a. Additional water sprays;~~

~~b. Chemical suppressant in water spray system;~~

~~c. Additional/improved enclosures;~~

~~d. Wind screens; or~~

~~e. Equivalent, as approved by the District. (basis: BACT)~~

36. Deleted. (Laboratory analysis completed May 22, 2008. Moisture content was over the 5% by weight limit of Part 30). S-1513 is shutdown via Application 30768.

37. S-1513 is shutdown via Application 30768.~~To demonstrate compliance with the above Parts, the owner/operator shall maintain the monthly records, and the consecutive 12 month summary of coke (wet) produced in a District approved log. These records shall be kept on site and made available for District inspection for a period of at least 5 years from the date on which a record is made. (basis: recordkeeping)~~

Coker Silos (S-1514 and S-1515 abated by A-1514 and A-1515, respectively)

38. Deleted. S-1514, S-1515, A-1514, and A-1515 are shutdown via Application 30768.~~The owner/operator shall not operate S-1514, S-1515, A-1514, and A-1515 unless the visible particulate emissions from the listed equipment are less than or equal to Ringelmann Number 1.0 for three minutes in any consecutive 60 minute period, or result in fallout on adjacent property in such quantities as to cause a public nuisance per Regulation 1-302. (basis: Regulation 6-1, and Regulation 1)~~

39. Deleted. S-1514, S-1515, A-1514, and A-1515 are shutdown via Application 30768.~~The owner/operator shall not operate S-1514 and S-1515 unless all particulate emissions from the silos are vented to A-1514 and A-1515, respectively. Particulate emissions from A-1514 and A-1515 baghouses shall not exceed 0.01 grains/dscf each. (basis: cumulative increase)~~

40. Deleted. S-1514, S-1515, A-1514, and A-1515 are shutdown via Application 30768.~~The owner/operator shall install, maintain, and operate an approved bag failure warning device such as manometer or equivalent on A-1514 and A-1515. (Basis: cumulative increase)~~

41. Deleted. S-1514, S-1515, A-1514, and A-1515 are shutdown via Application 30768.~~The owner/operator of each abatement device A-1514 or A-1515 shall not exceed 4,200 scfm of exhaust air flow rate without District approval. (basis: cumulative increase)~~

42. Deleted. S-1514, S-1515, A-1514, and A-1515 are shutdown via Application 30768.~~The owner/operator of S-1514 and S-1515 shall record and keep the following records on site and make the log available for District inspection for a minimum period of 5 years from the date on which a record was made. (basis: cumulative increase)~~

~~a. Total monthly hours of operation, summarized on a consecutive 12 month period.~~

Coker Truck Loadout S-1516

43. Deleted. S-1516 is shutdown via Application 30768.~~The owner/operator of S-1516 shall not exceed Ringelmann Number 1.0 for three minutes in any consecutive 60- minutes period or result in fallout on adjacent property in such quantities as to cause a public nuisance per Regulation 1-302. (basis: Regulation 6-1, and Regulation 1)~~

44. Deleted. S-1516 is shutdown via Application 30768.~~The owner/operator of S-1516 shall not exceed 1,277,500 tons of wet coke in any consecutive 12 month period. (basis: cumulative increase, BACT)~~

45. Deleted. S-1516 is shutdown via Application 30768.~~The owner/operator shall only conduct material truck loading in an enclosed structure that is either equipped with a water spray system to be used as needed to prevent visible dust emissions or vented to permitted air pollution control equipment that is operated during loading activities. The ends of the structure shall have overlapping flaps that reduce the opening to no greater than 11 feet high by 10 feet wide, or other equally effective devices as approved by the APCO. (basis: BACT)~~

46. Deleted. S-1516 is shutdown via Application 30768.~~The owner/operator shall load the trucks so that the level of coke is not higher than the top of the truck trailer. After loading onto trucks, the coke shall be completely covered with tarpaulin or other similar material, to minimize particulate spillage and entrainment during transit. If a slot-top type cover is used, either the material contained in the trailer is moist material, or a chemical stabilizer is applied to the surface of the material in sufficient amounts and concentration so as to prevent fugitive dust emissions during transport. (basis: BACT)~~

47. Deleted. S-1516 is shutdown via Application 30768.~~Before leaving the coke loading area, the owner/operator shall pass the trucks through a water wash system to remove coke from the truck and trailer tires, wheels and undercarriage, in order to minimize the tracking of coke onto the roadway. (basis: BACT)~~

48. Deleted. S-1516 is shutdown via Application 30768.~~The owner/operator shall sweep accumulated mud, dirt, or coke from the coke truck route in the refinery at least once a day except during periods of rain and equipment maintenance, and whenever there is visible accumulation. Dry rotary brushes shall not be used except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Blower devices shall not be used. (basis: BACT)~~

49. Deleted. S-1516 is shutdown via Application 30768.~~In order to demonstrate compliance with the above Parts, the owner/operator of S-1516 shall maintain the daily records, monthly records and the consecutive 12 month summary of coke (wet) loaded into trucks in District approved logs. These records shall be kept on site and made available for District inspection for a minimum period of 5 years from the date on which a record was made. (basis: cumulative increase)~~

Flare S-1517

50. The owner/operator of S-1517 shall not exceed Ringelmann Number 1.0 for three minutes in any consecutive 60 minute period or result in fallout on adjacent property in such quantities as to cause a public nuisance per Regulation 1-302. (basis: Regulation 6-1, and Regulation 1)

51. The owner/operator of S-1517 shall use steam in the flare to minimize smoking. (basis: BACT)

52. The owner/operator of S-1517 shall have a hydrocarbon destruction efficiency of at least 98.5 wt.% POC on a mass basis. (basis BACT)

53. The owner/operator of S-1517 shall not exceed 14,235,000 standard cubic feet of natural gas for flare purge and pilots in any consecutive 12 month period. (basis: cumulative increase)

54. The owner/operator shall comply with the requirements of 40 CFR 60, Subpart J. (basis: ~~NSPS 40 CFR 60, Subpart J~~Consent Decree 23562)

55. The owner/operator of S-1517 shall install H2S continuous monitoring and recording system to verify compliance with the requirement of Regulation 12-11. The owner/operator shall maintain the equipment in accordance with manufacturer's recommendations.
(basis: Regulation 12, Rule 11)
56. The owner/operator of S-1517 shall fire only natural gas at all flare pilots and purge gas. (basis: cumulative increase)
57. The owner/operator shall maintain all records and reports required by this permit in a District approved log. The following records shall be kept on site and made available for District inspection for a period of at least 5 years from the date on which a record is made. (basis: Regulation 2-6-501)
a. The continuous H2S concentration at source S-1517.
b. Total daily flow rate of the gas through the flare, summarized in a consecutive 12 month period.

Contemporaneous Emissions Reduction Credit
58. Deleted. (Sources S-806, S-808, S-836, S-837, S-838, S-903, S-923, S-924 and S-925 were shutdown and removed from the Owner/Operator's permit via Application 18739.)

Temporary Installation of A1583, H2S treatment system, knockout pot followed by 2 caustic scrubbers in parallel, to be used interchangeably during planned turnaround of ~~S1510 and~~ S1526 (8/23/18)
The below conditions apply to the installation of A1583, H2S Treatment System (knockout drum followed by 2 caustic scrubbers to be used interchangeably) upstream of S1517 during a planned shutdown of ~~S1510 and~~ S1526. These conditions are in addition to existing conditions and are not meant to superseded/displace any other conditions for this source.

59. The owner/operator of A1583, shall only install and operate this device for the planned shutdown of ~~S1510 and~~ S1526 to ensure that S1517 operates in compliance with EPA NSPS Part 60 Subpart Ja during a turnaround event. [Basis: NSPS]
60. During operation of A1583, the owner/operator shall route spent caustic generated from A1583 via vacuum truck to S1468, Spent Caustic Tank. The amount of spent caustic routed to S1468 shall not result in a total fill rate greater than 11,000 gallons per hour of material. [Basis: Cumulative Increase]
61. The owner/operator of A1583 shall ensure that the organic content of spent caustic produced by A1583 not exceed 1wt%. [Basis: Cumulative Increase]
62. The owner/operator shall not exceed 0.480 tons per year of POC emissions measured as C1 from the total fugitive component count installed as part of Application 29416. The owner/operator has been permitted to install the following fugitive components:
87 valves in hydrocarbon service
146 flanges/connectors in hydrocarbon service
[Basis: Cumulative Increase, offsets, toxics]
63. [Deleted; Final fugitive component count provided 12/31/18]
64. The owner/operator shall install valves, in light hydrocarbon service, that are of District approved BACT compliant technology (bellows valves, diaphragm valves, live loaded valves, or the equivalent) such that fugitive organic emissions shall not exceed 100 ppm. [Basis: BACT, Regulation 8-18, toxics risk screen]
65. The owner/operator shall install flanges and connectors, in light hydrocarbon service, that are of District approved BACT compliant technology (graphitic gaskets or the equivalent) such that fugitive organic emissions shall not exceed 100 ppm. [Basis: BACT, Regulation
8-18, toxics risk screen]
66. The owner/operator shall install pump seals, in light hydrocarbon service, that are of District approved BACT compliant technology (double mechanical seals with barrier fluid or the equivalent) such that fugitive organic emissions shall not exceed 500 ppm.
[basis: BACT, Regulation 8-18, toxics risk screen]

67. The owner/operator shall ensure that each pressure relief valve installed in hydrocarbon service is vented back to the process, to the refinery fuel gas system, or to an abatement device with a capture and destruction efficiency of at least 98% by weight. [basis: BACT, Regulation 8-28, toxics risk screen]
68. The owner/operator shall integrate all new fugitive equipment in organic service installed as part of the A1583 into the facility fugitive equipment monitoring and repair program. [basis: BACT, Regulation 8-18]
69. The owner/operator of A-1583 Flare Gas H2S Treatment System shall maintain all records and reports required by this permit condition in a District approved log. The following records shall be kept on site and shall be made available for District inspection for a period of at least 5 years from the date on which a record is made. (Basis: Recordkeeping, NSPS, Regulation
9-1-313.2, Regulation 12-11-401)
a. Flow rate of vent gas treated by A-1583.
b. Amount of caustic used at A-1583.
c. Amount of spent caustic from A-1583 stored in S-1468 Spent Caustic Tank.
d. Organic content of spent caustic from A-1583.
e. Concentration of H2S in vent gas feed to A-1583.
f. Concentration of H2S in vent gas flared at S-1517.
g. The owner/operator shall choose one of the following recordkeeping/evaluation methods for determination of sulfur recovery on a refinery-wide basis during the operation of A-1583:
1) Record amount of sulfur removed from the vent gas in A-1583 OR
2) Exclude amount of sulfur removed from the vent gas in A-1583 from the calculation of total sulfur recovered on a refinery-wide basis.
h. Amount of SO2 emissions from S-1517 that are calculated in accordance with Condition 8077 Appendix C, Section 2(d), and included in the monthly "EMIT" report required by Condition 8077-B5B.
70. If the owner/operator is using the operation of A-1583 in lieu of any measure set forth per Condition 8077-B9C (I-vi) then the owner/operator shall include a summary of the A-1583 operation during the turnaround, including vent gas flow, H2S concentrations, and refinery-wide sulfur recovery, in the written follow-up report required by Condition 8077-B9C(viii).
(Basis: Recordkeeping, NSPS, Regulation 9-1-313.2, Regulation 12-11-401)

New Permit Condition #27729 (for AC Issuance)

Condition #: 23562 ~~**S926, S1412, S1470,**~~ **S937, S935, S933,** ~~**S950, S904, S915, S916, S917,**~~ **S919, S920,** ~~**S921,**~~ **S922,** ~~**S927,**~~ **S928, S929, S930, S931, S932, S934**

Application 15949 (May 2007): Add EPA Consent Decree requirements (Case No. SA-05-CA-0569-RF: United States of America v. Valero Refining Company - California, et. al.).

Application 17928/17458 (2008) Remove Demolished and OOS Sources

Modified by App. 18739 (Nov 2008) Removal of S923, S924 & S925

Application 19300 (Dec 2008) Remove S-905 Out of Service

Administratively Revised by Application 19874 (July 2009) Updates for Combustion Sources

Application 30768 (TBD 2022). Deleted sources S-902, S-904, S-913, S-915, S-916, S-921, S-927, S-950, S-1412, S-908, S-909, and S-912 as part of Marathon's Renewable Fuels Project.

~~S902 FCCU Startup Heater~~
~~S904 No. 6 Boiler~~

~~S913 No. 2 Feed Prep Heater (F13)~~
~~S915 Platformer Intermediate Heater (F15)~~
~~S916 No. 1 HDS Heater (F16)~~
S920 No. 2 HDS Heater (F20)
~~S921 No. 2 HDS Heater (F21)~~
S922 No. 5 Gas Plant Debutanizer Reboiler
S926 No.2 Reformer Splitter Reboiler (F26)
~~S927 No. 2 Reformer Heat/Reheating (F27)~~
S928 HDN Reactor A Heater (F28)
S929 HDN Reactor B Heater (F29)
S930 HDN Reactor C Heater (F30)
S931 Hydrocracker Reactor 1 Heater (F31)
S932 Hydrocracker Reactor 2 Heater (F32)
S933 Hydrocracker Reactor 3 Heater (F33)
S934 Hydrocracker Stabilizer Reboiler (F34)
S935 Hydrocracker Splitter Reboiler (F35)
S937 Hydrogen Plant Heater (F37)
~~S950 50 Crude Heater (F50)~~
~~S1412 Sulfuric Acid Plant Startup Heater~~

~~Effective December 30, 2010:~~
~~S908 No. 3 Crude Heater (F8)~~
~~S909 No. 1 Feed Prep Heater (F9)~~
~~S912 No. 1 Feed Prep Heater (F12)~~

1. The heaters and boilers listed above shall be "affected facilities" under 40 CFR 60 Subpart J as fuel gas combustion devices. Except as allowed in this permit condition, the owner/operator shall comply with all applicable provisions of 40 CFR 60 Subparts A and J for these fuel gas combustion devices, except during periods of startup, shutdown, or malfunction of the affected facilities or the malfunction of the associated control equipment, if any, provided that during startup, shutdown, or malfunction, the owner/operator shall, to the extent practicable, maintain, and operate the affected facilities including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. (Basis: NSPS Subparts A and J, EPA Consent Decree paragraphs 12, 117, 118 and 122.)

2. The owner/operator is exempt from notification requirements in accordance with 40 CFR Part 60, Subparts A and J, including without limitation 40 CFR 60.7, with respect to the provisions of 40 CFR, Subparts A and J, as such requirements apply to the fuel gas combustion devices listed in this permit condition.
(Basis: EPA Consent Decree paragraph 120.)

3. The owner/operator shall use either continuous emissions monitoring systems (CEMS) or an approved alternative monitoring plan (AMP) to demonstrate compliance with the NSPS Subpart J emission limits for the fuel gas combustion devices listed in this permit condition. (Basis: NSPS Subparts A and J, EPA Consent Decree paragraph 121.)

4. The owner/operator shall conduct the accuracy tests listed below on the CEMS used to comply with Part 3 unless that CEMS is otherwise subject to the requirements of NSPS Subparts A and J. These accuracy tests are allowed in lieu of the requirements of Part 60, Appendix F 5.1.1, 5.1.3, and 5.1.4.

a. Conduct either a RAA or RATA on each CEMS at least once every three years.

b. Conduct a CGA on each CEMS each calendar quarter during which a RAA or a RATA is not performed.
c. Conduct a FAT, as defined in the BAAQMD regulations or procedures, if desired, in lieu of any required RAA or CGA.
(Basis: EPA Consent Decree paragraph 121.)

Condition #: 24323 ~~**A1524, S1001, S1524**~~ **(Archived)**

Application 18752 (May 2009)
No. 50 Crude Unit Blowdown Tower S-834 Replacement Project Administratively revised by Application 22148 (Sept 2010) Revised purge and pilot gas Parts 8 and 10.

Application 24065 (July 2012) Deleted Part 4 and revised Part 10.
Application 30768 (TBD 2022). Deleted Parts 1, 2, 3, and 6 through 11 due to the shutdown of S-1001, S-1524, and A~~S~~-1524 as part of Marathon's Renewable Fuels Project.

~~S-1001 No. 50 Crude Unit~~
~~A-1524 No. 50 Crude Unit Vapor Recovery System~~
~~S-1524 No. 50 Crude Unit Flare~~

1. Deleted. S-1001 is shutdown via Application 30768.~~Notwithstanding any provision of District regulations allowing for the malfunction of A-1524 due to a valid breakdown, the Owner/Operator shall operate S-1001 50 Crude Unit only when A-1524 Vapor Recovery System is in operation. (Basis: Cumulative Increase, Consent Decree 235(a))~~

2. Deleted. S-1524 is shutdown via Application 30768.~~The Owner/Operator shall only operate S-1524 50 Crude Unit Flare during upsets, malfunctions or emergencies. (Basis: BACT, Cumulative Increase)~~

3. Deleted. S-1524 is shutdown via Application 30768.~~The Owner/Operator of S-1524 50 Crude Unit Flare shall comply with all applicable requirements of NSPS Subpart J. (Basis: NSPS)~~

4. Deleted. (40 CFR 60.18 is not applicable to S-1524).

5. Deleted. (FMP Update submitted July 31, 2009.)

6. Deleted. S-1524 is shutdown via Application 30768.~~The owner/operator of S-1524 shall use steam assisted, staged combustion in the flare to minimize smoking. (Basis: BACT)~~

7. Deleted. S-1524 is shutdown via Application 30768.~~The owner/operator of S-1524 shall have a hydrocarbon destruction efficiency of at least 98% POC on a mass basis. (basis: BACT)~~

8. Deleted. S-1524 is shutdown via Application 30768.~~The owner/operator of S-1524 shall not exceed 3,942,000 standard cubic feet of natural gas for flare pilots in any consecutive 12-month period. The owner/operator shall fire only natural gas at all flare pilots, except during periods of natural gas curtailment, when refinery fuel gas may be used. (Basis: cumulative increase)~~

9. Deleted. S-1524 is shutdown via Application 30768.~~The owner/operator of S-1524 shall install H2S continuous vent gas monitoring and recording system to verify compliance with the requirement of Regulation 12-11. The monitoring system shall be designed and operated such that gas samples are taken at a location that~~

~~ensures accurate vent gas composition. The owner/operator shall maintain the equipment in accordance with manufacturer's recommendations. (Basis: Regulation 12-11-501 and 12-11-506)~~

10. Deleted. S-1524 is shutdown via Application 30768.~~The owner/operator of S-1524 shall not exceed 3,767,000 standard cubic feet of natural gas for the flare purge in any consecutive 12 month period. The Owner/operator shall use only natural gas or nitrogen for the flare purge gas, except during periods of natural gas curtailment, when refinery fuel gas may be used if written notification is sent to the District. (Basis: cumulative increase, NSPS Subpart J)~~

11. Deleted. S-1524 is shutdown via Application 30768.~~The owner/operator shall maintain all records and reports required by this permit in a District approved log. The following records shall be kept on site and made available for District inspection for a period of at least 5 years from the date on which a record is made. (basis: Regulation 2-6-501)~~

~~a. The continuous vent gas H2S concentration at source S-1524.~~

~~b. Total daily flow rate of the gas through the flare, summarized in a consecutive 12 month period.~~

~~c. Total daily flow rate of the pilot gas to the flare, summarized in a consecutive 12 month period~~

~~d. Total daily flow rate of the purge gas through the flare, including the type of gas and the reason natural gas was not used, when applicable, summarized in a consecutive 12 month period~~

New Permit Condition #27730 (for AC Issuance)

Condition #: 24324 S854, S992, S1012, S1517

Application 17752, July 2009
Consent Decree Requirements for
S-854 East Air Flare
S-992 Emergency Flare
S-1012 West Air Flare
S-1517 Coker Flare

Application 30768 (TBD 2022). Revised term “refinery” to “facility” in Part 4 as the facility is no longer classified as a refinery.

Note: The 'Consent Decree' referenced in this condition is:
Case No. SA-05-CA-0569-RF; United States of America v. Valero Refining Company - California, et al in the United States District Court, Western District of Texas, San Antonio Division, Lodged 6/15/2005, Entered 11/23/2005.

1. The Owner/Operator shall operate Flares S-854, S-992, S- 1012 and S1517 only when in compliance with NSPS. (Basis: Consent Decree paragraphs 231 and 238).

2. The Owner/Operator of Flares S-854, S-992, S-1012 and S1517 shall comply with NSPS Subpart J by operating and maintaining a Flare Gas Recovery System to control continuous or routine combustion in the Flaring Device. Use of a flare gas recovery system on a flare obviates the need to continuously monitor and maintain records of hydrogen sulfide in the gas as otherwise required by 40 C.F.R. 60.105(a)(4) and 60.7 (Basis: Consent Decree paragraphs 233 and 235(a))

3. The Owner/Operator of Flares S-854, S-992, S-1012 and S1517 will take all reasonable measures to minimize emissions while periodic maintenance is being performed on the Flare Gas Recovery System. (Basis: Consent Decree paragraph 263)

4. The Owner/Operator of Flares S-854, S-992, S-1012 and S1517 may bypass the Flare Gas Recovery System in the event of an emergency, including unscheduled maintenance of such system in order to ensure continued safe operation of ~~refinery~~ facility processes. (Basis: Consent Decree paragraph 264)

5. The combustion in a Flaring Device of process upset gases or fuel gas that is released to the Flaring Device as a result of relief valve leakage or other emergency malfunctions is exempt from the requirement to comply with 40 C.F.R. 60.104(a)(1). (Basis: Consent Decree paragraph 241)

Condition #: 24834 ~~**S1020**~~ **(Archived)**

Application 22615
Hot Naphtha Feed to S-1020 No 3 Reformer Project
January 2011

Administratively revised by Application 23322 (January 2016)
Application 30768 (TBD 2022). Deleted S-1020 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

1. Deleted. (S-1020 throughput limit superseded by Condition 25476, Part 1)

2. Deleted. Final fugitive component count provided 5/3/2012. Facility is permitted to emit 0.245 lb/day of POC emissions from the fugitive components associated with the Reformer Hot Feed Project.

3. Deleted. S-1020 is shutdown via Application 30768. ~~Permittee/Owner/Operator shall maintain a District-approved file containing all measurements, and other data required to demonstrate compliance with the above conditions. This material shall be kept available for District inspection for a period of at least 5 years following the date on which such measurements, records or data are made or recorded. (basis: cumulative increase, recordkeeping)~~

New Permit Condition #27731 (for AC Issuance)

Condition #: 25025 **S1554**

COND# 25025

Application # 22823
Source S-1554 Fixed Roof Tank A-943
~~Abated by A-14 Vapor Recovery System~~
~~High Sulfur Vacuum Gas Oil~~ Renewable feedstock
~~Including operation when S-850 No 3 HDS is start-up and shutdown~~

Application 30002 (August 2020) Change of Condition Added preventative maintenance condition to Part 3.

Application 30768 (TBD 2022). Deleted Parts 1, 2, 3, and 7. S-1554 has been repurposed to store renewable feedstocks only and is exempt from permitting per Regulation 2-1-123.3.6.

1. Deleted. S-1554 is exempt from permitting per Regulation 2-1-123.3.6 as part of Marathon's Renewable Fuels Project. ~~The owner/operator of S-1554 shall not exceed the following throughput and operation limits during any consecutive twelve-month period: High Sulfur Vacuum Gas Oil, TVP not to exceed 0.235 psia: 420,000,000~~

~~Gallons Including for periods of up to 200 hours per consecutive 12-month period: Unstripped High Sulfur Vacuum Gas Oil, TVP not to exceed 4.65 psia (Basis: Cumulative Increase)~~

2. Deleted. S-1554 is exempt from permitting per Regulation 2-1-123.3.6 as part of Marathon's Renewable Fuels Project. ~~The owner/operator may store alternate liquid(s) other than the materials specified in Part 1 and/or usages in excess of those specified in Part 1, provided that the owner/operator can demonstrate that all of the following are satisfied:~~
~~a. Total POC emissions from S-1554 do not exceed 386 pounds in any consecutive twelve-month period;~~
~~b. Total NPOC emissions from S-1554 do not exceed 0 pounds in any consecutive twelve month period; and~~
~~c. The use of these materials does not increase toxic emissions above any risk screening trigger level of Table 2-5-1 in Regulation 2-5.~~
~~(Basis: Cumulative Increase; Toxics)~~

3. Deleted. S-1554 is exempt from permitting per Regulation 2-1-123.3.6 as part of Marathon's Renewable Fuels Project. ~~When the owner/operator stores materials with a true vapor pressure above 0.235 psia in S-1554, S-1554 shall be abated at all times with A-14, Vapor Recovery System, with an overall collection and destruction efficiency of at least 99.5%, by weight. During the preventative maintenance on A-14 Vapor Recovery System S-1554 does not need to be abated by A-14.~~ (basis: Cumulative Increase, Toxics)

4. Deleted. Final fugitive count provided 12/9/2011. Facility is permitted to emit 0.414 tons/yr POC from the S-1554 Tank A-943 HSVGO Project. (basis: Cumulative Increase, offsets)

5. Completed. Final fugitive count provided 12/9/2011 and additional offsets were provided. (basis: offsets)

6. Completed. Fugitive components installed as part of the S-1554 project were added into the facility fugitive equipment monitoring and repair program. (basis: Regulation 8-18)

7. Deleted. S-1554 is exempt from permitting per Regulation 2-1-123.3.6 as part of Marathon's Renewable Fuels Project. ~~To determine compliance with the above parts, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:~~
~~a. Quantities and True Vapor Pressure of each type of liquid stored at this source on a monthly basis.~~
~~b. If a material other than those specified in Part 1 is stored, POC/NPOC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part 2, on a monthly basis;~~
~~c. Monthly throughput and/or emission calculations shall be totaled for each consecutive twelve-month period.~~
~~All records shall be retained on-site for five years, from the date of entry, and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. (Basis: Cumulative Increase; Toxics)~~

Condition #: 25161 ~~**S950, S909, S912, S920**~~ **(Archived)**

Tesoro 50 Crude Unit AGO Project Application 23341 (January 2012)
Revised by Application 23322 (Jan 2016). Deleted S-920.
Administratively changed November 2019. Updated District address.
Application 30768 (TBD 2022). Deleted S-909, S-912, and S950 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

1. Deleted. S-909, S912, and S-950 are shutdown via Application 30768.~~The owner/operator shall operate the following sources only if firing rates do not exceed the following limits in any consecutive 365 calendar days:~~

~~S-909 – 1,036,600 MM Btu~~
~~S-912 – 1,162,608 MM Btu~~
~~S-950 – 3,417,495 MM Btu~~

~~These firing limits are enforceable not-to-exceed limits but are not considered enforceable New Source Review emissions limits since these sources were not subject to Regulation 2, Rule 2 when this condition was created.~~

~~(Basis: Regulations 2-1-233 and 2-1-403, Application No.23341)~~

2. Deleted. S-909, S912, and S-950 are shutdown via Application 30768.~~The owner/operator shall notify the District if in any calendar day, the following firing rates are exceeded:~~

~~S-909 – 3,168 MM Btu~~
~~S-912 – 3,240 MM Btu~~
~~S-950 – 9,840 MM Btu~~

~~Notifications shall be made in writing to the Address below within 96 hours of the occurrence and shall Make reference to this condition.~~

~~Manager, Permit Evaluation Section~~
~~Bay Area Air Quality Management District~~
~~375 Beale Street~~
~~San Francisco, CA 94105~~

~~(Basis: Regulations 2-1-233 and 2-1-403, Application No.23341)~~

3. Deleted. S-909, S912, and S-950 are shutdown via Application 30768.~~All firing rate records for the sources subject to this condition shall be retained for at least five years from the date of entry, and shall be made available to the District upon request. (Basis: Regulation 2-6-501)~~

New Permit Condition #27732 (for AC Issuance)

Condition #: 25476 **S-926,** **S1555**~~**, S972, S971, S1004, S1020**~~

Tesoro Refinery and Marketing Company
Plant 14628, Application 23322, No 3 Reformer Capacity Increase
Application 27799, Reformate Upgrade Project (October 2017). Added Parts 30 through 41
Authority to Construct Cancelled October 2019. New Parts 30 through 41 Deleted.
Administratively changed by Application 29278 (February 2021). Revised Source Test requirements of Parts 25, 27, and 29 to test S971 and S972 independently.
Application 30768 (TBD 2022). Revised Part 2 and deleted S-908, S-971, S-972, S-1004, S-1020, A-1433 and associated requirements since these sources and associated components will be shutdown as part of AN 30768.

1. Deleted. S-1020 is shutdown via Application 30768.~~The Owner/Operator shall ensure that the S-1020 No. 3 Reformer Unit throughput rate does not exceed 26,000 barrels per day based on a rolling 365 day average and that the throughput does not exceed 9,490,000 barrels during each 12 consecutive month period. (basis: cumulative increase).~~

2. ~~The Owner/Operator shall ensure that the combined product reformates produced by both S-1004 No 2 Reformer and S-1020 No. 3 Reformer does not exceed 40,000 barrels per calendar day.~~ The throughput of S-1555 Reformate Splitter shall not exceed 40,000 barrels per calendar day. (basis: cumulative increase).

3. Deleted. S-971 is shutdown via Application 30768.~~The Owner/Operator of S-971 shall not exceed 300MM Btu/hr, 7,200 MM Btu per day, and 2,628,000 MM Btu of firing in any consecutive 12 month period. (basis: cumulative increase, toxics)~~

4. Deleted. S-972 is shutdown via Application 30768.~~The Owner/Operator of S-972 shall not exceed 45MM Btu/hr, 1,080 MM Btu per day, and 394,200 MM Btu of firing in any consecutive 12 month period. (basis: cumulative increase, toxics)~~

5. Deleted. S-908 is shutdown via Application 30768.~~The Owner/Operator of S-908 shall not exceed 220MM Btu/hr of firing, on a calendar day basis, and 1,927,200 MMBtu/yr. (basis: Regulation 2-1-233)~~

6. The Owner/Operator of S-926 shall not exceed 130MM Btu/hr of firing, on a calendar day basis, and 1,138,800 MMBtu/yr. [The requirements for submitting the permit application for S-926 were completed.] (basis: Regulation 2-1-233, cumulative increase, Offsets)

7. Deleted. S-971 and S-972 are shutdown via Application 30768.~~The Owner/Operator shall burn in sources S-971 and S-972 only natural gas or refinery fuel gas. (basis: cumulative increase, BACT, toxics).~~

8. Deleted. S-971 and S-972 are shutdown via Application 30768.~~The Owner/Operator shall only operate S-971 and S-972 when annual POC emissions from S-971 and S-972 do not exceed 7.085 and 1.321 tons, respectively, per rolling consecutive 12 month period. (basis: cumulative increase, offsets)~~

9. Deleted. S-971 and S-972 are shutdown via Application 30768.~~The Owner/Operator shall only operate S-971 and S-972 when annual PM-10 emissions from S-971 and S-972 do not exceed 2.444 and 0.367 tons, respectively, per rolling consecutive 12 month period.(basis: cumulative increase, offsets)~~

10. Deleted. S-971 is shutdown via Application 30768.~~The Owner/Operator shall only operate S-971 when NOx emissions do not exceed 166 pounds per calendar day, and 30.353 tons per rolling consecutive 12 month period. (basis: RACT, cumulative increase, BACT and offset avoidance)~~

11. Deleted. S-972 is shutdown via Application 30768.~~The Owner/Operator shall only operate S-972 when NOx emissions do not exceed 26.9 pounds per calendar day, and 4.914 tons per rolling consecutive 12 month period. (basis: RACT, cumulative increase, BACT and offset avoidance)~~

12. Deleted. S-971 is shutdown via Application 30768.~~The Owner/Operator shall only operate S-971 when CO emissions do not exceed 75.423 tons per rolling consecutive 12 month period. (basis: cumulative increase,)~~

13. Deleted. S-972 is shutdown via Application 30768.~~The Owner/Operator shall only operate S-972 when CO emissions do not exceed 12.211 tons per rolling consecutive 12 month period. (basis: cumulative increase)~~

14. Deleted because the applicable requirements of NSPS 40 CFR 60 Subpart Ja were incorporated into the Title V permit.

15. Deleted. S-971 is shutdown via Application 30768.~~The Owner/Operator shall abate S-971 with Selective Catalyst Reduction systems (A-1433), at any time that S-971 is in operation, not including the startup and shutdown periods allowed by Regulation 9, Rule 10 when A-1433 is not at operating temperature. When starting up for the first time following refractory replacement, the owner/operator may exceed the 12 hour startup time period allowed in Regulation 9, Rule 10, provided that CEMs are operating and all applicable emission limits are met. (basis: cumulative increase)~~

16. Deleted. S-971 and S-972 are shutdown via Application 30768.~~The Owner/Operator shall calibrate, maintain, and operate a District approved continuous emission monitoring system (CEMS) that continuously measures and records the concentration of nitrogen oxides (calculated as NO2), in ppmv units corrected to 3% oxygen, dry, in the combined combustion exhaust from S-971 abated by A-1433 and from S-972. The CEMS shall be in operation at all times when S-971 and/or S-972 operate except as allowed in the District's Manual of Procedures, which includes maintenance and malfunction. (basis: monitoring)~~

17. Deleted. S-971 and S-972 are shutdown via Application 30768.~~The Owner/Operator shall calibrate, maintain, and operate a District approved continuous emission monitoring system (CEMS) that continuously measures and records the concentration of carbon monoxide (CO), in ppmv units corrected to 3% oxygen, dry, in the combined combustion exhaust from S-971 abated by A-1433 and from S-972. The CEMS devices shall be in operation at all times when S-971 and/or S-972 operate except as allowed in the District's Manual of Procedures, which includes maintenance and malfunction. (basis: monitoring)~~

18. Deleted. S-971 and S-972 are shutdown via Application 30768.~~Owner/Operator shall calibrate, maintain, and operate District-approved continuous emission monitoring system (CEMS) that continuously measures and records the concentration of oxygen in the combined combustion exhaust from S-971 abated by A-1433 and from S-972. The CEMS shall be in operation at all times when S-971 and/or S-972 operate except as allowed in the District's Manual of Procedures, which includes maintenance and malfunction. (basis: monitoring)~~

19. Deleted. S-971 and S-972 are shutdown via Application 30768.~~The Owner/Operator shall ensure that all natural gas burned at sources S-971 and S-972, shall be PUC quality gas. Compliance will be demonstrated through records that show the specification of natural gas by the supplier. (basis: BACT for SO2 and BACT for PM10 when firing natural gas)~~

20. Deleted. S-971 and S-972 are shutdown via Application 30768.~~The Owner/Operator shall not combust in sources S-971 and S-972 refinery fuel gas having a total hydrogen sulfide content greater than 50 ppmv, based on consecutive 365 day average, or a total reduced sulfur (TRS) content greater than 100ppmv, based on consecutive 365 day average. (basis: BACT for SO2 when firing refinery fuel gas)~~

21. Deleted. S-971 is shutdown via Application 30768.~~Owner/Operator shall ensure ammonia slip from the SCR system abating S-971 shall not exceed 20 ppmv, dry, corrected to 3% oxygen. (basis: toxics)~~

22. Deleted. [Fugitive component counts were provided.] The owner/operator shall not exceed 34 pounds per year of POC emissions measured as C1 from the total fugitive component count installed in TOC services as part of Application 23322. Compliance with this provision shall be verified quarterly using District approved equations for Estimating Mass Emissions fo Fugitive Hydrocarbon Leaks at Petroleum Facilities. The results shall be submitted to the District on a quarterly basis for two years commencing with start up. Documentation of results shall be kept on site for five years. (basis: Cumulative Increase, offsets)

23. Deleted. Condition no longer applicable as fugitive component counts were provided in Part 22.~~If there is an increase in the total fugitive component emissions, the plant's cumulative emissions for the project shall be adjusted to reflect the difference between emissions based on predicted versus actual component counts. The owner/operator shall provide to the District all additional required offsets at an offset ratio of 1.15:1 no later than 14 days after submittal of the final POC fugitive count. If the actual component count is less than the predicted, the total will be adjusted accordingly and all emission offsets applied by the owner/operator in excess of the actual total fugitive emissions will be credited back to the owner/operator. (basis: offsets)~~

24. Deleted. S-971, S-972, S-1004, and S-1020 are shutdown via Application 30768.~~The Owner/Operator shall maintain a District approved record containing all measurements, calculations and other data required to demonstrate compliance with the throughput and concentration limits of this condition. This record shall include, but is not limited to, the daily throughput of feed processed by S-1020, summarized on a monthly basis, the daily reformate combined product from S-1004 and S-1020, summarized on a monthly basis, and the daily NOx mass emissions from S-971 and S-972. The NOx mass emissions shall be included in the monthly CEM reports required by Regulation 1-522. This information shall be kept available for District inspection for a period of at least 5 years following the date on which such measurements, records or data are made or recorded. (basis: recordkeeping)~~

25. Deleted. S-971 and S-972 are shutdown via Application 30768.~~Within 60 days of the first fire date of the modified S-971 and S-972 the owner/operator shall conduct a District approved source test that measures the emission rate of ammonia from S-971 at firing rates at normal operation. The owner/operator shall ensure that within 60 days of the date of the completion of the source testing, two identical copies of the source tests results (each referencing permit application #23322 and plant #14628) are received by the District. One copy shall be sent to the Source Test Section of the Technical Division and the other shall be sent to the Engineering Division. These~~

~~tests will be repeated for three years. If there are no exceedances of the ammonia limit, then testing shall be reduced to a frequency of every 5 years. (Basis: Cumulative Increase, Offsets, Toxics)~~

26. Deleted. S-972 is shutdown via Application 30768.~~Within 60 days of the first fire date of the modified S-972 the owner/operator shall conduct District approved source tests while firing S-972 with refinery fuel gas. The District approved source test shall measure the emission rates of POC, PM-10, CO and NOx from S-972, at a firing rate greater than or equal to 80% of maximum firing rate. A second set of source tests will be completed one year after the initial source tests. Emission factors for S-972 (lb/MMBtu) will be developed from these tests. If it can be demonstrated that using the highest emission factor at maximum firing rate does not exceed the S-972 mass emission limits in Parts 8, 9, 11 and 13, then the source tests will be repeated at 5 year intervals. The owner/operator shall ensure that within 60 days of the date of completion of the source testing, two identical copies of the source tests results (each referencing permit application #23322 and plant #14628) are received by the District. One copy shall be sent to the Source Test Section of the Technical Division and the other shall be sent to the Engineering Division. (Basis: Cumulative Increase, Offsets, BACT, Regulation 1-107)~~

27. Deleted. S-971 is shutdown via Application 30768.~~Within 60 days of the first fire date of the modified S-971 the owner/operator shall conduct District approved source tests while firing S-971 with refinery fuel gas. The District approved source test shall measure the emission rates of POC, and PM10 from S-971 at firing rates equal to or greater than 80% of the maximum firing rate. Mass emissions shall be calculated for S-971 using the emission factor derived from the source tests. A second set of source tests will be completed one year after the initial source tests. If it can be demonstrated that using the highest emission factor at maximum firing rate does not exceed the S-971 mass emission limits in Parts 8, 9, 10 and 12, then the source tests will be repeated at 5 year intervals. The owner/operator shall ensure that within 60 days of the date of completion of the source testing, two identical copies of the source tests results (each referencing permit application #23322 and plant #14628) are received by the District. One copy shall be sent to the Source Test Section of the Technical Division and the other shall be sent to the Engineering Division. (Basis: Cumulative Increase, Offsets, BACT, Regulation 1-107)~~

28. Deleted. S-971 and S-972 are shutdown via Application 30768.~~If there is an increase in the POC or PM-10 emissions for either S-971 or S-972, the plant's cumulative emissions for the project shall be adjusted to reflect the difference between the emission limits in Parts 8 and 9 above versus the hourly emissions demonstrated by the source tests required in Parts 26 and 27, prorated by the factor Maximum Firing Rate/Source Test Firing Rate, multiplied by 8760. The owner/operator shall provide to the District all additional required offsets no later than 14 days after submittal of the final source test reports. If the actual emissions are less than the predicted, the total may be adjusted accordingly and all emission offsets applied by the owner/operator in excess of the actual emissions will be credited back to the owner/operator. (basis: offsets)~~

29. Deleted. S-971 and S-972 are shutdown via Application 30768.~~Within 90 days of any source test required above, the owner/operator shall submit all source test protocols for District approval. This submission shall include one copy submitted to the Source Test Section and one copy submitted to the Engineering Division. The protocol submission shall identify the plant number, the source number, the condition number, and Permit Application 23322. (Basis: Cumulative Increase, Offsets, BACT, Regulation 1-107)~~

Reformate Upgrade Project (Project Cancelled October 2019) Modification of S-1555 Reformate Splitter Cancelled.

30. Deleted. Application 27799 Authority To Construct Cancelled October 2019.
31. Deleted. Application 27799 Authority To Construct Cancelled October 2019.

Alteration of Tract 3 Tanks cancelled.

32. Deleted. Application 27799 Authority To Construct Cancelled October 2019.
33. Deleted. Application 27799 Authority To Construct Cancelled October 2019.
34. Deleted. Application 27799 Authority To Construct Cancelled October 2019.
35. Deleted. Application 27799 Authority To Construct Cancelled October 2019.

Alteration of Tract 6 Tanks cancelled October 2019.

36. Deleted. Application 27799 Authority To Construct Cancelled October 2019.
37. Deleted. Application 27799 Authority To Construct Cancelled October 2019.
38. Deleted. Application 27799 Authority To Construct Cancelled October 2019.
39. Deleted. Application 27799 Authority To Construct Cancelled October 2019.
40. Deleted. Application 27799 Authority To Construct Cancelled October 2019.
41. Deleted. Application 27799 Authority To Construct Cancelled October 2019.

Condition #: 26266 ~~S1411~~ **(Archived)**

Tesoro Refining & Marketing Company, LLC
Application 27564 (June 2016)
S-1411 Sulfuric Acid Plant

Application 30768 (TBD 2022). Deleted S-1411 and associated requirements. All affected sources and associated components in the condition are shutdown as part of Marathon's Renewable Fuels Project.

1. Deleted. S-1411 is shutdown via Application 30768.~~The Owner/Operator of S-1411 shall not exceed 480 tons of sulfuric acid produced per calendar day. (basis: cumulative increase)~~
2. Deleted. S-1411 is shutdown via Application 30768.~~The Owner/Operator of S-1411 shall not exceed 175,200 tons of sulfuric acid produced in any consecutive 12 month period. (basis: cumulative increase, offsets)~~
3. Deleted. S-1411 is shutdown via Application 30768.~~The Owner/Operator shall ensure that SO2 emissions from S-1411 do not exceed 2.4 pounds per ton of acid production, on average for any consecutive 12 month period. (basis: cumulative increase)~~
4. Deleted. S-1411 is shutdown via Application 30768.~~The Owner/Operator shall ensure that PM-10 emissions from S-1411 do not exceed 0.100 pounds per ton of acid production, on a 3 hour average basis (basis: cumulative increase, offsets, BACT)~~
5. Deleted. S-1411 is shutdown via Application 30768.~~The Owner/Operator shall ensure that POC emissions from S-1411 do not exceed 0.010 pounds per ton of acid production, on a 3 hour average basis. (basis: cumulative increase, offsets)~~
6. Deleted. S-1411 is shutdown via Application 30768.~~The Owner/Operator shall ensure that NOx emissions from S-1411 do not exceed 0.490 pounds per ton of acid production, on a 3 hour average basis. (basis: cumulative increase, offsets, BACT)~~
7. Deleted. S-1411 is shutdown via Application 30768.~~The Owner/Operator shall ensure that Sulfuric Acid Mist (SAM) emissions from S-1411 do not exceed 0.100 pounds per ton of acid production, on a 3 hour average basis. (basis: PSD, Regulation 2-2-306, Toxics)~~
8. Deleted. S-1411 is shutdown via Application 30768.~~The Owner/Operator shall ensure that CO emissions from S-1411 do not exceed 0.298 pounds per ton of acid production, on a 3 hour average basis. (basis: cumulative increase, BACT)~~
9. Deleted. SO2 CEMS required by Regulations 1-520.3, 9-1-502.
10. Deleted. S-1411 is shutdown via Application 30768.~~To determine compliance with the limits in Parts 4,5,6,7 and 8, within 90 days of the granting of the Permit to Operate for Application 27564, the Owner/Operator of S-1411 shall conduct District approved source tests while producing sulfuric acid at a rate of at least 80% of the maximum permitted production (i.e., 380 tons/day or higher). The District approved source test shall measure the emission rates of SAM, POC, PM-10, CO and NOx from S-1411. For purposes of PM-10, the applicant shall also test for, and report condensible PM-10. This source test shall be repeated annually. Emission factors for S-1411 (lb/ton acid production) will be developed from these tests and included in the source test report. .The owner/operator shall ensure that within 60 days of the date of completion of the source testing, two identical copies of the source tests results (each referencing permit application #27564 and plant #14628) are received by~~

~~the District. One copy shall be sent to the Source Test Section of the Technical Division and the other shall be sent to the Engineering Division. If the report copy is sent electronically, the subject of the message shall identify that the enclosed report is for Plant 14628, S-1411 Sulfuric Acid Plant, and Permit Application 27564. (Basis: Cumulative Increase, Offsets, BACT)~~

11. Deleted. S-1411 is shutdown via Application 30768.~~The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section prior to conducting any tests. The owner/operator shall notify the District's Source Test Section in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). As indicated above, the Owner/Operator shall measure the contribution of condensable PM (back half) to the total PM10 emissions. However, the Owner/Operator may propose alternative measuring techniques to measure condensable PM such as the use of a dilution tunnel or other appropriate method used to capture semi-volatile organic compounds. (basis: source test compliance verification).~~

12. Deleted. S-1411 is shutdown via Application 30768.~~The Owner/Operator shall maintain a District approved record containing all measurements, calculations and other data required to demonstrate compliance with the throughput and mass emission limits of this condition. This record shall include, but is not limited to, the daily production of each H2SO4 product produced by S-1411 (100% H2SO4 basis) summarized on a monthly basis, the monthly SO2 mass emissions from S-1411, and the monthly average SO2 emissions expressed in lb/ton of acid production (100% H2SO4 basis). This information shall be kept available for District inspection for a period of at least 5 years following the date on which such measurements, records or data are made or recorded. (basis: recordkeeping)~~

New Permit Condition #27733 (for AC Issuance)

Condition #: 26406 S1560

Application 27790, January 2017 Avon Wharf MOTEMS Project
Application 30768 (TBD 2022). Revised Parts 4 and 6 to update loading material as part of Marathon's Renewable Fuels Project.

S-1560 Avon Wharf Berth 1A, abated by A-1560 Avon Wharf Berth 1A Marine Vapor Recovery System

1. The owner/operator shall not operate S-1560 Berth 1A unless the total product transferred at S1560 does not exceed 30,000,000 barrels in any consecutive 12 month period. The owner/operator shall not transfer any Crude Oil at S-1560 Berth 1A. (basis: Cumulative Increase, Offsets)

2. Emissions for Cargo Carrier (Barges and Tankers) calls to S-1560 Berth 1A shall not exceed the following fully offset limits:

NOx: 188.825 tons/year
CO: 34.425 tons/year
POC: 10.743 tons/year
PM10: 4.157 tons/year
SO2: 9.372 tons/year

(basis: Cumulative Increase, Offsets)

3. The owner/operator of S-1560 shall demonstrate compliance with the throughput limit in Part 1 by recording the monthly volumes of material loaded and unloaded at S-1560. Monthly throughput shall be totaled on a consecutive 12 month basis. The owner/operator shall demonstrate compliance with the emission limits in Part 2 by showing annual loading and unloading throughput, on a calendar year basis, is less than 30,000,000 barrels per year. (basis: Cumulative Increase, Offsets)

4. The owner/operator shall operate S-1560 only when POC emissions from product loading operations do not exceed the fully offset limit of 20.00 tons/year. The owner/operator shall record the quantity of each material loaded onto vessels at S-1560 and perform the emission calculations required to demonstrate compliance using the following emission factors (pounds per 1000 gallons loaded) and assuming a destruction efficiency of 98.5% for controlled loading.

Gasoline/Components loaded onto Tanker 1.8
Gasoline/Components loaded onto Barge 3.4
Petroleum Diesel loaded onto Tanker 0.005
Petroleum Diesel loaded onto Barge 0.012
Residual Oil loaded onto Tanker 0.00004
Residual Oil loaded onto Barge 0.00009
Renewable Naphtha loaded onto Tanker 1.8
Renewable Naphtha loaded onto Barge 4.6
Renewable Diesel loaded onto Tanker 0.007 (uncontrolled loading)
Renewable Diesel loaded onto Barge 0.018 (uncontrolled loading)

(basis: Cumulative Increase, Offsets)

5. The owner/operator may only use a different methodology and/or different assumptions to demonstrate compliance with Part 4 when approved in advance by the District. (basis: Cumulative Increase, Offsets)

6. The owner/operator of S-1560 Berth 1A shall not load any regulated materials, including gasoline, ~~gasoline blending stocks, aviation gas, or JP-4~~or renewable naphtha unless the entire loading operation is abated with A-1560 Marine Vapor Recovery System. (basis: Cumulative Increase, Offsets)

7. The owner/operator shall install and maintain a Pressure Recorder/Controller in the vapor recovery system to provide a permanent record of pressure during the loading of vessels. These records shall be maintained for a minimum of 5 years. (basis: Cumulative Increase)

8. Not less frequently than every six months, the owner/operator shall conduct tests to assess leakage from all relief valves that vent to atmosphere in the marine vapor recovery system. The owner/operator shall ensure that the testing and record keeping are done in compliance with Regulation 8, Rule 18. (basis: Cumulative Increase, Regulation 8-18)

9. Deleted. Tesoro provided the final fugitive component counts 5/4/2017. The total permitted fully offset fugitive POC emissions for the Avon Wharf MOTEMS project are 783 lbs/year. (basis: Cumulative Increase, Offsets)

10. Deleted. Offsets were adjusted according to the final fugitive component count.

11. The Owner/Operator shall maintain a District approved record containing all measurements of type of material and quantity of material loaded and unloaded over Avon Wharf Berth 1A. This information shall be kept available for District inspection for a period of at least 5 years following the date on which such measurements, records or data are made or recorded. (basis: Recordkeeping)

12. Deleted. S-100 was permanently decommissioned and the permits for S-100, S-108, S-1508 and S-1509 have been surrendered.

13. The owner/operator of S-1560 shall ensure that loading of renewable naphtha does not exceed 365,000 barrels in any consecutive 12 month period or 55,200 barrels per calendar day.
(basis: cumulative increase, offsets, toxic risk screen)

New Permit Condition #27734 (for AC Issuance)

Condition #: 27082 ~~S802~~S-709, S-1584

FCCU Fluid Catalytic Cracker Unit Bio-Crude Feed Project Application 29401 (October 2019)
Plant 14628

~~S-802 FCCU Fluid Catalytic Cracker~~
S-709 Bio-Crude Storage, External Floating Roof Tank, 4,746,000 gallons
S-1584 Tract 4 Truck Unloading Terminal
Application 30768 (TBD 2022). Deleted Part 1 and revised Parts 6, and 8 through 10 due to the shutdown of S-802 as part of Marathon's Renewable Fuels Project.

1. Deleted. S-802 is shutdown via Application 30768.~~The Owner/Operator of S-802 may substitute the following non-petroleum materials for petroleum materials processed at S-802, as long as the non-petroleum material composition is known and determined to have no impact on S-802 emissions:~~
~~a. Fulcrum Bioenergy, Inc. "Bio-Crude" not to exceed 4,000 barrels in any calendar day.~~
~~(basis: Regulation 2-1-233, cumulative increase, toxics, offsets)~~

2. The owner/operator of S-709 shall not exceed the following throughput and emission limits during any consecutive twelve-month period:
Fulcrum Bioenergy, Inc. "Bio-Crude" 76,650,000 gallons
At all times the material stored in S-709 shall not exceed 5,302 lbs per ~~year~~ any consecutive 12 month period of POC. (basis: Regulation 2-1-233, cumulative increase, toxics, offsets)

3. The owner/operator may store alternate liquid(s) other than the materials specified in Part 2, provided that the owner/operator can demonstrate that all of the following are satisfied:
a. Total POC emissions from S-709 do not exceed 5,302 pounds in any consecutive twelve month period;
b. The true vapor pressure of the material does not exceed 7.7 psia, and
c. The use of these materials does not increase toxic emissions above any risk screening trigger level of Table 2- 5-1 in Regulation 2-5.
(Basis: Cumulative Increase; Toxics; BACT avoidance)

4. The owner/operator of S-1584 shall ensure this truck terminal is not used for material loading service.(basis: cumulative increase, offsets)

5. The owner/operator of S-1584 shall not exceed the following material unloading limits:
Fulcrum Bioenergy, Inc. "Bio-Crude" 210,000 gallons in any calendar day Fulcrum Bioenergy, Inc. "Bio-Crude" 76,650,000 gallons in any consecutive 12-month period (basis: Cumulative Increase, offsets, toxics)

6. Not more than 30 days after the start-up of ~~S-802,~~ S-709 and S-1584 for this Bio-Crude Feed Project, the owner/operator shall provide the District's Engineering Division with a final count of all fugitive components that are part of this project. The owner/operator has been permitted for a total POC fugitive emissions of 0.641 lbs per day and 0.117 tons per year based on the following fugitive components for this project:
23 valves in light liquid service
1 pump in light liquid service
0 PRVs in light liquid service
69 connectors/flanges in light liquid service (basis: Cumulative Increase, offsets, toxics)

7. If there is an increase in the total fugitive component emissions, the plant's cumulative emissions for the project shall be adjusted to reflect the difference between emissions based on predicted versus actual component counts. The owner/operator shall provide to the District all additional required offsets at an offset ratio of 1.15:1 no later than 14 days after submittal of the final POC fugitive count. If the actual component count is less than the predicted, the total will be adjusted accordingly and all emission offsets applied by the owner/operator in excess of the actual total fugitive emissions will be credited back to the owner/operator. (basis: offsets)

8. In accordance with the provisions of Regulation 8-18, the owner/operator shall integrate all fugitive components that are part of this ~~S-802/~~S-709/S-1584 Bio-Crude project into the facility fugitive equipment monitoring and repair program. (basis: Regulation 8-18)

9. To determine compliance with the above parts, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:

a. Daily quantities of each type of liquid unloaded at S-1584 and/or ~~,~~ stored in S-709, ~~and processed at S-802,~~ totaled on a monthly basis.

b. Deleted. S-802 is shutdown via Application 30768.~~Monthly Laboratory analysis of the non-petroleum material allowed in Part 1.~~

c. Monthly Laboratory analysis of the true vapor pressure of the material stored in S-709, including storage temperature and stored material composition. After lab data has been collected for a period of 24 months and correlations can be established for the blended FTL/LSVGO, sampling can be discontinued with District approval. If a material other than those specified in Part 2 is stored in S-709, monthly laboratory data shall be collected for a period of 24 months and sampling can be discontinued with District approval if correlations can be established.

d. If a material other than those specified in Part 2 is stored in S-709, POC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part 3, summarized on a monthly basis;

e. Monthly throughput and/or emission calculations shall be totaled for each consecutive twelve-month period.

All records shall be retained on-site for five years, from the date of entry, and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. (Basis: Cumulative Increase; Offsets, Toxics)

10. Prior to start-up of ~~S-802,~~ S-709 and S-1584 for this Bio-Crude Feed Project, the owner/operator shall conduct a sample analysis of the material allowed in Part 1 for mercury content and shall provide all results to the District's Engineering Division for review. Emissions shall not exceed any risk screening trigger level of Table 2-5-1 in Regulation 2-5.

New Permit Condition #27735 (for AC Issuance)

Condition #: 27543 A1584

S-126 LPG Truck Loading Rack (Exempt)
S-127 LPG Tank Car Loading Rack (Exempt)
S-134 Tank A-134, Recovered Oil,
S-137 Tank A-137, Fuel Oil #2, Waste Oil, Gasoline
S-323 Tank A-323, Fuel Oil, Jet 'A', Gasoline, Alkylate Gasoline Blending Components
S-327 Tank A-327, Caustic Waste
~~S-432 Tank A-432, Ethyl Alcohol, Distillate Oil, Gasoline, Naphtha~~
S-532 Oil Water Separator
S-603 Tank A-603, Organic Liquid – other/not Spec; #50 Unit Desalter Break Tank,

S-613 Tank A-613, Vapor Storage Tank
S-656 Tank A-846, Foul Water Stripper Charge Tank, Refinery Sour Waste Water
S-658 Tank A-847, Foul Water Stripper Charge Tank, Refinery Sour Waste Water
S-699 Tank A-690, API Separator Recovered Oil~~Crude Oil~~
S-714 Tank A-714, Organic Liquid – other/not Spec, Hydrocarbon Alkylation Spent Acid
S-819 API Oil-Water, Separator/Dissolved Nitrogen Flotation System, Abated by A-39 Thermal Oxidizer (A-14 Vapory Recovery as backup)
S-1025 Bulk Plant; Bottom Loading Facilities
~~S-1484 Oil Water Separator; Pressure Vessel, 50 Unit Desalter Brine~~
~~S-1496 Tank A-876, Heavy reformate with pentanes, straight run heavy naphtha~~
~~S-1554 Tank A-943, High Sulfur Vacuum Gas Oil (HSVGO), Vacuum Gas Oil (VGO)~~
S-1560 Avon Wharf Berth No. 1A Marine Bulk Plant
A-1584 – Trailer Mounted Combustor, 42.3 MMBtu/hour, John Zink, PECS Unit

Application 31305 (November 2021)
Application 30768 (TBD 2022). Deleted S-432, S-1496, and S-1554 as sources are no longer connected to vapor recovery as part of Marathon's Renewable Fuels Project. Deleted S-532 and S-1484 due to the shutdown these sources. Revised Part 1 due to the shutdown of S-908, S-909, and S-912 and replaced with S-919, S-920, S-928, S-929, S-930, S-931, S-932, S-933, S-934, S-937, S-973, S-1511, and S-1512 for combustion of recovered vapors.

1. The owner/operator shall abate emissions from Sources S-126, S-127, S-134, S-137, S-323, S-327, ~~S-432, S-532,~~ S-603, S-613, S-656, S-658, S-699, S-714, S-819, S-1025, ~~S-1484, S-1496, S-1554,~~ S-1560 via A-14 Vapor Recovery with Abatement Device A-1584, Thermal Oxidizer during all periods of operation when S-919, S-920, S-928, S-929, S-930, S-931, S-932, S-933, S-934, S-937, S-973, S-1511, and S-1512~~S-909, S-908, and S-912~~ are all out of service. The owner/operator shall only operate A-1584 when S-919, S-920, S-928, S-929, S-930, S-931, S-932, S-933, S-934, S-937, S-973, S-1511, and S-1512.~~S-909, S-908, and S-912~~ are all out of service. The owner/operator of A-1584 shall not exceed a stack gas flow rate of 55,000 scfm.
(Basis: Regulation 2-2-208 Cumulative Increase)

2. The owner/operator shall operate A-1584 Thermal Oxidizer such that the VOC destruction efficiency shall be maintained at a minimum of 99.5% by weight.
(Basis: Regulation 2-2-208 Cumulative Increase)

3. The owner/operator of A-1584 shall not exceed the following limits measured at the outlet:
Nitrogen oxides (NOx) – 0.10 lbs/MMBtu
Carbon monoxide (CO) – 0.074 lbs/MMBtu
Precursor Organic Compound (POC) – 336.3 lbs/day
Precursor Organic Compound (POC) – 122,750 lbs/year
(Basis: Regulation 2-2-208 Cumulative Increase)

4. The owner/operator shall operate A-1584 to be at least 1400 degrees F. The Air District may adjust this minimum temperature, if source test data demonstrates that an alternate temperature is necessary for or capable of maintaining compliance with Part 2 above.
(Basis: Regulation 2-2-208 Cumulative Increase)

5. To determine compliance with the temperature requirement in these permit conditions, the owner/operator shall equip A-1584 with a temperature measuring device capable of continuously measuring and recording the temperature in A-1584. The owner/operator shall install, and maintain in accordance with manufacturer's recommendations, a temperature measuring device that meets the following criteria: the minimum and maximum

measurable temperatures with the device are 32 degrees F and 2,300 degrees F, respectively, and the minimum accuracy of the device over this temperature range shall be 1.0 percent of full-scale.
(Basis: Regulation 2-2-208 Cumulative Increase)

6. The owner/operator shall report any non-compliance with Part 4 of this condition to the Director of the Compliance & Enforcement Division at the time that it is discovered. The submittal shall detail the corrective action taken and shall include the data showing the exceedance as well at the time of occurrence. (Basis: Regulation 2-2-208 Cumulative Increase)

7. The temperature limit in Part 4 shall not apply during an "Allowable Temperature Excursion", provided that the temperature controller setpoint complies with the temperature limit. An Allowable Temperature Excursion is one of the following:

a. A temperature excursion not exceeding 20 degrees F; or
b. A temperature excursion for a period or periods which when combined are less than or equal to 15 minutes in any hour; or
c. A temperature excursion for a period or periods which when combined are more than 15 minutes in any hour, provided that all three of the following criteria are met.
   i. the excursion does not exceed 50 degrees F;
   ii. the duration of the excursion does not exceed 24 hours; and
   iii. the total number of such excursions does not exceed 12 per calendar year (or any consecutive 12-month period).

Two or more excursions greater than 15 minutes in duration occurring during the same 24-hour period shall be counted as one excursion toward the 12-excursion limit.
(Basis: Regulation 2-1- 403)

8. For each Allowable Temperature Excursion that exceeds 20 degrees F and 15 minutes in duration, the Permit Holder shall keep sufficient records to demonstrate that they meet the qualifying criteria described above. Records shall be retained for a minimum of five (or two years) years from the date of entry, and shall be made available to the Air District upon request. Records shall include at least the following information:

a. Temperature controller setpoint;
b. Starting date and time, and duration of each Allowable Temperature Excursion;
c. Measured temperature during each Allowable Temperature Excursion;
d. Number of Allowable Temperature Excursions per month, and total number for the current calendar year; and
e. All strip charts or other temperature records.

(Basis: Regulation 2-1-403)

9. Not later than 60 days from the startup of A-1584, the owner/operator shall conduct Air District-approved source tests to determine initial compliance with the limits in Parts 2, 3, and 4 for VOC destruction efficiency, emission limits, and temperature, respectively. The owner/operator shall submit the source test results to the Air District staff no later than 60 days after the source test.
(Basis: Regulation 2-2-208 Cumulative Increase)

10. The owner/operator shall obtain approval for all source test procedures from the Air District's Source Test Section prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements as specified in Volume IV of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section, in writing, of the source test protocols and projected test dates at least 7 days prior to testing.
(Basis: Regulation 2-2-208 Cumulative Increase)

11. The owner/operator shall not use A-1584 for tank degassing activities.
(Basis: Regulation 2-2-208 Cumulative Increase)

New Permit Condition #27736 (for AC Issuance)

Condition #: 22455 S-55 (Plant #14629)

Application #12592 (August, 2005)
Modified by Application 17712 (June, 2008)
Amorco Transfer and Metering Project

Application 30768 (TBD 2022). Changed method of operation from unloading crude oil to loading renewable diesel as part of Marathon's Renewable Fuels Project. Loading at Amorco Terminal will be exempt from permitting per Regulation 2-1-123.3.2. Revised Parts 8-12 and added Parts 13-16.

Fugitive Components
1. Deleted. (The project final fugitive component count was provided June 28, 2007.)
2. Deleted. (The increase in total fugitive component emissions was offset in July, 2007.)
3. Deleted. (The Authority to Construct requirement to install BACT compliant valves was satisfied. Fugitive organic emissions less than 100 ppm is required by Regulation 8-18-302.)
4. Deleted. (The Authority to Construct requirement to install BACT compliant flanges and connectors was satisfied. Fugitive organic emissions less than 100 ppm is required by Regulation 8-18-304.)
5. Deleted. (The Authority to Construct requirement to install BACT compliant pump seals was satisfied. Fugitive organic emissions less than 500 ppm is required by Regulation 8-18-303.)
6. Deleted. (The Authority to Construct requirements for Pressure Relief Valves was satisfied.)
7. Deleted. (The Authority to Construct requirement for fugitive emissions monitoring was satisfied.)

S-55 Amorco Wharf Terminal, Renewable Diesel, 9,855,000 bbl/yr~~Crude Oil, Diesel, Gas Oil, Naphtha, Kerosene, Fuel Oils, 70,080,000bbl/yr~~
S-19 Tank B-19, external floating roof, 3318k gal, Renewable Diesel, ~~Crude Oil,~~ 70,080,000 bbl/yr limit applies to:
S-19, S-21, S-30, S-49 and S-50 combined
S-21 Tank B-21, external floating roof, 3276k gal, Renewable Diesel, ~~Crude Oil,~~ Gasoline, 70,080,000 bbl/yr limit applies to:
S-19, S-21, S-30, S-49 and S-50 combined
S-30 Tank B-30, external floating roof, 3318k gal, ~~Crude Oil,~~ Gasoline, 70,080,000 bbl/yr limit applies to:
S -19, S-21, S-30, S-49 and S-50 combined
S-49 Tank B-49, external floating roof, 5964k gal, ~~Crude Oil,~~ 70,080,000 bbl/yr limit applies to:
S-19, S-21, S-30, S-49 and S-50 combined
S-50 Tank B-50, external floating roof, 5922k gal, ~~Crude Oil,~~ 70,080,000 bbl/yr limit applies to:
S-19, S-21, S-30, S-49 and S-50 combined

8. The owner/operator of S-55 Amorco Wharf Terminal shall not exceed a throughput of ~~70,080,000~~9,855,000 barrels of ~~crude oil~~renewable diesel per any consecutive 12 month period or 124,800 barrels of renewable diesel per calendar day.
(basis: cumulative increase, offsets, toxic risk screen)
9. The owner/operator of S-19, S-21, S-30, S-49, and S-50 Tanks shall not exceed a combined throughput of 70,080,000 barrels ~~of crude oil~~ per any consecutive 12 month period. The owner/operator shall not use S-30, S-49, and/or S-50 Tanks to store any materials related to the Renewable Fuels Project, which includes renewable feedstocks, renewable fuels, wastewater, and any material needed for the production of the renewable fuels.
(basis: cumulative increase, offsets, toxic risk screen)
9A. The owner/operator of S-19 and/or S-21 shall each not exceed a throughput of 14,016,000 barrels per any consecutive 12 month period and/or 192,000 barrels per calendar day for each source.

10. Deleted. Operations at the Amorco Wharf has been changed from unloading crude oil to loading renewable diesel via Application 30768; therefore, Amorco Wharf is no longer permitted to receive any material. ~~The owner/operator shall not transfer any material received at the Amorco Wharf directly to another refinery via pipeline.~~

~~(basis: cumulative increase)~~

11. The owner/operator of S-55 shall not ~~ship crude from~~load any material other than renewable diesel at the Amorco Wharf. The owner/operator of S-55 shall not unload any material at the Amorco Wharf.
(basis: cumulative increase)

12. The owner/operator of S-55 shall maintain records, in a District approved log, for

a. The date(s) and times at which the tank vessel arrived and departed from the marine terminal.

b. The type of marine vessel (ship or barge). ~~and amount of organic liquid cargo unloaded.~~

c. On a daily basis, the amount and true vapor pressure of renewable diesel loaded.

d. Consecutive 12 month average true vapor pressure of renewable diesel loaded.

All records shall be retained for a period of at least five years from the date of entry. This log shall be kept on site and made available to District staff upon request.
(basis: cumulative increase, recordkeeping, Reg. 1-441)

13. The owner/operate of S-55 shall ensure that any consecutive 12 month period average true vapor pressure of renewable diesel is less than or equal to 0.012 psia.
(Basis: Regulation 2-1-319)

14. The owner/operator of S-55 shall operate S-55 only when any regulated air pollutant (except greenhouse gases) emissions from product loading operations do not exceed the exemption threshold of 5 tons/year per Regulation 2-1-319 and S-55 shall remain not subject to sections 2-1-316, 317, and/or 318. The owner/operator shall record the quantity of renewable diesel loaded onto vessels at S-55 and perform the emission calculations required to demonstrate compliance using the methodology established in EPA AP-42, Chapter 5.2, and using actual true vapor pressure at the time of loading.
(Basis: Regulation 2-1-319)

15. The owner/operator of S-55 may only use a different methodology and/or different assumptions to demonstrate compliance with Part 14 when approved in advance by the Air District.
(Basis: Regulation 2-1-319)

16. The owner/operator of S-55 may load material in excess of the limit in Part 8 and true vapor pressure in excess of the limit in Part 13 provided that the owner/operator can demonstrate that all of the following are satisfied:

a. Total emissions of any regulated air pollutant from loading operations at S-55 do not exceed 5 tons in any consecutive twelve month period;

b. The use of these materials does not increase toxic emissions to equal to or above any toxic air contaminant trigger level of Table 2-5-1 in Regulation 2-5.
(Basis: Regulation 2-1-319; Toxics)

Table K-1: Federal Modification Test Summary (Net Change)

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-919	No. 2 HDS Depentanizer Reboiler (F-19)	Combustion	0.184	0.735	0.735	0.191	17.902	-0.969	-0.007	1.051	14,872	0.809	0.162	14,873	14,939
S-920	No. 2 HDS Charge Heater (F-20)	Combustion	-0.145	-0.578	-0.578	0.122	-2.776	-3.191	-0.011	-0.767	-8,023	-0.471	-0.094	-8,023	-8,062
S-928	HDO Reactor A Heater (F-28) Stage 1	Combustion	-0.061	-0.243	-0.243	-0.905	0.019	-0.963	-0.003	-0.065	-2,220	-0.006	-0.001	-2,220	-2,221
S-929	HDO Reactor B Heater (F-29) Stage 1	Combustion	-0.037	-0.148	-0.148	-0.339	0.019	-0.755	-0.002	-0.029	-2,212	-0.010	-0.002	-2,212	-2,213
S-930	HDO Reactor C Heater (F-30) Stage 1	Combustion	-0.049	-0.198	-0.198	-0.338	0.014	-0.867	-0.002	-0.049	-2,724	-0.042	-0.008	-2,724	-2,727
S-931	Hydrocracker Reactor 1 Heater (F-31) Stage 2	Combustion	0.016	0.062	0.062	0.876	0.062	-0.561	-0.002	0.113	1,094	0.306	0.061	1,094	1,119
S-932	Hydrocracker Reactor 2 Heater (F-32) Stage 2	Combustion	0.009	0.036	0.036	0.730	0.055	-0.648	-0.002	0.092	30	0.249	0.050	30	51
S-933	Hydrocracker Reactor 3 Heater (F-33) Stage 2	Combustion	-0.022	-0.087	-0.087	0.624	0.053	-0.816	-0.002	0.103	138	0.255	0.051	138	159
S-934	Hydrocracker Stabilizer Reboiler (F-34)	Combustion	0.365	1.460	1.460	2.584	0.725	-1.280	-0.010	0.053	2,336	1.842	0.368	2,338	2,489
S-937	Hydrogen Plant Heater (F-37)	Combustion	0.322	1.288	1.288	-1.784	-8.659	-5.428	-0.038	0.471	45,096	4.439	0.866	45,102	45,458
S-973	No. 3 HDS Recycle Gas Heater (F-55)	Combustion	-0.112	-0.449	-0.449	-0.561	0.077	-3.806	-0.016	0.014	9,207	0.397	0.079	9,207	9,240
S-1511	Coker Furnace (F-78)	Combustion	0.083	0.331	0.331	0.009	-0.016	-0.362	-0.003	0.003	2,560	0.070	0.007	2,560	2,563
S-1512	Coker Furnace (F-79)	Combustion	-1.217	-4.869	-4.869	-0.750	-0.259	-1.621	-0.005	-0.082	-71,910	-1.453	-0.145	-71,912	-71,986
A-2000	Sour Water Stripper Offgas Thermal Oxidizer	Combustion	0.016	0.062	0.062	1.818	0.251	1.708	0.003	0.045	978	0.018	0.002	978	979
S-1030/S-1031 (Plant #10295)	No. 2 Hydrogen Plant (Air Products)	Combustion	0.041	0.041	0.041	0.151	0.163	0.293	0.000	0.014	18,432	0.171	0.017	18,433	18,441
S-55 (Plant #14629)	Amorco Terminal	Loading	--	--	--	--	--	--	--	3.725	--	--	--	--	--
S-115	Bulk Plant Truck/Rail Caustic Waste Loading Rack	Loading	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-126	LPG Truck Loading	Loading	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-127	LPG Tank Car Loading Rack	Loading	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-1560	Avon Wharf Loading Berth No. 1A with A14 Vapor Recovery	Loading	--	--	--	--	--	--	--	0.469	--	--	--	--	--

Appendix K – Federal Modification Test

Table K-1: Federal Modification Test Summary (Net Change)

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-1025	Bulk Plant; Bottom Loading Facilities	Loading	--	--	--	--	--	--	--	-0.248	--	--	--	--	--
FUG	Fugitive Emissions	Equipment Leaks	--	--	--	--	--	--	--	11.282	--	--	--	--	--
S-2009	Feedstock Unloading Rack	Equipment Leaks								0.233					
S-432/S-2013	Tank A-432, Ethyl Alcohol, Distillate Oil, Gasoline, Naphtha, A14 Vapor Recovery	Wastewater	--	--	--	--	--	--	--	7.481	--	--	--	--	--
S-819	API Oil-Water, Separator/Dissolved Nitrogen Flotation System	Wastewater								0.000					
S-830	Wastewater Surge Ponds	Wastewater	--	--	--	--	--	--	--	-0.255	--	--	--	--	--
S-831	Bio-Oxidation Pond, Open pond	Wastewater								-0.009					
S-842	Wastewater Treatment Plant Clarifiers, filters, and granular activated carbon	Wastewater								0.000					
S-1026	DNF Effluent Air Stripper	Wastewater								-0.201					
S-1496/S-2010	Tank A-876, Heavy reformate with pentanes, straight run heavy naphtha, A-14 Vapor Recovery	Wastewater	--	--	--	--	--	--	--	-2.928	--	--	--	--	--
S-2023	Primary DAF Polymer Tank	Wastewater	--	--	--	--	--	--	--	0.019	--	--	--	--	--
S-2016	Neutralization Tank	Wastewater	--	--	--	--	--	--	--	1.058	--	--	--	--	--
S-2017	Neutralization Tank	Wastewater	--	--	--	--	--	--	--	1.058	--	--	--	--	--
S-2003	Unit	Wastewater	--	--	--	--	--	--	--	0.031	--	--	--	--	--
S-323	Tank A-323, White Fuel Oil, Jet 'A', Gasoline, Alkylate Gasoline Blending Components, A14 Vapor Recovery	Storage Tanks	--	--	--	--	--	--	--	0.087	--	--	--	--	--
S-517	Tank A-517	Storage Tanks	--	--	--	--	--	--	--	-4.152	--	--	--	--	--
S-601	Tank A-601, Black Recovered Oil, Gas Oil	Storage Tanks	--	--	--	--	--	--	--	-0.048	--	--	--	--	--
S-620	Tank A-620	Storage Tanks	--	--	--	--	--	--	--	-3.114	--	--	--	--	--
S-621	Tank A-621	Storage Tanks	--	--	--	--	--	--	--	0.984	--	--	--	--	--
S-622	Tank A-622	Storage Tanks	--	--	--	--	--	--	--	1.448	--	--	--	--	--
S-650	Tank A-650, Refinery Sour Waste Water	Storage Tanks	--	--	--	--	--	--	--	0.012	--	--	--	--	--

Table K-1: Federal Modification Test Summary (Net Change)

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-651	Tank A-651, Oil/Water Mixture	Storage Tanks	--	--	--	--	--	--	--	0.153	--	--	--	--	--
S-656	Tank A-846, Foul Water Stripper Charge Tank, Refinery Sour Waste Water, A-12 Vapor Recovery, A-14 Vapor Recovery	Storage Tanks	--	--	--	--	--	--	--	0.007	--	--	--	--	--
S-658	Tank A-847, Foul Water Stripper Charge Tank, Refinery Sour Waste Water, A-12 Vapor Recovery, A-14 Vapor Recovery	Storage Tanks	--	--	--	--	--	--	--	0.007	--	--	--	--	--
S-692	Tank A-692, White Gasoline	Storage Tanks	--	--	--	--	--	--	--	-0.458	--	--	--	--	--
S-699	Tank A-699	Storage Tanks	--	--	--	--	--	--	--	-0.010	--	--	--	--	--
S-700	Tank A-700	Storage Tanks	--	--	--	--	--	--	--	-0.052	--	--	--	--	--
S-711	Tank 80-A-711, Green Crude Oil, Gasoline	Storage Tanks	--	--	--	--	--	--	--	-2.146	--	--	--	--	--
S-873	Tank A-895	Storage Tanks	--	--	--	--	--	--	--	0.577	--	--	--	--	--
S-1463	Tank A-867, Silver Crude Oil, HDS Gas Oil	Storage Tanks	--	--	--	--	--	--	--	-0.093	--	--	--	--	--
S-1464	Tank A-868, Off-white Diesel, Jet A, Kerosene	Storage Tanks	--	--	--	--	--	--	--	0.275	--	--	--	--	--
S-1465	Tank A-869, Off-white Jet A, Diesel, Kerosene	Storage Tanks	--	--	--	--	--	--	--	0.296	--	--	--	--	--
S-1468	Tank A-877, Spent Sulfidic Caustic	Storage Tanks	--	--	--	--	--	--	--	0.016	--	--	--	--	--
S-1554	Tank A-943, High Sulfur Vacuum Gas Oil (HSVGO), Vacuum Gas Oil (VGO)	Storage Tanks	--	--	--	--	--	--	--	-0.388	--	--	--	--	--
S-2002	TK-1048 Antifoam	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2004	TK-845 Sodium Hypochlorite	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2005	Tank MTK-10162	Storage Tanks	--	--	--	--	--	--	--	0.007	--	--	--	--	--
S-2006	TK-958 FRT Fresh Caustic	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2007	Tank A-905	Storage Tanks	--	--	--	--	--	--	--	-0.458	--	--	--	--	--
S-2008	Tank A-933	Storage Tanks	--	--	--	--	--	--	--	-0.423	--	--	--	--	--
S-2011	Tank A-981	Storage Tanks	--	--	--	--	--	--	--	0.010	--	--	--	--	--
S-2012	Tank A-961	Storage Tanks	--	--	--	--	--	--	--	0.010	--	--	--	--	--
S-2014	Sodium Sulfide Tank No. 1	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2015	Sodium Sulfide Tank No. 2	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--

Appendix K – Federal Modification Test

Table K-1: Federal Modification Test Summary (Net Change)

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-2018	Tank TK-1036 Sulfuric Acid Tank	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2019	Tank TK-10193, Coagulant Tank	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2022	Urea Storage Tank (122-NTK-0122)	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2026	Weak Acid Tank No. 1 (NV-406)	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2028	Tank A-932	Storage Tanks	--	--	--	--	--	--	--	0.763	--	--	--	--	--
S-598	Tank A-598	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-613	Tank A-613	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-648	Tank A-648	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-649	Tank A-649	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-652	Tank A-652	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-666	Tank A-666	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-667	Tank A-667	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-668	Tank A-668	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-669	Tank A-669	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-670	Tank A-670	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-695	Tank A-695	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-846	No 3 HDS Cooling Tower	Cooling Tower	0.000	0.000	0.000	--	--	--	--	0.000	--	--	--	--	--
S-976	No 5 Gas Plant Cooling Tower	Cooling Tower	0.000	0.000	0.000	--	--	--	--	0.000	--	--	--	--	--
S-978	Foul Water Stripper Cooling Tower	Cooling Tower	0.000	0.000	0.000	--	--	--	--	0.000	--	--	--	--	--
S-980	Hydrocracker Cooling Tower	Cooling Tower	0.000	0.000	0.000	--	--	--	--	0.000	--	--	--	--	--
S-982	No. 2 HDS Cooling Tower	Cooling Tower	0.000	0.000	0.000	--	--	--	--	0.000	--	--	--	--	--
S-985	No. 1 Gas Plant Cooling Tower	Cooling Tower	0.000	0.000	0.000	--	--	--	--	0.000	--	--	--	--	--

Appendix K – Federal Modification Test

Table K-1: Federal Modification Test Summary (Net Change)

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-854	East Air Flare	Flare	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000
S-944	North Coker Flare	Flare	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000
S-945	South Coker Flare	Flare	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000
S-992	Emergency Flare	Flare	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000
S-1012	West Air Flare	Flare	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000
S-1517	Coker Flare	Flare	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000
	Total Project Emission Increase		**-0.608**	**-2.555**	**-2.555**	**2.426**	**7.630**	**-19.267**	**-0.101**	**16.086**	**7,654**	**6.573**	**1.412**	**7,662**	**8,230**
	Federal Significant Emission Rate (SER)		25	15	10	40	100	40	7	40	N/A	N/A	N/A	0	75,000
	Is Project Emission Increase Greater than Significant Emission Rate?		No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A	

Table K-2: Baseline Actual Emissions

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-919	No. 2 HDS Depentanizer Reboiler (F-19)	Combustion	0.208	0.831	0.831	3.597	10.638	2.752	0.009	1.225	14,594	0.843	0.169	14,595	14,664
S-920	No. 2 HDS Charge Heater (F-20)	Combustion	0.291	1.166	1.166	5.157	13.479	3.860	0.012	1.620	19,072	1.090	0.218	19,074	19,163
S-928	HDO Reactor A Heater (F-28) Stage 1	Combustion	0.114	0.455	0.455	2.825	0.025	1.205	0.003	0.219	6,210	0.338	0.068	6,211	6,238
S-929	HDO Reactor B Heater (F-29) Stage 1	Combustion	0.090	0.360	0.360	1.945	0.025	0.997	0.003	0.182	6,202	0.342	0.068	6,202	6,230
S-930	HDO Reactor C Heater (F-30) Stage 1	Combustion	0.102	0.410	0.410	2.210	0.028	1.109	0.003	0.203	6,714	0.375	0.075	6,714	6,745
S-931	Hydrocracker Reactor 1 Heater (F-31) Stage 2	Combustion	0.098	0.392	0.392	2.200	0.028	1.077	0.003	0.216	7,439	0.404	0.081	7,440	7,473
S-932	Hydrocracker Reactor 2 Heater (F-32) Stage 2	Combustion	0.104	0.417	0.417	2.316	0.040	1.164	0.003	0.236	8,503	0.461	0.092	8,503	8,541
S-933	Hydrocracker Reactor 3 Heater (F-33) Stage 2	Combustion	0.135	0.540	0.540	3.284	0.037	1.333	0.003	0.226	8,395	0.456	0.091	8,395	8,433
S-934	Hydrocracker Stabilizer Reboiler (F-34)	Combustion	0.412	1.646	1.646	11.105	0.289	4.815	0.014	0.052	56,104	3.024	0.605	56,108	56,355
S-937	Hydrogen Plant Heater (F-37)	Combustion	3.350	13.398	13.398	57.531	23.850	22.139	0.056	1.019	231,146	6.387	0.971	231,153	231,581
S-973	No. 3 HDS Recycle Gas Heater (F-55)	Combustion	0.435	1.738	1.738	1.638	0.030	5.273	0.017	0.015	15,041	0.840	0.168	15,042	15,111
S-1511	Coker Furnace (F-78)	Combustion	1.386	5.543	5.543	0.750	0.164	1.787	0.005	0.065	83,107	1.666	0.167	83,109	83,194
S-1512	Coker Furnace (F-79)	Combustion	1.340	5.359	5.359	0.814	0.301	1.740	0.005	0.091	79,014	1.598	0.160	79,016	79,097
A-2000	Sour Water Stripper Offgas Thermal Oxidizer	Combustion	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0	0
S-1030/S-1031 (Plant #10295)	No. 2 Hydrogen Plant (Air Products)	Combustion	0.289	0.289	0.289	9.510	1.767	2.792	0.003	0.107	285,486	2.257	0.226	285,488	285,603
S-55 (Plant #14629)	Amorco Terminal	Loading	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-115	Bulk Plant Truck/Rail Caustic Waste Loading Rack	Loading	--	--	--	--	--	--	--	0.006	--	--	--	--	--
S-126	LPG Truck Loading	Loading	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-127	LPG Tank Car Loading Rack	Loading	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-1560	Avon Wharf Loading Berth No. 1A with A14 Vapor Recovery	Loading	--	--	--	--	--	--	--	1.674	--	--	--	--	--

Table K-2: Baseline Actual Emissions

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-1025	Bulk Plant; Bottom Loading Facilities	Loading	--	--	--	--	--	--	--	13.502	--	--	--	--	--
FUG	Fugitive Emissions	Equipment Leaks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2009	Feedstock Unloading Rack	Equipment Leaks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-432/S-2013	Tank A-432, Ethyl Alcohol, Distillate Oil, Gasoline, Naphtha, A14 Vapor Recovery	Wastewater	--	--	--	--	--	--	--	5.571	--	--	--	--	--
S-819	API Oil-Water, Separator/Dissolved Nitrogen Flotation System	Wastewater	--	--	--	--	--	--	--	0.003	--	--	--	--	--
S-830	Wastewater Surge Ponds	Wastewater	--	--	--	--	--	--	--	2.640	--	--	--	--	--
S-831	Bio-Oxidation Pond, Open pond	Wastewater	--	--	--	--	--	--	--	0.070	--	--	--	--	--
S-842	Wastewater Treatment Plant Clarifiers, filters, and granular activated carbon	Wastewater	--	--	--	--	--	--	--	0.006	--	--	--	--	--
S-1026	DNF Effluent Air Stripper	Wastewater	--	--	--	--	--	--	--	0.830	--	--	--	--	--
S-1496/S-2010	Tank A-876, Heavy reformate with pentanes, straight run heavy naphtha, A-14 Vapor Recovery	Wastewater	--	--	--	--	--	--	--	4.265	--	--	--	--	--
S-2023	Primary DAF Polymer Tank	Wastewater	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2016	Neutralization Tank	Wastewater	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2017	Neutralization Tank	Wastewater	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2003	Unit	Wastewater	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-323	Tank A-323, White Fuel Oil, Jet 'A', Gasoline, Alkylate Gasoline Blending Components, A14 Vapor Recovery	Storage Tanks	--	--	--	--	--	--	--	0.013	--	--	--	--	--
S-517	Tank A-517	Storage Tanks	--	--	--	--	--	--	--	5.724	--	--	--	--	--
S-601	Tank A-601, Black Recovered Oil, Gas Oil	Storage Tanks	--	--	--	--	--	--	--	0.462	--	--	--	--	--
S-620	Tank A-620	Storage Tanks	--	--	--	--	--	--	--	4.692	--	--	--	--	--
S-621	Tank A-621	Storage Tanks	--	--	--	--	--	--	--	0.035	--	--	--	--	--
S-622	Tank A-622	Storage Tanks	--	--	--	--	--	--	--	0.914	--	--	--	--	--

Table K-2: Baseline Actual Emissions

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-650	Tank A-650, Refinery Sour Waste Water	Storage Tanks	--	--	--	--	--	--	--	0.006	--	--	--	--	--
S-651	Tank A-651, Oil/Water Mixture	Storage Tanks	--	--	--	--	--	--	--	0.053	--	--	--	--	--
S-656	Tank A-846, Foul Water Stripper Charge Tank, Refinery Sour Waste Water, A-12 Vapor Recovery, A-14 Vapor Recovery	Storage Tanks	--	--	--	--	--	--	--	0.001	--	--	--	--	--
S-658	Tank A-847, Foul Water Stripper Charge Tank, Refinery Sour Waste Water, A-12 Vapor Recovery, A-14 Vapor Recovery	Storage Tanks	--	--	--	--	--	--	--	0.001	--	--	--	--	--
S-692	Tank A-692, White Gasoline	Storage Tanks	--	--	--	--	--	--	--	1.975	--	--	--	--	--
S-699	Tank A-699	Storage Tanks	--	--	--	--	--	--	--	0.020	--	--	--	--	--
S-700	Tank A-700	Storage Tanks	--	--	--	--	--	--	--	0.068	--	--	--	--	--
S-711	Tank 80-A-711, Green Crude Oil, Gasoline	Storage Tanks	--	--	--	--	--	--	--	2.146	--	--	--	--	--
S-873	Tank A-895	Storage Tanks	--	--	--	--	--	--	--	1.221	--	--	--	--	--
S-1463	Tank A-867, Silver Crude Oil, HDS Gas Oil	Storage Tanks	--	--	--	--	--	--	--	0.449	--	--	--	--	--
S-1464	Tank A-868, Off-white Diesel, Jet A, Kerosene	Storage Tanks	--	--	--	--	--	--	--	0.033	--	--	--	--	--
S-1465	Tank A-869, Off-white Jet A, Diesel, Kerosene	Storage Tanks	--	--	--	--	--	--	--	0.012	--	--	--	--	--
S-1468	Tank A-877, Spent Sulfidic Caustic	Storage Tanks	--	--	--	--	--	--	--	0.008	--	--	--	--	--
S-1554	Tank A-943, High Sulfur Vacuum Gas Oil (HSVGO), Vacuum Gas Oil (VGO)	Storage Tanks	--	--	--	--	--	--	--	0.458	--	--	--	--	--
S-2002	TK-1048 Antifoam	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2004	TK-845 Sodium Hypochlorite	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2005	Tank MTK-10162	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2006	TK-958 FRT Fresh Caustic	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2007	Tank A-905	Storage Tanks	--	--	--	--	--	--	--	2.789	--	--	--	--	--
S-2008	Tank A-933	Storage Tanks	--	--	--	--	--	--	--	3.045	--	--	--	--	--
S-2011	Tank A-981	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2012	Tank A-961	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--

Table K-2: Baseline Actual Emissions

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-2014	Sodium Sulfide Tank No. 1	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2015	Sodium Sulfide Tank No. 2	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2018	Tank TK-1036 Sulfuric Acid Tank	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2019	Tank TK-10193, Coagulant Tank	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2022	Urea Storage Tank (122-NTK-0122)	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2026	Weak Acid Tank No. 1 (NV-406)	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2028	Tank A-932	Storage Tanks	--	--	--	--	--	--	--	0.976	--	--	--	--	--
S-598	Tank A-598	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-613	Tank A-613	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-648	Tank A-648	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-649	Tank A-649	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-652	Tank A-652	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-666	Tank A-666	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-667	Tank A-667	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-668	Tank A-668	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-669	Tank A-669	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-670	Tank A-670	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-695	Tank A-695	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-846	No 3 HDS Cooling Tower	Cooling Tower	7.609	7.609	7.609	--	--	--	--	0.528	--	--	--	--	--
S-976	No 5 Gas Plant Cooling Tower	Cooling Tower	38.791	38.791	38.791	--	--	--	--	7.933	--	--	--	--	--
S-978	Foul Water Stripper Cooling Tower	Cooling Tower	3.596	3.596	3.596	--	--	--	--	0.266	--	--	--	--	--
S-980	Hydrocracker Cooling Tower	Cooling Tower	9.326	9.326	9.326	--	--	--	--	1.954	--	--	--	--	--

Table K-2: Baseline Actual Emissions

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-982	No. 2 HDS Cooling Tower	Cooling Tower	11.668	11.668	11.668	--	--	--	--	0.895	--	--	--	--	--
S-985	No. 1 Gas Plant Cooling Tower	Cooling Tower	3.379	3.379	3.379	--	--	--	--	0.313	--	--	--	--	--
S-854	East Air Flare	Flare	0.066	0.066	0.066	0.038	0.304	0.522	0.000	0.253	42.434	0.221	0.000	42.655	47.174
S-944	North Coker Flare	Flare	0.177	0.177	0.177	0.100	0.811	1.391	0.000	0.674	113.157	0.589	0.001	113.747	125.798
S-945	South Coker Flare	Flare	0.177	0.177	0.177	0.100	0.811	1.391	0.000	0.674	113.157	0.589	0.001	113.747	125.798
S-992	Emergency Flare	Flare	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S-1012	West Air Flare	Flare	0.018	0.018	0.018	0.010	0.081	0.139	0.000	0.067	11.316	0.059	0.000	11.375	12.580
S-1517	Coker Flare	Flare	0.004	0.004	0.004	0.003	0.020	0.035	0.000	0.017	2.829	0.015	0.000	2.844	3.145

Table K-3: Projected Actual Emissions

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-919	No. 2 HDS Depentanizer Reboiler (F-19)	Combustion	0.392	1.566	1.566	3.788	28.540	1.783	0.002	2.276	29,466	1.651	0.330	29,468	29,603
S-920	No. 2 HDS Charge Heater (F-20)	Combustion	0.147	0.587	0.587	5.279	10.703	0.668	0.001	0.853	11,050	0.619	0.124	11,050	11,101
S-928	HDO Reactor A Heater (F-28) Stage 1	Combustion	0.053	0.212	0.212	1.920	0.044	0.241	0.000	0.154	3,990	0.332	0.066	3,991	4,018
S-929	HDO Reactor B Heater (F-29) Stage 1	Combustion	0.053	0.212	0.212	1.606	0.044	0.241	0.000	0.154	3,990	0.332	0.066	3,991	4,018
S-930	HDO Reactor C Heater (F-30) Stage 1	Combustion	0.053	0.212	0.212	1.872	0.042	0.241	0.000	0.154	3,990	0.332	0.066	3,991	4,018
S-931	Hydrocracker Reactor 1 Heater (F-31) Stage 2	Combustion	0.113	0.454	0.454	3.076	0.090	0.516	0.001	0.328	8,533	0.710	0.142	8,534	8,592
S-932	Hydrocracker Reactor 2 Heater (F-32) Stage 2	Combustion	0.113	0.454	0.454	3.047	0.095	0.516	0.001	0.328	8,533	0.710	0.142	8,534	8,592
S-933	Hydrocracker Reactor 3 Heater (F-33) Stage 2	Combustion	0.113	0.454	0.454	3.909	0.090	0.516	0.001	0.328	8,533	0.710	0.142	8,534	8,592
S-934	Hydrocracker Stabilizer Reboiler (F-34)	Combustion	0.777	3.107	3.107	13.689	1.014	3.535	0.004	0.105	58,441	4.865	0.973	58,446	58,844
S-937	Hydrogen Plant Heater (F-37)	Combustion	3.671	14.686	14.686	55.746	15.192	16.711	0.018	1.490	276,242	10.826	1.837	276,255	277,039
S-973	No. 3 HDS Recycle Gas Heater (F-55)	Combustion	0.322	1.289	1.289	1.077	0.107	1.467	0.002	0.029	24,248	1.236	0.247	24,249	24,351
S-1511	Coker Furnace (F-78)	Combustion	1.469	5.874	5.874	0.758	0.148	1.426	0.002	0.069	85,667	1.736	0.174	85,669	85,757
S-1512	Coker Furnace (F-79)	Combustion	0.122	0.490	0.490	0.064	0.042	0.119	0.000	0.008	7,104	0.145	0.014	7,104	7,111
A-2000	Sour Water Stripper Offgas Thermal Oxidizer	Combustion	0.016	0.062	0.062	1.818	0.251	1.708	0.003	0.045	978	0.018	0.002	978	979
S-1030/S-1031 (Plant #10295)	No. 2 Hydrogen Plant (Air Products)	Combustion	0.330	0.330	0.330	9.661	1.930	3.085	0.003	0.121	303,918	2.428	0.243	303,921	304,044
S-55 (Plant #14629)	Amorco Terminal	Loading	--	--	--	--	--	--	--	3.725	--	--	--	--	--
S-115	Bulk Plant Truck/Rail Caustic Waste Loading Rack	Loading	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-126	LPG Truck Loading	Loading	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-127	LPG Tank Car Loading Rack	Loading	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-1560	Avon Wharf Loading Berth No. 1A with A14 Vapor Recovery	Loading	--	--	--	--	--	--	--	2.143	--	--	--	--	--

Table K-3: Projected Actual Emissions

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-1025	Bulk Plant; Bottom Loading Facilities	Loading	--	--	--	--	--	--	--	13.255	--	--	--	--	--
FUG	Fugitive Emissions	Equipment Leaks	--	--	--	--	--	--	--	11.282	--	--	--	--	--
S-2009	Feedstock Unloading Rack	Equipment Leaks	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.233	0.000	0.000	0.000	0.000	0.000
S-432/S-2013	Tank A-432, Ethyl Alcohol, Distillate Oil, Gasoline, Naphtha, A14 Vapor Recovery	Wastewater	--	--	--	--	--	--	--	13.052	--	--	--	--	--
S-819	API Oil-Water, Separator/Dissolved Nitrogen Flotation System	Wastewater								0.003					
S-830	Wastewater Surge Ponds	Wastewater	--	--	--	--	--	--	--	2.385	--	--	--	--	--
S-831	Bio-Oxidation Pond, Open pond	Wastewater								0.061					
S-842	Wastewater Treatment Plant Clarifiers, filters, and granular activated carbon	Wastewater								0.005					
S-1026	DNF Effluent Air Stripper	Wastewater								0.629					
S-1496/S-2010	Tank A-876, Heavy reformate with pentanes, straight run heavy naphtha, A-14 Vapor Recovery	Wastewater	--	--	--	--	--	--	--	1.337	--	--	--	--	--
S-2023	Primary DAF Polymer Tank	Wastewater	--	--	--	--	--	--	--	0.031	--	--	--	--	--
S-2016	Neutralization Tank	Wastewater	--	--	--	--	--	--	--	0.019	--	--	--	--	--
S-2017	Neutralization Tank	Wastewater	--	--	--	--	--	--	--	1.058	--	--	--	--	--
S-2003	Unit	Wastewater	--	--	--	--	--	--	--	1.058	--	--	--	--	--
S-323	Tank A-323, White Fuel Oil, Jet 'A', Gasoline, Alkylate Gasoline Blending Components, A14 Vapor Recovery	Storage Tanks	--	--	--	--	--	--	--	0.100	--	--	--	--	--
S-517	Tank A-517	Storage Tanks	--	--	--	--	--	--	--	1.572	--	--	--	--	--
S-601	Tank A-601, Black Recovered Oil, Gas Oil	Storage Tanks	--	--	--	--	--	--	--	0.414	--	--	--	--	--
S-620	Tank A-620	Storage Tanks	--	--	--	--	--	--	--	1.578	--	--	--	--	--
S-621	Tank A-621	Storage Tanks	--	--	--	--	--	--	--	1.019	--	--	--	--	--
S-622	Tank A-622	Storage Tanks	--	--	--	--	--	--	--	2.362	--	--	--	--	--
S-650	Tank A-650, Refinery Sour Waste Water	Storage Tanks	--	--	--	--	--	--	--	0.017	--	--	--	--	--

Table K-3: Projected Actual Emissions

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-651	Tank A-651, Oil/Water Mixture	Storage Tanks	--	--	--	--	--	--	--	0.207	--	--	--	--	--
S-656	Tank A-846, Foul Water Stripper Charge Tank, Refinery Sour Waste Water, A-12 Vapor Recovery, A-14 Vapor Recovery	Storage Tanks	--	--	--	--	--	--	--	0.007	--	--	--	--	--
S-658	Tank A-847, Foul Water Stripper Charge Tank, Refinery Sour Waste Water, A-12 Vapor Recovery, A-14 Vapor Recovery	Storage Tanks	--	--	--	--	--	--	--	0.007	--	--	--	--	--
S-692	Tank A-692, White Gasoline	Storage Tanks	--	--	--	--	--	--	--	1.517	--	--	--	--	--
S-699	Tank A-699	Storage Tanks	--	--	--	--	--	--	--	0.010	--	--	--	--	--
S-700	Tank A-700	Storage Tanks	--	--	--	--	--	--	--	0.016	--	--	--	--	--
S-711	Tank 80-A-711, Green Crude Oil, Gasoline	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-873	Tank A-895	Storage Tanks	--	--	--	--	--	--	--	1.797	--	--	--	--	--
S-1463	Tank A-867, Silver Crude Oil, HDS Gas Oil	Storage Tanks	--	--	--	--	--	--	--	0.355	--	--	--	--	--
S-1464	Tank A-868, Off-white Diesel, Jet A, Kerosene	Storage Tanks	--	--	--	--	--	--	--	0.308	--	--	--	--	--
S-1465	Tank A-869, Off-white Jet A, Diesel, Kerosene	Storage Tanks	--	--	--	--	--	--	--	0.308	--	--	--	--	--
S-1468	Tank A-877, Spent Sulfidic Caustic	Storage Tanks	--	--	--	--	--	--	--	0.023	--	--	--	--	--
S-1554	Tank A-943, High Sulfur Vacuum Gas Oil (HSVGO), Vacuum Gas Oil (VGO)	Storage Tanks	--	--	--	--	--	--	--	0.070	--	--	--	--	--
S-2002	TK-1048 Antifoam	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2004	TK-845 Sodium Hypochlorite	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2005	Tank MTK-10162	Storage Tanks	--	--	--	--	--	--	--	0.007	--	--	--	--	--
S-2006	TK-958 FRT Fresh Caustic	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2007	Tank A-905	Storage Tanks	--	--	--	--	--	--	--	2.331	--	--	--	--	--
S-2008	Tank A-933	Storage Tanks	--	--	--	--	--	--	--	2.622	--	--	--	--	--
S-2011	Tank A-981	Storage Tanks	--	--	--	--	--	--	--	0.010	--	--	--	--	--
S-2012	Tank A-961	Storage Tanks	--	--	--	--	--	--	--	0.010	--	--	--	--	--
S-2014	Sodium Sulfide Tank No. 1	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2015	Sodium Sulfide Tank No. 2	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--

Table K-3: Projected Actual Emissions

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-2018	Tank TK-1036 Sulfuric Acid Tank	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2019	Tank TK-10193, Coagulant Tank	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2022	Urea Storage Tank (122-NTK-0122)	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2026	Weak Acid Tank No. 1 (NV-406)	Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-2028	Tank A-932	Storage Tanks	--	--	--	--	--	--	--	1.739	--	--	--	--	--
S-598	Tank A-598	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-613	Tank A-613	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-648	Tank A-648	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-649	Tank A-649	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-652	Tank A-652	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-666	Tank A-666	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-667	Tank A-667	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-668	Tank A-668	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-669	Tank A-669	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-670	Tank A-670	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-695	Tank A-695	Pressure Storage Tanks	--	--	--	--	--	--	--	0.000	--	--	--	--	--
S-846	No 3 HDS Cooling Tower	Cooling Tower	7.609	7.609	7.609	--	--	--	--	0.528	--	--	--	--	--
S-976	No 5 Gas Plant Cooling Tower	Cooling Tower	38.791	38.791	38.791	--	--	--	--	7.933	--	--	--	--	--
S-978	Foul Water Stripper Cooling Tower	Cooling Tower	3.596	3.596	3.596	--	--	--	--	0.266	--	--	--	--	--
S-980	Hydrocracker Cooling Tower	Cooling Tower	9.326	9.326	9.326	--	--	--	--	1.954	--	--	--	--	--
S-982	No. 2 HDS Cooling Tower	Cooling Tower	11.668	11.668	11.668	--	--	--	--	0.895	--	--	--	--	--
S-985	No. 1 Gas Plant Cooling Tower	Cooling Tower	3.379	3.379	3.379	--	--	--	--	0.313	--	--	--	--	--

Table K-3: Projected Actual Emissions

S-#	Emission Unit	Source Category	PM	PM_{10}	$PM_{2.5}$	NO_X	CO	SO2	H_2SO_4	POC	CO_2	CH_4	N_2O	GHG	GHG
			tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy mass	tpy CO_2e
S-854	East Air Flare	Flare	0.066	0.066	0.066	0.038	0.304	0.522	0.000	0.253	42.434	0.221	0.000	42.655	47.174
S-944	North Coker Flare	Flare	0.177	0.177	0.177	0.100	0.811	1.391	0.000	0.674	113.157	0.589	0.001	113.747	125.798
S-945	South Coker Flare	Flare	0.177	0.177	0.177	0.100	0.811	1.391	0.000	0.674	113.157	0.589	0.001	113.747	125.798
S-992	Emergency Flare	Flare	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S-1012	West Air Flare	Flare	0.018	0.018	0.018	0.010	0.081	0.139	0.000	0.067	11.316	0.059	0.000	11.375	12.580
S-1517	Coker Flare	Flare	0.004	0.004	0.004	0.003	0.020	0.035	0.000	0.017	2.829	0.015	0.000	2.844	3.145