

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

MEMORANDUM

December 2, 2019

TO: Phillip Fielder, P.E., Chief Engineer

THROUGH: Rick Groshong, Environmental Manager, Compliance and Enforcement

THROUGH: Eric L. Milligan, P.E., Manager, Engineering Section

THROUGH: Joseph K. Wills, P.E., Existing Source Permits Section

FROM: David Schutz, P.E., New Source Permits Section

SUBJECT: Evaluation of Permit Application No. **2018-0594-TVR2 (M-4)**
HollyFrontier Tulsa Refining – Tulsa LLC (FAC ID 1477)
Tulsa Refinery West (SIC 2911 / NAICS 324110)
Replacement of Tank TK-317 / Modification of Tanks TK-279 and TK-280
1700 South Union
Tulsa, Tulsa County, OK (36.13765° N, 96.01154° W)

SECTION I. INTRODUCTION

HollyFrontier Tulsa Refining (HFTR) operates under Part 70 Permit No. 2018-0594-TVR2 (M-3), issued November 20, 2019. In addition, Construction Permit No. 2010-599-C (M-8)(PSD) was issued February 7, 2018.

HFRT proposes to replace the existing TK-317 with TK-317A as an end-of-life replacement, and to change the liquids in each tanks TK-279 and TK-280 from “slop oil” to naphtha.

| Tank ID | Existing Tanks | | | | Modified / Replacement Tanks | | | |
|---------|----------------|-------------|----------|------------------------|------------------------------|------------------|-----------------|------------------------|
| | EUG | Size (bbl.) | Contents | Applicable Regulations | EUG | Size (bbl.) | Normal Contents | Applicable Regulations |
| TK-317 | 28 | 7,000 | Lube oil | “grandfathered” | 28A | 9,400 fixed roof | Lube oil | MACT CC Group 2 |
| TK-279 | 23 | 8,964 | Slop oil | MACT CC Group 2 | 22 | 8,964 EFR | Naphtha | NSPS Subpart Kb |
| TK-280 | 23 | 8,964 | Slop oil | MACT CC Group 2 | 22 | 8,964 EFR | Naphtha | NSPS Subpart Kb |

Total VOC emissions from the three tanks is 3.25 TPY. This emission rate is below the Prevention of Significant Deterioration (PSD) level of significance of 40 TPY.

Tanks TK-279 and TK-280 were constructed in 2014 under Permit No. 2010-599-TVR (M-2) issued June 10, 2014, and were not subject to New Source Performance Standards (NSPS) Subpart Kb based on vapor pressure being below 0.5 psia. The naphtha to be stored has a vapor pressure of 3.01 psia, and Subpart Kb will affect the tanks from the change of liquids. By changing a permit condition taken to avoid an otherwise-applicable requirement (Specific Condition No. 1, EUG 23, Item “a” of Permit No. 2010-599-TVR (M-2)) and a modification under NSPS (an operational change making the tank exceed a threshold of applicability), the change meets the criteria of a “significant” modification and Tier II processing is required.

Since the facility emits more than 100 TPY of a regulated air pollutant, it is subject to Title V permitting requirements. Emission units (EUs) have been arranged into Emission Unit Groups (EUGs) in Section III.

SECTION II. PROCESS DESCRIPTION

HFTR’s crude is received by pipeline and tanker truck. HFTR currently is operated primarily to produce high quality lubricating oils. The crude is a mixture of purchased crude oils from various sources, which, when blended, has the required properties to make the lubricating oil products. Refinery fuel gases, propane, butane, isobutane, normal butane, gasoline (multiple grades), kerosene, No. 2 fuel oil, paraffin wax, petroleum coke, and Lube Extracted Feedstock (LEF) are some of the current byproducts from making the lube oils. LEF is a mixture of unfinished streams that may also be transferred to third party purchasers.

The specific types of refining processes and support facilities in current use in the HFTR Refinery are discussed in the following paragraphs. All of the process units and associated support equipment at HFTR operate as a whole (one primary operating scenario). Individual units or pieces of equipment undergo periodic scheduled shutdowns for maintenance, but no one unit or piece of equipment has any permit restrictions on potential operating hours. Therefore, total potential operating hours per year for all equipment is 24 hours per day, seven days per week, for every day of the year.

A. Crude Distillation Unit (CDU)

The Crude Distillation Unit is the first process and is used to separate crude oil or mixtures of crude and other purchased crude fractions into specific boiling-range streams suitable either for further processing in downstream units or in some cases, for direct sale after mild treating or blending. The primary equipment associated with this operation is a main atmospheric pressure fractionator, a light ends fractionator called the “stabilizer tower,” and two in-series vacuum distillation units. The atmospheric tower recovers streams that boil at approximately atmospheric pressure. The stabilizer tower feeds overhead gas to the crude tower and, at high pressure, effects a first separation of true gases (which go to the refinery fuel gas system) from crude gasoline. The vacuum towers recover high boiling point fractions that can be recovered only by lowering the pressure and operating at elevated temperatures. The energy for the distillation steps is provided by a main crude heater and two vacuum charge heaters, all gas fired. Other equipment important to crude and vacuum distillation is an extensive heat exchange system, a crude desalter system, a desalted water stripper, and a vacuum producing system.

B. Light Ends Recovery Unit (LERU)

The light gases from the Crude Unit Stabilizer are processed in a deethanizer tower and a depropanizer tower in the LERU. The deethanizer is a high-pressure fractionator that separates ethane and lighter fuel gases from propane and heavier hydrocarbons. The depropanizer tower is a pressurized tower that fractionates deethanizer bottoms into a liquid propane stream and a liquid mixed butane/pentane stream. The propane is treated with potassium hydroxide for sulfur removal, stored in tankage, and sold as commercial liquefied petroleum gas (LPG). The mixed butane/pentane from the depropanizer is stored in pressurized storage prior to further fractionation. Energy for the LERU process is provided by steam passing through reboilers (heat exchangers).

C. Isomerization Unit Towers

The isomerization reactors are shut down, but an associated fractionation system for separating manufactured and natural isobutane from normal butane remains in operation. Feed is the LERU butane/pentane stream and off test material from storage. The butane/pentane is brought from the LERU and storage and treated with potassium hydroxide for sulfur removal and fed to the deisobutanizer which first creates a propane/isobutane feed for a depropanizer that separates propane as an overhead stream from isobutane as a bottoms stream. The propane is stored and sold as LPG. The isobutane is stored in a pressurized tank and sold as isobutane. Deisobutanizer bottoms are normal-butane and go to sales or to gasoline blending.

D. Depentanizer

The Crude Unit Stabilizer tower bottoms charge the fractionation tower called the depentanizer. This depentanizer makes an overhead liquid stream called light straight run gasoline which goes to gasoline blending. Bottoms, called re-run bottoms, either go to the Unifiner or to the East plant for further processing. Energy for the depentanizer is supplied by a gas fired heater.

E. Unifiner

The Unifiner Unit has the purpose of treating naphtha from the Crude Unit or the depentanizer bottoms. The Unifiner includes a hydrogen-treating reactor that removes sulfur and other contaminants that would be detrimental to the downstream units. Other major equipment includes a hydrogen compressor, gas/liquid reactor effluent separator vessels, a stripper column to remove gases from the reactor product, and heat exchange systems. Two gas-fired heaters supply energy for the reactors and stripper column.

F. No. 2 Platformer – This unit has been removed from service.**G. Propane Deasphalter**

The Propane Deasphalter Unit (PDA) processes heavy bottoms from the second stage vacuum tower at the Crude Unit. Two parallel solvent extraction towers mix feed and propane solvent and produce two streams, (1) Deasphalted Oil is suitable as feedstock for lube manufacture in the downstream Lube Extraction Unit, and (2) PDA Bottoms that is asphaltic that charges the Coker Unit or blends directly into asphalt sales. The Deasphalter Unit employs other towers, vessels, pumps, heat exchangers, etc., to recover propane solvent from the product streams. Propane is recycled to the front-end extraction towers. Steam from the refinery system provides energy for the extraction process and for solvent recovery operations.

H. Lube Oil Extraction and Hydrogenation

This unit is charged with vacuum gas oil fractions and deasphalted oil which flows into two parallel counter-current solvent extraction towers that utilize furfural as a solvent. As a result, two streams are produced, a waxy paraffinic stream suitable for lube oil manufacture and an aromatic stream that is either sold as extract product or blended into the Fluid Catalytic Cracking Unit (FCCU) feedstock. The waxy paraffinic stream is fed to a hydrogenation unit to improve its stability and remove impurities before going to a downstream dewaxing operation. The hydrotreater is a fixed bed catalytic unit that uses hydrogen from the Tulsa East Reformer Unit. The unit employs towers, vessels, heat exchangers, pumps, etc., to remove and recycle the furfural solvent from the product streams. Three gas-fired heaters provide energy for the process.

I. Methyl Ethyl Ketone (MEK) Dewaxing Unit

This unit removes wax from the hydrotreated paraffins from the Lube Extraction Unit. The process employs two solvents in mixture, toluene and MEK. Fabric filters on rotating drums are used to physically separate wax from oil. A propane refrigeration system provides cooling to effect wax precipitation out of oil/wax solutions. Paraffin streams are fed in blocked out batches (the boiling range of the various batches having been set when recovered as separate streams at the Crude Unit vacuum towers). The dewaxed oil batches are stored and used for finished lube oil blending. The deoiled wax batches are stored and sold as various melting point products. The unit equipment includes oil/solvent contactors, rotating drum fabric filters, towers and vessels for solvent recovery and recycle, a propane refrigeration compressor system, a flue gas compressor system associated with the fabric filters, pumps, heat exchangers, etc. Two gas fired process heaters are employed, one for oil/solvent separation, and one for soft wax/solvent separation.

J. Coker Unit

HFTR's Coker Unit produces solid coke particles in a batch process. The Coker Unit equipment list includes two gas fired process heaters, two coke drums, a main fractionator, and other towers, vessels, pumps, heat exchangers, etc. The Coker Unit alternates the process between two vessels called drums. One drum is being charged for processing while the other is being emptied or processed. The process begins by charging one of the coke drums with the asphaltic stream from the Deasphalting Unit. The process thermally separates the heavy molecules into carbon (coke) and light hydrocarbons. The charge is heated to above 900°F using two gas-fired process heaters and then is allowed to have residence time while the coke and the light hydrocarbons separate. The light hydrocarbons flows/charges the product fractionation system (a part of the Coker Unit) for separation into gas for refinery fuel, and liquids which are further processed through other units in the refinery. After a drum is de-headed the coke is cut out with high pressure water in preparation for the next batch. Coke is stored in piles on-site, for bulk shipment by trucks. Air emissions from handling the finished coke are insignificant.

K. Lube/Wax Blending and Sales/Service Operations

This refinery's primary purpose is to produce finished paraffinic lubricating oils. Waxes are also an important by-product of lube oil manufacturing process. To provide the specialty products required by HFTR's diverse customers, there is a product blending and shipping operation at the site. The blending primarily occurs in cone roof tank areas. Shipment is by bulk in tank trucks and tank railcars.

L. Steam Generation

There are four gas-fired boilers that produce steam for general refinery use. The individual boiler units are numbered Nos. 7, 8, 9 and 10.

M. Wastewater Treatment

Facility wastewaters are conveyed in combined storm/process sewers, through oil/water separators and to a treatment area that employs storm surge capacity, clarification, dissolved air floatation, equalization, and aerobic waste digestion. Treated water is discharged to the Arkansas River. Recovered sludges are deoiled at a centrifuge facility and the oil is fed to the Coker Unit or Crude Unit.

N. Cooling Towers

The refinery employs 6 non-contact cooling towers. These are systems that circulate captive waters that provide a heat sink for various process units or equipment. Water is circulated through heat exchangers to indirectly cool hydrocarbon or other streams. Hot water from these exchangers is collected by pipelines and sprayed over cooling tower fill material in counter current (and cross current) flow to atmospheric air. The evaporation of a portion of the hot (typically 100 to 120°F) circulated water provides cooling to about 85°F (summer) for recirculation back to the heat exchangers. The white plumes observed from these towers are the evaporated water that sometimes re-condenses cloud-like at certain atmospheric conditions. The cooling towers have not used chrome-based systems since before 1994 and are not subject to MACT Subpart Q.

O. Flare Stacks

The refinery employs three vertical, piloted flare stacks for the emergency containment and combustion of certain hydrocarbon releases. Various HFTR process equipment is fitted with pressure relief valves to protect against overpressure conditions. These pressure relief valve outlets discharge into a gas collection flare piping system. In order to minimize flaring, this gas collection header is drawn upon by the Flare Gas Recovery Unit (FGRU), which uses two liquid ring compressors to recover flare header emissions into the Refinery Fuel Gas (RFG) system. Each flare stack uses a continuous pilot that assures ignition of any gaseous discharges. Each flare also uses a steam system that supplies steam for mixing with the gas being flared (as needed) to reduce/prevent the combustion products from smoking.

P. Logistics and Storage

The HFTR logistics system involves feed and product receipt and shipment systems, as well as extensive internal movements. Crude feed material is primarily received by pipeline into large tanks. Product shipments are also made by pipeline, tank truck, and rail tank car. This refinery does not have a marine terminal. There is an extensive storage tank system that handles crude feeds, finished products, and process intermediates. Types of material are generally in common geographical areas, but there are many exceptions due to the long history of the site.

Q. Sulfur and Other Impurity Treatments

This refinery processes feeds that are low in sulfur content, and does not employ a fluid catalytic cracker or a large hydrotreater or hydrocracker. As required by CD 05-CV-02866, the refinery fuel gas loop meets the H₂S limit set forth in 40 CFR §60.104(a) and (b) at least 95% of the sulfur removed is recovered. This is accomplished by sweetening sour fuel gas produced in Tulsa West with the Amine Recovery System available in Tulsa East. Refined product sulfur impurities are addressed within specific process units by caustic or chemical treatment steps.

SECTION III. EQUIPMENT AND EMISSIONS

Section III includes all facility equipment and all significant emissions. Each emission point has two numbers, i.e., EU and EUG Point No.

HFRT is a Part 70 and PSD major facility for all criteria pollutants and HAPs. The facility is required to submit annual Emission Inventory reports to DEQ in which the primary pollutants and HAP pollutant sources are defined.

HFRT's emission sources may be grouped into three categories, as shown in the following list.

1. Combustion stack emissions from heaters and boilers (VOC, CO, PM, NO_x, SO₂). The refinery fires only gaseous fuels.
2. Fugitive emissions from valves, fittings, equipment seals, and other sources (VOC including Volatile Hazardous Air Pollutants (VHAP)).
3. Emissions from hydrocarbon service storage tanks (VOC including VHAP).

The facility has equipment on-site that is out of service or retired in place. This equipment will not be included in the Title V permit and has no regulatory requirements. Returning this equipment to service would require permit activity.

Combustion Sources

Combustion sources at the refinery are referred to either as "grandfathered" or "non-grandfathered." Since all boilers and heaters are subject to NESHAP Subpart DDDDD, these designations are for state regulatory and NSPS purposes. The grandfathered units are fueled by refinery fuel gas (RFG), which is composed of residual "off gases" from various refinery process units. The non-grandfathered are limited to utilizing commercial grade natural gas, its equivalent, or RFG, these limits are incorporated in the specific conditions.

Fugitive VOC Leaks

The refinery fugitive equipment is controlled by the existing LDAR program. The basis for the emission calculations shown in HFRT's emission tables to follow in this section are shown individually on each table.

The following list groups all facility EUGs.

Grandfathered Fuel Burning Units

EUG 1, Existing Refinery Fuel Gas Burning Equipment

Non-Grandfathered Fuel Burning Units

EUG 1A, Modified Refinery Fuel Gas Burning Equipment

EUG 2, Non-Grandfathered Boilers

EUG 2A, Boiler Subject to NSPS Subparts Db and Ja

EUG 3, #2 PLAT PH-5 Heater

EUG 3A, #2 PLAT PH-6 Heater

EUG 4, Coker H-3 Heater

EUG 5, Coker B-1 Heater

EUG 6, MEK H-101 Heater

EUG 37, CDU H-2, CDU H-3, and LEU H-102 Heaters

Piping System Fugitives

EUGs 7, 8, and 9, Refinery Fugitive Groups

Tank Fugitives

EUG 18, §63.640 (Subpart CC) Existing Group 1 Internal Floating Roof Storage Vessels

EUG 19, §63.640 (Subpart CC) Existing Group 1 External Floating Roof Storage Vessels

EUG 20, §63.640 (Subpart CC) Group 2 Storage Vessels

EUG 21, NSPS §60.110b (Subpart Kb) Internal Floating Roof Storage Vessels Storing Volatile Organic Liquids (VOL) Above 0.75 psia Vapor Pressure

EUG 22, NSPS §60.110b (Subpart Kb) External Floating Roof Storage Vessel Storing VOL Above 0.75 psia Vapor Pressure

EUG 23, MACT CC Group 2 Storage Vessels Storing Volatile Organic Liquids below 0.507 psia Vapor Pressure

EUG 23A NSPS Subpart UU / MACT CC Group 2 Storage Vessel - Fixed Roof (FR)

EUG 24, NSPS §60.110a (Subpart Ka) Storage Vessels Storing Petroleum Liquids Below 1.0 psia Vapor Pressure

EUG 25, NSPS §60.110 (Subpart K) Storage Vessels Storing Petroleum Liquids Below 1.0 psia Vapor Pressure

EUG 27, External Floating Roof Storage Vessels Subject to OAC 252:100-39-41

EUG 28, Cone Roof Tanks

EUG 28A, Cone Roof Tanks (2019)

EUG 39, Cone Roof Tanks MACT CC Group 1 Storage Vessels

Others

EUG 11, Flares Subject to 40 CFR Part 60, Subpart GGG and J/Ja

EUG 11A, Platformer Flare Subject to 40 CFR Part 60, Subpart Ja, and MACT Subpart CC

EUG 12, Wastewater Processing System

EUG 14, Group 1 Process Vents Subject to 40 CFR Part 63, Subpart CC

EUG 15, Group 2 Process Vents Subject to 40 CFR Part 63, Subpart CC

- EUG 16, Process Vent Subject to 40 CFR Part 63, Subpart UUU by April 11, 2005
- EUG 17, Coker Enclosed Blowdown
- EUG 29, Pressurized Spheres
- EUG 30, Pressurized Bullet Tanks
- EUG 31, Underground LPG Cavern
- EUG 32, Non-Gasoline Loading Racks
- EUG 33, LPG Loading Racks
- EUG 34, Cooling Towers
- EUG 35, Oil/Water Separators Subject to OAC 252:100-37-37 and 39-18
- EUG 36, Spark Ignition Internal Combustion Engines Subject to 40 CFR Part 63 Subpart ZZZZ (PTE)
- EUG 38, Compression Ignition Internal Combustion Engines Subject to 40 CFR Part 63 Subpart ZZZZ (PTE)
- EUG 38A, Compression Ignition Internal Combustion Engines Subject to 40 CFR Part 63 Subpart ZZZZ (PTE)

Facility Emissions

Criteria pollutant emissions for EUG 1 are based on rated heat inputs, continuous operation, and Tables 1.4-1 and 2 of AP-42 (7/98) for all pollutants except SO₂, which is based on 162 ppmv sulfur and 1,020 BTU/SCF in the refinery fuel gas (RFG). The facility monitors the RFG system.

EUG 1: Existing Refinery Fuel Gas Burning Equipment & Potential-to-Emit (PTE)

| Constr. Date | MFR, BTUH, MM | EU | Point ID | NO _x | | CO | | PM ₁₀ | | SO ₂ | | VOC | |
|---------------|---------------|------|------------------|-----------------|------------|--------------|--------------|------------------|--------------|-----------------|--------------|-------------|-------------|
| | | | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 1961 | 404 | 201N | CDU H-1,N#7/ S#8 | 75.3 | 330 | 33.3 | 146 | 3.01 | 13.2 | 10.65 | 46.7 | 2.18 | 9.54 |
| 1957 | 36.7 | 206 | Unifiner H-2 | 3.70 | 16.20 | 3.20 | 14.00 | 0.28 | 1.22 | 1.10 | 4.82 | 0.20 | 0.90 |
| 1957 | 59.5 | 207 | Unifiner H-3 | 6.00 | 26.30 | 5.10 | 22.30 | 0.45 | 1.98 | 1.79 | 7.82 | 0.33 | 1.50 |
| 1957 | 36.3 | 210 | #2 Plat PH-3 | 3.60 | 15.80 | 3.10 | 13.60 | 0.28 | 1.22 | 1.09 | 4.77 | 0.20 | 0.90 |
| 1963 | 22.4 | 242 | LEU H101 | 2.20 | 9.60 | 1.92 | 8.30 | 0.17 | 0.75 | 0.67 | 2.94 | 0.12 | 0.53 |
| 1963 | 22.4 | 244 | LEU H-201 | 2.20 | 9.60 | 1.90 | 8.30 | 0.17 | 0.75 | 0.67 | 2.94 | 0.12 | 0.53 |
| 1960 | 49.0 | 246 | MEK H-2 | 4.9 | 21.5 | 4.20 | 18.4 | 0.37 | 1.63 | 1.47 | 6.44 | 0.27 | 1.20 |
| Totals | | | | 97.9 | 429 | 52.72 | 230.9 | 4.73 | 20.75 | 17.44 | 76.43 | 3.42 | 15.1 |

CDU H-1 has two stacks, H-1 North and H-1 South.

CDU H-1 has two stacks, H-1 North and H-1 South.

Emissions for EUG 1A, 2, 2A, 3, 3A, and 4 are based on continuous operation at rated heat input, using manufacturer's suggested emission factor for NO_x, VOC, and CO, NSPS Subpart Ja compliant fuel, and PM₁₀ from Table 1.4-2 of AP-42 (7/98).

EUG 1A: Modified Refinery Fuel Gas Burning Equipment & Potential-to-Emit (PTE)

| Constr. Date | MFR, BTUH, MM | EU | Point ID | NOx | | CO | | PM ₁₀ | | SO ₂ | | VOC | |
|--------------|---------------|-----|--------------|-------|-------|-------|-------|------------------|------|-----------------|------|-------|------|
| | | | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 1957 | 44.8 | 211 | #2 Plat PH-4 | 4.48 | 19.62 | 3.76 | 16.48 | 0.34 | 1.49 | 1.16 | 1.92 | 0.25 | 1.08 |

EUG 2: Non-Grandfathered Boilers & PTE

| CD | EU | Point ID | NOx | | CO | | PM ₁₀ | | SO ₂ | | VOC | |
|---------------|-----|---------------------------|-------------|--------------|-------------|--------------|------------------|-------------|-----------------|--------------|-------------|--------------|
| | | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 1975 | 109 | #7 Boiler*, 150 MMBTUH | 30.00 | 131.4 | 12.6 | 55.2 | 1.12 | 4.90 | 3.90 | 17.08 | 0.83 | 3.62 |
| 1976 | 110 | #8 Boiler*, 150 MMBTUH | 30.00 | 131.4 | 12.6 | 55.2 | 1.12 | 4.90 | 3.90 | 17.08 | 0.83 | 3.62 |
| 1976 | 111 | #9 Boiler*, 150 MMBTUH | 30.00 | 131.4 | 12.6 | 55.2 | 1.12 | 4.90 | 3.90 | 17.08 | 0.83 | 3.62 |
| Totals | | | 90.0 | 394.2 | 37.8 | 165.6 | 3.36 | 14.7 | 11.70 | 51.24 | 2.49 | 10.86 |

* subject to NSPS Subpart J.

EUG 2A: Boiler Subject To NSPS Subparts Db and Ja

| CD | EU | Point ID | CO | | NOx | | PM ₁₀ | | SO ₂ | | VOC | |
|------|-----|---------------------------|-------|-------|-------|-------|------------------|------|-----------------|------|-------|------|
| | | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 2013 | --- | #10 Boiler, 215 MMBTUH | 18.06 | 79.10 | 12.88 | 39.00 | 1.63 | 7.16 | 5.59 | 9.23 | 1.18 | 5.18 |

EUG 3: #2 PLAT PH-5 HEATER NSPS J (AUTHORIZED EMISSIONS IN TPY)

| CD | EU | Point ID | CO | NOx | PM ₁₀ | SOx | VOC |
|------|-----|--------------------------|-------|-------|------------------|------|------|
| 1990 | 212 | #2 Plat PH-5 65.3 MMBTUH | 23.55 | 28.04 | 2.13 | 7.43 | 1.54 |

EUG 3A: #2 PLAT PH-6 HEATER STATE (AUTHORIZED EMISSIONS IN TPY)

| CD | EU | Point ID | CO | NOx | PM ₁₀ | SOx | VOC |
|------|-----|--------------------------|-------|-------|------------------|------|------|
| 1957 | 213 | #2 Plat PH-6 34.8 MMBTUH | 12.55 | 14.94 | 1.14 | 3.96 | 0.82 |

EUG 4: Coker H-3 Heater & PTE

| CD | EU | Point ID | CO | | NOx | | PM ₁₀ | | SO ₂ | | VOC | |
|------|-----|--------------------------|-------|-------|-------|-------|------------------|------|-----------------|------|-------|------|
| | | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 1995 | 224 | Coker H-3, 32.2MMBTUH | 2.70 | 11.85 | 3.22 | 14.10 | 0.25 | 1.07 | 0.84 | 1.38 | 0.18 | 0.78 |

Emissions for EUG 5 and 6 are based on continuous operation at rated heat input, using 162 ppmv sulfur based on NSPS Subpart J for SO₂, and all other factors from Tables 1.4-1 and 2 of AP-42 (7/98).

EUG 5: Coker B-1 Heater & PTE

| CD | EU | Point ID | CO | | NO _x | | PM ₁₀ | | SO ₂ | | VOC | |
|------|-----|-------------------------|-------|-------|-----------------|-------|------------------|------|-----------------|-------|-------|------|
| | | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 1992 | 225 | Coker B-1, 60 MMBTUH | 5.04 | 22.08 | 6.00 | 26.28 | 0.46 | 2.00 | 5.85 | 25.63 | 0.33 | 1.45 |

EUG 6: MEK H-101 Heater & PTE

| CD | EU | Point ID | CO | | NO _x | | PM ₁₀ | | SO ₂ | | VOC | |
|------|-----|-------------------------|-------|------|-----------------|------|------------------|------|-----------------|------|-------|------|
| | | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 1977 | 245 | MEK H-101, 81 MMBTUH | 6.80 | 29.8 | 12.2 | 53.2 | 0.62 | 2.70 | 2.11 | 9.24 | 0.45 | 1.95 |

EUGs 7, 8, and 9: Refinery Fugitive Groups & PTE

Emission factors are from EIIIP Volume II (11/29/96) Table 4.4-4, and are related to the type of service for each component. The following estimates are from the facility’s 2016 annual emission inventory, as submitted to DEQ. Because the refinery is a dynamic operation, components are shifted in use, added or deleted, or replaced continuously. Thus, the following listing reflects estimates of components in place, and is not an actual count.

| EUG 7 (NSPS) | EU | Equipment Point ID | Estimated Number of Components | | VOC | |
|--------------|-------|------------------------------|--------------------------------|-------------|--------------|------|
| | | | | | lb/hr | TPY |
| | 13557 | LEU PsuedoRaffinate Stripper | Valves/HL | 1715 | 0.87 | 3.81 |
| | | | Flange/Connector/HL | 3204 | 1.77 | 7.74 |
| | | | Relief valves/HL | 11 | 0.26 | 1.16 |
| | | | Pump seals/HL | 31 | 1.43 | 6.29 |
| | | | Valves/Gas | 664 | 0.43 | 1.89 |
| | | | Relief valves/Gas | 11 | 0.00 | 0.00 |
| | | | Flange/Connector/Gas | 1383 | 0.76 | 3.34 |
| | | | Compressor seals/Gas | 1 | 0.00 | 0.00 |
| | | Total | | 5.52 | 24.23 | |
| | 13557 | Perc Filter | Valves/LL | 306 | 0.33 | 1.46 |
| | | | Flange/Connector/LL | 598 | 0.33 | 1.44 |
| | | | Agitator/LL | 7 | 0.00 | 0.00 |
| | | | Pump seals/LL | 5 | 1.28 | 5.40 |
| | | | Pump seals/HL | 36 | 1.67 | 7.30 |
| | | | Relief valves/LL | 2 | 0.05 | 0.21 |
| | | | Valves/HL | 572 | 0.29 | 1.27 |
| | | | Relief valves/Gas | 10 | 0.00 | 0.00 |
| | | | Flange/Connector/Gas | 13 | 0.00 | 0.03 |
| | | | Valves/Gas | 4 | 0.24 | 1.03 |
| | | Total | | 4.19 | 18.14 | |

| EUG 8 (MACT) | EU | Equipment Point ID | Estimated Number of Components | | VOC | |
|--------------|-------|--------------------|--------------------------------|------|-------------|--------------|
| | | | | | lb/hr | TPY |
| | 13557 | Coker | Valves/LL | 224 | 0.18 | 0.80 |
| | | | Flange/ Connector/LL | 134 | 0.07 | 0.32 |
| | | | Pump seals/LL | 7 | 0.00 | 0.00 |
| | | | Relief valves/LL | 2 | 0.05 | 0.21 |
| | | | Valves/HL | 2 | 0.00 | 0.00 |
| | | | Valves/Gas | 348 | 0.57 | 2.48 |
| | | | Relief valves/Gas | 4 | 0.00 | 0.00 |
| | | | Flange/Connector/Gas | 288 | 0.19 | 0.82 |
| | | | Compressor seals/Gas | 2 | 0.00 | 0.00 |
| | | | Total | | 1.06 | 4.63 |
| | 13557 | CDU | Valves/LL | 1186 | 0.94 | 4.11 |
| | | | Valves/HL | 39 | 0.00 | 0.00 |
| | | | Flange/Connector/LL | 860 | 0.00 | 0.00 |
| | | | Pump seals/LL | 36 | 0.00 | 0.00 |
| | | | Relief valves/LL | 10 | 0.00 | 0.00 |
| | | | Valves/Gas | 821 | 1.78 | 7.81 |
| | | | Relief valves/Gas | 16 | 0.00 | 0.00 |
| | | | Flange/Connector/Gas | 404 | 0.22 | 0.97 |
| | | | Compressor seals/Gas | 2 | 0.24 | 1.06 |
| | | | Total | | 3.18 | 13.95 |

| EUG 8 (MACT) | EU | Equipment Point ID | Estimated Number of Components | | VOC | |
|--------------|-------|--------------------|--------------------------------|------|-------------|--------------|
| | | | | | lb/hr | TPY |
| | 13557 | MEK Unit | Valves/LL | 5560 | 5.37 | 23.42 |
| | | | Flanges/Connectors/LL | 8276 | 0.60 | 2.63 |
| | | | Pump seals/LL | 61 | 0.18 | 0.76 |
| | | | Agitators/L | 2 | 0.00 | 0.00 |
| | | | Relief valves/LL | 77 | 0.14 | 0.60 |
| | | | Valves/Gas | 1040 | 2.24 | 9.79 |
| | | | Relief valves/Gas | 11 | 0.00 | 0.00 |
| | | | Flange/Connector/Gas | 827 | 0.03 | 0.13 |
| | | | Compressor seals/Gas | 2 | 0.00 | 0.00 |
| | | | Total | | 8.55 | 37.44 |
| | 13557 | Truck Loading Dock | Valves/LL | 387 | 0.39 | 1.71 |
| | | | Flange/Connector/LL | 508 | 0.28 | 1.23 |
| | | | Relief valves/LL | 1 | 0.00 | 0.00 |
| | | | Pump seals/LL | 5 | 0.00 | 0.00 |
| | | | Valves/Gas | 16 | 0.00 | 0.00 |
| | | | Relief valves/Gas | 2 | 0.00 | 0.00 |
| | | | Flange/Connectors/Gas | 2 | 0.00 | 0.00 |
| | | | Total | | 0.67 | 2.94 |

| EUG 8 (MACT) | EU | Equipment Point ID | Estimated Number of Components | | VOC | |
|-----------------|-------|-------------------------|-----------------------------------|------|-------------|--------------|
| | | | | | lb/hr | TPY |
| | 13557 | Tank Farm | Valves/LL | 2564 | 4.73 | 20.72 |
| | | | Agitator/LL | 17 | 0.00 | 0.00 |
| | | | Relief valves/LL | 32 | 0.77 | 3.37 |
| | | | Flange/Connectors/LL | 2753 | 1.52 | 6.65 |
| | | | Pump seals/LL | 43 | 0.08 | 0.33 |
| | | | Valves/Gas | 460 | 0.42 | 1.83 |
| | | | Relief valves/Gas | 52 | 0.00 | 0.00 |
| | | | Flange/Connectors/Gas | 353 | 0.19 | 0.85 |
| | | | Compressor seals/Gas | 1 | 0.00 | 0.00 |
| | | | Total | | 7.71 | 33.75 |
| | 13557 | Unifiner | Valves/LL | 84 | 0.15 | 0.66 |
| | | | Flanges/Connector/LL | 533 | 0.29 | 1.29 |
| | | | Pump seals/LL | 1 | 0.00 | 0.00 |
| | | | Valves/Gas | 547 | 1.67 | 7.32 |
| | | | Relief valves/Gas | 2 | 0.00 | 0.00 |
| | | | Flange/Connector/Gas | 338 | 0.19 | 0.82 |
| | | | Total | | 2.30 | 10.09 |
| | 13557 | #5 Boilerhouse | Valves/Gas | 131 | 0.61 | 2.69 |
| | | | Flange/Connector/Gas | 66 | 0.04 | 0.16 |
| | | | Total | | 0.65 | 2.85 |
| | 13557 | Butane Splitter Unit | Valves/LL | 360 | 3.05 | 13.34 |
| | | | Flange/Connector/LL | 288 | 0.16 | 0.70 |
| | | | Pump seals/LL | 11 | 0.00 | 0.00 |
| | | | Relief valves/LL | 6 | 0.00 | 0.00 |
| | | | Valves/Gas | 157 | 0.75 | 3.27 |
| | | | Relief valves/Gas | 8 | 0.00 | 0.00 |
| | | | Flange/Connector/Gas | 114 | 0.06 | 0.28 |
| | | | Total | | 4.02 | 17.59 |
| | 13557 | LERU | Valves/LL | 220 | 1.02 | 4.48 |
| | | | Flange/Connector/LL | 153 | 0.08 | 0.37 |
| | | | Pump seals/LL | 4 | 0.00 | 0.00 |
| | | | Valves/Gas | 191 | 0.60 | 2.66 |
| | | | Relief valves/Gas | 3 | 1.06 | 4.63 |
| | | | Flange/Connector/Gas | 114 | 0.06 | 0.27 |
| | | | Total | | 2.82 | 12.41 |

| EUG 9 (State) | EU | Equipment Point ID | Estimated Number of Components | | VOC | |
|------------------------------|-------|-----------------------|-----------------------------------|-----|--------------|---------------|
| | | | | | lb/hr | TPY |
| | 13557 | PDA Unit | Valves/LL | 496 | 0.71 | 3.13 |
| | | | Relief valves/LL | 7 | 0.17 | 0.74 |
| | | | Flange/Connector/LL | 435 | 0.24 | 1.05 |
| | | | Pump seals/LL | 6 | 0.00 | 0.00 |
| | | | Process Drains/LL | 2 | 0.50 | 2.20 |
| | | | Valves/Gas | 452 | 0.67 | 2.92 |
| | | | Relief valves/Gas | 19 | 0.00 | 0.00 |
| | | | Flange/Connector/Gas | 909 | 0.50 | 2.19 |
| | | | Compressor seals/Gas | 4 | 0.00 | 0.00 |
| | | | Total | | 2.79 | 12.23 |
| | 13557 | MEROX Unit | Valves/HL | 69 | 0.04 | 0.15 |
| | | | Flange/Connector/LL | 208 | 0.12 | 0.50 |
| | | | Pump seals/HL | 1 | 0.05 | 0.20 |
| | | | Valves/Gas | 35 | 2.07 | 9.06 |
| | | | Flange/Connector/Gas | 104 | 0.06 | 0.25 |
| | | | Total | | 2.34 | 10.16 |
| Total of EUGs 7, 8, 9 | | | | | 45.63 | 200.41 |

EUG 11: Flares Subject to 40 CFR Part 60, Subpart GGG and Subpart Ja

Emissions for EUG 11 are based on continuous operation, using emission factors from Table 13.5-1 of AP 42 (9/91) and evaluating only the pilot. This is a minimal estimate, not full PTE.

| CD | EU | Point ID | Equipment | VOC | | CO | | NOx | | SO ₂ | |
|---------------|-----|-------------|--------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------|-------------|
| | | | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 1976 | 269 | LEU Flare | John Zink EEF-QS-SA-18 smokeless flare tip | 0.04 | 0.19 | 0.12 | 0.51 | 0.04 | 0.19 | 0.12 | 0.51 |
| 1970 | 268 | Coker Flare | John Zink EEF-QS-30 smokeless flare tip | 0.13 | 0.55 | 0.33 | 1.5 | 0.06 | 0.27 | 0.12 | 0.5 |
| Totals | | | | 0.17 | 0.74 | 0.45 | 2.01 | 0.10 | 0.46 | 0.24 | 1.01 |

NOTES:

- Group 1 vents go to this flare only under emergency conditions.
- Performance testing required by NSPS Subpart GGG also meets requirements of NESHAP Subpart CC (allowed Group 1 vents to flare or FGRU).

EUG 11A: Platformer Flare Subject to 40 CFR Part 60, Subpart Ja, And MACT CC

Emissions for EUG 11a are based on continuous operation, using emission factors from Table 13.5-1 of AP 42 (9/91) and evaluating actual emissions.

| CD | EU | Point ID | Equipment | VOC | | CO | | NOx | | SO ₂ | |
|------|-----|------------|-----------------------------------------|-----|------|-----|------|-----|------|-----------------|------|
| | | | | PPH | TPY | PPH | TPY | PPH | TPY | PPH | TPY |
| 1960 | 267 | Plat Flare | John Zink EEF-QS-30 smokeless flare tip | 8.5 | 37.3 | 3.7 | 16.4 | 0.7 | 3.02 | 1.74 | 7.66 |

EUG 12: Wastewater Processing System & PTE

VOC emissions for EUG 12 are based on EPA’s software WATER9. Input data combine model defaults and calendar year 2016 emission inventory.

| EU | Point ID | Equipment | VOC | |
|-------|----------|--------------------------------------------|-------|--------|
| | | | lb/hr | TPY |
| 15943 | WPU-1 | Wastewater Processing Unit and Open Sewers | 25.12 | 110.33 |

EUG 14: Group 1 Process Vents Subject to 40 CFR Part 63, Subpart CC

| EU | Equipment Point ID | Control Device |
|-----|------------------------------------|-------------------------------|
| N/A | CDU Vacuum Tower Vent | CDU H-2 |
| N/A | LEU T-201 Hydrostripper Tower Vent | LEU H-102 |
| N/A | Coker Enclosed Blowdown Vent | Platformer Flare, Coker Flare |

EUG 15: Group 2 Process Vents Subject to 40 CFR Part 63, Subpart CC

| EU | Equipment/ Point ID |
|-----|--------------------------|
| N/A | MEK T-7 Vent |
| N/A | LEU T-101 Vent |
| N/A | LEU D-101 Vent |
| N/A | MEK Flue Gas Oxygen Vent |
| N/A | MEK Knockout Drum O-52 |

EUG 15, Group 2 Process Vents Subject to 40 CFR Part 63, Subpart CC, and EUG 16, Process Vent Subject to 40 CFR Part 63, Subpart UUU by April 11, 2005

These EUGs are vented to the facility flares. Their emissions are shown at the flares.

EUG 18: §63.640 (Subpart CC), Existing Group 1 Internal Floating Roof Storage Vessels

Emissions are calculated using AP-42 and the “current service” information, capacity, and throughput for calendar year 2016. Tanks may be used in any manner consistent with the requirements for this EUG, and are not bound by the listed current contents.

| Const Date | Tank Nos. | EU | Point ID | Size (bbl) | Current Service | VOC TPY |
|--------------|-----------|-------|----------|------------|-----------------|--------------|
| 1916 | 13 | 6333 | Tk13 | 55,000 | Crude Oil | 0.44 |
| 1940 | 31 | 6340 | Tk31 | 35,411 | Gasoline | 2.18 |
| 1917 | 153 | 6346 | Tk153 | 47,858 | Platformate | 3.11 |
| 1922 | 186 | 6348 | Tk186 | 55,000 | Crude Oil | 0.59 |
| 1922 | 187 | 6349 | Tk187 | 55,000 | Crude Oil | 0.57 |
| 1922 | 188 | 13592 | Tk188 | 55,000 | Crude Oil | 0.73 |
| 1917 | 242 | 6359 | Tk242 | --- | Out of Service | --- |
| 1917 | 244 | 6360 | Tk244 | 55,000 | LEF | 0.54 |
| 1970 | 473 | 6387 | Tk473 | 1,500 | MEK | 1.49 |
| 1979 | 474* | 6388 | Tk474 | 1,500 | MEK | 0.82 |
| 1965 | 502 | 1359 | Tk502 | 7,000 | Naphtha | 1.73 |
| 1948 | 742 | 6392 | Tk742 | --- | Out of Service | --- |
| Total | | | | | | 12.20 |

* Although Tank 474 was constructed in 1979 and is subject to NSPS Subpart Ka, the Group 1 MACT requirements supersede those requirements per the overlap provisions of 40 CFR § 63.640(n)(5).

EUG 19: §63.640 (Subpart CC), Existing Group 1 External Floating Roof Storage Vessels

Emissions are calculated using AP-42 and the “current service” information, capacity, and throughput for calendar year 2016 shown. Tanks may be used in any manner consistent with the requirements for this EUG, and are not bound by the listed current contents.

| Const Date | Tank # | EU | Point ID | Size (bbl) | Current Service | VOC TPY |
|--------------|--------|------|----------|------------|-----------------|-------------|
| 1973 | 199 | 6353 | Tk199 | 72,288 | Out of Service | --- |
| 1946 | 307 | 6367 | Tk307 | 10,000 | Out of Service | --- |
| 1972 | 750 | 6396 | Tk750 | --- | Out of Service | --- |
| 1950 | 755 | 6399 | Tk755 | 10,000 | Naphtha | 0.32 |
| 1953 | 779 | 6401 | Tk779 | --- | Out of Service | --- |
| 1965 | 874 | 6405 | Tk874 | 121,275 | Crude Oil | 1.67 |
| Total | | | | | | 1.99 |

EUG 20: §63.640 (Subpart CC) Group 2 Storage Vessels

Emissions are calculated using AP-42 and the “current service” information, capacity, and throughput for calendar year 2016. Tanks may be used in any manner consistent with the requirements for this EUG, and are not bound by the listed current contents. All tanks were constructed before 1970.

| Tank # | EU | Point ID | Size (bbl) | Current Service | VOC |
|--------------|-------|----------|------------|-----------------|-------------|
| | | | | | TPY |
| 6 | 20128 | Tk6 | 1,890 | Kerosene | 0.04 |
| 30 | 13559 | Tk30 | 30,000 | Kerosene | 0.18 |
| 41 | 1356 | Tk41 | --- | Out of Service | --- |
| 50 | 13561 | Tk50 | 1,890 | Naphtha wash | 0.17 |
| 51 | 13562 | Tk51 | --- | Out of Service | --- |
| 155 | 13563 | Tk155 | 54,132 | Out of Service | --- |
| 181 | 20129 | Tk181 | 1,000 | Jet fuel | 0.02 |
| 281 | 13574 | Tk281 | 7,000 | Slop Oil | 0.01 |
| 283 | 13576 | Tk283 | --- | Out of Service | --- |
| 312 | 6368 | Tk312 | 7,000 | Out of Service | --- |
| 315 | 6370 | Tk315 | 7,000 | Out of Service | --- |
| 401 | 6375 | Tk401 | 55,000 | Kerosene | 0.18 |
| 582 | 13596 | Tk582 | 4,061 | Slop Oil | 0.01 |
| 696 | NA | Tk696 | 1,700 | Slop Oil | 0.00 |
| 747 | 6393 | Tk747 | --- | Out of Service | --- |
| 751 | 5397 | Tk751 | --- | Out of Service | --- |
| Total | | | | | 0.61 |

EUG 21: NSPS §60.110b (Subpart Kb) Internal Floating Roof Storage Vessels Storing Volatile Organic Liquids (VOL) Above 0.75 psia Vapor Pressure (Authorized Emissions in TPY)

Emissions are calculated using AP-42 and the “current service” information, capacity, and throughput. Tanks may be used in any manner consistent with the requirements for this EUG, and are not bound by the listed current contents.

| Const Date | Tank # | EU | Point ID | Size (bbl) | Current Service | VOC | |
|---------------|--------|-------|----------|------------|----------------------|-------------|--------------|
| | | | | | | lb/hr | TPY |
| 1995 | 1061 | 13594 | Tk1061 | 80,000 | Naphtha | 0.30 | 1.33 |
| 2000 | 1070 | 20126 | Tk1070 | 5,377 | Slop Oil | 0.89 | 3.89 |
| 2004 | 1080 | NA | Tk1080 | 3,200 | Slop Oil | 0.66 | 2.90 |
| 1998 | 782 | 6402 | Tk782 | 15,000 | Naphtha | 0.80 | 3.49 |
| 2014 | 226 | NA | TK226 | 80,000 | Naphtha/ Gasoline | 0.70 | 3.04 |
| 2019 | 22A | 6337 | TK-22A | 74,500 | Naphtha | 0.94 | 4.11 |
| Totals | | | | | | 4.29 | 18.76 |

EUG 22: NSPS §60.110b (Subpart Kb) External Floating Roof Storage Vessel Storing VOL Above 0.75 psia Vapor Pressure (Authorized Emissions in TPY)

Emissions are calculated using AP-42 and the “current service” information, capacity, and throughput for calendar year 2016. Tanks may be used in any manner consistent with the requirements for this EUG, and are not bound by the listed current contents.

| Constr Date | Tank # | EU | Point ID | Service | VOC | |
|---------------|--------|-------|----------|----------------|-------------|-------------|
| | | | | | lb/hr | TPY |
| 1994 | 583 | 13591 | Tk583 | Out of Service | -- | -- |
| 2014 | 279 | 6364 | TK279 | Naphtha | 0.31 | 1.36 |
| 2014 | 280 | 6365 | Tk280 | Naphtha | 0.31 | 1.36 |
| TOTALS | | | | | 0.62 | 2.72 |

EUG 23: MACT CC Group 2 Storage Vessels Storing Volatile Organic Liquids Below 0.507 psia Vapor Pressure (Authorized Emissions in TPY)

VOC emissions are calculated using the current version of AP-42 for tanks constructed prior to 2010. Emissions for tanks constructed after 2010 are calculated using AP-42 equations. Due to the overlap provisions of MACT CC (§63.640(n)), these vessels are regulated under NSPS Subparts K or Ka but are not required to meet the K/Ka control standards, but must meet the MACT CC requirements per §63.640(n)(7). Storage vessels required to meet control requirements under NSPS Subparts K and Ka are required to comply only with those subparts, per §63.640(n)(6), and are not included in this list. Tanks may be used in any manner consistent with the requirements for this EUG, and are not bound by the listed current contents.

| Const Date | Tank # | EU | Point ID | Current Service | VOC |
|---------------|--------|-------|----------|-------------------|-------------|
| | | | | | TPY |
| 1917 | 84 | N/A | Tk84 | Out of Service | 0.00 |
| 1917 | 85 | N/A | Tk85 | Out of Service | 0.00 |
| 2012 | 189 | 6350 | Tk189 | Out of Service | 1.05 |
| 2009 | 405 | 6377 | TK405 | Diesel | 0.24 |
| 2009 | 406 | 13578 | TK406 | Diesel | 1.33 |
| 2014 | 998 | 13589 | Tk998 | Slop Oil | 0.01 |
| 1987 | 1002 | 6406 | Tk1002 | Lube Oil | ---- |
| 1989 | 1005 | N/A | Tk1005 | Out of Service | 0.00 |
| 1990 | 1012 | 15950 | Tk1012 | Furfural/ Water | 0.00 |
| 2012 | 1038 | N/A | Tk1038 | Sewer Storm water | 0.05 |
| 1993 | 1039 | 16561 | Tk1039 | Sewer Storm water | 0.07 |
| 2013 | 157 | 14307 | Tk157 | Lube Oil | 0.66 |
| 2015 | 156 | 13564 | Tk156 | Lube Oil | 0.01 |
| 2016 | 25A | N/A | Tk25A | Resid | 0.00 |
| 2016 | 23A | N/A | Tk23A | Resid | 0.08 |
| 2016 | 277 | N/A | Tk277 | Resid | 0.00 |
| Totals | | | | | 3.50 |

EUG 23A: NSPS Subpart UU / MACT CC Group 2 Storage Vessel - Fixed Roof (FR) (Authorized Emissions in TPY)

These storage vessels are regulated under 40 CFR Part 60, Subpart UU and 40 CFR Part 63 Subpart CC (MACT CC) Group 2 Storage Vessels. In the overlap provisions of MACT CC (§63.640(n)), it requires compliance with NSPS Subpart Kb but Subpart Kb is not applicable due to the low vapor pressure of the liquids stored.

| Const Date | Tank # | EU | Point ID | Current Service | VOC | |
|------------|--------|-------|----------|-----------------|-------|------|
| | | | | | lb/hr | TPY |
| 2010 | 27 | 13588 | Tk27 | Residual Oils | - | 0.10 |
| 2018 | 193 | 15945 | Tk193 | Coker Charge | - | - |

EUG 24: NSPS §60.110a (Subpart Ka) Storage Vessels Storing Petroleum Liquids Below 1.0 psia Vapor Pressure

Emissions are calculated using AP-42 and the “current service” information, capacity, and throughput for calendar year 2016. Tanks may be used in any manner consistent with the requirements for this EUG, and are not bound by the listed current contents.

| Const Date | Tank # | EU | Point ID | Current Service | VOC |
|--------------|--------|-------|----------|-----------------|-------------|
| | | | | | TPY |
| 1980 | 224 | 13569 | Tk224 | Gas Oil | 0.07 |
| 1979 | 881 | NA | Tk881 | Slop Wax | 0.03 |
| 1983 | 890 | NA | Tk890 | Out of Service | ---- |
| 1982 | 992 | NA | Tk992 | Resid | ---- |
| 1982 | 993 | NA | Tk993 | Resid | 0.002 |
| Total | | | | | 0.10 |

EUG 25: NSPS §60.110 (Subpart K) Storage Vessels Storing Petroleum Liquids below 1.0 psia Vapor Pressure

Emissions are calculated using AP-42 and the “current service” information, capacity, and throughput for calendar year 2016. Tanks may be used in any manner consistent with the requirements for this EUG, and are not bound by the listed current contents.

| Const Date | Tank # | EU | Point ID | Size (bbl) | Current Service | VOC |
|--------------|--------|-------|----------|------------|-----------------|-------------|
| | | | | | | TPY |
| 1974 | 152 | 6324 | Tk152 | --- | Out of Service | --- |
| 1973 | 158 | 13565 | Tk158 | 63,709 | Gas Oil | 0.20 |
| | 470 | | Tk470 | 170 | Gas Oil | 0.00 |
| 1978 | 472 | NA | Tk472 | 3,080 | Lube Oil | 0.00 |
| 1976 | 983 | NA | Tk983 | 15,000 | Lube Oil | 0.01 |
| 1976 | 984 | NA | Tk984 | 15,000 | Out of Service | 0.01 |
| 1976 | 986 | NA | Tk986 | 6,000 | Wax | 0.02 |
| 1976 | 987 | NA | Tk987 | 6,000 | Wax | 0.01 |
| Total | | | | | | 6.64 |

EUG 27: External Floating Roof Storage Vessels Subject to OAC 252:100-39-41

Emissions are calculated using AP-42 and the “current service” information, capacity, and throughput for calendar year 2016. Tanks may be used in any manner consistent with the requirements for this EUG, and are not bound by the listed current contents.

| CD | Tank # | EU | Point ID | Size (bbl) | Current Service | VOC |
|------|--------|------|----------|------------|-----------------|-----|
| | | | | | | TPY |
| 1957 | 314 | 6369 | Tk314 | 7,000 | Out of service | --- |

EUG 28: Cone Roof Tanks

Emissions are calculated using AP-42 and the “current service” information, capacity, and throughput for calendar year 2016. Tanks may be used in any manner consistent with the requirements for this EUG, and are not bound by the listed current contents. All tanks were constructed before 1970.

| EU | Point ID | Current Service | Capacity (bbls) | VOC TPY |
|-------|----------|-----------------|-----------------|---------|
| 20127 | Tk1 | Out of Service | 1,698 | ---- |
| Tk9 | Tk9 | Extract | 7,000 | 0.00 |
| Tk10 | Tk10 | Out of Service | 7,000 | 0.00 |
| Tk11 | Tk11 | Out of Service | 7,000 | 0.00 |
| 6334 | Tk15 | Lube Oil | 7,000 | 0.00 |
| 6335 | Tk16 | Lube Oil | 7,000 | 0.01 |
| Tk26 | Tk26 | Lube Oil | 55,000 | 0.00 |
| 20130 | Tk28 | Coker Chg | 38,000 | 0.02 |
| 6339 | Tk29 | Out of Service | 55,000 | 0.04 |
| Tk33 | Tk33 | Lube Oil | 55,000 | 0.01 |
| Tk34 | Tk34 | Out of Service | 55,000 | ---- |
| 6342 | Tk35 | Out of Service | 55,000 | 0.00 |
| 6343 | Tk36 | Gasoil | 55,000 | 0.00 |
| Tk38 | Tk38 | Gasoil | 1,890 | 0.00 |
| Tk45 | Tk45 | Wax | 4,200 | 0.00 |
| Tk46 | Tk46 | Wax | 4,200 | 0.01 |
| Tk52 | Tk52 | Out of Service | 1,890 | 0.00 |
| Tk53 | Tk53 | Wax | 1,890 | 0.00 |
| Tk54 | Tk54 | Out of Service | 1,890 | 0.00 |
| Tk62 | Tk62 | Wax | 4,200 | 0.00 |
| Tk65 | Tk65 | Out of Service | 1,890 | 0.00 |
| Tk66 | Tk66 | Out of Service | 1,890 | 0.00 |
| Tk68 | Tk68 | Wax | 1,890 | 0.00 |
| Tk69 | Tk69 | Out of Service | 1,890 | 0.00 |
| Tk71 | Tk71 | Lube Oil | 5,680 | 0.01 |
| Tk72 | Tk72 | Lube Oil | 5,680 | 0.05 |
| Tk73 | Tk73 | Lube Oil | 5,680 | 0.02 |
| Tk74 | Tk74 | Lube Oil | 5,680 | 0.00 |

| EU | Point ID | Current Service | Capacity (bbls) | VOC TPY |
|-------|----------|-----------------|-----------------|---------|
| Tk75 | Tk75 | Out of Service | 1,890 | ---- |
| Tk76 | Tk76 | Lube Oil | 1,890 | ---- |
| Tk79 | Tk79 | Out of Service | 1,890 | ---- |
| Tk80 | Tk80 | Extract | 1,890 | ---- |
| Tk81 | Tk81 | Out of Service | 1,890 | ---- |
| Tk83 | Tk83 | Extract | 1,890 | ---- |
| Tk132 | Tk132 | Extract | 1,800 | 0.00 |
| Tk133 | Tk133 | Extract | 1,800 | 0.00 |
| Tk134 | Tk134 | Extract | 7,000 | 0.00 |
| 6344 | Tk151 | Out of Service | 7,000 | ---- |
| 13567 | Tk194 | Lube Oil | 53,100 | 0.00 |
| Tk195 | Tk195 | Lube Oil | 55,000 | 0.03 |
| Tk196 | Tk196 | Lube Oil | 55,000 | 0.08 |
| 6355 | Tk215 | Out of Service | 50,914 | ---- |
| 15946 | Tk217 | Diesel | 7,000 | --- |
| 13568 | Tk218 | Out of Service | 7,000 | ---- |
| Tk223 | Tk223 | Extract | 7,000 | 0.00 |
| Tk227 | Tk227 | Extract | 7,000 | 0.01 |
| Tk228 | Tk228 | Wax | 1,890 | 0.00 |
| Tk229 | Tk229 | Out of Service | 1,890 | ---- |
| Tk232 | Tk232 | Wax | 1,890 | 0.00 |
| Tk233 | Tk233 | Wax | 1,890 | 0.00 |
| Tk234 | Tk234 | Wax | 1,890 | 0.01 |
| Tk235 | Tk235 | Wax | 1,890 | 0.00 |
| Tk236 | Tk236 | Lube Oil | 1,890 | ---- |
| Tk237 | Tk237 | Wax | 1,890 | 0.00 |
| Tk240 | Tk240 | Out of Service | 1,500 | ---- |
| Tk252 | Tk252 | Lube Oil | 7,000 | 0.00 |
| Tk264 | Tk264 | Out of Service | 1,890 | ---- |
| Tk265 | Tk265 | Out of Service | 1,890 | 0.00 |
| Tk266 | Tk266 | Extract | 1,890 | 0.00 |
| Tk267 | Tk267 | Out of Service | 1,890 | ---- |
| Tk271 | Tk271 | Out of Service | 1,890 | ---- |
| 6363 | Tk272 | Out of Service | 1,890 | ---- |
| Tk273 | Tk273 | Lube Oil | 7,000 | 0.03 |
| Tk274 | Tk274 | Lube Oil | 7,000 | 0.02 |
| Tk275 | Tk275 | Lube Oil | 7,000 | 0.02 |
| Tk276 | Tk276 | Gasoil | 7,000 | 0.00 |
| 6366 | Tk284 | Out of Service | 7,000 | ---- |
| Tk305 | Tk305 | Lube Oil | 7,000 | 0.00 |
| Tk318 | Tk318 | Lube Oil | 7,000 | 0.04 |
| Tk319 | Tk319 | Out of Service | 1,890 | ---- |

| EU | Point ID | Current Service | Capacity (bbls) | VOC TPY |
|-------|----------|-----------------|-----------------|---------|
| Tk320 | Tk320 | Out of Service | 1,890 | ---- |
| Tk321 | Tk321 | Lube Oil | 1,890 | ---- |
| Tk322 | Tk322 | Out of Service | 1,890 | ---- |
| 6371 | Tk323 | Out of Service | 7,000 | 0.00 |
| Tk327 | Tk327 | Out of Service | 1,890 | ---- |
| Tk328 | Tk328 | Lube Oil | 1,890 | ---- |
| Tk329 | Tk329 | Lube Oil | 1,890 | ---- |
| Tk331 | Tk331 | Lube Oil | 7,000 | 0.01 |
| Tk332 | Tk332 | Lube Oil | 7,000 | 0.02 |
| Tk335 | Tk335 | Out of Service | 1,890 | ---- |
| Tk390 | Tk390 | Extract | 7,000 | 0.02 |
| Tk391 | Tk391 | Extract | 5,000 | ---- |
| Tk392 | Tk392 | Extract | 5,000 | 0.04 |
| Tk393 | Tk393 | Out of Service | 1,000 | ---- |
| Tk394 | Tk394 | Out of Service | 1,120 | ---- |
| Tk396 | Tk396 | Out of Service | 5,940 | 0.00 |
| Tk397 | Tk397 | Out of Service | 5,940 | 0.00 |
| 6373 | Tk398 | Out of Service | 2,600 | 0.00 |
| 6374 | Tk399 | Out of Service | 2,600 | 0.00 |
| Tk471 | Tk471 | Wax | 3,780 | 0.00 |
| Tk509 | Tk509 | Out of Service | 4,000 | ---- |
| 6389 | Tk510 | Out of Service | 1,890 | ---- |
| 6390 | Tk511 | Out of Service | 1,890 | ---- |
| 6391 | Tk519 | Out of Service | 4,000 | ---- |
| Tk645 | Tk645 | Extract | 1,500 | 0.00 |
| Tk646 | Tk646 | Lube Oil | 1,500 | 0.00 |
| Tk649 | Tk649 | Out of Service | 1,008 | ---- |
| Tk650 | Tk650 | Extract | 10,000 | 0.02 |
| Tk675 | Tk675 | Out of Service | 1,500 | 0.00 |
| Tk691 | Tk691 | Extract | 2,400 | ---- |
| Tk692 | Tk692 | Lube Oil | 2,400 | ---- |
| Tk693 | Tk693 | Lube Oil | 2,400 | ---- |
| Tk694 | Tk694 | Lube Oil | 2,400 | ---- |
| Tk700 | Tk700 | Lube Oil | 15,000 | 0.03 |
| 13585 | Tk701 | Lube Oil | 15,000 | 0.00 |
| 13584 | Tk702 | Wax | 7,000 | 0.00 |
| 6403 | Tk799 | Out of Service | 1,890 | ---- |
| Tk800 | Tk800 | Wax | 7,000 | 0.01 |
| 15958 | Tk801 | Lube Oil | 15,000 | 0.13 |
| 13586 | Tk802 | Lube Oil | 15,000 | 0.01 |
| 15949 | Tk803 | Out of Service | 15,000 | ---- |
| Tk807 | Tk807 | Wax | 4,200 | 0.00 |

| EU | Point ID | Current Service | Capacity (bbls) | VOC TPY |
|-------|----------|-----------------|-----------------|---------|
| Tk828 | Tk828 | Lube Oil | 30,000 | 0.00 |
| Tk829 | Tk829 | Lube Oil | 30,000 | 0.00 |
| Tk830 | Tk830 | Lube Oil | 30,000 | 0.00 |
| Tk831 | Tk831 | Lube Oil | 30,000 | 0.01 |
| Tk835 | Tk835 | Out of Service | 2,000 | ---- |
| 6404 | Tk838 | Out of Service | 2,000 | ---- |
| Tk847 | Tk847 | Wax | 2,032 | 0.00 |
| Tk848 | Tk848 | Wax | 2,032 | 0.00 |
| Tk851 | Tk851 | Out of Service | 2,088 | ---- |
| Tk852 | Tk852 | Out of Service | 4,025 | ---- |
| Tk853 | Tk853 | Out of Service | 4,025 | 0.00 |
| Tk854 | Tk854 | Resid | 4,025 | 0.08 |
| Tk855 | Tk855 | Out of Service | 4,025 | 0.00 |
| Tk856 | Tk856 | Resid | 4,025 | 0.24 |
| Tk857 | Tk857 | Out of Service | 2,011 | 0.00 |
| Tk861 | Tk861 | Out of Service | 1,000 | 0.00 |
| Tk865 | Tk865 | Out of Service | 1,890 | ---- |
| Tk867 | Tk867 | Lube Oil | 1,675 | 0.00 |
| 13587 | Tk870 | Furfural | 5,300 | 0.00 |
| Tk875 | Tk875 | Wax | 2,090 | 0.00 |
| Tk876 | Tk876 | Out of Service | 3,000 | 0.00 |
| Tk877 | Tk877 | Wax | 2,090 | 0.01 |
| Tk878 | Tk878 | Slop Oil | 2,090 | ---- |
| Tk879 | Tk879 | Out of Service | 2,090 | ---- |
| Tk880 | Tk880 | Slop Oil | 3,000 | 0.00 |
| Tk882 | Tk882 | Lube Oil | 20,000 | 0.00 |
| Tk883 | Tk883 | Lube Oil | 1,000 | ---- |
| Tk884 | Tk884 | Lube Oil | 1,000 | 0.00 |
| Tk885 | Tk885 | Lube Oil | 1,000 | ---- |
| Tk886 | Tk886 | Lube Oil | 10,492 | 0.00 |
| Tk887 | Tk887 | Lube Oil | 19,500 | 0.00 |
| Tk888 | Tk888 | Lube Oil | 10,492 | 0.00 |
| Tk891 | Tk891 | Out of Service | 1,000 | 0.00 |
| Tk893 | Tk893 | Wax | 10,500 | 0.00 |
| Tk898 | Tk898 | Out of Service | 2,455 | 0.00 |
| Tk913 | Tk913 | Lube Oil | 2,090 | 0.00 |
| Tk914 | Tk914 | Lube Oil | 2,090 | 0.00 |
| Tk916 | Tk916 | Lube Oil | 2,090 | 0.00 |
| Tk918 | Tk918 | Extract | 30,000 | 0.03 |
| Tk921 | Tk921 | Lube Oil | 2,094 | 0.00 |
| Tk922 | Tk922 | Lube Oil | 3,058 | 0.00 |
| Tk923 | Tk923 | Lube Oil | 2,084 | 0.00 |

| EU | Point ID | Current Service | Capacity (bbls) | VOC TPY |
|---------------|----------|-----------------|-----------------|-------------|
| Tk924 | Tk924 | Lube Oil | 4,455 | 0.00 |
| Tk925 | Tk925 | Lube Oil | 4,455 | 0.00 |
| Tk926 | Tk926 | Lube Oil | 1,313 | 0.00 |
| Tk927 | Tk927 | Extract | 1,313 | 0.00 |
| Tk928 | Tk928 | Lube Oil | 4,455 | 0.00 |
| Tk929 | Tk929 | Lube Oil | 4,455 | 0.01 |
| Tk930 | Tk930 | Lube Oil | 1,313 | 0.00 |
| Tk931 | Tk931 | Lube Oil | 1,313 | 0.00 |
| Tk932 | Tk932 | Lube Oil | 3,058 | 0.00 |
| Tk933 | Tk933 | Lube Oil | 1,000 | 0.00 |
| Tk934 | Tk934 | Out of Service | 1,000 | 0.00 |
| Tk935 | Tk935 | Out of Service | 1,000 | 0.00 |
| Tk936 | Tk936 | Out of Service | 1,000 | 0.00 |
| Tk937 | Tk937 | Out of Service | 1,000 | 0.00 |
| Tk938 | Tk938 | Out of Service | 1,000 | 0.00 |
| Tk939 | Tk939 | Out of Service | 1,000 | 0.00 |
| Tk940 | Tk940 | Out of Service | 1,000 | 0.00 |
| Tk941 | Tk941 | Out of Service | 1,000 | 0.00 |
| Tk942 | Tk942 | Out of Service | 1,000 | 0.00 |
| Tk943 | Tk943 | Out of Service | 1,000 | 0.00 |
| Tk944 | Tk944 | Out of Service | 1,000 | 0.00 |
| Tk955 | Tk955 | Out of Service | 1,000 | 0.00 |
| TkAGT1 | TkAGT1 | Slop Diesel | 2,000 | 0.00 |
| TkAGT2 | TkAGT2 | Slop Diesel | 1,000 | 0.00 |
| TkAGT3 | TkAGT3 | Slop Diesel | 1,000 | 0.00 |
| TkAGT4 | TkAGT4 | Slop Diesel | 2,000 | ---- |
| Totals | | | | 1.08 |

EUG 28A: Cone Roof Tanks (2019)

Emissions are calculated using AP-42 and the projected service information, capacity, and throughput.

| EU | Point ID | Capacity (bbls) | Liquid Stored* | Vapor Pressure (psia) | Annual Throughput (bbl.) | VOC TPY |
|---------------|----------|-----------------|------------------|-----------------------|--------------------------|-------------|
| 15944 | TK-159A | 80,000 | No. 2 distillate | 0.016 | 200,000 | 1.22 |
| 6351 | TK-190A | 73,000 | No. 2 distillate | 0.016 | 3,000,000 | 1.94 |
| TK192 | TK-192A | 80,000 | No. 2 distillate | 0.016 | 3,000,000 | 3.92 |
| TK1215 | TK-1215 | 10,000 | Wax | 0.001 | 1,000,000 | 0.47 |
| TK317A | TK-317A | 9,400 | Lube Oil | 0.003 | 8,760,000 | 0.53 |
| TOTALS | | | | | | 8.08 |

*Worst-case liquid with highest vapor pressure.

EUG 29: Pressurized Spheres

There are no emissions from these pressurized vessels. Fugitive emissions from associated piping are included in the calculations for EUG 8.

| Tank # | Point ID | Nominal Capacity (bbls) | Const Date |
|--------|----------|-------------------------|------------|
| Tk 585 | Tk585 | 19,744 | 1947 |
| Tk 586 | Tk586 | 19,744 | 1947 |
| Tk 587 | Tk587 | 19,744 | 1947 |
| Tk 588 | Tk588 | 19,744 | 1949 |
| Tk 589 | Tk589 | 19,744 | 1949 |
| Tk 788 | Tk788 | 19,744 | 1955 |
| Tk 789 | Tk789 | 19,744 | 1955 |
| Tk 797 | Tk797 | 19,744 | 1956 |
| Tk 798 | Tk798 | 19,744 | 1956 |
| Tk 804 | Tk804 | 5,117 | 1957 |
| Tk 805 | Tk805 | 5,117 | 1957 |
| Tk 806 | Tk806 | 5,117 | 1957 |

EUG 30: Pressurized Bullet Tanks

There are no emissions from these pressurized vessels. Fugitive emissions from associated piping are included in the calculations for EUG 8.

| Tank # | Point ID | Nominal Capacity (bbls) | Const Date |
|---------|----------|-------------------------|------------|
| Tk 791 | Tk791 | 720 | 1955 |
| Tk 792 | Tk792 | 720 | 1955 |
| Tk 793 | Tk793 | 720 | 1955 |
| Tk 794 | Tk794 | 720 | 1955 |
| Tk 795 | Tk795 | 720 | 1955 |
| Tk 1007 | Tk1007 | 1,430 | 1990 |
| Tk 1008 | Tk1008 | 1,430 | 1990 |

EUG 31: Underground LPG Cavern

There are no vents or normal emissions from this unit that was constructed in 1961. Fugitive emissions from associated piping are included in the calculations for EUG 8. This “vessel” predates federal and state rules and regulations. Since it is pressurized, it satisfies the requirements of OAC 252:100-39-41. Pressurized vessels do not meet the definition of storage vessels in MACT CC, per 40 CFR § 63.641.

| CD | Tank # | EU | Point ID |
|------|--------|----|----------|
| 1961 | Tk 900 | NA | Tk900 |

EUG 32: Non-Gasoline Loading Racks

Emission estimates are based on engineering estimates and calculations provided by the facility, using throughput information from calendar year 2016.

| CD | EU | Equipment | VOC |
|------|-----|-----------------------------|-----------------|
| | | | TPY |
| 1937 | N/A | Black Oil Rail Loading Rack | <1.0 |
| 1993 | N/A | Extract Truck Loading Rack | <1.0 |
| 1930 | N/A | Extract Rail Loading Rack | <1.0 |
| 1979 | N/A | Wax Truck Loading Rack | <1.0 |
| 1917 | N/A | Wax Rail Loading Rack | <1.0 |
| 1967 | N/A | LOB Rail Loading Rack | <1.0 |
| 1978 | N/A | LOB Truck Loading Rack | <1.0 |
| 1962 | N/A | Resid Truck Loading Rack | <1.0 |
| 1986 | N/A | Diesel Rail Loading Rack | <1.0 |
| | N/A | 560 Rail Loading Rack | <1.0 |
| | N/A | Brightstock Rail Rack | <1.0 |
| | N/A | Heavy Oil Loading Rack | <1.0 |
| | N/A | 702tk Truck Loading | <1.0 |
| | N/A | Sundex Truck Loading Rack | <1.0 |
| | N/A | Sundex Railcar Loading Rack | <1.0 |
| | N/A | PDA Bottoms Loading Rack | <1.0 |
| | | VOC Totals | <10.0 |

| CD | EU | Equipment | PM ₁₀ | |
|------|-------|-------------------------|------------------|------|
| | | | lb/hr | TPY |
| 1991 | 18371 | Coke Truck Loading Area | -- | 0.90 |

EUG 33: Liquid Petroleum Gas (LPG) Loading Racks

These are high pressure LPGs with no emissions from piping, etc. Emissions from residual material in the tubing after uncoupling have not been estimated.

| CD | EU | Equipment/Point ID |
|------|-----|------------------------|
| 1956 | N/A | LPG Truck Loading Rack |
| 1917 | N/A | LPG Rail Loading Rack |

EUG 34: Cooling Towers

Emissions were estimated using Table 5.1-2 of AP-42 (1/95), for VOCs and Fire 6.25 based on Table 13.4-1 of AP-42 (1/95). These towers are subject to 40 CFR Part 63, Subpart CC.

| EU | Point ID | Equipment | PM ₁₀ TPY | VOC TPY |
|-------|----------|--------------------------|-------------------------|------------|
| 15942 | CT2 | LEU/MEK Cooling Tower | 0.17 | 3.0 |
| 15942 | CT3 | Removed from Service | | |
| 15942 | CT4 | LEU/MEK Cooling Tower | | |
| 15942 | CT6 | PDA/# 5 BH Cooling Tower | | |
| 15942 | CT7 | Coker Cooling Tower | | |
| 15942 | CT8 | CDU Cooling Tower | | |
| 15942 | CT9 | BSU Cooling Tower | | |
| 15942 | 3A | Removed from Service | | |
| 15942 | 3B | Removed from Service | | |

EUG 35: Oil/Water Separators Subject to OAC 252:100-37-37 and 39-18

Emissions are calculated using WATER9 and wastewater throughput data for calendar year 2016.

| EU | Point ID | Equipment | VOC | |
|---------------|-------------------|----------------------------------------|-------------|-------------|
| | | | lb/hr | TPY |
| N/A | D-40 | Separator at Lube Packaging | 0.03 | 0.12 |
| N/A | D-41 | Separator at Lube Blending and Tankage | 0.03 | 0.12 |
| N/A | D-42 | Separator from MEK/Lube Unit | 0.03 | 0.12 |
| N/A | S1-51 | Separator at Belt Press (sealed) | 0.03 | 0.12 |
| N/A | Primary Clarifier | Primary Clarifier at WPU | EUG 12 (1) | |
| 6332 | Tk 532 | Separator at T&S (sealed) | 0.01 | 0.05 |
| 6331 | Tk 533 | Separator at T&S (sealed) | 0.01 | 0.05 |
| Totals | | | 0.14 | 0.58 |

(1) Reported in EUG 12 previously.

EUG 36: Spark Ignition Internal Combustion Engines Subject to 40 CFR Part 63 Subpart ZZZZ (PTE)

These engines are subject to 40 CFR Part 63 Subpart ZZZZ. Engines 256 and 257 are natural gas-fired RICE engines that were required to meet the applicable requirements of this rule by June 25, 2007. Engines 208, 241, 254, 255 and 258 are existing natural gas-fired RICE engines. PTE is based on listed rated engine horsepower and a maximum 500 hours per year for each of the emergency units, using emission factors from Table 3.2-1 of AP-42 (7/00) and continuous operation are assumed for engines 256, 257, 208, 241, 245, 255, and 258. The three emergency use engines are only subject to work practice standards. In addition, no initial notification is necessary for the emergency engines.

| Engine Number | EU | Point ID | Horsepower |
|----------------------------|-----|------------------------------|--------------|
| Non-Emergency 4SRB >500 HP | | | |
| EG-5156 | 257 | #3 CT Circulation Pump | 615 |
| EG-5152 | 256 | #6 CT Circulation Pump | 650 |
| Non-Emergency 4SRB <500 HP | | | |
| C-2719 | 208 | Unifiner H2 Recycle Comp Eng | 330 |
| EG-5747 | 241 | PDA Propane Comp Eng | 392 |
| EG-6348 | 254 | #2 CT Spray Pump Eng | 295 |
| EG-5579 | 255 | #2 CT Circ Pump Eng | 465 |
| EG-5154 | 258 | #6 CT Spray Pump Engine | 245 |
| Emergency 4SRB | | | |
| EG-6349 | | Emergency | 45 |
| EG-5879 | | Emergency | 69 |
| EG-6235 | | Emergency | 175 |
| Total horsepower | | | 3,281 |

| Pollutant | Emission factor lb/MMBTU | Emissions | |
|------------------|-----------------------------|-----------|--------|
| | | lb/hr | TPY |
| CO | 0.557 | 14.62 | 64.04 |
| NO _x | 4.08 | 107.09 | 469.06 |
| PM ₁₀ | 0.01 | 0.26 | 1.14 |
| SO ₂ | 5.88 × 10 ⁻⁴ | 0.02 | 0.09 |
| VOC | 0.118 | 3.10 | 13.58 |

EUG 37: CDU H-2, CDU H-3, and LEU H-102 Heaters (PTE)

These units have been subject to several permit actions concerning aspects of the combustion process, but no specific emissions have been authorized. The CDU units have NO_x estimated at 0.1 lb/MMBTU, while the LEU NO_x factor is estimated at 0.15 lb/MMBTU. The CDU SO₂ factor is estimated at 0.03 lb/MMBTU, and the LEU SO₂ factor is estimated at 0.03 lb/MMBTU. Factors identified as “estimates” and maximum heat input ratings are taken from permit applications submitted by the facility. RFG to the CDU and LEU is estimated to have 900 BTU/CF. All other factors used in calculating PTE are taken from the appropriate portions of Tables 1.4-1 and 2 of AP-42 (7/98). PTE calculations in the second table following use continuous operation of each unit, combined with the appropriate factors as described above. Note that none of the permit actions changed the status of these units as “existing” sources under Subchapter 31 or NSPS Subpart J.

| EU | Point ID | Original Const. Date | Permit Date | Max Heat Input (MMBTUH) |
|------|-------------|----------------------|-----------------|-------------------------|
| 202 | CDU H-2 | 1961 | August 11, 1989 | 80 |
| 203 | CDU H-3 | 1961 | August 11, 1989 | 43.2 |
| 243N | LEU H-102 N | 1963 | August 11, 1989 | 150 |
| 243S | LEU H-102 S | 1963 | | |

| EU | CO | | NO _x | | PM ₁₀ | | SO ₂ | | VOC | |
|---------------|-------------|------------|-----------------|------------|------------------|-------------|-----------------|--------------|-------------|-------------|
| | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 202 | 6.59 | 28.9 | 8.0 | 35.0 | 0.60 | 2.63 | 2.11 | 9.2 | 0.44 | 1.89 |
| 203 | 4.27 | 18.7 | 4.32 | 18.9 | 0.39 | 1.71 | 1.30 | 5.68 | 0.28 | 1.22 |
| 243 | 14.8 | 64.9 | 15.0 | 65.7 | 1.34 | 5.87 | 4.50 | 19.71 | 0.97 | 4.25 |
| Totals | 25.7 | 113 | 26.0 | 114 | 2.33 | 10.2 | 7.82 | 34.22 | 1.69 | 7.38 |

EUG 38: Compression Ignition Internal Combustion Engines Subject to 40 CFR Part 63 Subpart ZZZZ (PTE)

The engines are in emergency service, and no initial notification is necessary for the emergency engines. The engines are existing emergency use CI RICE and are subject to work practice standards under Subpart ZZZZ by the compliance date of May 3, 2013. Emission estimates for the engines are calculated using factors for Table 3.3-1 of AP-42 (10/96) for engines smaller than 600 HP and Table 3.4.1 of AP-42 (10/96) for engines larger than 600 HP, listed rated engine horsepower, and the 500-hour criterion associated with this activity. These are emission estimates only as there are no emission limitations for existing emergency CI RICE except for 15 ppm sulfur in fuel.

| Engine Number | HP | USE | Fuel |
|---------------|-----|----------------------|--------|
| EG-6192 | 603 | Emergency (portable) | Diesel |
| EG 6217 | 603 | Emergency | Diesel |
| EG 6218 | 603 | Emergency | Diesel |
| EG 6312 | 603 | Emergency | Diesel |
| EG 6289 | 603 | Emergency | Diesel |
| EG 6290 | 603 | Emergency | Diesel |
| EG 6472 | 170 | Emergency | Diesel |
| EG 5886 | 363 | Emergency | Diesel |
| EG 6031 | 340 | Emergency | Diesel |
| EG 6522 | 330 | Emergency | Diesel |

| EU | CO | | NO _x | | PM ₁₀ | | SO ₂ | | VOC | |
|---------------|--------------|-------------|-----------------|-------------|------------------|-------------|-----------------|-------------|--------------|-------------|
| | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 6192 | 3.32 | 0.83 | 14.5 | 3.62 | 0.42 | 0.11 | 2.44 | 0.61 | 0.39 | 0.10 |
| 6217 | 3.32 | 0.83 | 14.5 | 3.62 | 0.42 | 0.11 | 2.44 | 0.61 | 0.39 | 0.10 |
| 6218 | 3.32 | 0.83 | 14.5 | 3.62 | 0.42 | 0.11 | 2.44 | 0.61 | 0.39 | 0.10 |
| 6312 | 3.32 | 0.83 | 14.5 | 3.62 | 0.42 | 0.11 | 2.44 | 0.61 | 0.39 | 0.10 |
| 6289 | 3.32 | 0.83 | 14.5 | 3.62 | 0.42 | 0.11 | 2.44 | 0.61 | 0.39 | 0.10 |
| 6290 | 3.32 | 0.83 | 14.5 | 3.62 | 0.42 | 0.11 | 2.44 | 0.61 | 0.39 | 0.10 |
| 6472 | 1.14 | 0.28 | 5.27 | 1.34 | 0.37 | 0.09 | 0.35 | 0.09 | 3.74 | 0.93 |
| 5886 | 2.43 | 0.61 | 11.26 | 2.86 | 0.80 | 0.20 | 0.74 | 0.19 | 7.99 | 1.99 |
| 6031 | 1.94 | 0.49 | 8.99 | 2.28 | 0.64 | 0.16 | 0.59 | 0.15 | 6.38 | 1.59 |
| 6522 | 2.20 | 0.55 | 10.24 | 2.60 | 0.73 | 0.18 | 0.68 | 0.17 | 7.26 | 1.81 |
| Totals | 27.63 | 6.91 | 122.76 | 30.8 | 5.06 | 1.29 | 17 | 4.26 | 27.71 | 6.92 |

EUG 38A: Compression Ignition Internal Combustion Engines Subject to 40 CFR Part 60 Subpart IIII (Authorized Emissions in TPY)

Emission estimates for the engines are calculated using limits of NSPS Subpart IIII for NO_x, CO, and PM. SO₂ emissions use the limit of Subpart IIII of 15 ppm sulfur, but §60.4207 allows older fuel to be used until depleted. VOC factors are taken from Table 3.3-1 of AP-42 (10/96). All annual calculations assume 8,760 hours per year.

| EU | CO | | NO _x | | PM ₁₀ | | SO ₂ | | VOC | |
|---------------|-------------|--------------|-----------------|--------------|------------------|-------------|-----------------|-------------|-------------|-------------|
| | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| RE-1 | 0.94 | 4.10 | 0.93 | 4.06 | 0.07 | 0.30 | 0.29 | 1.26 | 0.35 | 1.52 |
| RE-2 | 0.94 | 4.10 | 0.93 | 4.06 | 0.07 | 0.30 | 0.29 | 1.26 | 0.35 | 1.52 |
| RE-3 | 1.03 | 4.51 | 1.02 | 4.46 | 0.07 | 0.33 | 0.32 | 1.48 | 0.38 | 1.67 |
| RE-4 | 1.03 | 4.51 | 1.02 | 4.46 | 0.07 | 0.33 | 0.32 | 1.48 | 0.38 | 1.67 |
| Totals | 3.94 | 17.22 | 3.90 | 17.04 | 0.28 | 1.26 | 1.22 | 5.48 | 1.46 | 6.38 |

EUG 39: Cone Roof Tanks MACT CC Group 1 Storage Vessels

Uncontrolled VOC emissions were determined by gas sampling on February 8, 2018. Both tanks were constructed before 1970. The tanks are currently required to implement controls by the year 2026, or upon next emptying and degassing, whichever comes first.

| EU | Point ID | Current Service | Capacity (bbls) | Uncontrolled VOC TPY |
|--------|----------|-----------------|-----------------|----------------------|
| TKD-14 | 162212 | Toluene | 2,715 | 179.1 |
| TKD-15 | | Mixed Solvent | 2,715 | |

FACILITY-WIDE PTE ESTIMATE TOTALS

| EMISSION UNITS | CO | | NO _x | | PM ₁₀ | | SO _x | | VOC | |
|----------------|---------------|---------------|-----------------|----------------|------------------|--------------|-----------------|---------------|---------------|---------------|
| | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| EUG 1 | 53.12 | 233.4 | 111.90 | 490.4 | 4.70 | 20.21 | 18.56 | 81.30 | 3.40 | 15.06 |
| EUG1A | 3.80 | 16.48 | 4.50 | 19.62 | 0.34 | 1.49 | 1.16 | 1.92 | 0.25 | 1.08 |
| EUG 2 | 37.80 | 165.6 | 90.00 | 394.20 | 3.36 | 14.70 | 11.70 | 51.24 | 2.49 | 10.86 |
| EUG 2A | 18.10 | 79.10 | 12.88 | 39.00 | 1.63 | 7.16 | 5.59 | 9.23 | 1.18 | 5.18 |
| EUG 3 | 8.24 | 23.55 | 9.81 | 28.04 | 0.75 | 2.13 | 1.70 | 7.43 | 0.54 | 1.54 |
| EUG 3A | 2.87 | 12.55 | 3.41 | 14.94 | 0.26 | 1.14 | 0.90 | 3.96 | 0.19 | 0.82 |
| EUG 4 | 2.71 | 11.85 | 3.22 | 14.10 | 0.25 | 1.07 | 0.84 | 1.38 | 0.18 | 0.78 |
| EUG 5 | 5.04 | 22.08 | 6.00 | 26.28 | 0.46 | 2.00 | 5.85 | 25.63 | 0.33 | 1.45 |
| EUG 6 | 6.80 | 29.80 | 8.10 | 35.50 | 0.62 | 2.70 | 2.11 | 9.24 | 0.45 | 1.95 |
| EUG 7, 8, 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50.44 | 200.41 |
| EUG 11 | 0.45 | 2.01 | 0.10 | 0.46 | 0 | 0 | 0.24 | 1.01 | 0.17 | 0.74 |
| EUG-11A | 3.70 | 16.40 | 0.70 | 3.02 | 0 | 0 | 1.74 | 7.66 | 8.50 | 37.30 |
| EUG 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25.12 | 110.33 |
| EUG 14 (1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EUG 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -- | 12.20 |
| EUG 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -- | 1.99 |
| EUG 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -- | 0.61 |
| EUG 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.29 | 18.76 |
| EUG 22 (2) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EUG 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.97 | 10.25 |
| EUG 23A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -- | 0.10 |
| EUG 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -- | 0.10 |
| EUG 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.52 | 6.64 |
| EUG 27 (3) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EUG 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -- | 1.10 |
| EUG 28A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.72 | 7.55 |
| EUG 29-31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EUG 32 | 0 | 0 | 0 | 0 | 0.20 | 0.90 | 0 | 0 | -- | 10.0 |
| EUG 33, 34 | 0 | 0 | 0 | 0 | 0.04 | 0.17 | 0 | 0 | 0.70 | 3.00 |
| EUG 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.14 | 0.58 |
| EUG 36 | 14.62 | 64.04 | 107.10 | 469.10 | 0.26 | 1.14 | 0.02 | 0.09 | 3.10 | 13.58 |
| EUG 37 | 25.70 | 113.00 | 26.00 | 114.00 | 2.33 | 10.20 | 7.82 | 34.22 | 1.69 | 7.38 |
| EUG 38 | 27.63 | 6.91 | 122.8 | 30.8 | 5.06 | 1.29 | 17.00 | 4.26 | 27.71 | 6.92 |
| EUG 38A | 3.94 | 17.22 | 3.90 | 17.04 | 0.28 | 1.26 | 1.22 | 5.48 | 1.46 | 6.38 |
| EUG 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40.90 | 179.1 |
| Totals | 214.52 | 813.99 | 510.42 | 1696.50 | 20.54 | 67.56 | 76.45 | 244.05 | 177.44 | 673.74 |

- (1) EUG 14 is reported in heater and flare emissions.
- (2) Unit currently out of service.
- (3) Pressure vessels with only fugitive VOC emissions.

The facility is a major source of greenhouse gas (GHG) emissions with emissions greater than 100,000 TPY. The facility is also a major source of Hazardous Air Pollutants (HAPs).

PSD Issues

Total emissions changes for the project are the sum of the direct emissions of the three tanks, 3.25 TPY VOC, plus any associated emissions. The change of service of TK-279 and TK-280 is primarily to allow operational flexibility when other naphtha tanks are being cleaned. Since the facility already has ample storage for naphtha, no debottlenecking is anticipated.

Thus, the emissions change is 3.25 TPY VOC, which is below the PSD level of significance of 40 TPY VOC.

SECTION IV. TRIVIAL ACTIVITIES

ODEQ has established a list of activities in OAC 252:100 Appendix J that are considered inconsequential with regards to air emissions. Unless the activity is subject to an applicable State or Federal requirement, these activities are not specifically identified in the permit. However, the standard conditions of the permit specify that the facility is allowed to operate these activities without special conditions.

SECTION V. INSIGNIFICANT ACTIVITIES

The insignificant activities identified in the application and listed in OAC 252:100-8, Appendix I, are listed below. Activities at the refinery considered insignificant may change from time to time. Thus, the following list of activities may expand to include other activities considered insignificant in Appendix I of the OAC rules. Recordkeeping is required for those activities preceded by an asterisk (*) and such are listed in the Specific Conditions. Any activity to which a state or federal applicable requirement applies is not insignificant.

1. Space heaters, boilers, process heaters, and emergency flares less than or equal to 5 MMBTU/hr heat input (commercial natural gas).
2. Cold degreasing operations utilizing solvents that are denser than air.
3. Torch cutting and welding of less than 200,000 tons of steel fabricated per year. All work of this nature is for maintenance and is a Trivial Activity.
4. *Non-commercial water washing operations (less than 2,250 barrels/year) and drum crushing operations of empty barrels less than or equal to 55 gallons with less than three percent by volume of residual material.
5. Hazardous waste and hazardous materials drum staging areas.
6. Hydrocarbon contaminated soil aeration pads utilized for soils excavated at the facility only.
7. Exhaust systems for chemical, paint, and/or solvent storage rooms or cabinets, including hazardous waste satellite (accumulation) areas.
8. Hand wiping and spraying of solvents from containers with less than 1 liter capacity used for spot cleaning and/or degreasing in ozone attainment areas.
9. Additions or upgrades of instrumentation or control systems that result in emissions increases less than the pollutant quantities specified in 252:100-8-3(e)(1).

10. *Emissions from fuel storage/dispensing equipment operated solely for facility owned vehicles if fuel throughput is not more than 2,175 gallons/day, averaged over a 30-day period.
11. Emissions from the operation of groundwater remediation wells including but not limited to emissions from venting, pumping, and collecting activities subject to *de minimis* limits for air toxics (252:100-41-43) and HAPS (§112(b) of CAAA90).
12. *Emissions from storage tanks constructed with a capacity less than 39,894 gallons which store VOC with a vapor pressure less than 1.5 psia at maximum storage temperature.
13. * Activities having the potential to emit no more than 5 TPY (actual) of any criteria pollutant. This last category includes several of the operations at the refinery, including cooling towers, the wastewater centrifuge, and soil-vapor extraction unit.

SECTION VI. OKLAHOMA AIR POLLUTION CONTROL RULES

OAC 252:100-1 (General Provisions) [Applicable]
Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]
This subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations. These requirements are addressed in the “Federal Regulations” section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]
Subchapter 3 enumerates the primary and secondary ambient air quality standards and the significant deterioration increments. At this time, all of Oklahoma is in “attainment” of these standards.

OAC 252:100-5 (Registration, Emissions Inventory and Annual Operating Fees) [Applicable]
Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants. Emission inventories were submitted and fees paid for previous years as required.

OAC 252:100-8 (Permits for Part 70 Sources) [Applicable]
This subchapter sets forth permit application fees and the substantive requirements for operating permits required by 40 CFR Part 70 sources. Part 5 includes the general administrative requirements for Part 70 permits. Any planned changes in the operation of the facility that result in emissions not authorized in the permit and that exceed the “Insignificant Activities” or “Trivial Activities” thresholds require prior notification to AQD and may require a permit modification. Insignificant activities refer to those individual emission units either listed in Appendix I or whose actual calendar year emissions do not exceed the following limits.

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for a HAP that the EPA may establish by rule

Emission limitations and operational requirements necessary to assure compliance with all applicable requirements for all sources are taken from the operating permit applications, or developed from the applicable requirement.

OAC 252:100-9 (Excess Emissions Reporting Requirements) [Applicable]
Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Request for mitigation, as described in OAC 252:100-9-8, shall be included in the excess emissions event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Open Burning) [Applicable]
Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter (PM)) [Applicable]
Section 19-4 regulates emissions of PM from new and existing fuel-burning equipment, with emission limits based on maximum design heat input rating. Appendix C specifies a PM emission limitation of 0.60 lbs/MMBTU for all equipment at this facility with a heat input rating of 10 Million BTU per hour (MMBTUH) or less and sets a most restrictive rating of 0.10 lb/MMBTU for the largest equipment. Fuel-burning equipment is defined in OAC 252:100-1 as “combustion devices used to convert fuel or wastes to usable heat or power.” Thus, the fuel-burning equipment listed in EUGs 1, 2, 3, 4, 5, 6, 36, 37, 38, and 38A is subject to the requirements of this subchapter. Gas-fired fuel-burning equipment at the facility burns either RFG or commercial grade natural gas (or its equal). RFG is a mixture of various process unit light gases that contain hydrogen (non-particle emitting) and methane through butane light hydrocarbons. RFG is a dry gas, free of liquid particles due to liquid knockout collection drums prior to final fuel end use. Dry gas is recognized by EPA to be at least as clean burning, as to particulates, as commercial grade natural gas. Since AP-42 has no distinct factor for dry gas mixtures the following demonstrations are based on the natural gas (methane) factors. Table 1.4-2 of AP-42 lists the total PM emission factor for equipment burning natural gas to be 7.6 lbs/10⁶ft³. If we make the conservatively high assumption that PM emissions are related only to volume and that heat content has no effect, then the gas with the highest PM emission in units of pounds per MMBTU will be the gas with the lowest heating value. The lowest heating value found is 584 BTU/DSCF, implying emissions of 0.013 lbs PM/MMBTU. This conservative result is still a factor of 10 below the 0.10 lb/MMBTU most restrictive allowance identified in the introductory paragraph for any equipment at the facility.

The highest emission factor suggested in Table 3.3-1 and Table 3.4-1 of AP-42 for either gas-fired or diesel-fired reciprocating engines is 0.31 lbs/MMBTU. The largest engine in EUG 36, EUG 38, or EUG 38A has a heat rating less than 5 MMBTUH. All engines are thus subject to the least restrictive standard of 0.6 lbs/MMBTU. The worst case PM emission factor for gas-fired reciprocating engines is 0.013 lbs/MMBTU and for diesel-fired reciprocating engines is 0.31 lbs/MMBTU which are both less than the standard of 0.6 lbs/MMBTU.

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]
 No discharge of greater than 20% opacity is allowed except for short-term occurrences that consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours and according to the other exceptions defined in this subchapter. In no case shall the average of any six-minute period exceed 60% opacity. When burning natural gas there is very little possibility of exceeding these standards and compliance with the standard is presumed. For units that qualify as ‘potentially very low or nonexistent visible emissions’, the facility will conduct qualitative opacity assessments in lieu of Reference Method 9 testing. Compliance with opacity limitations is confirmed by plant observations according to the opacity monitoring schedule.

OAC 252:100-29 (Fugitive Dust) [Applicable]
 No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originated in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or to interfere with the maintenance of air quality standards. Under normal operating conditions, this facility has negligible potential to violate this requirement; therefore it is not necessary to require specific precautions to be taken.

OAC 252:100-31 (Sulfur Compounds) (Applicable)
Part 2 limits the ambient air impact of hydrogen sulfide (H₂S) emissions from any new or existing source to 0.2 ppm for a 24-hour average (equivalent to 280 µg/m³).
Paragraph 31-25(a)(1) covers gas-fired fuel-burning equipment. The equipment listed below is presumed in compliance because this equipment burns only commercial pipeline quality natural gas or gas that is equal or better.

1. #7 Boiler
2. #8 Boiler
3. #9 Boiler
4. #2 Plat PH-5 heater
5. Coker B-1 heater
6. MEK H-101heater

The following pieces of fuel-burning equipment are not subject to OAC 252:100-31-25(a)(1) because the units were constructed prior to, and have not been modified since, the applicability date of July 1, 1972.

| EU | Point ID | Const. Date |
|------|----------------|-------------|
| 201N | CDU H-1,N,#7 | 1961 |
| 201S | CDU H-1,S,#8 | 1961 |
| 206 | Unifiner H-2 | 1957 |
| 207 | Unifiner H-3 | 1957 |
| 209 | #2 Plat PH-1/2 | 1957 |
| 210 | #2 Plat PH-3 | 1957 |

| EU | Point ID | Const. Date |
|------|-----------------|-------------|
| 242 | LEU H101 | 1963 |
| 244 | LEU H-201 | 1963 |
| 246 | MEK H-2 | 1959 |
| 202 | CDU H-2 | 1961 |
| 203 | CDU H-3 | 1961 |
| 243N | LEU H-102 North | 1963 |

| EU | Point ID | Const. Date |
|-----|--------------|-------------|
| 214 | #2 Plat PH-7 | 1971 |
| 238 | PDA B-30 | 1956 |
| 240 | PDA B-40 | 1962 |

| EU | Point ID | Const. Date |
|------|-----------------|-------------|
| 243S | LEU H-102 South | 1963 |
| 213 | #2 Plat PH-6 | 1957 |

It is not clear whether all of the fuel-burning equipment in EUG 36 and EUG 38 is new or existing, but the calculations supporting the emission estimates for these EUGs clearly demonstrate that the SO₂ emissions satisfy the standard of 0.2 lbs/MMBTU set by §25(a).

Section 31-26 (Petroleum and natural gas processes)

As defined in §31-2, “petroleum and natural gas processes includes equipment used in processing crude and/or natural gas into refined products and includes catalytic cracking units, catalytic reforming units, and many others. There is no “new” affected equipment item at the facility.

OAC 252:100-33 (Nitrogen Oxides)

[Applicable]

This subchapter limits new fuel-burning equipment with rated heat input greater than or equal to 50 MMBTUH to emissions of 0.20 lbs of NO_x per MMBTU, three-hour average for gas-fired equipment, 0.30 lbs/MMBTU for liquid-fired equipment, and 0.70 lbs/MMBTU for solid fuel-fired equipment. Most of the fuel-burning equipment at this facility is either too small or was constructed, rebuilt, or altered before the effective date of February 14, 1972 for “new” equipment. The following table indicates the compliance status of affected units.

| Equipment | MMBTUH | Emission factor and source |
|--------------|--------|---------------------------------------------------------------------------|
| #7 Boiler | 150 | 0.20 lb/MMBTU, stack test of identical boiler #9 |
| #8 Boiler | 150 | 0.20 lb/MMBTU, stack test of identical boiler #9 |
| #9 Boiler | 150 | 0.20 lb/MMBTU, stack test |
| #10 Boiler | 214.6 | 0.06 lb/MMBTU, stack tests plus safety factor |
| #2 Plat PH-5 | 52 | 0.092 lb/MMBTU, stack test. |
| Coker B-1 | 60 | 0.09 lb/MMBTU, manufacturer’s data, 0.06 lb/MMBTU per 7/22/92 stack test. |
| MEK H-101 | 81 | 0.15 lb/MMBTU, manufacturer’s data. |

OAC 252:100-35 (Carbon Monoxide)

[Not Applicable]

Affected processes under this subchapter include gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic cracking unit, or petroleum catalytic reforming unit. Standards are based on whether the source is new or existing, where any source constructed or modified after July 1, 1972 is considered to be “new.” The facility operates an existing petroleum catalytic reforming unit. Standards are set for existing units located in nonattainment or former nonattainment areas. Since Tulsa County has never been non-attainment for CO, the facility is not affected by this subchapter.

OAC 252:100-37 (Volatile Organic Materials) [Applicable]

37-4(a) Exempts VOCs with vapor pressure less than 1.5 psia from Sections 15, 16, 35, 36, 37, and 38. EUGs 20, 23, 23A, 24, 25, and 28/28A qualify for this exemption.

37-15(a) Each VOC storage vessel with a capacity of more than 40,000 gallons shall be a pressure vessel capable of maintaining working pressures that prevent the loss of VOC or shall be equipped with one of three specified vapor control devices. Storage vessels subject to equipment standards in 40 CFR Part 60 (NSPS) Subparts K, Ka, or Kb are exempt from §§37-15(a) and (b) per §37-15(c). All storage vessels listed in EUGs 18, 19, 26, and 27 meet the requirements of 37-15(a). All other storage vessels that exceed 40,000 gallons contain VOCs less than 1.5 psia or are subject to NSPS Subparts K, Ka, or Kb.

37-15(b) Each VOC storage tank with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia must be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. All HFRT tanks that are affected sources have bottom fill lines (EUGs 18, 19, and 27). All other storage vessels that exceed 40,000 gallons contain VOCs less than 1.5 psia or are subject to NSPS Subparts K, Ka, or Kb.

The following list shows those vessels exempt under the 1.5 psia standard identified above.

| EU | Point ID | BBL |
|-----------|-----------------|------------|
| 20128 | Tk6 | 1,890 |
| 13559 | Tk30 | 30,000 |
| 1356 | Tk41 | 4,200 |
| 13561 | Tk50 | 1,890 |
| 13562 | Tk51 | 1,890 |
| 13563 | Tk155 | 54,132 |
| 20129 | Tk181 | 1,000 |
| 13573 | Tk277 | 7,000 |
| 13574 | Tk281 | 7,000 |
| 13576 | Tk283 | 7,000 |
| 6368 | Tk312 | 7,000 |
| 6370 | Tk315 | 7,000 |
| 6375 | Tk401 | 55,000 |
| 13596 | Tk582 | 4,061 |
| NA | Tk696 | 1,700 |
| 6393 | Tk747 | 10,000 |
| 5397 | Tk751 | 10,000 |
| 13588 | Tk27 | 55,000 |
| NA | Tk84 | 963 |
| NA | Tk85 | 963 |
| 6377 | Tk405 | 72,443 |
| 13578 | Tk406 | 71,526 |
| 13589 | Tk998 | 2,015 |
| 6406 | Tk1002 | 55,000 |
| NA | Tk1005 | 4,800 |
| 15950 | Tk1012 | 5,000 |

| EU | Point ID | BBL |
|-----------|-----------------|------------|
| 16561 | Tk1039 | 120,000 |
| 13569 | Tk224 | 55,000 |
| NA | Tk881 | 2,090 |
| NA | Tk890 | 1,200 |
| NA | Tk992 | 1,815 |
| NA | Tk993 | 1,815 |
| 6324 | Tk152 | 7,000 |
| 13565 | Tk158 | 63,709 |
| NA | Tk472 | 3,080 |
| NA | Tk983 | 15,000 |
| NA | Tk984 | 15,000 |
| NA | Tk986 | 6,000 |
| NA | Tk987 | 6,000 |
| 20127 | Tk1 | 1,698 |
| Tk9 | Tk9 | 7,000 |
| Tk10 | Tk10 | 7,000 |
| Tk11 | Tk11 | 7,000 |
| 6334 | Tk15 | 7,000 |
| 6335 | Tk16 | 7,000 |
| Tk23 | Tk23A | 55,000 |
| Tk26 | Tk26 | 55,000 |
| 20130 | Tk28 | 38,000 |
| 6339 | Tk29 | 55,000 |
| Tk33 | Tk33 | 55,000 |
| Tk34 | Tk34 | 55,000 |
| 6342 | Tk35 | 55,000 |
| 6343 | Tk36 | 55,000 |
| Tk38 | Tk38 | 1,890 |
| Tk45 | Tk45 | 4,200 |
| Tk46 | Tk46 | 4,200 |
| Tk52 | Tk52 | 1,890 |
| Tk53 | Tk53 | 1,890 |
| Tk54 | Tk54 | 1,890 |
| Tk62 | Tk62 | 4,200 |
| Tk65 | Tk65 | 1,890 |
| Tk66 | Tk66 | 1,890 |
| Tk68 | Tk68 | 1,890 |
| Tk69 | Tk69 | 1,890 |
| Tk71 | Tk71 | 5,680 |
| Tk72 | Tk72 | 5,680 |
| Tk73 | Tk73 | 5,680 |
| Tk74 | Tk74 | 5,680 |
| Tk75 | Tk75 | 1,890 |

| EU | Point ID | BBL |
|-----------|-----------------|------------|
| Tk76 | Tk76 | 1,890 |
| Tk79 | Tk79 | 1,890 |
| Tk80 | Tk80 | 1,890 |
| Tk81 | Tk81 | 1,890 |
| Tk83 | Tk83 | 1,890 |
| Tk132 | Tk132 | 1,800 |
| Tk133 | Tk133 | 1,800 |
| Tk134 | Tk134 | 7,000 |
| 6344 | Tk151 | 7,000 |
| 13567 | Tk194 | 53,100 |
| Tk195 | Tk195 | 55,000 |
| Tk196 | Tk196 | 55,000 |
| 6355 | Tk215 | 50,914 |
| 15946 | Tk217 | 7,000 |
| 13568 | Tk218 | 7,000 |
| Tk223 | Tk223 | 7,000 |
| Tk227 | Tk227 | 7,000 |
| Tk228 | Tk228 | 1,890 |
| Tk229 | Tk229 | 1,890 |
| Tk232 | Tk232 | 1,890 |
| Tk233 | Tk233 | 1,890 |
| Tk234 | Tk234 | 1,890 |
| Tk235 | Tk235 | 1,890 |
| Tk236 | Tk236 | 1,890 |
| Tk237 | Tk237 | 1,890 |
| Tk240 | Tk240 | 1,500 |
| Tk252 | Tk252 | 7,000 |
| Tk264 | Tk264 | 1,890 |
| Tk265 | Tk265 | 1,890 |
| Tk266 | Tk266 | 1,890 |
| Tk267 | Tk267 | 1,890 |
| Tk271 | Tk271 | 1,890 |
| 6363 | Tk272 | 1,890 |
| Tk273 | Tk273 | 7,000 |
| Tk274 | Tk274 | 7,000 |
| Tk275 | Tk275 | 7,000 |
| Tk276 | Tk276 | 7,000 |
| 6366 | Tk284 | 7,000 |
| Tk305 | Tk305 | 7,000 |
| Tk317A | Tk317A | 9,400 |
| Tk318 | Tk318 | 7,000 |
| Tk319 | Tk319 | 1,890 |
| Tk320 | Tk320 | 1,890 |

| EU | Point ID | BBL |
|-----------|-----------------|------------|
| Tk321 | Tk321 | 1,890 |
| Tk322 | Tk322 | 1,890 |
| 6371 | Tk323 | 7,000 |
| Tk327 | Tk327 | 1,890 |
| Tk328 | Tk328 | 1,890 |
| Tk329 | Tk329 | 1,890 |
| Tk331 | Tk331 | 7,000 |
| Tk332 | Tk332 | 7,000 |
| Tk335 | Tk335 | 1,890 |
| Tk390 | Tk390 | 7,000 |
| Tk391 | Tk391 | 5,000 |
| Tk392 | Tk392 | 5,000 |
| Tk393 | Tk393 | 1,000 |
| Tk394 | Tk394 | 1,120 |
| Tk396 | Tk396 | 5,940 |
| Tk397 | Tk397 | 5,940 |
| 6373 | Tk398 | 2,600 |
| 6374 | Tk399 | 2,600 |
| 6377 | Tk404 | 72,273 |
| 6379 | Tk407 | 71,526 |
| 6380 | Tk412 | 51,773 |
| 6386 | Tk445 | 74,098 |
| Tk471 | Tk471 | 3,780 |
| Tk509 | Tk509 | 4,000 |
| 6389 | Tk510 | 1,890 |
| 6390 | Tk511 | 1,890 |
| 6391 | Tk519 | 4,000 |
| Tk645 | Tk645 | 1,500 |
| Tk646 | Tk646 | 1,500 |
| Tk649 | Tk649 | 1,008 |
| Tk650 | Tk650 | 10,000 |
| Tk675 | Tk675 | 1,500 |
| Tk691 | Tk691 | 2,400 |
| Tk692 | Tk692 | 2,400 |
| Tk693 | Tk693 | 2,400 |
| Tk694 | Tk694 | 2,400 |
| Tk700 | Tk700 | 15,000 |
| 13585 | Tk701 | 15,000 |
| 13584 | Tk702 | 7,000 |
| 6403 | Tk799 | 1,890 |
| Tk800 | Tk800 | 7,000 |
| 15958 | Tk801 | 15,000 |
| 13586 | Tk802 | 15,000 |

| EU | Point ID | BBL |
|-----------|-----------------|------------|
| 15949 | Tk803 | 15,000 |
| Tk807 | Tk807 | 4,200 |
| Tk828 | Tk828 | 30,000 |
| Tk829 | Tk829 | 30,000 |
| Tk830 | Tk830 | 30,000 |
| Tk831 | Tk831 | 30,000 |
| Tk835 | Tk835 | 2,000 |
| 6404 | Tk838 | 2,000 |
| Tk847 | Tk847 | 2,032 |
| Tk848 | Tk848 | 2,032 |
| Tk851 | Tk851 | 2,088 |
| Tk852 | Tk852 | 4,025 |
| Tk853 | Tk853 | 4,025 |
| Tk854 | Tk854 | 4,025 |
| Tk855 | Tk855 | 4,025 |
| Tk856 | Tk856 | 4,025 |
| Tk857 | Tk857 | 2,011 |
| Tk861 | Tk861 | 1,000 |
| Tk865 | Tk865 | 1,890 |
| Tk867 | Tk867 | 1,675 |
| 13587 | Tk870 | 5,300 |
| Tk875 | Tk875 | 2,090 |
| Tk876 | Tk876 | 3,000 |
| Tk877 | Tk877 | 2,090 |
| Tk878 | Tk878 | 2,090 |
| Tk879 | Tk879 | 2,090 |
| Tk880 | Tk880 | 3,000 |
| Tk882 | Tk882 | 20,000 |
| Tk883 | Tk883 | 1,000 |
| Tk884 | Tk884 | 1,000 |
| Tk885 | Tk885 | 1,000 |
| Tk886 | Tk886 | 10,492 |
| Tk887 | Tk887 | 19,500 |
| Tk888 | Tk888 | 10,492 |
| Tk891 | Tk891 | 1,000 |
| Tk893 | Tk893 | 10,500 |
| Tk898 | Tk898 | 2,455 |
| Tk913 | Tk913 | 2,090 |
| Tk914 | Tk914 | 2,090 |
| Tk916 | Tk916 | 2,090 |
| Tk918 | Tk918 | 30,000 |
| Tk921 | Tk921 | 2,094 |
| Tk922 | Tk922 | 3,058 |

| EU | Point ID | BBL |
|-----------|-----------------|------------|
| Tk923 | Tk923 | 2,084 |
| Tk924 | Tk924 | 4,455 |
| Tk925 | Tk925 | 4,455 |
| Tk926 | Tk926 | 1,313 |
| Tk927 | Tk927 | 1,313 |
| Tk928 | Tk928 | 4,455 |
| Tk929 | Tk929 | 4,455 |
| Tk930 | Tk930 | 1,313 |
| Tk931 | Tk931 | 1,313 |
| Tk932 | Tk932 | 3,058 |
| Tk933 | Tk933 | 1,000 |
| Tk934 | Tk934 | 1,000 |
| Tk935 | Tk935 | 1,000 |
| Tk936 | Tk936 | 1,000 |
| Tk937 | Tk937 | 1,000 |
| Tk938 | Tk938 | 1,000 |
| Tk943 | Tk943 | 1,000 |
| Tk944 | Tk944 | 1,000 |
| Tk955 | Tk955 | 1,000 |
| TkAGT1 | TkAGT1 | 2,000 |
| TkAGT2 | TkAGT2 | 1,000 |
| TkAGT3 | TkAGT3 | 1,000 |
| TkAGT4 | TkAGT4 | 2,000 |
| Tk939 | Tk939 | 1,000 |
| Tk940 | Tk940 | 1,000 |
| Tk941 | Tk941 | 1,000 |
| Tk942 | Tk942 | 1,000 |
| Tk277 | Tk277 | 20,000 |

The following list shows those vessels exempt under the NSPS standard identified above.

| EU | Point ID | Nominal Capacity (BBLs) |
|-----------|-----------------|--------------------------------|
| 6338 | Tk25A | 11,300 |
| 13594 | Tk1061 | 80,000 |
| 20126 | Tk1070 | 5,377 |
| NA | Tk1080 | 3,200 |
| 6402 | Tk782 | 15,000 |
| 13591 | Tk583 | 4,800 |
| 6350 | Tk189 | 55,000 |
| -- | Tk1038 | 95,000 |

37-16(a) Loading facilities with throughput greater than 40,000 gallons/day, and 37-16(b) Loading facilities with throughput equal to or less than 40,000 gallons/day. The following loading racks are not subject to OAC 252:100-37-16 because the units do not load VOC containing material, per §37-4(a).

| EU | Equipment Point ID | Installed Date |
|-----|-----------------------------|----------------|
| NA | Black Oil Loading Rack | 1937 |
| NA | Extract Truck Loading Rack | 1993 |
| NA | Extract Rail Loading Rack | 1930 |
| NA | Wax Truck Loading Rack | 1979 |
| NA | Wax Rail Loading Rack | 1917 |
| NA | LOB Rail Loading Rack | 1967 |
| NA | LOB Truck Loading Rack | 1978 |
| NA | Resid Truck Loading Rack | 1962 |
| NA | Diesel Rail Loading Rack | 1986 |
| NA | Coke Truck Loading Area | 1991 |
| NA | Heavy Oil Railcar Loading | 2018 |
| N/A | 702tk Truck Loading | -- |
| N/A | Sundex Truck Loading Rack | -- |
| N/A | Sundex Railcar Loading Rack | -- |
| N/A | PDA Bottoms Loading Rack | -- |

Section 37-36 requires fuel-burning equipment to be operated and maintained so as to minimize VOC emissions. Temperature and available air must be sufficient to provide essentially complete combustion. Refinery fuel combustion devices are designed to provide essentially complete combustion of organic materials.

Section 37-37 regulates water separators that receive water containing more than 200 gallons per day (gpd) of VOC. All oil/water separators listed in EUG 35 receiving VOC material with vapor pressure greater than 1.5 psia are sealed per 37-37(1). Separators built since 7/1/72 are either sealed irrespective of the 200-gpd trigger or do not process 200 gpd organics per records on file.

OAC 252:100-39 (VOC in Non-Attainment and Former Nonattainment Areas) [Applicable]

Section 39-15 (Petroleum Refinery Equipment Leaks) EPA test Method 21 is specified for detecting equipment leaks. VOC with vapor pressure less than 0.0435 is exempt. Components covered by this section include, but are not limited to, pumping seals, compressor seals, seal oil degassing vents, pipeline valves, flanges and other connections, pressure relief devices, process drains, and open-ended pipes. All such components are tested in a monitoring program per 15(f); actions and repairs are conducted per 15(c); records are kept per 15(g); quarterly reports are made per 15(h); and monitoring logs are retained on-site for least two years.

Section 39-16 (Petroleum refinery process unit turnaround) Vented organic material must either be controlled per 39-16(b)(1) & (2) or exempted per 39-16(b)(4). Requirements for contents of the 15-day notification are listed in 39-16(b)(3). HFRT has provided the appropriate notices for past turnarounds and is in compliance based on standard unit turnaround practices that meet requirements.

Section 39-17 (Petroleum refinery vacuum producing system) The vacuum system at the CDU vacuum towers, T-2 and T-3, employs steam ejectors, surface condensers, and a mechanical vacuum pump to deliver vacuum gases to the CDU H-2 heater. If the vacuum pump fails, the third stage jet system is used to deliver gases to H-2.

The vacuum system at the LEU T-201 vacuum tower employs ejectors and surface condensers. The surface condenser gases are in turn ejected with natural gas into dedicated burners in the LEU H-102 heater. Both vacuum gas streams are disposed by direct combustion into the firebox of a large heater. Flowing this material to the unit heater obviates a requirement that the pilot flame be monitored. Maintenance records on the systems are being kept.

Section 39-18 (Petroleum refinery effluent water separators) Separators listed in EUG 35 receiving VOC material are sealed and are in compliance by separator design.

Section 39-30 (Petroleum liquid storage in vessels with external floating roofs) Storage tank 874 listed in EUG 19 is subject to 39-30(c). Storage vessels listed in EUG 19 are exempt per 39-30(b)(4) because they are subject to 40 CFR Part 63 Subpart CC. Storage vessels listed in EUG 22 are exempt per 39-30(b)(3) because they are subject to 40 CFR Part 60 Subpart Kb. Storage vessels listed in EUG 20, 23, 23A, 24, 25, and 28/28A are exempt per 39-30(b)(2)(C) because they contain liquids with true vapor pressure less than 1.5 psia.

Section 39-40 (Cutback asphalt (paving)) Cutback liquefied asphalt cannot be applied or prepared in the facility without prior written consent of the Division Director.

Section 39-41 (Storage, loading and transport/delivery of VOCs) HFRT stores and loads gasoline delivery trucks, but does not deliver gasoline. HFRT is subject to the storage and loading part of this section of the subchapter.

Subsection 39-41(a) Storage of VOCs in vessels with storage capacities greater than 40,000 gallons. Each vessel with a capacity greater than 40,000 gallons storing VOC with a true vapor pressure that exceeds 1.50 psia must have either a floating internal or external roof that meets the requirement of this section. Tank inspections are documented electronically on the Refinery Tanks Database. Electronic documentation records the date of the inspection, any defects noted, and the initials of the inspector. Storage tanks in EUG 18, 19, 21, 22, and 27 are subject. Storage tanks in EUG 20, 23, 24, and 25 are exempt because the VOC vapor pressure is less than 1.5 psia.

Subsection 39-41(b)(1) Each gasoline or other VOC storage vessel with a nominal capacity greater than 400 gal (1.5 m³) and less than 40,000 gal (151 m³) shall be equipped with a submerged fill pipe or be bottom filled.

Subsection 39-41(b)(2) The displaced vapors from each storage vessel with an average daily throughput of 30,000 gal (113,562 l) or greater which stores gasoline or other VOCs shall be processed by a system that has a total collection efficiency no less than 90 percent by weight of total VOCs in the vapors.

Subsection 39-41(c) Loading of VOCs. The truck terminal previously of EUG 13 has been closed.

Subsection 39-41(d) Transport/delivery. No delivery vessel incapable of accepting displaced vapors and designated as vapor tight is allowed to load at the facility's loading terminal.

Subsection 39-41(e) Additional requirements for Tulsa County. Only Paragraphs 3 and 4 apply.

§39-41(e)(3) (Loading of VOCs) requires that the stationary loading facility be checked annually using EPA Method 21. The truck terminal previously of EUG 13 has been closed.

§39-41(e)(4) (Transport/delivery vessel requirement) requires that transport vessels be maintained vapor tight and must be capable of receiving and storing vapors for ultimate delivery to a vapor recovery/disposal system. Any defect that impairs vapor tightness must be repaired within five days. Certification of vapor tightness and of repairs must be provided and no vessel shall be loaded without demonstrating the proper certification. DEQ may perform spot checks of vapor tightness and may require owner/operators to make necessary repairs. The loading operations have been moved to the Holly Energy Partners permit.

Section 39-42 (Metal cleaning) contains requirements for cold cleaning, vapor degreasing, and conveyORIZED degreasing. The facility has no vapor or conveyORIZED units, so only §39-42(a) applies. All equipment shall have a cover or door that can be easily operated with one hand, shall provide an internal drain board that will allow lid closure if practical or provide an external drainage facility, shall have an attached permanent, conspicuous label summarizing the operating requirements of OAC 252:100-39-42(a)(2). Control requirements are identified in §39-42(a)(3) for those solvents with vapor pressure greater than 0.6 psi.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]
Part 5 of OAC 252:100-41 was superseded by this subchapter. Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained unless a modification is approved by the Director. Since no Area of Concern (AOC) has been designated anywhere in the state, there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]
This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. The only non-grandfathered units whose emissions exceed 100 TPY are the boilers in EUG-2; those boilers are required to test NOx at least every 5 years.

The following Oklahoma Air Pollution Control Rules are not applicable to this facility:

| | | |
|-------------------|---------------------------------|---------------------------|
| OAC 252:100-11 | Alternative Emissions Reduction | not requested |
| OAC 252:100-15 | Mobile Sources | not in source category |
| OAC 252:100-17 | Incinerators | not type of emission unit |
| OAC 252:100-23 | Cotton Gins | not in source category |
| OAC 252:100-24 | Grain Elevators | not in source category |
| OAC 252:100-35 | Control of CO | not in source category |
| OAC 252:100-39-43 | Graphic Arts | not in source category |
| OAC 252:100-39-44 | Tire Mfg. | not in source category |
| OAC 252:100-39-45 | Dry Cleaning | not in source category |
| OAC 252:100-39-46 | Parts Coating | not in source category |
| OAC 252:100-39-47 | Aerospace Coating | not in source category |
| OAC 252:100-39-49 | Fiberglass Mfg. | not in source category |
| OAC 252:100-47 | MSW Landfills | not in source category |

SECTION VII. FEDERAL REGULATIONS

PSD, 40 CFR Part 52

[Not Applicable at this Time]

HFRT is a major PSD source since it is on the list of 26 source categories and has emissions of at least one criteria pollutant that exceeds 100 TPY. Added VOC emissions, 4.58 TPY, are below the PSD level of significance for PSD and were authorized on a previous PSD permit. Future projects will be evaluated in comparison to PSD levels of significance: 40 TPY NO_x, 100 TPY CO, 40 TPY VOC, 40 TPY SO₂, 10 TPY PM_{2.5}, and 75,000 TPY CO_{2e}.

NSPS, 40 CFR Part 60

[Subparts A, Db, J, Ja, K, Ka, Kb, UU, GGG, and GGGa Applicable]

The following paragraphs are general in nature, with some reference to specific facilities. The Specific Conditions contain specific requirements under NSPS for all affected facilities.

Subpart A specifies general control device requirements for control devices used to comply with applicable subparts. EUG 11 must comply with § 60.18 and the corresponding regulatory section § 60.485(g) by physical design and per the alternate test methods approved by DEQ and discussed below. Records kept on-site to meet monitoring and recordkeeping requirements of § 60.486(d)(1), (2), and (3) are also discussed below. The facility is in compliance with § 60.7 (b) as to Startup/Shutdown/Malfunction records, per current records.

Subpart D, (Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971)

This is not applicable because there are no fossil-fuel-fired steam generators with a heat input greater than 250 MMBTUH.

Subpart Da (Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978)

This is not an applicable requirement because there are no electric utility steam generating units.

Subpart Db (Industrial-Commercial-Institutional Steam Generating Units for Which Construction Is Commenced After June 19, 1984). The following units was constructed or modified after the effective date of the standard.

| EU | Point ID | Construction Date |
|----|------------|-------------------|
| -- | #10 Boiler | 2013 |

The following units were constructed or modified prior to the effective date of the standard.

| EU | Point ID | Construction Date |
|-----|-----------|-------------------|
| 109 | #7 Boiler | 1975 |
| 110 | #8 Boiler | 1976 |
| 111 | #9 Boiler | 1976 |

Boiler #10 is subject to NSPS Subpart Db. Since Boiler #10 does not burn coal or No. 2 fuel oil, it is only subject to Sections §§ 60.44b, 60.46b, 60.48b, and 60.49b of this subpart (standards of Subpart Db for SO₂ and PM do not apply to gas-fueled boilers). Requirements include:

1. Compliance testing for particulate matter and nitrogen oxides (§ 60.46b). The emission standard for oxides of nitrogen is 0.2 lb/MMBTU per § 60.44b(a), including periods of start-up, shutdown and malfunction (§ 60.44b(h)). Compliance with the NO_x standard is to be demonstrated on a rolling 30-day basis, except that the initial performance test shall demonstrate compliance on a 24-hour basis and any subsequent performance tests shall demonstrate compliance on a 3-hour basis (§ 60.44b(i, j)).
2. Emissions monitoring for nitrogen oxides (§ 60.48b). The applicant installed a continuous emission monitor (CEM) to monitor NO_x on boiler #10.
3. Reporting and recordkeeping (§ 60.49b). HFTR will record natural gas and refinery gas usage and CEMs data.

Subpart Dc (Small Industrial-Commercial-Institutional Steam Generating Units for Which Construction Is Commenced After June 9, 1989)

There are no applicable units constructed or modified after the effective date of the standard.

Subpart J (Petroleum Refineries)

The following units are not subject to NSPS Subpart J because they were constructed prior to the applicability date of June 11, 1973, and not modified between June 11, 1973, and May 14, 2007.

| EU | Point ID | Construction Date |
|------|----------------|---------------------|
| 201N | CDU H-1,N,#7 | 1961 |
| 201S | CDU H-1,S,#8 | 1961 |
| 202 | CDU H-2 | 1961 ⁽¹⁾ |
| 203 | CDU H-3 | 1961 ⁽¹⁾ |
| 206 | Unifiner H-2 | 1957 |
| 207 | Unifiner H-3 | 1957 |
| 209 | #2 Plat PH-1/2 | 1957 |
| 210 | #2 Plat PH-3 | 1957 |

| EU | Point ID | Construction Date |
|------|--------------|-------------------|
| 213 | #2 Plat PH-6 | 1957 |
| 214 | #2 Plat PH-7 | 1971 |
| 238 | PDA B-30 | 1956 |
| 240 | PDA B-40 | 1962 |
| 242 | LEU H101 | 1963 |
| 243N | LEU H102 | 1963 ¹ |
| 243S | LEU H102 | 1963 ¹ |
| 244 | LEU H-201 | 1963 |
| 246 | MEK H-2 | 1959 |

(1) Low NO_x burners were installed in units CDU H-2 and H-3 and LEU H-102 in 1989. As stated in the construction permit (T89-37; August 11, 1989), this installation did not qualify as a modification for SO₂ or reconstruction, and thus, the units remain exempted from this rule.

The following units were constructed or modified after the applicability date and prior to May 14, 2007, and will only burn natural gas or refinery fuel gas complying with NSPS Subpart J standards.

| EU | Point ID | Construction Date |
|-----|--------------|------------------------|
| 109 | #7 Boiler | 1975 |
| 110 | #8 Boiler | 1976 |
| 111 | #9 Boiler | 1976 |
| 212 | #2 Plat PH-5 | 1990 |
| 225 | Coker B-1 | 1992 (Permit T91-110) |
| 245 | MEK H-101 | 1977 (Permit 77-006-0) |

The LEU and Coker flare, EU-269 and EU-268 (EUG-11) were subject to NSPS Subpart J due to the Refinery Wide Global Consent Decree Settlement. These flares were modified after June 24, 2008, and are therefore subject to the more stringent requirements of Subpart Ja. They are protected by water seal from combusting routinely generated refinery gases.

Subpart Ja (Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007) On June 24, 2008, EPA promulgated standards for new, modified, or reconstructed affected facilities at petroleum refineries. The provisions of this subpart apply to the following affected facilities in petroleum refineries: fluid catalytic cracking units (FCCU), fluid coking units (FCU), delayed coking units, flares, fuel gas combustion devices, including process heaters, and sulfur recovery plants. Only those affected facilities that begin construction, modification, or reconstruction after May 14, 2007, are subject to this subpart. Fuel gas combustion device means any equipment, such as process heaters, boilers used to combust fuel gas, except facilities in which gases are combusted to produce sulfur or sulfuric acid. All of the flares (LEU, Coker, Platformer) have been reconstructed or modified after June 24, 2008. Boiler 10 is new equipment, subject to Subpart Ja. The change to RFG made Heaters PH-4 and Plat H-3 subject to Subpart Ja for SO₂ only since no increase in NO_x occurred.

Subpart K (Petroleum Liquids For Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior To May 19, 1978) applies to volatile organic liquids storage vessels for which construction, reconstruction, or modification commenced after June 11, 1973, or before May 19, 1978, which have a capacity of 40,000 gallons or more, and which do not contain organic materials specifically exempted. Those materials specifically exempted include diesel, jet fuel, kerosene, and residual fuel oils. Per § 60.112, controls are required if storing material above a true vapor pressure (TVP) of 1.5 psia. Records of stored material stated in § 60.113(a) are not required if the stored material is below a Reid vapor pressure (RVP) of 1.0 psia, but are required regardless of RVP if TVP is greater than 1.0 psia, per § 60.113(d)(1). Tanks listed in EUG 25 are exempt from recordkeeping because material stored is below 1.0 psia RVP and TVP.

Subpart Ka (Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior To July 23, 1984) applies to volatile organic liquids storage vessels for which construction, reconstruction, or modification commenced after May 18, 1978, but before July 23, 1984, which have a capacity of 40,000 gallons or more, and which do not contain organic materials specifically exempted. Those materials specifically exempted include diesel, kerosene, and residual fuel oils. Per § 60.112(a) controls are not required if stored material is below 1.5 RVP. Records of stored material per § 60.115(a) are required if RVP is above 1.0, but not if below 1.0 per § 60.115(d)(1). Tanks in EUG 24 are exempt from recordkeeping.

Subpart Kb (VOL Storage Vessels For Which Construction, Reconstruction, or Modification Commenced After July 23, 1984) applies to volatile organic liquids storage vessels for which construction, reconstruction, or modification commenced after July 23, 1984, and which have a capacity of 75 cubic meters (m^3) or more. Tanks with capacity greater than or equal to $151 m^3$ and storing VOL with TVP less than 3.5 kPa (≈ 0.5 psia) are exempt from Kb, as are tanks with capacity greater than or equal to $75 m^3$ and less than $151 m^3$ that store VOL with TVP less than 15.0 kPa (≈ 2.2 psia). Tanks with capacity greater than or equal to $151 m^3$ and storing VOL with TVP equal to or greater than 5.2 kPa (≈ 0.75 psia) but less than 76.6 kPa (≈ 11.1 psia) are required to have the controls described in § 60.112b(a). Tanks with capacity greater than or equal to $75 m^3$ and less than $151 m^3$ and storing VOL with TVP equal to or greater than 27.6 kPa (≈ 4.0 psia) but less than 76.6 kPa are also required to have the controls described in § 60.112b(a). Tanks with TVP greater than 76.6 kPa must install the closed systems described in § 60.112b(b). Tanks subject to the controls of § 60.112b are subject to the testing and inspection requirements of § 60.113b and the reporting and recordkeeping requirements of § 60.115b. All tanks, regardless of controls, are subject to the monitoring requirements of §60.116b. Compliance is per monitoring specified at § 60.113(b), and records and reporting as specified at §§ 60.115(b) and 60.116(b). Tanks in EUGs 21 and 22 are affected facilities under Subpart Kb. Tank inspections are documented electronically on the Refinery Tanks Database. Electronic documentation records the date of the inspection, any defects noted, and the initials of the inspector.

The new tank in EUG-28A has a vapor pressure below the 0.5 psia threshold. The following petroleum/volatile organic liquid storage tanks are not subject to NSPS Subparts K, Ka, or Kb because the tanks were constructed or modified prior to the applicability dates. Other tanks may be exempt based on the vapor pressure of the VOL stored, but those tanks are not listed here.

| EU | Tank # | Nominal BBL | Year |
|-------|--------|-------------|------|
| 6336 | 21 | 33,178 | 1916 |
| 6340 | 31 | 35,411 | 1940 |
| 6346 | 153 | 47,858 | 1917 |
| 6359 | 242 | 48,654 | 1917 |
| 6360 | 244 | 55,000 | 1917 |
| 6387 | 473 | 1,500 | 1979 |
| 6382 | 423 | 51,163 | 1923 |
| 1591 | 432 | 74,529 | 1953 |
| 6383 | 433 | 50,910 | 1923 |
| 6385 | 435 | 74,132 | 1953 |
| 1359 | 502 | 7,000 | 1965 |
| 6392 | 742 | 10,000 | 1948 |
| 6393 | 747 | 10,000 | 1948 |
| 5397 | 751 | 10,000 | 1949 |
| 6367 | 307 | 10,000 | 1946 |
| 6398 | 752 | 10,000 | 1949 |
| 6396 | 750 | 10,000 | 1972 |
| 6399 | 755 | 10,000 | 1950 |
| 6401 | 779 | 10,000 | 1953 |
| 6369 | 314 | 7,000 | 1922 |
| 20128 | 6 | 1890 | 1916 |
| 6333 | 13 | 55,000 | 1916 |
| 13559 | 30 | 30,000 | 1917 |
| 1356 | 41 | 4200 | 1929 |
| 13561 | 50 | 1890 | 1917 |
| 13562 | 51 | 1890 | 1917 |
| 13563 | 155 | 54132 | 1917 |
| 20129 | 181 | 1000 | 1928 |
| 6347 | 185 | 55,000 | 1922 |
| 6348 | 186 | 55,000 | 1922 |
| 6349 | 187 | 55,000 | 1922 |
| 13592 | 188 | 55,000 | 1922 |
| 13570 | 258 | 1,890 | 1917 |
| 13571 | 259 | 1,890 | 1917 |
| 13574 | 281 | 7,000 | 1969 |
| 13575 | 282 | 7,000 | 1917 |
| 13576 | 283 | 7,000 | 1917 |
| 6368 | 312 | 7,000 | 1922 |
| 6370 | 315 | 7,000 | 1917 |
| 6375 | 401 | 55,000 | 1922 |
| 13594 | 546 | 1,700 | 1943 |
| 13596 | 582 | 4,061 | 1936 |
| NA | 696 | 1700 | 1948 |

| EU | Tank # | Nominal BBL | Year |
|-----------|---------------|--------------------|-------------|
| 6405 | 874 | 121,275 | 1965 |
| 6333 | 13 | 55,000 | 1917 |
| 8347 | 185 | 55,000 | 1922 |
| 6348 | 186 | 55,000 | 1922 |
| 6349 | 187 | 55,000 | 1922 |
| 13592 | 188 | 55,000 | 1922 |
| 6405 | 874 | 121,275 | 1965 |
| 20127 | 1 | 1,698 | 1916 |
| Tk9 | 9 | 7,000 | 1968 |
| Tk10 | 10 | 7,000 | 1916 |
| Tk11 | 11 | 7,000 | 1916 |
| 6334 | 15 | 7,000 | 1916 |
| 6335 | 16 | 7,000 | 1916 |
| Tk26 | 26 | 55,000 | 1916 |
| 20130 | 28 | 38,000 | 1964 |
| 6339 | 29 | 55,000 | 1964 |
| Tk33 | 33 | 55,000 | 1917 |
| Tk34 | 34 | 55,000 | 1917 |
| 6342 | 35 | 55,000 | 1917 |
| 6343 | 36 | 55,000 | 1917 |
| Tk38 | 38 | 1,890 | 1928 |
| Tk45 | 45 | 4,200 | 1917 |
| Tk46 | 46 | 4,200 | 1917 |
| Tk52 | 52 | 1,890 | 1917 |
| Tk53 | 53 | 1,890 | 1917 |
| Tk54 | 54 | 1,890 | 1917 |
| Tk62 | 62 | 4,200 | 1917 |
| Tk65 | 65 | 1,890 | 1917 |
| Tk66 | 66 | 1,890 | 1917 |
| Tk68 | 68 | 1,890 | 1917 |
| Tk69 | 69 | 1,890 | 1917 |
| Tk71 | 71 | 5,680 | 1917 |
| Tk72 | 72 | 5,680 | 1917 |
| Tk73 | 73 | 5,680 | 1917 |
| Tk74 | 74 | 5,680 | 1917 |
| Tk75 | 75 | 1,890 | 1917 |
| Tk76 | 76 | 1,890 | 1917 |
| Tk79 | 79 | 1,890 | 1917 |
| Tk80 | 80 | 1,890 | 1917 |
| Tk81 | 81 | 1,890 | 1917 |
| Tk83 | 83 | 1,890 | 1917 |
| Tk132 | 132 | 1,800 | 1922 |
| Tk133 | 133 | 1,800 | 1922 |

| EU | Tank # | Nominal BBL | Year |
|-----------|---------------|--------------------|-------------|
| Tk134 | 134 | 7,000 | 1922 |
| 6344 | 151 | 7,000 | 1917 |
| 6352 | 191 | 55,000 | 1922 |
| 13567 | 194 | 53,100 | 1966 |
| Tk195 | 195 | 55,000 | 1917 |
| Tk196 | 196 | 55,000 | 1916 |
| 6355 | 215 | 50,914 | 1917 |
| 15946 | 217 | 7,000 | 1917 |
| 13568 | 218 | 7,000 | 1968 |
| Tk223 | 223 | 7,000 | 1917 |
| Tk227 | 227 | 7,000 | 1917 |
| Tk228 | 228 | 1,890 | 1917 |
| Tk229 | 229 | 1,890 | 1917 |
| Tk232 | 232 | 1,890 | 1917 |
| Tk233 | 233 | 1,890 | 1917 |
| Tk234 | 234 | 1,890 | 1917 |
| Tk235 | 235 | 1,890 | 1917 |
| Tk236 | 236 | 1,890 | 1917 |
| Tk237 | 237 | 1,890 | 1917 |
| Tk240 | 240 | 1,500 | 1917 |
| Tk252 | 252 | 7,000 | 1966 |
| Tk264 | 264 | 1,890 | 1917 |
| Tk265 | 265 | 1,890 | 1917 |
| Tk266 | 266 | 1,890 | 1917 |
| Tk267 | 267 | 1,890 | 1917 |
| Tk271 | 271 | 1,890 | 1917 |
| 6363 | 272 | 1,890 | 1917 |
| Tk273 | 273 | 7,000 | 1917 |
| Tk274 | 274 | 7,000 | 1929 |
| Tk275 | 275 | 7,000 | 1963 |
| Tk276 | 276 | 7,000 | 1917 |
| 6366 | 284 | 7,000 | 1966 |
| Tk305 | 305 | 7,000 | 1929 |
| Tk317A | 317A | 9,400 | 2019 |
| Tk318 | 318 | 7,000 | 1917 |
| Tk319 | 319 | 1,890 | 1917 |
| Tk320 | 320 | 1,890 | 1917 |
| Tk321 | 321 | 1,890 | 1917 |
| Tk322 | 322 | 1,890 | 1917 |
| 6371 | 323 | 7,000 | 1917 |
| Tk327 | 327 | 1,890 | 1917 |
| Tk328 | 328 | 1,890 | 1917 |
| Tk329 | 329 | 1,890 | 1917 |

| EU | Tank # | Nominal BBL | Year |
|-----------|---------------|--------------------|-------------|
| Tk331 | 331 | 7,000 | 1917 |
| Tk332 | 332 | 7,000 | 1917 |
| Tk335 | 335 | 1,890 | 1967 |
| Tk390 | 390 | 7,000 | 1929 |
| Tk391 | 391 | 5,000 | 1929 |
| Tk392 | 392 | 5,000 | 1929 |
| Tk393 | 393 | 1,000 | 1930 |
| Tk394 | 394 | 1,120 | 1930 |
| Tk396 | 396 | 5,940 | 1963 |
| Tk397 | 397 | 5,940 | 1963 |
| 6373 | 398 | 2,600 | 1928 |
| 6374 | 399 | 2,600 | 1928 |
| Tk471 | 471 | 3,780 | 1917 |
| Tk509 | 509 | 4,000 | 1969 |
| 6389 | 510 | 1,890 | 1966 |
| 6390 | 511 | 1,890 | 1966 |
| 6391 | 519 | 4,000 | 1932 |
| Tk645 | 645 | 1,500 | 1938 |
| Tk646 | 646 | 1,500 | 1936 |
| Tk649 | 649 | 1,008 | 1937 |
| Tk650 | 650 | 10,000 | 1940 |
| Tk675 | 675 | 1,500 | 1942 |
| Tk691 | 691 | 2,400 | 1942 |
| Tk692 | 692 | 2,400 | 1942 |
| Tk693 | 693 | 2,400 | 1942 |
| Tk694 | 694 | 2,400 | 1942 |
| Tk700 | 700 | 15,000 | 1942 |
| 13585 | 701 | 15,000 | 1942 |
| 13584 | 702 | 7,000 | 1942 |
| 6400 | 775 | 55,000 | 1916 |
| 6403 | 799 | 1,890 | 1956 |
| Tk800 | 800 | 7,000 | 1956 |
| 15958 | 801 | 15,000 | 1956 |
| 13586 | 802 | 15,000 | 1956 |
| 15949 | 803 | 15,000 | 1956 |
| Tk807 | 807 | 4,200 | 1958 |
| Tk828 | 828 | 30,000 | 1960 |
| Tk829 | 829 | 30,000 | 1960 |
| Tk830 | 830 | 30,000 | 1960 |
| Tk831 | 831 | 30,000 | 1960 |
| Tk835 | 835 | 2,000 | 1960 |
| 6404 | 838 | 2,000 | 1960 |
| Tk847 | 847 | 2,032 | 1961 |

| EU | Tank # | Nominal BBL | Year |
|-----------|---------------|--------------------|-------------|
| Tk848 | 848 | 2,032 | 1961 |
| Tk851 | 851 | 2,088 | 1961 |
| Tk852 | 852 | 4,025 | 1962 |
| Tk853 | 853 | 4,025 | 1962 |
| Tk854 | 854 | 4,025 | 1962 |
| Tk855 | 855 | 4,025 | 1962 |
| Tk856 | 856 | 4,025 | 1962 |
| Tk857 | 857 | 2,011 | 1962 |
| Tk861 | 861 | 1,000 | 1968 |
| Tk865 | 865 | 1,890 | 1963 |
| Tk867 | 867 | 1,675 | 1964 |
| 13587 | 870 | 5,300 | 1963 |
| Tk875 | 875 | 2,090 | 1966 |
| Tk876 | 876 | 3,000 | 1966 |
| Tk877 | 877 | 2,090 | 1966 |
| Tk878 | 878 | 2,090 | 1966 |
| Tk879 | 879 | 2,090 | 1966 |
| Tk880 | 880 | 3,000 | 1966 |
| Tk882 | 882 | 20,000 | 1967 |
| Tk883 | 883 | 1,000 | 1967 |
| Tk884 | 884 | 1,000 | 1967 |
| Tk885 | 885 | 1,000 | 1967 |
| Tk886 | 886 | 10,492 | 1967 |
| Tk887 | 887 | 19,500 | 1967 |
| Tk888 | 888 | 10,492 | 1967 |
| Tk891 | 891 | 1,000 | 1968 |
| Tk893 | 893 | 10,500 | 1972 |
| Tk898 | 898 | 2,455 | 1917 |
| Tk913 | 913 | 2,090 | 1917 |
| Tk914 | 914 | 2,090 | 1917 |
| Tk916 | 916 | 2,090 | 1917 |
| Tk918 | 918 | 30,000 | 1972 |
| Tk921 | 921 | 2,094 | 1966 |
| Tk922 | 922 | 3,058 | 1966 |
| Tk923 | 923 | 2,084 | 1966 |
| Tk924 | 924 | 4,455 | 1966 |
| Tk925 | 925 | 4,455 | 1966 |
| Tk926 | 926 | 1,313 | 1966 |
| Tk927 | 927 | 1,313 | 1966 |
| Tk928 | 928 | 4,455 | 1966 |
| Tk929 | 929 | 4,455 | 1966 |
| Tk930 | 930 | 1,313 | 1966 |
| Tk931 | 931 | 1,313 | 1966 |

| EU | Tank # | Nominal BBL | Year |
|--------|--------|-------------|------|
| Tk932 | 932 | 3,058 | 1966 |
| Tk933 | 933 | 1,000 | 1966 |
| Tk934 | 934 | 1,000 | 1966 |
| Tk935 | 935 | 1,000 | 1966 |
| Tk936 | 936 | 1,000 | 1966 |
| Tk937 | 937 | 1,000 | 1966 |
| Tk938 | 938 | 1,000 | 1966 |
| Tk939 | 939 | 1,000 | 1966 |
| Tk940 | 940 | 1,000 | 1966 |
| Tk941 | 941 | 1,000 | 1966 |
| Tk942 | 942 | 1,000 | 1966 |
| Tk943 | 943 | 1,000 | 1966 |
| Tk944 | 944 | 1,000 | 1966 |
| Tk955 | 955 | 1,000 | 1966 |
| TkAGT1 | AGT1 | 2,000 | 1922 |
| TkAGT2 | AGT2 | 1,000 | 1922 |
| TkAGT3 | AGT3 | 1,000 | 1922 |
| TkAGT4 | AGT4 | 2,000 | 1922 |

Subpart GG (Stationary Gas Turbines)

There are no stationary gas turbines on-site.

Subpart UU (Asphalt Processing and Asphalt Roofing) Per 40 CFR § 60.470, affected facilities include asphalt storage tanks and blowing stills at refineries, for which construction or modification commenced after May 26, 1981. Tank 27 and Tank 193 in EUG-23A are subject to Subpart UU. Subpart UU limits the opacity of asphalt storage tanks to 0% opacity except for one 15-minute period in any 24-hour period.

Subpart VV (Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry (SOMCI) For Which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and On Or Before November 7, 2006) Although the refinery is not an affected facility, the refinery MACT (40 CFR Part 63 Subpart CC) makes extensive reference to this NSPS subpart.

Subpart VVa, (Equipment Leaks of VOC in the SOMCI For Which Construction, Reconstruction, or Modification Commenced After November 7, 2006) This subpart affects equipment constructed, reconstructed or modified after November 7, 2006. NSPS, Subpart GGGa requires equipment constructed, reconstructed or modified after November 7, 2006 in VOC service to comply with §§ 60.482-1a through 60.482-10a, 60.484a, 60.485a, 60.486a, and 60.487a except as provided in § 60.593a. Most of the equipment at the refinery was constructed prior to November 7, 2006, and is covered under NSPS, Subpart GGG or NESHAP Subpart CC. The new equipment in the Coker, the blowdown system, is a relief system modification that is subject to NSPS, Subpart GGGa. Additionally, a Flare Gas Recovery Unit was installed as a new process unit and is also subject to Subpart GGGa.

Subpart XX (Bulk Gasoline Terminals) Per 40 CFR § 60.500, affected facilities include all loading racks at a bulk gasoline terminal, for which construction or modification commenced after December 17, 1980. Further, any replacement of components commenced before August 18, 1983, in order to comply with emission standards adopted by the Oklahoma State Department of Health or the Tulsa City/County Health Department are not to be considered a reconstruction under 40 CFR § 60.15. The gasoline loading racks have been shut down.

Subpart GGG (Equipment Leaks of VOC in Petroleum Refineries Which Commenced Construction, Reconstruction, or Modification After January 4, 1983, and On Or Before November 7, 2006) This subpart affects each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service which commenced construction or modification after January 4, 1984, and prior to November 7, 2006, and which is located within a process unit in a petroleum refinery. Subpart GGG requires the leak detection, repair, and documentation procedures of NSPS Subpart VV. Compressors in hydrogen service (defined as serving streams more than 50% by volume hydrogen) are exempt from all requirements other than demonstrating that a stream can never be reasonably expected to contain less than 50% by volume hydrogen. Those pressure-relief devices vented to a control device (flare) are exempted from periodic monitoring requirements. Equipment in EUG 7 is subject to this subpart and compliance records are maintained on-site in an electronic database. Equipment in EUG 8 is subject to NESHAP MACT Subpart CC, and equipment in EUG 9 is subject to OAC 252:100-39-15.

All Leak Detection and Repair (LDAR) reporting required by 40 CFR Part 60, Subpart GGG (semi-annual), and 40 CFR Part 63, Subpart CC (semi-annual) has been consolidated to simplify overlapping requirements, based on discretion granted to the state authorities by EPA. All LDAR reporting is included in the MACT Semi-annual report covering all monitoring required from January 1st through June 30th and July 1st through December 31st. Reports are due 60 days after the end of each six month period per 40 CFR § 63.654(g).

Subpart GGGa (Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006) This subpart affects each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service at a process unit, which commenced construction or modification after November 7, 2006, and which is located at a petroleum refinery. This subpart defines “process unit” as “components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates: a process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.” Subpart GGGa requires the leak detection, repair, and documentation procedures of NSPS, Subpart VVa. All affected equipment which commenced construction or modification after November 7, 2006, in VOC service and not in HAP service is subject to this subpart. In accordance with NESHAP Subpart CC, § 63.640(p)(2), equipment leaks that are also subject to the provisions of 40 CFR Part 60, Subpart GGGa, are required to comply only with the provisions specified in 40 CFR Part 60, Subpart GGGa. The group of all the equipment (defined in §60.591a) within a process unit is an affected facility. Small numbers of components of process units are being installed but no new process units are being installed. Therefore, this subpart is currently applicable only to the Coker Blowdown. As units constructed or modified under the PSD permit come on line, they will be subject to Subpart GGGa as well.

Subpart QQQ (VOC Emissions from Petroleum Refinery Wastewater Systems) applies to individual drain systems, oil-water separators, and aggregate facilities located in petroleum refineries and for which construction, reconstruction, or modification commenced after May 4, 1987. All wastewater systems were constructed or modified prior to the effective date of the standard.

NESHAP, 40 CFR Part 61

[Subparts M and FF Applicable]

Subpart J (Equipment Leaks {Fugitive Emission Sources} of Benzene)

Affected sources are equipment items in “benzene service,” which is defined to mean that they contact a stream with at least 10% benzene content by weight. The facility has no items in benzene service.

Subpart M (Asbestos) Molded or wet-applied friable asbestos insulation installation or reinstallation is prohibited per 61.148. The most likely activity that might be affected is the renovation or demolition of structures or equipment containing asbestos. Rules concerning such activities are found in §§60.145 and 60.150.

Subpart V (Equipment Leaks {Fugitive Emission Sources}) Affected sources are equipment items in “VHAP service,” which is defined to mean that they contact a stream with at least 10% of a volatile HAP content by weight. The facility has no items in VHAP service.

Subpart Y (Benzene Emissions from Benzene Storage Vessels) Affected sources are vessels storing benzene. The facility has no benzene storage vessels.

Subpart BB (Benzene Emissions from Benzene Transfer Operations) Affected sources are all loading racks at which benzene is loaded into tank trucks, railcars, or marine vessels at each benzene production facility and each bulk terminal. Specifically exempted from this regulation are loading racks at which only the following are loaded: benzene-laden waste (covered under Subpart FF of this part), gasoline, crude oil, natural gas liquids, or petroleum distillates. The facility has none of the affected sources.

Subpart FF (Benzene Waste Operations) Affected sources are benzene-containing waste streams, as identified in EUG 12. Numerous standards apply to tanks, impoundments, and other activities if the total annual benzene (TAB) quantity exceeds 10 megagrams. Test methods and procedures used in calculating the TAB are found in § 61.355, paragraphs (a) through (c). Because the refinery has TAB less than 10 Mg, it is subject to only the recordkeeping, reporting, and testing requirements found in §§61.355, 356, and 357.

NESHAP, 40 CFR Part 63

[Subparts CC, UUU, ZZZZ, DDDDD and GGGGG Applicable]

The following paragraphs are general in nature, with some reference to specific facilities. The Specific Conditions contain specific requirements under NESHAP for all HFRT affected facilities.

Subpart F (Synthetic Organic Chemical Manufacturing Industry) The refinery is not a SOCM facility.

Subpart G (Hazardous Organic NESHAPS {HON} Equipment Leaks) This MACT contains standards that must be referenced through other MACTs. The refinery is not an affected facility under this subpart.

Subpart R (Gasoline Distribution Facilities {Bulk Gasoline Terminals and Pipeline Breakout Stations}) The refinery is not an affected facility under this subpart, although some provisions of this subpart and of NSPS Subpart XX are invoked by NESHAP Subpart CC.

Subpart Q (Industrial Process Cooling Towers) The provisions of this subpart apply to all new and existing industrial process cooling towers that are operated with chromium-based water treatment chemicals on or after September 8, 1994, and are either major sources or are integral parts of facilities that are major sources. The refinery ceased the use of chromium-based treatment before this MACT was issued.

Subpart Y (Marine Tank Vessel Tank Loading Operations) The refinery has no marine vessel loading capability.

Subpart CC (Petroleum Refineries) Affected facilities include process vents, storage vessels, storage tanks, wastewater streams and treatment, equipment leaks, gasoline loading racks, marine vessel loading systems, and pipeline breakout stations. Of the facilities named in Subpart CC, storage tanks, equipment leaks, process vents, wastewater streams and treatment, cooling towers, and a gasoline loading rack are affected facilities at HFRT.

Storage Tanks

Existing storage tanks with HAP concentrations above 4%_w and which have vapor pressures above 1.5 psia are required to implement controls. All tanks in EUGs 18 and 19 are Group 1 Storage Vessels as defined in § 63.641 and are to be controlled and monitored per § 63.646. The tanks in EUG-39 are Group 1 tanks, subject to those requirements. Reports and records required for these tanks are found at § 63.654. General Provisions for startup/shutdown/malfunction (SSM) plans, as defined at § 63.641, are found at § 63.6(e)(3). Semi-annual and immediate reporting requirements are listed at § 63.10(d)(5). Electronic documentation, including the date of the inspection, any defects noted, and the initials of the inspector, is maintained on-site in the facility's "Refinery Tanks Database."

EUG 20 lists Group 2 Storage Vessels as defined at § 63.641. EUG-23A and EUG-28A are Group 2 tanks. Subparagraph § 63.654(i)(1)(iv) requires a determination of Group 2 Tanks. The facility maintains a list of tanks that do not contain any HAPs and are not Group 2 Tanks per § 63.640(a)(2).

Process Vents

Any refinery unit process miscellaneous vent with greater than 20 ppmv HAPs and which emits more than 33 kg/day of VOC is subject to control requirements. Subpart CC requires affected vents to be equipped with 98% efficient controls, be vented to a flare, be vented to a combustion unit firebox, or be reduced to 20 ppmv HAP or less. Group 1 process vents are listed in EUG 14 and Group 2 process vents are listed in EUG 15. Group 1 process vents are vents for which the total organic HAP concentration is greater than or equal to 20 ppmv, and whose total VOC emissions are greater than or equal to 33 kg per day (75 lbs/day). Group 2 process vents are vents that do not meet the definition of a Group 1 vent. Details of compliance requirements are in the Specific Conditions.

Miscellaneous process vent monitoring provisions are found at § 63.644, and test methods and procedures are found at § 63.645. The CDU vacuum tower vent is introduced into the flame zone of the CDU H-2 Heater. The LEU T-1 hydrostripper vent is introduced into the flame zone of the LEU H-102 heater. Both vents are exempt from monitoring and performance testing requirements because they are directed into the flame zone of a boiler or process heater.

Cooling Towers

Specifications for “Heat exchange system” have been added as § 63.654. A facility is exempt from these standards if a cooling tower operates with a pressure difference of at least 5 psia between the cooling water side and process side, or employ an intervening cooling fluid with is less than 5% organic HAPs. Otherwise, the operator must perform monitoring to identify leaks and repair those leaks. There are separate standards for closed-loop systems and once-through systems. The existing “grandfathered” cooling towers and the new CT-7 are subject to the MACT.

Equipment Leaks

EUG 8 is a grouping of all the HAP fugitive equipment component sources that exist in the refinery. Two compliance options are given at § 63.648, consisting of a modified 40 CFR Part 63, Subpart H method, and a modified 40 CFR Part 60, Subpart VV method. The HFRT Refinery currently chooses to follow the Subpart VV option. The 40 CFR Part 63 Subpart CC modifications to Subpart VV are primarily in applicability and component exemptions. Applicability is limited to components that contain equal to or more than 5% by weight HAP. Exemptions in addition to Subpart VV include wastewater system drains, storage tank sample valves, and tank mixers. Also, reciprocating pumps in light liquid service and reciprocating compressors are exempt from § 60.482 if recasting the distance pieces or new equipment is required. Subpart VV requires, among other things, leak detection and repair at valves in gas/vapor and light liquid service, and offers three options for such valves. The first is the main standard at § 60.482-7, which requires monthly monitoring unless the valve shows no leaks after two successive months after which the valve may be monitored quarterly until it indicates leakage. The second option is given at § 60.483-1, in which valves are tested initially, and then annually or as requested by DEQ, and the percentage of leaking valves is not allowed to exceed 2%. The third option is given at § 60.483-2, in which good leak performance leads to skip periods of monitoring that leads to annual monitoring so long as leakers remain below 2%. The use of either of the second two options requires prior notification to DEQ. This facility currently follows the base procedures given at § 60.482-7, but requests alternative scenario status for the other two options since they represent another form of compliance measurement, and because they require notification to DEQ. Whether these scenarios

will be used or not depends on the facility's analysis of the benefits of invoking them. At the present time these options are moot because OAC 252:100-39-15 requires quarterly monitoring of valves. If Section 39-15 is modified in the future to provide reduced monitoring after periods of continuous compliance, the facility will select the compliance option described in § 63.648(a)(2).

All Leak Detection and Repair (LDAR) reporting required by 40 CFR Part 60 Subparts GGG and GGGa (semi-annual), and 40 CFR Part 63 Subpart CC (semi-annual) has been consolidated to simplify overlapping requirements. All LDAR reporting is included in the MACT semi-annual report covering all monitoring required from January 1st through June 30th and July 1st through December 31st. Reports are due 60 days after the end of each six month period per § 63.654(g).

Gasoline Loading Terminal

The west refinery no longer loads gasoline.

Wastewater Streams and Treatment

Requirements for the wastewater system are defined at § 63.647 as equivalent to the provisions of 40 CFR Part 61, Subpart FF. Recordkeeping, reporting, and monitoring is also defined at § 63.654 to be what is required at § 61.356 and § 61.357. The facility is in compliance based on compliance with 40 CFR Part 61, Subpart FF.

Coker Unit

Requirements for the Coker Unit are in §63.657. A delayed coking unit shall depressure each coke drum to a closed blowdown system until the coke drum vessel pressure or temperature measured at the top of the coke drum or in the overhead line of the coke drum as near as practical to the coke drum is either (i) an average vessel pressure of 2 psig or less determined on a rolling 60-event average; or (ii) an average vessel temperature of 220 degrees Fahrenheit or less determined on a rolling 60-event average prior to venting to the atmosphere, draining or deheading the coke drum at the end of the cooling cycle.

Heat Exchange Systems

Requirements for Heat Exchange Systems are in §63.654. Heat exchange systems are not subject to Subpart CC if the heat exchange system either: (1) operates with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side; or (2) employs an intervening cooling fluid containing less than 5 percent by weight of total organic HAP, as determined according to the provisions of §63.180(d) of this part and table 1 of this subpart, between the process and the cooling water. This intervening fluid must serve to isolate the cooling water from the process fluid and must not be sent through a cooling tower or discharged. For purposes of this section, discharge does not include emptying for maintenance purposes. All of the heat exchange systems meet the exemption criteria.

Subpart DD (Off-Site Waste and Recovery Operations) Affected facilities are those that are major under § 63.2 and process, recover, or recycle waste that is generated off-site and brought to the facility. The refinery processes no off-site waste. Any recovered material, regardless of processing, is generated on-site.

Subpart WW (Synthetic Organic Chemical Manufacturing Industry Process Vents, Storage Vessels, Transfer Operations, and Wastewater) Although the refinery is not a SOCOMI facility, the refinery MACT (NESHAP Subpart CC) references provisions of this subpart.

Subpart UUU (Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units) This MACT was issued April 11, 2002, and the compliance date for existing units was April 11, 2005. The Platformer (EUG 16) is the only process unit at the facility subject to this MACT. The facility submitted their initial notification of affected source on August 7, 2002. An analysis performed 9/25/02 through 9/28/02, during regeneration, demonstrated HCl levels below detectable levels, demonstrating that inorganic HAP emissions are below limitations discussed in § 63.1567 and listed at Table 22 of Subpart UUU. Options for compliance with organic HAP limits are discussed in § 63.1566. Any performance test must be performed and results submitted no more than 150 days after the compliance date (§ 63.1671). A performance test was conducted on March 11, 2005. The Notice of Compliance Status Report and the Operation, Maintenance, and Monitoring Plan were submitted on June 16, 2005.

Subpart EEEE (Organic Liquids Distribution (Non-Gasoline)). This MACT affects the handling equipment, including storage tanks, transfer racks, equipment components, and transport vehicles while at the transfer racks. Tanks with capacities less than 5,000 gallons are not affected. Except for the loading rack, all components of the HSR loading rack are already covered under MACT Subpart CC, and are thus exempt from Subpart EEEE per 40 CFR § 63.2338(c)(1). Because the rack is not subject to any of the initial limits of this subpart, it is not subject to any other standard except for the initial notification under § 63.2382(b)(2).

Subpart ZZZZ (Reciprocating Internal Combustion Engines (RICE)). The facility has several RICE. EUG-36 contains the spark ignition (SI) engines, which are divided into categories of (1) Non-Emergency 4SRB > 500 HP (EG-5156 and EG-5152), (2) Non-Emergency 4SRB < 500 HP (C-2719, EG-5747, EG-6348, EH-5579, and EG-5154), and Emergency 4SRB (EG-6349, EG-5879, and EG6235). The engines in EUG-38 are all existing emergency compression ignition (CI) engines. The engines in EUG-38A are CI engines subject to NSPS Subpart III. Subpart ZZZZ provides that compliance with Subpart III constitutes compliance with Subpart ZZZZ.

A summary of these requirements for engines located at this facility is shown following.

| For each | You must meet the following requirement, except during periods of startup | During periods of startup you must |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emergency CI and black start CI. ¹ | a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ² b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³ | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. ³ |

| For each | You must meet the following requirement, except during periods of startup | During periods of startup you must |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emergency SI RICE and black start SI RICE. ¹ | a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ² b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³ | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. ³ |
| Non-emergency, non-black start 4SRB stationary RICE 100 <HP<500. | Limit concentration of formaldehyde in stationary RICE exhaust to 10.3 ppmvd or less at 15% O ₂ . | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. ³ |
| Non-emergency, non-black start 4SRB stationary RICE >500 HP. | Reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O ₂ and using NSCR; | |

¹If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

²Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.

³Sources can petition the Administrator pursuant to the requirements of §63.6(g) for alternative work practices.

Subpart DDDDD (Industrial, Commercial and Institutional Boilers and Process Heaters) This subpart affects industrial, commercial and institutional boilers and process heaters at major sources of HAPs. “New” gas-fuel “1” units (which include RFG) are not subject to any emissions limits under Subpart DDDDD. Existing RFG-burning heaters and boilers are subject to the work practice standards of Table 3 of Subpart DDDDD:

| If your unit is . . . | You must meet the following . . . |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. A new or existing boiler or process heater with a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid, or a limited use boiler or process heater | Conduct a tune-up of the boiler or process heater every 5 years as specified in §63.7540. |
| 2. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of less than 10 million Btu per hour in the unit designed to burn heavy liquid or unit designed to burn solid fuel subcategories; or a new or existing boiler or process heater with heat input capacity of less than 10 million Btu per hour, but greater than 5 million Btu per hour, in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid | Conduct a tune-up of the boiler or process heater biennially as specified in §63.7540. |
| 3. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater | Conduct a tune-up of the boiler or process heater annually as specified in §63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions under this subpart. Units in all other subcategories will conduct this tune-up as a work practice for dioxins/furans. |
| 4. An existing boiler or process heater located at a major source facility, not including limited use units | Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operated under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least one year between January 1, 2008 and the compliance date specified in §63.7495 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items a. to |

| If your unit is . . . | You must meet the following . . . |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | e. appropriate for the on-site technical hours listed in §63.7575: |
| | a. A visual inspection of the boiler or process heater system. |
| | b. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints. |
| | c. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator. |
| | d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage. |
| | e. A review of the facility's energy management program and provide recommendations for improvements consistent with the definition of energy management program, if identified. |
| | f. A list of cost-effective energy conservation measures that are within the facility's control. |
| | g. A list of the energy savings potential of the energy conservation measures identified. |
| | h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments. |

Subpart GGGGG (Site Remediation) This subpart is applicable to facilities that conduct a site remediation which cleans up a remediation material at a facility that is co-located with one or more other stationary sources that emit HAP and meet the affected source definition. This facility is a major source of HAP and currently conducts site remediation at the facility.

Site remediation at a facility is not subject to this subpart, except for the recordkeeping requirements specified in § 63.7881(c), if the site remediation meets the all of the following conditions:

1. Before beginning the site remediation, you determine that for the remediation material to be excavated, extracted, pumped, or otherwise removed during the site remediation that the total quantity of the HAPs (listed in Table 1 of Subpart GGGGG) is less than 1.10 TPY.

2. The facility prepares and maintains at the facility written documentation to support the determination of the total HAP quantity used to demonstrate compliance with § 63.7881(c)(1). The documentation must include a description of the methodology and data used for determining the total HAPs content of the material.
3. This exemption may be applied to more than one site remediation at the facility provided that the total quantity of the HAPs (listed in Table 1 of Subpart GGGGG) for all of the site remediation exempted under this provision is less than 1.10 TPY.

This facility has documented that all of the site remediation at the facility totals less than 1.10 TPY and is only subject to the recordkeeping requirements of this subpart.

Subpart LLLLL (Asphalt Processing and Asphalt Roofing Manufacturing) affects asphalt blowstills and Group 1 storage vessels, which are defined as those vessels which are larger than 47,000 gallons and store asphalt at a temperature greater than 500°F or have a maximum true vapor pressure greater than 1.5 psia. Subpart LLLLL requires affected facilities to reduce total hydrocarbons by 95%, or to route emissions to a 99.5% efficient combustion device, or to route emissions to a combustion device which does not use auxiliary fuel and which achieves hydrocarbon destruction of 95.8%, or to route emissions to a process heater or boiler with a heat input capacity of 44 MW or greater, or to route emissions to a flare. The storage tanks in EUG-23A are regulated as “Group 2” storage vessels since their storage temperatures are less than 500°F.

Compliance Assurance Monitoring, 40 CFR Part 64

[Applicable]

This part applies to any pollutant-specific emission unit at a major source that is required to obtain an operating permit, for any application for an initial operating permit submitted after April 18, 1998, that addresses “large emissions units,” or any application that addresses “large emissions units” as a significant modification to an operating permit, or for any application for renewal of an operating permit, if it meets all of the following criteria.

- It is subject to an emission limit or standard for an applicable regulated air pollutant
- It uses a control device to achieve compliance with the applicable emission limit or standard
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant of 100 TPY or 10/25 TPY of a HAP

Although there have been very few emission limits for sources in the refinery, many sources within the refinery are subject to the standards of 40 CFR Part 63 Subparts CC and UUU. Provisions for monitoring contained in these subparts is considered presumptively acceptable monitoring in accordance with § 64.4(b)(4).

Chemical Accident Prevention Provisions, 40 CFR Part 68

[Applicable]

Toxic and flammable substances subject to this regulation are present in the facility in quantities greater than the threshold quantities. A Risk Management Plan was submitted to EPA on June 1, 1999, and resubmitted as required by rule. More information on this federal program is available on the web page: www.epa.gov.rmp.

Stratospheric Ozone Protection, 40 CFR Part 82

[Applicable]

These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations which meet phase out requirements and which maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).

Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.

Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.

The Standard Conditions of the permit address the requirements specified at §82.156 for persons opening appliances for maintenance, service, repair, or disposal; §82.158 for equipment used during the maintenance, service, repair, or disposal of appliances; §82.161 for certification by an approved technician certification program of persons performing maintenance, service, repair, or disposal of appliances; §82.166 for recordkeeping; §82.158 for leak repair requirements; and §82.166 for refrigerant purchase records for appliances normally containing 50 or more pounds of refrigerant.

This facility does not utilize any Class I & II substances in its manufacturing processes.

SECTION VIII. COMPLIANCE

Inspection

Full compliance evaluations (inspections) of the facility are performed regularly. The inspections are complicated, occur in segments, and are performed by various DEQ individuals.

Testing

No additional testing is required for the issuance of this modified TV permit.

Tier Classification and Public Review

This application has been classified as **Tier II** based on the request for a “significant” modification to a Title V operating permit. The applicant published the “Notice of Filing Tier II Application”

in *The Tulsa Business & Legal News* on October 6, 2019. A draft of this permit will also be made available for public review for a period of 30 days as stated in another newspaper announcement, and on the Air Quality section of the DEQ web page at <http://www.deq.ok.gov>.” The applicant has requested concurrent public and EPA review. The draft/proposed permit will be submitted to EPA for a 45-day review period. The review periods will be extended if either the public or EPA provides comments which affect applicable standards.

This facility is not located within 50 miles of the border with a contiguous state.

Information on all permit actions is available for review by the public in the Air Quality section of the DEQ Web page: www.deq.ok.gov.

Fee Paid

Title V permit significant modification fee of \$6,000

SECTION IX. SUMMARY

The facility was constructed as described in the permit application. There are no compliance or enforcement issues concerning this facility that would prevent the issuance of this permit. Issuance of the permit is recommended, contingent on public and EPA review.

DRAFT

**PERMIT TO OPERATE
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS**

**HollyFrontier Tulsa Refining – Tulsa LLC
Tulsa Refinery West**

Permit Number 2018-0594-TVR2 (M-4)

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality on August 21, 2019. The Evaluation Memorandum dated December 2, 2019, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein.

SPECIFIC CONDITION 1

[OAC 252:100-8-6(a)]

The permittee shall be authorized to operate the affected facilities noted in this permit continuously (24 hours per day, every day of the year) subject to the following conditions. Records necessary to show compliance with each of the requirements below must be maintained.

[OAC 252:100-8-6(a)(1)]

- a. EUG Plant-Wide: Certain equipment within the refinery is subject to 40 CFR Part 63 Subpart CC and all affected equipment shall comply with all applicable requirements including, but not limited to:

[40 CFR Part 63 Subpart CC]

 1. § 63.642 General Standards
 2. § 63.643 Miscellaneous Process Vent Provisions
 3. § 63.644 Monitoring for Miscellaneous Process Vents
 4. § 63.645 Test Methods and Procedures for Miscellaneous Process Vents
 5. § 63.654 Reporting and Recordkeeping Requirements
 6. The permittee shall comply with the provisions of 40 CFR Part 63 Subpart A as specified in Appendix to Subpart CC, Table 6.

- b. Various asbestos renovation and demolition projects at the Tulsa Refinery are subject to State and Federal standards, including:
 1. The federal standards found in 40 CFR Part 61 Subpart M. [40 CFR § 61.145]
 2. The following requirements for handling asbestos are in addition to those listed in the asbestos NESHAP, 40 CFR Part 61 Subpart M. [OAC 252:100-40-5]
 - A. Before being handled, stored or transported in or to the outside air, friable asbestos from demolition/renovation operations shall be wetted, double bagged in six-mil plastic bags, or single bagged in one six-mil plastic bag and placed in a disposable drum, or contained in any other manner approved in advance by the AQD Director.

- B. When demolition/renovation operations must take place in the outdoor air, friable asbestos removed in such operations shall be immediately bagged or contained in accordance with (A).
 - C. Friable asbestos materials used on pipes or other outdoor structures shall not be allowed to weather or deteriorate and become exposed to, or dispersed in the outside air.
 - D. Friable asbestos materials shall, in addition to other provisions concerning disposal, be disposed of in a facility approved for asbestos by the Solid Waste Management Division of DEQ.
- c. The following procedures are required for any process unit shutdown, purging, or blowdown operation. [OAC 252:100-39-16]
- 1. Recovery of VOC shall be accomplished during the shutdown or turnaround to a process unit pressure compatible with the flare or vapor system pressure. The unit shall then be purged or flushed to a flare or vapor recovery system using a suitable material such as steam, water or nitrogen. The unit shall not be vented to the atmosphere until pressure is reduced to less than 5 psig through control devices.
 - 2. Except where inconsistent with the "Minimum Federal Safety Standards for the Transportation of Natural and Other Gas by Pipeline," or any State of Oklahoma regulatory agency, no person shall emit VOC gases to the atmosphere from a vapor recovery blowdown system unless these gases are burned by smokeless flares or an equally effective control device as approved by the Division Director.
 - 3. At least fifteen days prior to a scheduled turnaround, a written notification shall be submitted to the Division Director. As a minimum, the notification shall indicate the unit to be shutdown, the date of shutdown, and the approximate quantity of VOC to be emitted to the atmosphere.
 - 4. Scheduled refinery unit turnaround may be accomplished without the controls specified in (a) and (b) during non-oxidant seasons provided the notification to the Division Director as required in (c) specifically contains a request for such an exemption. The non-oxidant season is from November 1 through March 31.
- d. Non-condensable VOC from surface condensers and accumulators in the CDU / LEU vacuum producing system shall be vented to a heater firebox or otherwise combusted at least 90% of uncontrolled emissions. [OAC 252:100-39-17]
- e. Cold metal-cleaning units using any VOC shall comply with the following requirements.
- 1. Mechanical design. The unit shall have a cover or door that can be easily operated with one hand, and shall have an internal drain board allowing lid closure or an external drain facility if the internal option is not practical. The unit shall have a permanently attached conspicuous label summarizing the operating requirements. [OAC 252:100-39-42(a)(1)]
 - 2. Operating requirements. All clean parts shall drain for at least 15 seconds or until dripping ceases before removal, the degreaser cover shall be closed when not handling parts, and VOC shall be sprayed only in a solid fluid stream, not in an atomized spray. Waste VOC shall be stored in covered containers and waste VOC shall not be handled in such a manner that more than 20% by weight can evaporate. [OAC 252:100-39-42(a)(2)]

- 3. If the VOC used has vapor pressure greater than 0.6 psia or if the VOC is heated to 248 °F, the unit requires additional control. Such control shall be a freeboard with ratio at least 0.7, a water cover where the VOC is insoluble in and denser than water, or another system of equivalent control as approved by the AQD Director. [OAC 252:100-39-42(a)(3)]
- f. For units subject to 40 CFR Part 63 (NESHAP), a startup, shutdown, and malfunction plan has been prepared by HFRT in compliance with 40 CFR Part 63 Subpart A. The current plan shall be retained for the life of the facility and superseded versions of the plan shall be retained for five years after the date of revision. Both current and retained versions shall be readily available for review. [40 CFR § 63.6(e)(3)]
- g. VOC storage vessels greater than 40,000 gallons in capacity and storing a liquid with vapor pressure greater than 1.5 psia shall be pressure vessels or shall be equipped with one of several vapor loss control systems. [OAC 252:100-37-15(a)]
- h. Per OAC 252:100-8-36.2(c), records shall be kept comparing actual emissions of pollutants subject to PSD from units in the Refinery Integration project with projected actual emissions. As part of the operating permit application, the storage tanks for gasoline, distillates and naphthas affected by this project shall be identified.

SPECIFIC CONDITION 2

Standards for affected Emission Unit Groups (EUG). [OAC 252:100-8-6(a)]

EUG 1: Existing Refinery Fuel Gas Burning Equipment

| Const. Date | EU | Point ID |
|-------------|------|--------------|
| 1961 | 201N | CDU H-1,N,#7 |
| 1961 | 201S | CDU H-1,S,#8 |
| 1957 | 206 | Unifiner H-2 |
| 1957 | 207 | Unifiner H-3 |
| 1960 | 246 | MEK H-2 |

| Const. Date | EU | Point ID |
|-------------|-----|--------------|
| 1957 | 210 | #2 Plat PH-3 |
| 1956 | 238 | PDA B-30 |
| 1962 | 240 | PDA B-40 |
| 1963 | 242 | LEU H101 |
| 1963 | 244 | LEU H-201 |

CDU H-1 has two stacks, H-1 North and H-1 South.

- a. These units are “grandfathered” (constructed prior to any applicable rule). It is limited to the existing equipment as it is.
- b. The above unit shall only be fired with NSPS Subpart Ja compliant refinery fuel gas or pipeline-grade natural gas. The boiler shall be equipped with a fuel gas meter. [40 CFR Part 60, Subpart Ja; OAC 252:100-8-6(a)(1)]
- c. The emissions of particulate matter resulting from the combustion of fuel in any new or existing fuel-burning unit shall not exceed the limits specified in OAC 252:100 Appendix C. [OAC 252:100-19-4]
- d. All fuel-burning or refuse-burning equipment shall be operated to minimize emissions of VOC. Among other things, such operation shall assure, based on manufacturer's data and good engineering practice, that the equipment is not overloaded; that it is properly cleaned, operated, and maintained; and that temperature and available air are sufficient to provide essentially complete combustion. [OAC 252:100-37-36]

EUG 1A: Modified Refinery Fuel Gas Burning Equipment

| Constr. Date | MFR, BTUH, MM | EU | Point ID | NOx | | CO | | PM ₁₀ | | SO ₂ | | VOC | |
|--------------|---------------|-----|--------------|-------|-------|-------|-------|------------------|------|-----------------|------|-------|------|
| | | | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 1957 | 44.8 | 211 | #2 Plat PH-4 | 4.48 | 19.62 | 3.76 | 16.48 | 0.34 | 1.49 | 1.16 | 1.92 | 0.25 | 1.08 |

- a. The above unit is subject to New Source Performance Standards (NSPS), Subpart Ja and shall comply with all applicable provisions including, but not limited to:
 - [40 CFR Part 60, Subpart Ja]
 - 1.§ 60.102a Emission limitations;
 - 2.§ 60.103a [Design, equipment, work practice or operational standards](#);
 - 3.§ 60.104a Performance tests as applicable;
 - 4.§60.107a [Monitoring of emissions and operations for fuel gas combustion devices and flares](#) – (a)(2), (3), and (4); and
 - 5.§ 60.108a Recordkeeping and reporting requirements.
- b. The above unit shall only be fired with NSPS Subpart Ja compliant refinery fuel gas or pipeline-grade natural gas. The boiler shall be equipped with a fuel gas meter.
 - [40 CFR Part 60, Subpart Ja; OAC 252:100-8-6(a)(1)]
- c. The emissions of particulate matter resulting from the combustion of fuel in any new or existing fuel-burning unit shall not exceed the limits specified in OAC 252:100 Appendix C.
 - [OAC 252:100-19-4]
- d. All fuel-burning or refuse-burning equipment shall be operated to minimize emissions of VOC. Among other things, such operation shall assure, based on manufacturer's data and good engineering practice, that the equipment is not overloaded; that it is properly cleaned, operated, and maintained; and that temperature and available air are sufficient to provide essentially complete combustion.
 - [OAC 252:100-37-36]

EUG 2: Non-Grandfathered Boilers

| CD | EU | Point ID | CO | | NOx | | PM ₁₀ | | SO ₂ | | VOC | |
|------|-----|--------------------|-------|------|-------|-------|------------------|------|-----------------|-------|-------|------|
| | | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 1975 | 109 | #7 Boiler, 150 MFR | 12.6 | 55.2 | 30.00 | 131.4 | 1.12 | 4.90 | 3.90 | 17.08 | 0.83 | 3.62 |
| 1976 | 110 | #8 Boiler, 150 MFR | 12.6 | 55.2 | 30.00 | 131.4 | 1.12 | 4.90 | 3.90 | 17.08 | 0.83 | 3.62 |
| 1976 | 111 | #9 Boiler, 150 MFR | 12.6 | 55.2 | 30.00 | 131.4 | 1.12 | 4.90 | 3.90 | 17.08 | 0.83 | 3.62 |

- a. Nitrogen oxides emissions shall not exceed 0.20 lb/MMBTU (3-hr average).
 - [OAC 252:100-33-2(a)]
- b. All fuel-burning or refuse-burning equipment shall be operated to minimize emissions of VOC. Among other things, such operation shall assure, based on manufacturer's data and good engineering practice, that the equipment is not overloaded; that it is properly cleaned, operated, and maintained; and that temperature and available air are sufficient to provide essentially complete combustion.
 - [OAC 252:100-37-36]
- c. All boilers are subject to 40 CFR Part 60 Subpart J, and shall comply with all applicable provisions including, but not limited to:
 - [40 CFR Part 60, Subpart J]

1. §60.100 Applicability, designation of affected facility, and reconstruction.
 2. §60.101 Definitions.
 3. §60.102 Standard for particulate matter.
 4. §60.103 Standard for carbon monoxide.
 5. §60.104 Standards for sulfur oxides.
 6. §60.105 Monitoring of emissions and operations.
 7. §60.106 Test methods and procedures.
 8. §60.107 Reporting and recordkeeping requirements.
 9. §60.108 Performance test and compliance provisions.
 10. §60.109 Delegation of authority.
- d. At least once during the term of this permit, the permittee shall conduct performance testing of NO_x emissions from Boiler 9 and furnish a written report to Air Quality. Results of this testing may be used to estimate emissions from Boilers 7 and 8. [OAC 252:100-43]
- e. The emissions of particulate matter resulting from the combustion of fuel in any new or existing fuel-burning unit shall not exceed the limits specified in OAC 252:100 Appendix C. [OAC 252:100-19-4]

EUG 2A: Boiler Subject to NSPS Subparts Db and Ja

| CD | EU | Point ID | CO | | NO _x | | PM ₁₀ | | SO ₂ | | VOC | |
|------|-----|---------------------------|-------|-------|-----------------|-------|------------------|------|-----------------|------|-------|------|
| | | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 2013 | --- | #10 Boiler, 215 MMBTUH | 18.06 | 79.10 | 12.88 | 39.00 | 1.63 | 7.16 | 5.59 | 9.23 | 1.18 | 5.18 |

NO_x lb/hr emission limits on a 3-hour rolling average, based on 1 hour blocks.

- a. The boiler is subject to federal NSPS, 40 CFR Part 60, Subpart Db, and shall comply with all applicable requirements, including, but not necessarily limited to those conditions shown following. (NOTE: Permit limitations are more stringent than Subpart Db limitations and will result in compliance with Subpart Db.) [40 CFR §§ 60.40b through 60.49b]
 1. The boiler shall not discharge into the atmosphere any gases that contain nitrogen oxides (expressed as nitrogen dioxide) in excess of 0.20 lbs/MMBTU, 3-hour rolling average, based on 1-hour blocks. [40 CFR § 60.44b(a)(1)(ii)]
 2. § 60.46b Performance test and compliance provisions;
 3. § 60.48b Emission Monitoring, and
 4. § 60.49b Reporting and recordkeeping requirements.
- b. The above units are subject to NSPS, Subpart Ja and shall comply with all applicable provisions including, but not limited to: [40 CFR Part 60, Subpart Ja]
 1. § 60.102a Emission limitations;
 2. § 60.103a Work practice standards as applicable;
 3. § 60.104a Performance tests as applicable;
 4. § 60.107a Monitoring of operations; and
 5. § 60.108a Recordkeeping and reporting requirements.
- c. The above units shall only be fired with NSPS Subpart Ja compliant refinery fuel gas or pipeline-grade natural gas. The boiler shall be equipped with a fuel gas meter. [40 CFR Part 60, Subpart Ja, OAC 252:100-8-6(a)(1)]
- d. The emissions of particulate matter resulting from the combustion of fuel in any new or existing fuel-burning unit shall not exceed the limits specified in OAC 252:100 Appendix C. [OAC 252:100-19-4]

- e. All fuel-burning or refuse-burning equipment shall be operated to minimize emissions of VOC. Among other things, such operation shall assure, based on manufacturer's data and good engineering practice, that the equipment is not overloaded; that it is properly cleaned, operated, and maintained; and that temperature and available air are sufficient to provide essentially complete combustion. [OAC 252:100-37-36]
- f. The facility shall maintain records of the amount of fuel combusted in the boiler and fuel heating value. The facility shall maintain records of the amount of steam produced by the boiler. The facility shall calculate and maintain records of the lb/hr and TPY CO_{2e} emissions based on metered gas usage and the emission factor from the EPA GHG MRR. The facility shall calculate and maintain records of the lb CO_{2e} / 1000 lb steam produced (30 day rolling average). The facility shall also maintain records of NO_x emissions (monthly) calculated from fuel heating value (BTU/SCF), fuel usage (SCFD), and monitored NO_x emission rates (lb/MMBTU). [OAC 252:100-43]

EUG 3: #2 Plat PH-5 Heater.

In the event of conflict between limits set by permit or by regulation, the more stringent limit shall apply.

#2 PLAT PH-5 HEATER (AUTHORIZED EMISSIONS IN TPY)

| CD | EU | Point ID | CO | NO _x | PM ₁₀ | SO _x | VOC |
|------|-----|----------------------------|-------|-----------------|------------------|-----------------|------|
| 1990 | 212 | #2 Plat PH-5 65.3 MMBTU/hr | 23.55 | 28.04 | 2.13 | 7.43 | 1.54 |

- a. The emissions of particulate matter resulting from the combustion of fuel in any new or existing fuel-burning unit shall not exceed the limits specified in OAC 252:100 Appendix C. [OAC 252:100-19-4]
- b. Sulfur oxide emissions (calculated as sulfur dioxide) from any new gas-fired fuel-burning equipment shall not exceed 0.2 lbs/MMBTU heat input (86 ng/J), three-hour average. [OAC 252:100-31-25(a)(1)]
- c. Nitrogen oxide emissions (measured as nitrogen dioxide) from any new gas-fired fuel-burning equipment shall not exceed 0.20 lbs/MMBTU (86 ng/J) heat input, three-hour average. [OAC 252:100-33-2(a)]
- d. Operator is permitted to burn #2 Platformer absorber tower offgas, commercial natural gas, or NSPS Subpart J Refinery Fuel Gas in PH-5. Fuel gas shall not contain hydrogen sulfide in excess of 230 mg/dscm (0.1 gr/dscf).
- e. The above unit is subject to New Source Performance Standards (NSPS), Subpart J and shall comply with all applicable provisions. [40 CFR Part 60, Subpart J]
 - 1. § 60.100 Applicability, designation of affected facility, and reconstruction.
 - 2. § 60.101 Definitions.
 - 3. § 60.102 Standard for particulate matter.
 - 4. § 60.103 Standard for carbon monoxide.
 - 5. § 60.104 Standards for sulfur oxides.
 - 6. § 60.105 Monitoring of emissions and operations.
 - 7. § 60.106 Test methods and procedures.
 - 8. § 60.107 Reporting and recordkeeping requirements.
 - 9. § 60.108 Performance test and compliance provisions.

10. § 60.109 Delegation of authority.

- f. When burning #2 Platformer absorber tower offgas or commercial natural gas, PH-5 is not required to meet the monitoring requirements in 40 CFR §§60.105(a)(3) and 60.105(a)(4) because it meets the exemptions in 40 CFR §§60.105(a)(4)(iv)(B)&(C).
- g. All fuel-burning or refuse-burning equipment shall be operated to minimize emissions of VOC. Among other things, such operation shall assure, based on manufacturer's data and good engineering practice, that the equipment is not overloaded; that it is properly cleaned, operated, and maintained; and that temperature and available air are sufficient to provide essentially complete combustion. [OAC 252:100-37-36]

EUG 3A: #2 Plat PH-6 Heater.

In the event of conflict between limits set by permit or by regulation, the more stringent limit shall apply.

#2 PLAT PH-6 HEATER (AUTHORIZED EMISSIONS IN TPY)

| CD | EU | Point ID | CO | NO _x | PM ₁₀ | SO _x | VOC |
|------|-----|--------------------------|-------|-----------------|------------------|-----------------|------|
| 1957 | 213 | #2 Plat PH-6 34.8 MMBTUH | 12.55 | 14.94 | 1.14 | 3.96 | 0.82 |

- a. The emissions of particulate matter resulting from the combustion of fuel in any new or existing fuel-burning unit shall not exceed the limits specified in OAC 252:100 Appendix C. [OAC 252:100-19-4]
- b. All fuel-burning or refuse-burning equipment shall be operated to minimize emissions of VOC. Among other things, such operation shall assure, based on manufacturer's data and good engineering practice, that the equipment is not overloaded; that it is properly cleaned, operated, and maintained; and that temperature and available air are sufficient to provide essentially complete combustion. [OAC 252:100-37-36]
- c. The above unit shall only be fired with NSPS Subpart J compliant refinery fuel gas or pipeline-grade natural gas. [40 CFR Part 60, Subpart J]

EUG 4: Coker H-3 Heater

| EU 24 | Pollutant | Authorized Emissions | |
|-----------------------------------------------|-----------------|----------------------|-------|
| | | lb/hr | TPY |
| Coker H-3 32.2 MMBTUH, constructed 1995 | SO ₂ | 0.84 | 1.38 |
| | NO _x | 3.22 | 14.10 |
| | VOC | 0.18 | 0.78 |
| | CO | 2.70 | 11.85 |
| | PM | 0.25 | 1.07 |

- a. The emissions of particulate matter resulting from the combustion of fuel in any new or existing fuel-burning unit shall not exceed the limits specified in OAC 252:100 Appendix C. [OAC 252:100-19-4]
- b. The above unit is subject to NSPS, Subpart Ja and shall comply with all applicable provisions including, but not limited to: [40 CFR Part 60, Subpart Ja]

1. § 60.102a Emission limitations;
 2. § 60.103a [Design, equipment, work practice or operational standards](#);
 3. § 60.104a Performance tests as applicable;
 4. §60.107a [Monitoring of emissions and operations for fuel gas combustion devices and flares](#) – (a)(2), (3), and (4); and
 5. § 60.108a Recordkeeping and reporting requirements.
- c. The above unit shall only be fired with Subpart Ja compliant refinery fuel gas or pipeline-grade natural gas. The heater shall be equipped with a fuel gas meter.
[40 CFR Part 60, Subpart Ja, OAC 252:100-8-6(a)(1)]
- d. All fuel-burning or refuse-burning equipment shall be operated to minimize emissions of VOC. Among other things, such operation shall assure, based on manufacturer's data and good engineering practice, that the equipment is not overloaded; that it is properly cleaned, operated, and maintained; and that temperature and available air are sufficient to provide essentially complete combustion.
[OAC 252:100-37-36]

EUG 5: Coker B-1 Heater

| CD | EU | Point ID | CO | | NO _x | | PM ₁₀ | | SO ₂ | | VOC | |
|------|-----|-------------------------|-------|-------|-----------------|-------|------------------|------|-----------------|-------|-------|------|
| | | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| 1992 | 225 | Coker B-1, 60 MMBTUH | 5.04 | 22.08 | 6.00 | 26.28 | 0.46 | 2.00 | 5.85 | 25.63 | 0.33 | 1.45 |

- a. The above unit is subject to 40 CFR Part 60 Subpart J, and shall comply with all applicable provisions including, but not limited to: [40 CFR Part 60, Subpart J]
 1. §60.100 [Applicability, designation of affected facility, and reconstruction](#).
 2. §60.101 [Definitions](#).
 3. §60.102 [Standard for particulate matter](#).
 4. §60.103 [Standard for carbon monoxide](#).
 5. §60.104 [Standards for sulfur oxides](#).
 6. §60.105 [Monitoring of emissions and operations](#).
 7. §60.106 [Test methods and procedures](#).
 8. §60.107 [Reporting and recordkeeping requirements](#).
 9. §60.108 [Performance test and compliance provisions](#).
 10. §60.109 [Delegation of authority](#).
- b. The above unit shall be fired with NSPS Subpart J compliant refinery fuel gas or pipeline grade natural gas.
- c. Sulfur oxide emissions (measured as sulfur dioxide) from any new gas-fired fuel-burning equipment shall not exceed 0.2 lbs/MMBTU heat input (86 ng/J) heat input, three hour average.
[OAC 252:100-31-25(1)]
- d. Nitrogen oxide emissions (measured as nitrogen dioxide) from any new gas-fired fuel-burning equipment shall not exceed 0.20 lbs/MMBTU (86 ng/J) heat input, three-hour average.
[OAC 252:100-33-2(a)]
- e. The emissions of particulate matter resulting from the combustion of fuel in any new or existing fuel-burning unit shall not exceed the limits specified in OAC 252:100 Appendix C.
[OAC 252:100-19-4]

- f. All fuel-burning or refuse-burning equipment shall be operated to minimize emissions of VOC. Among other things, such operation shall assure, based on manufacturer's data and good engineering practice, that the equipment is not overloaded; that it is properly cleaned, operated, and maintained; and that temperature and available air are sufficient to provide essentially complete combustion. [OAC 252:100-37-36]

EUG 6: MEK H-101 Heater, Constructed 1977 Subject to NSPS Subpart J and 40 CFR Part 63 NESHAP Subpart DDDDD

| Pollutant | Limit (Lb/MMBTU) |
|------------------|------------------|
| PM ₁₀ | 0.37 |
| SO ₂ | 0.20 |
| NO _x | 0.20 |

- a. The above unit is subject to New Source Performance Standards (NSPS), Subpart J and shall comply with all applicable provisions. [40 CFR Part 60, Subpart J]
 - 1. §60.100 Applicability, designation of affected facility, and reconstruction.
 - 2. §60.101 Definitions.
 - 3. §60.102 Standard for particulate matter.
 - 4. §60.103 Standard for carbon monoxide.
 - 5. §60.104 Standards for sulfur oxides.
 - 6. §60.105 Monitoring of emissions and operations.
 - 7. §60.106 Test methods and procedures.
 - 8. §60.107 Reporting and recordkeeping requirements.
 - 9. §60.108 Performance test and compliance provisions.
 - 10. §60.109 Delegation of authority.
- b. The above unit shall only be fired with refinery fuel gas or pipeline-grade natural gas. [OAC 252:100-8-6(a)(1)]
- c. Sulfur oxide emissions (measured as sulfur dioxide) from any new gas-fired fuel-burning equipment shall not exceed 0.20 lb/MMBTU (86 ng/J), three-hour average. [OAC 252:100-31-25(1)]
- d. Nitrogen oxide emissions (measured as nitrogen dioxide) from any new gas-fired fuel-burning equipment shall not exceed 0.20 lb/MMBTU (86 ng/J) heat input, three-hour average. [OAC 252:100-33-2(a)]
- e. The emissions of particulate matter resulting from the combustion of fuel in any new or existing fuel-burning unit shall not exceed the limits specified in OAC 252:100 Appendix C. [OAC 252:100-19-4]
- f. All fuel-burning or refuse-burning equipment shall be operated to minimize emissions of VOC. Among other things, such operation shall assure, based on manufacturer's data and good engineering practice, that the equipment is not overloaded; that it is properly cleaned, operated, and maintained; and that temperature and available air are sufficient to provide essentially complete combustion. [OAC 252:100-37-36]

EUG 7: Refinery Fugitive Emissions Subject To 40 CFR § 60.590 (Subpart GGG) LEU and Perc Filter

- a. The facility shall comply with the following applicable requirements of 40 CFR Part 60 Subpart GGG, including but not limited to:
 1. The operator shall comply with the applicable requirements referenced in Subpart VV at §§60.482-2 to 60.482-10. [§60.592(a)]
 2. The operator shall comply with the provisions of Subpart VV §60.485, except as provided in §60.593. The operator shall comply with the provisions of Subpart VV §60.487. The operator shall submit Semiannual Reports no later than 60 days after January 1st and July 1st of each year. [§60.592(d)]
 3. The operator shall comply with the provisions of Subpart VV §60.486. [§60.592(e)]

EUG 8: Refinery Fugitive Emissions Subject To 40 CFR § 63.640 (Subpart CC), Coker, CDU, MEK Unit, Truck Loading Dock, Tank Farm, Unifiner)

- a. The facility shall comply with the applicable requirements of 40 CFR Part 63 Subpart CC including, but not limited to:
 1. Per paragraph (a), the operator of an existing source subject to the provisions of this subpart shall comply with the applicable provisions of 40 CFR Part 60 Subpart VV and paragraph (b) of §648 except as provided in subparagraphs (a)(1) through (a)(3), and paragraphs (c) through (j) of §648. [§63.648]
 2. The operator shall comply with the recordkeeping provisions in paragraph (d)(1) through (d)(6) of §655. The operator shall comply with the provisions of §60.486. [§63.655(d)]
 3. The owner or operator shall keep copies of all applicable reports and records for at least 5 years except as otherwise specified. All applicable records shall be maintained in such a manner that they can be readily accessed within 24 hours. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche. [§63.655(i)]
 4. The operator shall comply with the reporting provisions in paragraph (d)(1) through (d)(6) of §655. The operator shall comply with the provisions of §60.487. The operator shall submit Periodic Reports no later than 60 days after January 1st and July 1st of each year. [§63.655(d)]

EUG 9: Refinery Fugitive Emissions Subject To OAC 252:100-39-15

- a. The refinery is subject to OAC 252:100-39-15 and shall comply with the applicable provisions,
 1. §39-15(b)(2) The operator shall maintain a Leak Detection and Repair Program (LDAR) for all components that have the potential to leak VOCs with a vapor pressure greater than or equal to 0.3 kPa (0.0435 psia) under actual storage conditions.
 2. §39-15(c) Monitoring requirements
 3. §39-15(e) Testing and calibration procedures;
 4. §39-15(f) Monitoring;
 5. §39-15(g) Monitoring log.

6. §39-15(h) Reporting.

EUG 11: Flares Subject to 40 CFR Part 60, Subparts GGG and Ja, And MACT Subpart CC

| EU | Point ID | Equipment | Date Installed |
|-----|-------------|---------------------|----------------|
| 269 | LEU Flare | Smokeless flare tip | 1976 |
| 268 | Coker Flare | Smokeless flare tip | 1970 |

- a. These flares shall comply with the applicable requirements of New Source Performance Standards A and GGG including, but not limited to:
 - 1. The flares shall be operated with a pilot flame present at all times. [§60.18(c)(2)]
 - 2. The flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. [§60.18(c)(1)]
 - 3. The flares shall be used only when the net heating value of the gas being combusted is 300 Btu/scf or greater. [§60.18(c)(3)(i)(B)(ii)]
 - 4. The operator shall monitor the flares to ensure that the flares are operated and maintained in conformance with their design. [§60.18(d)]
 - 5. Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them. [§60.18(f)]
 - 6. Steam-assisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR § 60.18(f)(4), less than 60 ft/sec, except as provided below. [§60.18(c)(4)(i)]
 - A. Steam-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in § 60.18, equal to or greater than 60 ft/sec but less than 400 ft/sec are allowed if the net heating value of the gas being combusted is greater than 1,000 Btu/scf.
 - B. Steam-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in § 60.18(f)(4), less than the velocity, Vmax, as determined by the method specified in § 60.18(f)(5), and less than 400 ft/sec are allowed.
 - 7. The flares are subject to NSPS, Subpart Ja, they shall comply with all applicable provisions of NSPS, Subpart Ja, including but not limited to: [40 CFR Part 60, Subpart Ja]
 - i. § 60.102a Emission limitations;
 - ii. § 60.103a [Design, equipment, work practice or operational standards](#);
 - iii. § 60.104a Performance tests as applicable;
 - iv. §60.107a [Monitoring of emissions and operations for fuel gas combustion devices and flares](#) – (a)(2), (3), and (4); and
 - v. § 60.108a Recordkeeping and reporting requirements.

- b. A flare gas recovery system to prevent continuous or routine combustion of process gases shall be operated on the flares.

- c. The facility shall take all reasonable measures to minimize emissions while such periodic maintenance on a flare gas recovery system is being performed. Under certain conditions, a flare gas recovery system may need to be bypassed in the event of an emergency or in order to ensure safe operation of refinery processes. Nothing in this permit precludes HFTR from temporarily bypassing a flare gas recovery system under such conditions.
- d. Flares shall comply with the applicable requirements for flares in 40 CFR Part 63, Subpart CC:
 - 1. §63.670 Requirements for flare control devices.
 - 2. §63.671 Requirements for flare monitoring systems.

EUG 11A: Platformer Flare Subject to 40 CFR Part 60, Subpart Ja, And MACT Subpart CC

| EU | Point ID | Equipment | Date Installed |
|-----|------------|-----------------------------------------|----------------|
| 269 | Plat Flare | John Zink EEF-QS-30 smokeless flare tip | 1960 |

- a. These flares shall comply with the applicable requirements of New Source Performance Standards A and GGG including, but not limited to:
 - 1. The flares shall be operated with a pilot flame present at all times. [§60.18(c)(2)]
 - 2. The flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. [§60.18(c)(1)]
 - 3. The flares shall be used only when the net heating value of the gas being combusted is 300 Btu/scf or greater. [§60.18(c)(3)(i)(B)(ii)]
 - 4. The operator shall monitor the flares to ensure that the flares are operated and maintained in conformance with their design. [§60.18(d)]
 - 5. Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them. [§60.18(f)]
 - 6. Steam-assisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR § 60.18(f)(4), less than 60 ft/sec, except as provided below. [§60.18(c)(4)(i)]
 - A. Steam-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in § 60.18, equal to or greater than 60 ft/sec but less than 400 ft/sec are allowed if the net heating value of the gas being combusted is greater than 1,000 Btu/scf.
 - B. Steam-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in § 60.18(f)(4), less than the velocity, Vmax, as determined by the method specified in § 60.18(f)(5), and less than 400 ft/sec are allowed.
 - 7. The flares are subject to NSPS, Subpart Ja, they shall comply with all applicable provisions of NSPS, Subpart Ja, including but not limited to: [40 CFR Part 60, Subpart Ja]
 - A. § 60.102a Emission limitations;
 - B. § 60.103a Design, equipment, work practice or operational standards;
 - C. § 60.104a Performance tests as applicable;
 - D. §60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares – (a)(2), (3), and (4); and

- E. § 60.108a Recordkeeping and reporting requirements.
- b. A flare gas recovery system to prevent continuous or routine combustion of process gases shall be operated on the flares.
- c. The facility shall take all reasonable measures to minimize emissions while such periodic maintenance on a flare gas recovery system is being performed. Under certain conditions, a flare gas recovery system may need to be bypassed in the event of an emergency or in order to ensure safe operation of refinery processes. Nothing in this permit precludes HFTR from temporarily bypassing a flare gas recovery system under such conditions.
- d. Flares shall comply with the applicable requirements for flares in 40 CFR Part 63, Subpart CC:
 - 1. §63.670 Requirements for flare control devices.
 - 2. §63.671 Requirements for flare monitoring systems.

EUG 12: Wastewater Processing System

| EU | Point ID | Equipment | Installed Date |
|-------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 15943 | WPU-1 | Wastewater Processing Unit and Open Sewers 1. Headworks 2. Storm water Diversion Tank 1039 3. Primary Clarifier 4. North / South DAF 5. Cooling Towers 6. Equalization Basis 7. Aeration Basin 8. North/South Secondary DAF 9. Aerobic Digester 10. East/West Firewater Basin 11. Solid Waste Recovery (Centrifuge) 12. Slop Oil Recovery 13. East/West Storm Water Basin | Various |

- a. The facility shall meet the applicable requirements of 40 CFR Part 63 Subpart CC (Petroleum Refineries) and 40 CFR Part 61 Subpart FF (Benzene Waste). For facilities with a total annual benzene (TAB) quantity from waste operations falling between 1 and 10 megagrams, compliance with the requirements of Subpart FF satisfies the requirements of Subpart CC.
- b. The refinery is subject to NESHAP, 40 CFR Part 61, Subpart FF and shall comply with all applicable requirements including, but not limited to:
 - [40 CFR Part 61, NESHAP, Subpart FF]
 - 1. § 61.342 Standards: General.
 - 2. § 61.343 Standards: Tanks.
 - 3. § 61.344 Standards: Surface Impoundments.
 - 4. § 61.345 Standards: Containers.
 - 5. § 61.346 Standards: Individual drain systems.
 - 6. § 61.347 Standards: Oil-water separators.
 - 7. § 61.348 Standards: Treatment processes.
 - 8. § 61.349 Standards: Closed-vent systems and control devices.

9. § 61.350 Standards: Delay of repair.
10. § 61.351 Alternative standards for tanks.
11. § 61.352 Alternative standards for oilwater separators.
12. § 61.353 Alternative means of emission limitation.
13. § 61.354 Monitoring of operations.
14. § 61.355 Test methods, procedures, and compliance provisions.
15. § 61.356 Recordkeeping requirements.
16. § 61.357 Reporting requirements.

EUG 14: Group 1 Process Vents Subject to 40 CFR Part 63, Subpart CC

| EU | Equipment Point ID | Control Device |
|-----------|--------------------------------------|---------------------------|
| N/A | CDU Vacuum Tower Vent * | CDU H-2 Heater or flare |
| N/A | LEU T-201 Hydrostripper Tower Vent * | LEU H-102 Heater or flare |
| N/A | Coker Enclosed Blowdown Vent * | Flare |

*when the vents discharge to the flare gas recovery system for fuel, the flare requirements do not apply.

- a. The above vents are subject to 40 CFR Part 63 Subparts A and CC and shall comply with all applicable requirements including, but not limited to:
 1. § 63.642 (e) General standards;
 2. § 63.643 (a) and (b) Miscellaneous process vent provisions;
 3. § 63.644 (a) and (c) Monitoring provisions for miscellaneous process vents; and,
 4. § 63.645 Test methods and procedures for miscellaneous process vents.
 5. [§ 63.657 Delayed coking unit decoking operation standards.](#)
 6. § 63.11 (b) Flares

EUG 15: Group 2 Process Vents Subject to 40 CFR Part 63, Subpart CC

| EU | Equipment Point ID | Control Device |
|-----------|---------------------------|-----------------------|
| N/A | MEK T-7 Vent | NA |
| N/A | LEU-T101 Vent | NA |
| N/A | LEU D-101 Vent | NA |
| N/A | MEK Flue Gas Oxygen Vent | NA |
| N/A | MEK Knockout Drum O-52 | LEU Flare |

- a. The above vents are subject to 40 CFR Part 63 Subparts A and CC CC and shall comply with all applicable requirements including, but not limited to:
 1. § 63.640 Applicability and designation of affected sources;
 2. § 63.643 (a) and (b) Miscellaneous process vent provisions;
 3. § 63.644 (a) and (c) Monitoring provisions for miscellaneous process vents; and
 4. § 63.645 Test methods and procedures for miscellaneous process vents.

**EUG 15, Group 2 Process Vents Subject to 40 CFR Part 63, Subpart CC,
EUG 16, Process Vent Subject to 40 CFR Part 63, Subpart UUU by April 11, 2005, and
EUG 17, Coker Enclosed Blowdown**

- a. The above units shall be vented to a flare which complies with MACT Subpart CC.
[40 CFR §63.657]

EUG 18: §63.640 (Subpart CC) Existing Group 1 Internal Floating Roof Storage Vessels

| Tank # | EU | Point ID | Size (bbl) |
|--------|-------|----------|------------|
| 13 | 6333 | Tk13 | 55,000 |
| 31 | 6340 | Tk31 | 35,411 |
| 153 | 6346 | Tk153 | 47,858 |
| 186 | 6348 | Tk186 | 55,000 |
| 187 | 6349 | Tk187 | 55,000 |
| 188 | 13592 | Tk188 | 55,000 |
| 242 | 6359 | Tk242 | --- |
| 244 | 6360 | Tk244 | 55,000 |
| 473 | 6387 | Tk473 | 1,500 |
| 474 | 6388 | Tk474 | 1,500 |
| 502 | 1359 | Tk502 | 7,000 |
| 742 | 6392 | Tk742 | --- |

- a. The tanks are subject to 40 CFR Part 63 Subpart CC (§63.640 *et seq.*), OAC 252:100-37-15(a) and (b) and OAC 252:100-39-41(a), (b), and (e)(1), and shall comply with all applicable requirements including but not limited to the following. Subpart CC references provisions of MACT G (SOCMI) found at 40 CFR § 63.110 *et seq.* Many of the requirements overlap, so conditions represent the most stringent version of each.
- b. Each of the above storage tanks shall be equipped with an internal floating roof.
[40 CFR § 63.119]
- c. Each tank shall comply with the internal floating roof requirements listed in 40 CFR § 63.119(b)
- d. The permittee shall comply with the compliance provisions found in 40 CFR § 63.120(a).
- e. The permittee shall follow the reporting requirements found in 40 CFR § 63.122(a) and (c).
- f. The permittee shall maintain records as required in 40 CFR § 63.123(a).

EUG 19: §63.640 (Subpart CC) Existing Group 1 External Floating Roof Storage Vessels

| Tank # | EU | Point ID | Size (bbl) |
|--------|------|----------|------------|
| 199 | 6353 | Tk199 | 72,288 |
| 307 | 6367 | Tk307 | 10,000 |
| 750 | 6396 | Tk750 | --- |
| 755 | 6399 | Tk755 | 10,000 |
| 779 | 6401 | Tk779 | --- |
| 874 | 6405 | Tk874 | 121,275 |

- a. The tanks are subject to 40 CFR Part 63 Subpart CC (§63.640 *et seq.*), OAC 252:100-37-15(a) and (b) and OAC 252:100-39-41(a), (b), and (e)(1), and shall comply with all applicable requirements including but not limited to the following. Subpart CC references provisions of MACT G (SOCMI) found at 40 CFR § 63.110 *et seq.* Many of the requirements overlap, so conditions represent the most stringent version of each.
- b. The tanks may not store VOCs that have a true vapor pressure that exceeds 11.1 psia. [§63.119(a)(1)]
- c. The accumulated areas of gaps between the vessel wall and the primary seal shall not exceed 10 square inches per foot of vessel diameter, and the width of any portion of any gap shall not exceed 1.5 inches. [§63.120(b)(3)]
- d. The accumulated area of gaps between the vessel wall and the secondary seal, as determined below, shall not exceed 1.0 square inch per foot of vessel diameter and the width of any portion of any gap shall not exceed 0.5 inches. These seal gap requirements may be exceeded during the measurement of primary seal gaps as required by § 63.120(b)(1)(i) per § 63.119(c)(1)(iii). [§63.120(b)(4)]
- e. The operator of a Group 1 storage vessel subject to 40 CFR Part 63, Subpart CC shall comply with the applicable requirements of §§63.119 through 63.121 except as provided in paragraphs (b) through (l) of §646. [§63.646]
- f. When the operator and the DEQ do not agree on whether the annual weight percent organic HAP in the stored liquid is above or below four (4) percent for a storage vessel, EPA Method 18, of 40 CFR Part 60, Appendix A shall be used to determine the HAP content. [§63.646(b)(2)]
- g. Except as provided below, the operator shall determine the gap areas and maximum gap widths between the primary seal and the wall of the storage vessel, and the secondary seal and the wall of the storage vessel according to the following frequency. [§63.120(b)(1)]
 - 1. Measurements of gaps between the vessel wall and the primary seal shall be performed at least once every five (5) years. [§63.120(b)(1)(i)]
 - 2. Measurements of gaps between the vessel wall and the secondary seal shall be performed at least once per year. [§63.120(b)(1)(iii)]
 - 3. If any storage vessel ceases to store organic HAP for a period of one (1) year or more, or if the maximum true vapor pressure of the total organic HAPs in the stored liquid falls below the value defining Group 1 storage vessels for a period of one (1) year or more, measurements of gaps between the vessel wall and the primary seal, and the gaps between the vessel wall and the secondary seal shall be performed within ninety (90) calendar days of the vessel being refilled with organic HAP. [§63.120(b)(1)(iv)]

- h. The operator shall determine gap widths and gap areas in the primary and secondary seals (seal gaps) individually by complying with applicable requirements in § 63.120 (b).
[§§63.120(b)(2)(i)-(iii)]
- i. If the operator utilizes the extension specified for this source, the operator shall document the decision. Documentation of a decision to utilize the extension shall include: a description of the failure, document that alternate storage capacity is unavailable, and specify a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied, as soon as practical. [§63.120(b)(8)]
- i. If during the inspections required, the primary seal has holes, tears or other openings in the seal or the seal fabric; or the secondary seal has holes, tears or other openings, the operator shall repair the items as necessary so that none of the conditions specified in this subcondition exist before refilling the storage vessel with organic HAP.
[§63.120(b)(10)(i)]
1. Except as below, for all the inspections required, the operator shall notify the DEQ in writing at least thirty (30) calendar days prior to the refilling of each storage vessel with organic HAP to afford the DEQ the opportunity to inspect the storage vessel prior to refilling.
[§63.120(b)(10)(ii)]
2. If the inspection required is not planned and the operator could not have known about the inspection thirty (30) calendar days in advance of refilling the vessel with organic HAP, the operator shall notify the DEQ at least seven (7) calendar days prior to refilling of a storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. Alternately, the notification including the written documentation may be made in writing and sent so that it is received by the DEQ at least seven (7) calendar days prior to refilling.
[§63.120(b)(10)(iii)]
- j. The DEQ can waive the notification requirements specified for all or some storage vessels subject to these requirements. The Department may also grant permission to refill storage vessels sooner than thirty (30) days after submitting the notifications specified or sooner than 7 days after submitting the notification required for all storage vessels at a refinery or for individual storage vessels on a case-by case basis. [§63.646(l)]
- l. The operator shall notify the DEQ in writing thirty (30) calendar days in advance of any gap measurements required to afford the DEQ the opportunity to have an observer present.
[§63.120(b)(9)]
- m. If seal gaps in exceedance are found during the inspections required or if the specification are not met, the operator shall report the following information in the Periodic Report:
[§63.122(e)(1)]
1. Date of the seal gap measurement.
 2. The raw data obtained in the seal gap measurement and the calculations described.
 3. Description of any seal condition that is not met.
 4. Description of the nature of and date the repair was made, or the date the storage vessel was emptied.
- n. The owner or operator shall visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

- o. If a failure is detected during the inspection (i.e., internal inspection), the operator shall report the following information in the Periodic Report. A failure is defined as any time in which the external floating roof has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric. [§63.122(e)(3)(ii)]
1. Date of the inspection.
 2. Identification of each storage vessel in which a failure was detected.
 3. Description of the failure.
 4. Describe the nature of and date the repair was made.
- p. The external floating roof shall be floating on the liquid surface at all times except when the floating roof must be supported by the leg supports during the following periods. [§63.119(c)(3)]
1. During the initial fill.
 2. After the vessel has been completely emptied and degassed.
 3. When the vessel is completely emptied before being subsequently refilled.
- q. When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical. [§63.119(c)(4)]
Note: The intent is to avoid having a vapor space between the floating roof and the stored liquid for extended periods. Storage vessels may be emptied for purposes such as routine storage vessel maintenance, inspections, petroleum liquid deliveries, or transfer operations. Storage vessels where liquid is left on walls, as bottom clingage, or in pools due to floor irregularity are considered completely empty.
- r. Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device meets the following criteria. [§63.119(c)(1)]
1. §63.119(c)(1)(i) Consist of two seals, one above the other.
 2. §63.119(c)(1)(ii) The primary seal shall be either a metallic shoe seal or a liquid-mounted seal.
- s. Except during inspections required, both the primary and secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion. [§63.119(c)(1)(iii)]
- t. If a cover or lid is installed on an opening on a floating roof, the cover or lid shall remain closed except when the cover or lid must be open for access. [§63.646(f)(1)]
- u. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. [§63.646(f)(3)]
- v. Rim space vents are to be set to open only when the floating roof is not floating or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting. [§63.646(f)(2)]
- w. The primary seal shall also meet the following requirements: [§63.120(b)(5)]
1. Where a metallic shoe seal is in use, one end of the metallic shoe shall extend into the stored liquid and the other end shall extend a minimum vertical distance of 24 inches above the stored liquid surface. [§63.120(b)(5)(i)]
 2. There shall be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope. [§63.120(b)(5)(ii)]

- x. The secondary seal shall also meet the following requirements: [§63.120(b)(6)]
 - 1. The secondary seal shall be installed above the primary seal so that it completely covers the space between the roof edge and the vessel wall except as allowed.
 - 2. There shall be no holes, tears, or other openings in the seal or seal fabric.
- y. The owner or operator shall keep copies of all applicable reports and records for at least 5 years. All applicable records shall be maintained in such a manner that they can be readily accessed within 24 hours. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche. [§63.642(e)]

EUG 20: §63.640 (Subpart CC) Group 2 Fixed Roof Storage Vessels. All Tanks Constructed Before 1970.

| Tank # | EU | Point ID | Current Service | Size (bbl) |
|--------|-------|----------|-----------------|------------|
| 6 | 20128 | Tk6 | Kerosene | 1,890 |
| 30 | 13559 | Tk30 | Kerosene | 30,000 |
| 41 | 1356 | Tk41 | Out of Service | --- |
| 50 | 13561 | Tk50 | Naphtha wash | 1,890 |
| 51 | 13562 | Tk51 | Out of Service | --- |
| 155 | 13563 | Tk155 | Out of Service | 54,132 |
| 181 | 20129 | Tk181 | Jet fuel | 1,000 |
| 281 | 13574 | Tk281 | Slop Oil | 7,000 |
| 283 | 13576 | Tk283 | Out of Service | --- |
| 312 | 6368 | Tk312 | Out of Service | 7,000 |
| 315 | 6370 | Tk315 | Out of Service | 7,000 |
| 401 | 6375 | Tk401 | Kerosene | 55,000 |
| 582 | 13596 | Tk582 | Slop Oil | 4,061 |
| 696 | NA | Tk696 | Slop Oil | 1,700 |
| 747 | 6393 | Tk747 | Out of Service | --- |
| 751 | 5397 | Tk751 | Out of Service | --- |

- a. The tanks shall not store liquids with a stored-liquid maximum true vapor pressure greater than or equal to 1.5 psia and stored-liquid annual average true vapor pressure greater than or equal to 1.2 psia and annual average HAP liquid concentration greater than four (4) percent by weight total organic HAP. [§63.641]
- b. When the operator and the DEQ do not agree on whether the annual average weight percent organic HAP in the stored liquid is above or below four (4) percent for a storage vessel, EPA Method 18, of 40 CFR Part 60, Appendix A, shall be used to determine the HAP content. [§63.646(b)(2)]
- c. If a storage vessel is determined to be a Group 2 because the weight percent total organic HAP of the stored liquid is less than or equal to 4 percent, a record of any data, assumptions, and procedures used to make this determination shall be retained. [§63.654(i)(iv)]

- d. The operator shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel retains Group 2 status and is in operation. [§63.123(a)]
- e. If a deliberate operational process change is made to an existing petroleum refining process unit and the change causes a Group 2 emission point to become a Group 1 emission point, as defined in §63.641, then the owner or operator shall comply with the requirements for existing sources for the Group 1 emission point upon initial start-up, unless the owner or operator demonstrates to DEQ that achieving compliance will take longer than making the change. If this demonstration is made to DEQ's satisfaction, the owner or operator shall follow the procedures in §§63.640(m)(1) through (m)(3) to establish a compliance date. [§63.640(l)(ii)]
- f. If a change that does not meet the criteria above is made to a petroleum refining process unit and the change causes a Group 2 emission point to become a Group 1 emission point (as defined in §63.641), then the owner or operator shall comply with the requirements for the Group 1 emission point as expeditiously as practicable, but in no event later than 3 years after the emission point becomes Group 1. The owner or operator shall submit a compliance schedule to the DEQ for approval, along with a justification for the schedule. [§63.640(m)(1)]
- g. The compliance schedule shall be submitted within 180 days after the change is made, unless the compliance schedule has been previously submitted to the permitting authority. If it is not possible to determine until after the change is implemented whether the emission point has become Group 1, the compliance schedule shall be submitted within 180 days of the date when the effect of the change is known to the source. The compliance schedule may be submitted in the next Periodic Report if the change is made after the date the Notification of Compliance Status report is due. [§ 63.640(m)(2)]
- h. The DEQ shall approve or deny the compliance schedule or request changes within 120 calendar days of receipt of the compliance schedule and justification. Approval is automatic if not received from the DEQ within 120 calendar days of receipt. [§63.640(m)(3)]
- i. If a performance test for determination of compliance for an emission point that has changed from Group 2 to Group 1 is conducted during the period covered by a Periodic report, the results of the performance test shall be included in the Periodic Report. [§63.655(k)]
- j. The owner or operator shall keep copies of all applicable reports and records for at least 5 years. All applicable records shall be maintained in such a manner that they can be readily accessed within 24 hours. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche. Records and reports of start-up, shutdown and malfunction are not required if they pertain solely to Group 2 emission points that are not included in an emission average. [§63.642(e) and §63.655(i)]

EUG 21: NSPS §60.110b (Subpart Kb) Internal Floating Roof Storage Vessels Storing Volatile Organic Liquids Above 0.75 psia Vapor Pressure

| Tank # | EU | Point ID | Size (bbl) |
|--------|-------|----------|------------|
| 1061 | 13594 | Tk1061 | 80,000 |
| 1070 | 20126 | Tk1070 | 5,377 |
| 1080 | NA | Tk1080 | 3,200 |
| 782 | 6402 | Tk782 | 15,000 |
| 226 | NA | Tk226 | 80,000 |
| 22A | 6337 | TK-22A | 74,500 |

- a. The tanks are subject to 40 CFR Part 60 Subpart Kb (§60.110b *et seq*) and OAC 252:100-39-41(a), (b), and (e)(1) and shall comply with the applicable requirements including but not limited to the following, except as provided in §640(n)(8)(i – vii). Conditions represent the most stringent provisions of each.
- b. The tanks may not store VOCs that have a true vapor pressure that exceeds 11.1 psia.

[§60.112b(b)]
- c. Internal floating roof standards

[§60.112b(a)(10)]

 1. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.
 2. Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
 - (A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.
 - (B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.
 - (C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.
 3. Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

4. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.
 5. Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.
 6. Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.
 7. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.
 8. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.
 9. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.
- d. Available data on the storage temperature may be used to determine the maximum true vapor pressure based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service. [§60.116b(e)(1)]
- e. For crude oil or refined petroleum products the vapor pressure may be obtained by using the available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference – see §60.17), unless the DEQ specifically requests that the liquid be sampled, the actual storage temperature determined and the Reid vapor pressure determined from the sample(s). [§60.116b(e)(2)]
- f. As specified in 40 CFR § 60.7(f), any owner or operator subject to the provisions of NSPS shall maintain a file of all measurements and all other information required by this part recorded in a permanent file suitable for inspection. This file shall be retained for at least two years following the date of such measurements, maintenance and records. [§60.116b(a)]
1. The permittee shall keep readily accessible records showing the dimensions of the storage vessels and an analysis showing the capacity of the vessels. This record shall be kept for the life of the source. [§60.116b(b)]
 2. The permittee shall maintain a record for each tank of the cumulative annual throughput, the volatile organic liquid stored, the period of storage and the maximum true vapor pressure of that VOL during the respective storage period.
 3. The permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of the air pollution control equipment on these vessels. These records shall be retained in a file for at least two years after the dates of recording. [§60.7(b)]

- g. As specified in §60.113b, the permittee shall comply with the following testing procedures requirements:
1. The permittee shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.
 2. For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.
 3. For vessels equipped with a double-seal system as specified in §60.112b(a)(1)(ii)(B):
 - A. Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or
 - B. Visually inspect the vessel as specified in paragraph (a)(2) of this section.
 4. Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.
- h. The operator shall keep a record of each inspection performed as required. Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component or the control equipment. [§ 60.115b(a)(2)]
- i. Except as provided below, for all the inspections required, the operator shall notify the DEQ in writing at least thirty (30) calendar days prior to the refilling of each storage vessel with VOL to afford the DEQ the opportunity to inspect the storage vessel prior to refilling. [§60.113b(a)(5)]

1. If the inspection required above, is not planned and the operator could not have known about the inspection thirty (30) calendar days in advance of refilling the vessel with organic HAP, the operator shall notify the DEQ at least seven (7) calendar days prior to refilling of a storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. Alternately, the notification including the written documentation may be made in writing and sent so that it is received by the DEQ at least seven (7) calendar days prior to refilling. [§60.113b(a)(5)]
- j. As specified in §60.115b, the permittee shall comply with the applicable reporting and recordkeeping requirements.
 1. Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1). This report shall be an attachment to the notification required by §60.7(a)(3).
 2. Keep a record of each inspection performed as required by §60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).
 3. After each inspection required by §60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in §60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of §61.112b(a)(1) or §60.113b(a)(3) and list each repair made.

EUG 22: NSPS §60.110b (Subpart Kb) External Floating Roof Storage Vessel Storing VOL Above 0.75 psia Vapor Pressure.

| Tank # | EU | Point ID |
|--------|-------|----------|
| 583 | 13591 | Tk583 |
| TK-279 | 6364 | TK279 |
| TK-280 | 6365 | TK280 |

- a. The tank is subject to 40 CFR Part 60 Subpart Kb (§60.110b *et seq*) and OAC 252:100-39-41(a), (b), and (e)(1), and shall comply with all applicable requirements including but not limited to the following, except as provided in §§63.640(n)(8)(i – vii). Conditions represent the most stringent provisions of each.
- b. The tank may not store VOCs that have a true vapor pressure that exceeds 11.1 psia. [§60.112b(b)]
- c. The accumulated areas of gaps between the vessel wall and the primary seal shall not exceed 10 square inches per foot of vessel diameter, and the width of any portion of any gap shall not exceed 1.5 inches. [§60.113b(b)(4)(i)]

- d. The accumulated area of gaps between the vessel wall and the secondary seal shall not exceed 1.0 square inch per foot of vessel diameter and the width of any portion of any gap shall not exceed 0.5 inches. These seal gap requirements may be exceeded during the measurement of primary seal gaps. [§60.113b(b)(4)(ii)(B)]
- e. Available data on the storage temperature may be used to determine the maximum true vapor pressure based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service. [§60.116b(e)(1)]
- f. For crude oil or refined petroleum products the vapor pressure may be obtained by using the available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference – see §60.17), unless the DEQ specifically requests that the liquid be sampled, the actual storage temperature determined and the Reid vapor pressure determined from the sample(s). [§60.116b(e)(2)]
- g. The operator shall determine the gap areas and maximum gap widths between the primary seal and the wall of the storage vessel, and the secondary seal and the wall of the storage vessel according to the following frequency. [§60.113b(b)(1)]
1. Measurements of gaps between the vessel wall and the primary seal shall be performed at least once every five (5) years. [§60.113b(b)(1)(i)]
 2. §60.113b(b)(1)(ii) Measurements of gaps between the vessel wall and the secondary seal shall be performed at least once per year. [§60.113b(b)(1)(ii)]
 3. If any storage vessel ceases to store VOL for a period of one (1) year or more, measurements of gaps between the vessel wall and the primary seal, and the gaps between the vessel wall and the secondary seal shall be performed within sixty (60) calendar days of the vessel being refilled with VOL. [§60.113b(b)(1)(iii)]
- h. The operator shall determine gap widths and gap areas in the primary and secondary seals (seal gaps) individually by the procedures described below. [§60.113b(b)(2)]
1. Seal gaps, if any, shall be measured at one or more floating roof levels when the roof is not resting on the roof leg supports. [§60.113b(b)(2)(i)]
 2. Seal gaps, if any, shall be measured around the entire circumference of the vessel in each place where a one-eighth (1/8) inch diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the storage vessel. The circumferential distance of each such location shall also be measured. [§60.113b(b)(2)(ii)]
 3. The total surface area of each gap described in subcondition (2)(B), above, shall be determined by using probes of various widths to measure accurately the actual distance from the vessel wall to the seal and multiplying each such width by its respective circumferential distance. [§60.113b(b)(2)(iii)]
- i. The operator shall add the gap surface area of each gap location for the primary seal and divide the sum by the nominal diameter of the vessel. [§60.113b(b)(3)]
- j. The operator shall add the gap surface area of each gap location for the secondary seal and divide the sum by the nominal diameter of the vessel. [§60.113b(b)(3)]
- k. The operator shall visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed. [§60.113b(b)(6)]

- l. Within 60 days of performing the seal gap measurements required, the operator shall furnish DEQ with a report that contains: [§60.115b(b)(2)]
 1. the date of the measurement;
 2. the raw data obtained in the measurement; and
 3. the calculations of seal gap areas.
- m. The owner shall keep a record of each gap measurement performed as required. Each record shall identify the storage vessel in which the measurement was performed and shall contain the data above. These records shall be maintained for a period of two years from date of recording. [§60.115b(b)(3)]
- n. As specified in 40 CFR § 60.7(f), any owner or operator subject to the provisions of NSPS shall maintain a file of all measurements and all other information required by this part recorded in a permanent file suitable for inspection. This file shall be retained for at least two years following the date of such measurements, maintenance and records. [§60.116b(a)]
- o. The permittee shall keep readily accessible records showing the dimensions of the storage vessels and an analysis showing the capacity of the vessels. This record shall be kept for the life of the source. [§60.116b(b)]
- p. The permittee shall maintain a record for the tanks of the cumulative annual throughput, the volatile organic liquid stored, the period of storage and the maximum true vapor pressure of that VOL during the respective storage period. Copies of these records shall be retained on location for at least two years after the dates of recording. [§60.116b(c)]
- q. The permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of the air pollution control equipment on these vessels. These records shall be retained in a file for at least two years after the dates of recording. [§60.7(b)]
- r. If the operator utilizes the repair extension specified, the operator shall document the decision. Documentation of a decision to utilize the extension shall include: a description of the failure, document that alternate storage capacity is unavailable, and specify a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied, as soon as practical. [§60.113b(b)(4)(iii)]
- s. Except as provided below, for all the inspections required, the operator shall notify the DEQ in writing at least thirty (30) calendar days prior to the refilling of each storage vessel with VOL to afford the DEQ the opportunity to inspect the storage vessel prior to refilling. [§60.113b(b)(6)(ii)]
- t. If the inspection required above is not planned and the operator could not have known about the inspection thirty (30) calendar days in advance of refilling the vessel with organic HAP, the operator shall notify the DEQ at least seven (7) calendar days prior to refilling of a storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. Alternately, the notification including the written documentation may be made in writing and sent so that it is received by the DEQ at least seven (7) calendar days prior to refilling. [§60.113b(b)(6)(ii)]
- u. The operator shall notify the DEQ in writing thirty (30) calendar days in advance of any gap measurements to afford the DEQ the opportunity to have an observer present. [§60.113b(b)(5)]

- v. If seal gaps in exceedance of limitations above are found during the inspections required or if the specification are not met, the operator shall report the following information to the DEQ within 30 days of the inspection. [§60.115b(b)(4)]
 - 1. Date of the seal gap measurement.
 - 2. The raw data obtained in the seal gap measurement and the calculations.
 - 3. Description of the nature of and date the repair was made, or the date the storage vessel was emptied.
- w. The external floating roof shall be floating on the liquid surface at all times except when the floating roof must be supported by the leg supports during the following periods. [§60.112b(a)(2)(iii)]
 - 1. During the initial fill.
 - 2. When the vessel is completely emptied before being subsequently refilled.
- x. When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. [§60.112b(a)(2)(iii)]
- y. Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device must meet the following criteria. [§60.112b(a)(2)(i)]
 - 1. Consist of two seals, one above the other. [§60.112b(a)(2)(i)]
 - 2. The primary seal shall be either a metallic shoe seal or a liquid-mounted seal. [§60.112b(a)(2)(i)(A)]
- z. Except as allowed, both the primary and secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion. [§60.112b(a)(2)(i)]
- aa. Automatic bleeder vents are to be closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the roof leg supports. [§60.112b(a)(2)(ii)]
- bb. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except with the device is in actual use. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening. [§60.112b(a)(2)(ii)]
- cc. Rim vents are to be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. [§60.112b(a)(2)(ii)]
- dd. The primary seal shall also meet the following requirements. Each external floating roof must meet the following specifications:
 - 1. Where a metallic shoe seal is in use, one end of the metallic shoe shall extend into the stored liquid and the other end shall extend a minimum vertical distance of 24 inches above the stored liquid surface. [§60.113b(b)(4)(i)(A)]
 - 2. There shall be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope. [§60.113b(b)(4)(i)(B)]

- ee. The secondary seal shall also meet the following requirements. [§60.113b(b)(4)(ii)]
 - 1. The secondary seal shall be installed above the primary seal so that it completely covers the space between the roof edge and the vessel wall except as provided. [§60.113b(b)(4)(ii)(A)]
 - 2. There shall be no holes, tears, or other openings in the seal or seal fabric. [§60.113b(b)(4)(ii)(C)]
- ff. If during the inspections required, the primary seal has holes, tears or other openings in the seal or the seal fabric; or the secondary seal has holes, tears or other openings, the operator shall repair the items as necessary so that none of the conditions specified in this subcondition exist before refilling the storage vessel with VOL. [§60.113b(b)(6)(i)]
- gg. The operator shall repair any conditions that do not meet the requirements above, no later than forty-five (45) calendar days after identification, or shall empty the storage vessel. If a failure is detected that cannot be repaired within forty-five (45) calendar days and if the vessel cannot be emptied within forty-five (45) calendar days, a 30-day extension may be requested from DEQ in the inspection report required. Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [§60.113b(b)(4)(iii)]

EUG 23: MACT CC Group 2 Storage Vessels Storing Volatile Organic Liquids Below 0.507 psia Vapor Pressure

| Const Date | Tank # | EU | Point ID | Size (bbl) | Current Service |
|------------|--------|-------|----------|------------|-------------------|
| 1917 | 84 | N/A | Tk84 | 1,890 | Out of Service |
| 1917 | 85 | N/A | Tk85 | 1,890 | Out of Service |
| 2012 | 189 | 6350 | Tk189 | 55,000 | Out of Service |
| 2009 | 405 | 6377 | TK405 | 72,443 | Diesel |
| 2009 | 406 | 13578 | TK406 | 71,526 | Diesel |
| 2014 | 998 | 13589 | Tk998 | 3,500 | Slop Oil |
| 1987 | 1002 | 6406 | Tk1002 | 55,000 | Lube Oil |
| 1989 | 1005 | N/A | Tk1005 | 4,800 | Out of Service |
| 1990 | 1012 | 15950 | Tk1012 | 5,000 | Furfural/ Water |
| 2012 | 1038 | N/A | Tk1038 | 120,000 | Sewer Storm water |
| 1993 | 1039 | 16561 | Tk1039 | 120,000 | Sewer Storm water |
| 2013 | 157 | 14307 | Tk157 | 75,000 | Lube Oil |
| 2015 | 156 | 13564 | Tk156 | 80,000 | Lube Oil |
| 2016 | 25A | N/A | Tk25A | 88,800 | Resid |
| 2016 | 23A | N/A | Tk23A | 11,300 | Resid |
| 2016 | 277 | N/A | Tk277 | 20,000 | Resid |

- a. These tanks are subject to only the recordkeeping requirements of MACT Subpart CC for Group 2 storage vessels, as follow. [40 CFR § 63.654(i)(1)(iv)]

- b. Readily accessible records showing the dimensions of each vessel and an analysis of the capacity of each vessel shall be maintained for the life of the vessel. [40 CFR §63.123(a)]
- ee. Data, assumptions, and procedures used in determining Group 2 status for these tanks shall be documented.

EUG 23A: NSPS Subpart UU / MACT CC Group 2 Storage Vessel - Fixed Roof (FR)

| Construction Date | Tank # | EU | Point ID | Size bbl |
|-------------------|--------|-------|----------|----------|
| 2010 | 27 | 13588 | Tk27 | 55,000 |
| 2018 | 193 | 15945 | Tk193 | 65,000 |

- a. The tank in EUG 23A is subject to 40 CFR Part 60, Subpart UU (Asphalt Processing and Asphalt Roofing Manufacture) and shall comply with all applicable standards:
 - 1. § 60.470: Applicability and designation of affected facilities
 - 2. § 60.471: Definitions
 - 3. § 60.472: Standards for particulate matter
 - 4. § 60.473: Monitoring of operations
 - 5. § 60.474: Test methods and procedures

EUG 24: NSPS §60.110a Storage Vessels Storing Petroleum Liquids Below 1.0 psia Vapor Pressure

| Construction Date | Tank # | EU | Point ID | Size bbl |
|-------------------|--------|-------|----------|----------|
| 1980 | 224 | 13569 | Tk224 | 55,000 |
| 1979 | 881 | NA | Tk881 | 2,090 |
| 1983 | 890 | NA | Tk890 | --- |
| 1982 | 992 | NA | Tk992 | 1,815 |
| 1982 | 993 | NA | Tk993 | 1,815 |

- a. Storage vessels that are of the capacity identified in §60.110a(a) and that are constructed after May 18, 1978, and before July 23, 1984, and storing petroleum liquids with true vapor pressure (TVP) less than 1.5 psia are exempt from the standards of §60.112a, from the testing and procedures of §60.113a, and from the alternative limitations of §60.114a. Further, vessels storing liquids with TVP less than 1.0 psia are exempt from the monitoring requirements of §60.115a. Thus, the only requirement for this EUG is that the operator shall not store petroleum liquids with a true vapor pressure that exceeds 1.0 psia.

EUG 25: NSPS §60.110 (Subpart K) Storage Vessels Storing Petroleum Liquids Below 1.0 psia Vapor Pressure

| Const Date | Tank # | EU | Point ID | Size (bbl) | Current Service |
|------------|--------|-------|----------|------------|-----------------|
| 1974 | 152 | 6324 | Tk152 | --- | Out of Service |
| 1973 | 158 | 13565 | Tk158 | 63,709 | Gas Oil |
| | 470 | | Tk470 | 170 | Gas Oil |
| 1978 | 472 | NA | Tk472 | 3,080 | Lube Oil |
| 1976 | 983 | NA | Tk983 | 15,000 | Lube Oil |
| 1976 | 984 | NA | Tk984 | 15,000 | Out of Service |
| 1976 | 986 | NA | Tk986 | 6,000 | Wax |
| 1976 | 987 | NA | Tk987 | 6,000 | Wax |

- a. Storage vessels that are of the capacity identified in §60.110 and that are constructed after June 11, 1973, and before May 19, 1978, and storing petroleum liquids with true vapor pressure (TVP) less than 1.5 psia are exempt from the VOC standards of §60.112. Further, vessels storing liquids with TVP less than 1.0 psia are exempt from the monitoring requirements of §60.113. Thus, the only requirement for this EUG is that the operator shall not store petroleum liquids with a true vapor pressure that exceeds 1.0 psia.

EUG 27: External Floating Roof Storage Vessels Subject to OAC 252:100-39-41. (previously listed in group 2 tanks)

| Construction Date | Tank # | EU | Point ID | Size bbl |
|-------------------|--------|------|----------|----------|
| 1957 | 314 | 6369 | Tk314 | 7,000 |

- a. The operator shall not store VOCs that have a vapor pressure of 11.1 psia or greater under actual storage conditions. [OAC 252:100-37-15(a)(1) and OAC 252:100-39-41(a)(1)]
- b. Each vessel with a capacity greater than 40,000 gal (151 m³ which stores gasoline or any VOC shall be a pressure vessel capable of maintaining working pressures that prevent the loss of VOC vapor or gas to the atmosphere or shall be equipped with one or more of the following vapor control devices. [OAC 252:100-37-15(b) and OAC 252:100-39-41(b)]
1. An external floating roof, that consists of a pontoon-type or double-deck type cover, or a fixed roof with an internal-floating cover. The cover shall rest on the surface of the liquid contents at all times (i.e., off the leg supports), except during initial fill, when the storage vessel is completely empty, or during refilling. When the cover is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. The floating roof shall be equipped with a closure seal, or seals, to close the space between the cover edge and vessel wall. Floating roofs are not appropriate control devices if the VOCs have a vapor pressure of 11.1 psia (76.6 kPa) or greater under actual conditions. All gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place. Closure seals for fixed roof vessels with an internal-floating cover shall meet the requirements of 252:100-39-30(c)(1)(B)(i)

and (ii). Closure seals for vessels with external floating roofs shall meet the requirements of 252:100-39-30(c)(1)(B)(i), (ii), and (iii).

2. A vapor-recovery system that consists of a vapor-gathering system capable of collecting 90 percent by weight or more of the uncontrolled VOCs that would otherwise be emitted to the atmosphere and a vapor-disposal system capable of processing VOCs to prevent emissions in excess of 6.68×10^{-4} lb/gal (80 mg/l) of VOCs transferred. All vessel gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

3. Other equipment or methods that are of equal efficiency for purposes of air pollution control may be used when approved by the Division Director and in concert with federal guidelines.

- c. Although OAC 252:100-39-41 and 100-37 do not specify inspection frequency or recordkeeping requirements, inspections shall be performed annually.

EUG 28: Cone Roof Tanks

All of these tanks were constructed before the applicability date of any rules and contain liquids with vapor pressure below any of the thresholds necessary to make the tanks subject to any state rules affecting “existing” tanks.

| EU | Point ID | Current Service | Capacity (bbls) |
|-------|----------|-----------------|-----------------|
| 20127 | Tk1 | Out of Service | 1,698 |
| Tk9 | Tk9 | Extract | 7,000 |
| Tk10 | Tk10 | Out of Service | 7,000 |
| Tk11 | Tk11 | Out of Service | 7,000 |
| 6334 | Tk15 | Lube Oil | 7,000 |
| 6335 | Tk16 | Lube Oil | 7,000 |
| Tk26 | Tk26 | Lube Oil | 55,000 |
| 20130 | Tk28 | Coker Chg | 38,000 |
| 6339 | Tk29 | Out of Service | 55,000 |
| Tk33 | Tk33 | Lube Oil | 55,000 |
| Tk34 | Tk34 | Out of Service | 55,000 |
| 6342 | Tk35 | Out of Service | 55,000 |
| 6343 | Tk36 | Gasoil | 55,000 |
| Tk38 | Tk38 | Gasoil | 1,890 |
| Tk45 | Tk45 | Wax | 4,200 |
| Tk46 | Tk46 | Wax | 4,200 |
| Tk52 | Tk52 | Out of Service | 1,890 |
| Tk53 | Tk53 | Wax | 1,890 |
| Tk54 | Tk54 | Out of Service | 1,890 |
| Tk62 | Tk62 | Wax | 4,200 |
| Tk65 | Tk65 | Out of Service | 1,890 |
| Tk66 | Tk66 | Out of Service | 1,890 |
| Tk68 | Tk68 | Wax | 1,890 |

| EU | Point ID | Current Service | Capacity (bbls) |
|-------|----------|-----------------|-----------------|
| Tk69 | Tk69 | Out of Service | 1,890 |
| Tk71 | Tk71 | Lube Oil | 5,680 |
| Tk72 | Tk72 | Lube Oil | 5,680 |
| Tk73 | Tk73 | Lube Oil | 5,680 |
| Tk74 | Tk74 | Lube Oil | 5,680 |
| Tk75 | Tk75 | Out of Service | 1,890 |
| Tk76 | Tk76 | Lube Oil | 1,890 |
| Tk79 | Tk79 | Out of Service | 1,890 |
| Tk80 | Tk80 | Extract | 1,890 |
| Tk81 | Tk81 | Out of Service | 1,890 |
| Tk83 | Tk83 | Extract | 1,890 |
| Tk132 | Tk132 | Extract | 1,800 |
| Tk133 | Tk133 | Extract | 1,800 |
| Tk134 | Tk134 | Extract | 7,000 |
| 6344 | Tk151 | Out of Service | 7,000 |
| 13567 | Tk194 | Lube Oil | 53,100 |
| Tk195 | Tk195 | Lube Oil | 55,000 |
| Tk196 | Tk196 | Lube Oil | 55,000 |
| 6355 | Tk215 | Out of Service | 50,914 |
| 15946 | Tk217 | Diesel | 7,000 |
| 13568 | Tk218 | Out of Service | 7,000 |
| Tk223 | Tk223 | Extract | 7,000 |
| Tk227 | Tk227 | Extract | 7,000 |
| Tk228 | Tk228 | Wax | 1,890 |
| Tk229 | Tk229 | Out of Service | 1,890 |
| Tk232 | Tk232 | Wax | 1,890 |
| Tk233 | Tk233 | Wax | 1,890 |
| Tk234 | Tk234 | Wax | 1,890 |
| Tk235 | Tk235 | Wax | 1,890 |
| Tk236 | Tk236 | Lube Oil | 1,890 |
| Tk237 | Tk237 | Wax | 1,890 |
| Tk240 | Tk240 | Out of Service | 1,500 |
| Tk252 | Tk252 | Lube Oil | 7,000 |
| Tk264 | Tk264 | Out of Service | 1,890 |
| Tk265 | Tk265 | Out of Service | 1,890 |
| Tk266 | Tk266 | Extract | 1,890 |
| Tk267 | Tk267 | Out of Service | 1,890 |
| Tk271 | Tk271 | Out of Service | 1,890 |
| 6363 | Tk272 | Out of Service | 1,890 |
| Tk273 | Tk273 | Lube Oil | 7,000 |
| Tk274 | Tk274 | Lube Oil | 7,000 |
| Tk275 | Tk275 | Lube Oil | 7,000 |
| Tk276 | Tk276 | Gasoil | 7,000 |

| EU | Point ID | Current Service | Capacity (bbls) |
|-------|----------|-----------------|-----------------|
| 6366 | Tk284 | Out of Service | 7,000 |
| Tk305 | Tk305 | Lube Oil | 7,000 |
| Tk318 | Tk318 | Lube Oil | 7,000 |
| Tk319 | Tk319 | Out of Service | 1,890 |
| Tk320 | Tk320 | Out of Service | 1,890 |
| Tk321 | Tk321 | Lube Oil | 1,890 |
| Tk322 | Tk322 | Out of Service | 1,890 |
| 6371 | Tk323 | Out of Service | 7,000 |
| Tk327 | Tk327 | Out of Service | 1,890 |
| Tk328 | Tk328 | Lube Oil | 1,890 |
| Tk329 | Tk329 | Lube Oil | 1,890 |
| Tk331 | Tk331 | Lube Oil | 7,000 |
| Tk332 | Tk332 | Lube Oil | 7,000 |
| Tk335 | Tk335 | Out of Service | 1,890 |
| Tk390 | Tk390 | Extract | 7,000 |
| Tk391 | Tk391 | Extract | 5,000 |
| Tk392 | Tk392 | Extract | 5,000 |
| Tk393 | Tk393 | Out of Service | 1,000 |
| Tk394 | Tk394 | Out of Service | 1,120 |
| Tk396 | Tk396 | Out of Service | 5,940 |
| Tk397 | Tk397 | Out of Service | 5,940 |
| 6373 | Tk398 | Out of Service | 2,600 |
| 6374 | Tk399 | Out of Service | 2,600 |
| Tk471 | Tk471 | Wax | 3,780 |
| Tk509 | Tk509 | Out of Service | 4,000 |
| 6389 | Tk510 | Out of Service | 1,890 |
| 6390 | Tk511 | Out of Service | 1,890 |
| 6391 | Tk519 | Out of Service | 4,000 |
| Tk645 | Tk645 | Extract | 1,500 |
| Tk646 | Tk646 | Lube Oil | 1,500 |
| Tk649 | Tk649 | Out of Service | 1,008 |
| Tk650 | Tk650 | Extract | 10,000 |
| Tk675 | Tk675 | Out of Service | 1,500 |
| Tk691 | Tk691 | Extract | 2,400 |
| Tk692 | Tk692 | Lube Oil | 2,400 |
| Tk693 | Tk693 | Lube Oil | 2,400 |
| Tk694 | Tk694 | Lube Oil | 2,400 |
| Tk700 | Tk700 | Lube Oil | 15,000 |
| 13585 | Tk701 | Lube Oil | 15,000 |
| 13584 | Tk702 | Wax | 7,000 |
| 6403 | Tk799 | Out of Service | 1,890 |
| Tk800 | Tk800 | Wax | 7,000 |
| 15958 | Tk801 | Lube Oil | 15,000 |

| EU | Point ID | Current Service | Capacity (bbls) |
|-------|----------|-----------------|-----------------|
| 13586 | Tk802 | Lube Oil | 15,000 |
| 15949 | Tk803 | Out of Service | 15,000 |
| Tk807 | Tk807 | Wax | 4,200 |
| Tk828 | Tk828 | Lube Oil | 30,000 |
| Tk829 | Tk829 | Lube Oil | 30,000 |
| Tk830 | Tk830 | Lube Oil | 30,000 |
| Tk831 | Tk831 | Lube Oil | 30,000 |
| Tk835 | Tk835 | Out of Service | 2,000 |
| 6404 | Tk838 | Out of Service | 2,000 |
| Tk847 | Tk847 | Wax | 2,032 |
| Tk848 | Tk848 | Wax | 2,032 |
| Tk851 | Tk851 | Out of Service | 2,088 |
| Tk852 | Tk852 | Out of Service | 4,025 |
| Tk853 | Tk853 | Out of Service | 4,025 |
| Tk854 | Tk854 | Resid | 4,025 |
| Tk855 | Tk855 | Out of Service | 4,025 |
| Tk856 | Tk856 | Resid | 4,025 |
| Tk857 | Tk857 | Out of Service | 2,011 |
| Tk861 | Tk861 | Out of Service | 1,000 |
| Tk865 | Tk865 | Out of Service | 1,890 |
| Tk867 | Tk867 | Lube Oil | 1,675 |
| 13587 | Tk870 | Furfural | 5,300 |
| Tk875 | Tk875 | Wax | 2,090 |
| Tk876 | Tk876 | Out of Service | 3,000 |
| Tk877 | Tk877 | Wax | 2,090 |
| Tk878 | Tk878 | Slop Oil | 2,090 |
| Tk879 | Tk879 | Out of Service | 2,090 |
| Tk880 | Tk880 | Slop Oil | 3,000 |
| Tk882 | Tk882 | Lube Oil | 20,000 |
| Tk883 | Tk883 | Lube Oil | 1,000 |
| Tk884 | Tk884 | Lube Oil | 1,000 |
| Tk885 | Tk885 | Lube Oil | 1,000 |
| Tk886 | Tk886 | Lube Oil | 10,492 |
| Tk887 | Tk887 | Lube Oil | 19,500 |
| Tk888 | Tk888 | Lube Oil | 10,492 |
| Tk891 | Tk891 | Out of Service | 1,000 |
| Tk893 | Tk893 | Wax | 10,500 |
| Tk898 | Tk898 | Out of Service | 2,455 |
| Tk913 | Tk913 | Lube Oil | 2,090 |
| Tk914 | Tk914 | Lube Oil | 2,090 |
| Tk916 | Tk916 | Lube Oil | 2,090 |
| Tk918 | Tk918 | Extract | 30,000 |
| Tk921 | Tk921 | Lube Oil | 2,094 |

| EU | Point ID | Current Service | Capacity (bbls) |
|--------|----------|-----------------|-----------------|
| Tk922 | Tk922 | Lube Oil | 3,058 |
| Tk923 | Tk923 | Lube Oil | 2,084 |
| Tk924 | Tk924 | Lube Oil | 4,455 |
| Tk925 | Tk925 | Lube Oil | 4,455 |
| Tk926 | Tk926 | Lube Oil | 1,313 |
| Tk927 | Tk927 | Extract | 1,313 |
| Tk928 | Tk928 | Lube Oil | 4,455 |
| Tk929 | Tk929 | Lube Oil | 4,455 |
| Tk930 | Tk930 | Lube Oil | 1,313 |
| Tk931 | Tk931 | Lube Oil | 1,313 |
| Tk932 | Tk932 | Lube Oil | 3,058 |
| Tk933 | Tk933 | Lube Oil | 1,000 |
| Tk934 | Tk934 | Out of Service | 1,000 |
| Tk935 | Tk935 | Out of Service | 1,000 |
| Tk936 | Tk936 | Out of Service | 1,000 |
| Tk937 | Tk937 | Out of Service | 1,000 |
| Tk938 | Tk938 | Out of Service | 1,000 |
| Tk939 | Tk939 | Out of Service | 1,000 |
| Tk940 | Tk940 | Out of Service | 1,000 |
| Tk941 | Tk941 | Out of Service | 1,000 |
| Tk942 | Tk942 | Out of Service | 1,000 |
| Tk943 | Tk943 | Out of Service | 1,000 |
| Tk944 | Tk944 | Out of Service | 1,000 |
| Tk955 | Tk955 | Out of Service | 1,000 |
| TkAGT1 | TkAGT1 | Slop Diesel | 2,000 |
| TkAGT2 | TkAGT2 | Slop Diesel | 1,000 |
| TkAGT3 | TkAGT3 | Slop Diesel | 1,000 |
| TkAGT4 | TkAGT4 | Slop Diesel | 2,000 |

- a. Records sufficient to demonstrate that these tanks contain liquids with vapor pressure below any applicable standard shall be maintained. Such records shall be sufficient to demonstrate that each tank remains a Group 2 tank under 40 CFR Part 63 Subpart CC.

EUG 28A: Cone Roof Tanks (2019)

| EU | Point ID | Capacity (bbls) | Liquid Stored* | Annual Throughput (bbl.) | VOC TPY |
|---------|----------|-----------------|------------------|--------------------------|---------|
| 15944 | TK-159A | 80,000 | No. 2 distillate | 200,000 | 1.22 |
| 6351 | TK-190A | 73,000 | No. 2 distillate | 3,000,000 | 1.94 |
| TK192 | TK-192A | 80,000 | No. 2 distillate | 3,000,000 | 3.92 |
| TK-1215 | TK-1215 | 10,000 | Wax | 1,000,000 | 0.47 |
| TK-317A | TK-317A | 9,400 | Lube oil | 8,760,000 | 0.53 |

*Worst-case liquid with highest vapor pressure.

- a. Records sufficient to demonstrate that these tanks contain liquids with vapor pressure below any applicable standard shall be maintained. Such records shall be sufficient to demonstrate that each tank remains a Group 2 tank under 40 CFR Part 63 Subpart CC.
- b. Records of contents, throughput, and VOC emissions shall be kept.

EUG 29: Pressurized Spheres Containing VOC with Vapor Pressure > 11.1 psia

| Tank # | EU | Point ID |
|--------|----|----------|
| Tk 585 | NA | Tk585 |
| Tk 586 | NA | Tk586 |
| Tk 587 | NA | Tk587 |
| Tk 588 | NA | Tk588 |
| Tk 589 | NA | Tk589 |
| Tk 788 | NA | Tk788 |
| Tk 789 | NA | Tk789 |
| Tk 797 | NA | Tk797 |
| Tk 798 | NA | Tk798 |
| Tk 804 | NA | Tk804 |
| Tk 805 | NA | Tk805 |
| Tk 806 | NA | Tk806 |

- a. No limits apply to these vessels. These vessels predate most federal and state rules and regulations. Since they are pressurized, they satisfy the requirements of OAC 252:100-39-41. Pressurized vessels do not meet the definition of storage vessels in MACT CC, per 40 CFR § 63.641.

EUG 30: Pressurized Bullet Tanks Containing VOC with Vapor Pressure > 11.1 psia

| Tank # | EU | Point ID |
|---------------|-----------|-----------------|
| Tk 1007 | NA | Tk1007 |
| Tk 1008 | NA | Tk1008 |
| Tk 791 | NA | Tk 791 |
| Tk 792 | NA | Tk 792 |
| Tk 793 | NA | Tk 793 |
| Tk 794 | NA | Tk 794 |
| Tk 795 | NA | Tk 795 |

- a. No limits apply to the vessels. These vessels predate most federal and state rules and regulations. Since they are pressurized, they satisfy the requirements of OAC 252:100-39-41. Pressurized vessels do not meet the definition of storage vessels in MACT CC, per 40 CFR § 63.641.

EUG 31: Underground LPG Cavern (Pseudo Pressure Vessel)

| CD | Tank # | EU | Point ID |
|-----------|---------------|-----------|-----------------|
| 1961 | Tk-900 | NA | Tk900 |

- a. No limits apply to this cavern. This “vessel” predates federal and state rules and regulations. Since it is pressurized, it satisfies the requirements of OAC 252:100-39-41. Pressurized vessels do not meet the definition of storage vessels in MACT CC, per 40 CFR § 63.641.

EUG 32: Non-gasoline Loading Racks

| EU | Equipment Point ID | Installed Date |
|-----------|----------------------------|-----------------------|
| NA | Black Oil Loading Rack | 1937 |
| NA | Extract Truck Loading Rack | 1993 |
| NA | Extract Rail Loading Rack | 1930 |
| NA | Wax Truck Loading Rack | 1979 |
| NA | Wax Rail Loading Rack | 1917 |
| NA | LOB Rail Loading Rack | 1967 |
| NA | LOB Truck Loading Rack | 1978 |
| NA | Resid Truck Loading Rack | 1962 |
| NA | Diesel Rail Loading Rack | 1986 |
| NA | Coke Truck Loading Area | 1991 |
| NA | 560 Rail Oil Loading Rack | |
| NA | Brightstock Rail Rack | |
| NA | Heavy Oil Railcar Loading | 2018 |
| NA | 702tk Truck Loading | |
| NA | Sundex Truck Loading Rack | |

| EU | Equipment Point ID | Installed Date |
|----|-----------------------------|----------------|
| NA | Sundex Railcar Loading Rack | |
| NA | PDA Bottoms Loading Rack | |

- a. No limits apply to the loading racks.

EUG 33: LPG Loading Racks

| EU | Equipment Point ID | Installed Date |
|----|------------------------|----------------|
| NA | LPG Rail Loading Rack | 1917 |
| NA | LPG Truck Loading Rack | 1956 |

- a. When loading is by means other than hatches, all loading and vapor lines shall be equipped with fittings that make vapor-tight connections and which close automatically when disconnected per OAC 252:100-39-41(c)(4).
- b. In addition to those requirements contained in OAC 252:100-39-41(c), stationary loading facilities shall be checked annually in accordance with EPA Test Method 21, Leak Test. Leaks greater than 5,000 ppmv shall be repaired within 15 days. Facilities shall retain inspection and repair records for at least two years.

EUG 34: Cooling Towers

| EU | Point ID | Equipment |
|-------|----------|-------------------------|
| 15942 | CT2 | LEU/MEK Cooling Tower |
| 15942 | CT3 | Removed from Service |
| 15942 | CT4 | LEU/MEK Cooling Tower |
| 15942 | CT6 | PDA/#5 BH Cooling Tower |
| 15942 | CT7 | Coker Cooling Tower |
| 15942 | CT8 | CDU Cooling Tower |
| 15942 | CT9 | BSU Cooling Tower |

- a. Cooling towers are subject to 40 CFR Part 63 Subpart CC, and shall comply with applicable standards for “heat exchange systems.” [40 CFR 63.654]

EUG 35: Oil/Water Separators Subject to OAC 252:100-37-37 and 39-18

| EU | Point ID | Equipment | Installed Date |
|------|-------------------|----------------------------------------|----------------|
| NA | D-40 | Separator at Lube Packaging | Before 7/1/72 |
| NA | D-41 | Separator at Lube Blending and Tankage | Before 7/1/72 |
| NA | D-42 | Separator from MEK/Lube Unit | Before 7/1/72 |
| NA | S1-51 | Separator at Belt Press (sealed) | 1985 |
| NA | Primary clarifier | Primary clarifier at WPU | |
| 6332 | Tk 532 | Separator at T&S (sealed) | Before 7/1/72 |
| 6331 | Tk 533 | Separator at T&S (sealed) | Before 7/1/72 |

- a. A single-compartment or multiple-compartment VOC/water separator that receives effluent water containing 200 gals/d (760 l/d) or more of any VOC from any equipment processing, refining, treating, storing or handling VOCs shall be equipped such that the container totally encloses the liquid contents and all openings are sealed. All gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place. The oil removal devices shall be gas-tight except when manual skimming, inspection and/or repair is in progress.

[OAC 252:100-37-37 (1) and OAC 252:100-39-18(b)(1)]

EUG 36: Spark Ignition Internal Combustion Engines Subject to 40 CFR Part 63 Subpart ZZZZ

| EU # | Equipment Point ID | HP | Equip # |
|------|--------------------------------------|-----|---------|
| 257 | #3 CT Circulation Pump | 650 | EG-5156 |
| 256 | #6 CT Circulation Pump | 615 | EG-5152 |
| 208 | Unifiner H2 Recycle Compresor Engine | 330 | C-2719 |
| 241 | PDA Propane Compressor Engine | 392 | EG-5747 |
| 254 | #2 CT Spray Pump Engine | 295 | EG-6348 |
| 255 | #2 CT Circ Pump Engine | 465 | EG-5579 |
| 258 | #6 CT Spray Pump Engine | 245 | EG-5154 |
| | Emergency | 45 | EG-6349 |
| | Emergency | 69 | EG-5879 |
| | Emergency | 175 | EG-6235 |

- a. No initial notification is necessary for these emergency engines. [§ 63.6590(b)(3)]
- b. The owner/operator shall comply with all applicable requirements of the NESHAP: Reciprocating Internal Combustion Engines, Subpart ZZZZ, for each affected facility, by October 20, 2013, including but not limited to:
4. §63.6580 What is the purpose of subpart ZZZZ?
 5. §63.6585 Am I subject to this subpart?
 6. §63.6590 What parts of my plant does this subpart cover?
 7. §63.6595 When do I have to comply with this subpart?
 8. §63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

9. §63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?
10. §63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?
11. §63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?
12. §63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?
13. §63.6605 What are my general requirements for complying with this subpart?
14. §63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?
15. §63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?
16. §63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?
17. §63.6615 When must I conduct subsequent performance tests?
18. §63.6620 What performance tests and other procedures must I use?
19. §63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?
20. §63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?
21. §63.6635 How do I monitor and collect data to demonstrate continuous compliance?
§63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?
22. §63.6645 What notifications must I submit and when?
23. §63.6650 What reports must I submit and when?
24. §63.6655 What records must I keep?
25. §63.6660 In what form and how long must I keep my records?
26. §63.6665 What parts of the General Provisions apply to me?
27. §63.6670 Who implements and enforces this subpart?
28. §63.6675 What definitions apply to this subpart?

EUG 37: CDU H-2, CDU H-3, and LEU H-102 Heaters (PTE)

| Construction Date | EU | Point ID |
|-------------------|------|-----------------|
| 1961 | 202 | CDU H-2 |
| 1961 | 203 | CDU H-3 |
| 1963 | 243N | LEU H-102 North |
| 1963 | 243S | LEU H-102 South |

- a. OAC 252:100-19-4. The emissions of particulate matter resulting from the combustion of fuel in any new or existing fuel-burning unit shall not exceed the limits specified in OAC 252:100 Appendix C.
- b. The facility shall maintain records that show compliance with OAC 252:100-19-4.

EUG 38: Compression Ignition Internal Combustion Engines Subject to 40 CFR Part 63 Subpart ZZZZ

| Engine Number | HP | USE | Fuel |
|---------------|-----|-----------|--------|
| EG 6192 | 603 | Emergency | Diesel |
| EG 6217 | 603 | Emergency | Diesel |
| EG 6218 | 603 | Emergency | Diesel |
| EG 6312 | 603 | Emergency | Diesel |
| EG 6289 | 603 | Emergency | Diesel |
| EG 6290 | 603 | Emergency | Diesel |
| EG 6472 | 170 | Emergency | Diesel |
| EG 5886 | 363 | Emergency | Diesel |
| EG 6031 | 340 | Emergency | Diesel |
| EG 6522 | 330 | Emergency | Diesel |

- a. No initial notification is necessary for these emergency engines. [§ 63.6590(b)(3)]
- b. The owner/operator shall comply with all applicable requirements of the NESHAP: Reciprocating Internal Combustion Engines, Subpart ZZZZ, for each affected facility, by May 3, 2013, including but not limited to:
 - 1. §63.6580 What is the purpose of subpart ZZZZ?
 - 2. §63.6585 Am I subject to this subpart?
 - 3. §63.6590 What parts of my plant does this subpart cover?
 - 4. §63.6595 When do I have to comply with this subpart?
 - 5. §63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?
 - 6. §63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

7. §63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?
8. §63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?
9. §63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?
10. §63.6605 What are my general requirements for complying with this subpart?
11. §63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?
12. §63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?
13. §63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?
14. §63.6615 When must I conduct subsequent performance tests?
15. §63.6620 What performance tests and other procedures must I use?
16. §63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?
17. §63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?
18. §63.6635 How do I monitor and collect data to demonstrate continuous compliance?
 §63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?
19. §63.6645 What notifications must I submit and when?
20. §63.6650 What reports must I submit and when?
21. §63.6655 What records must I keep?
22. §63.6660 In what form and how long must I keep my records?
23. §63.6665 What parts of the General Provisions apply to me?
24. §63.6670 Who implements and enforces this subpart?
25. §63.6675 What definitions apply to this subpart?

EUG 38A: Compression Ignition Internal Combustion Engines Subject to 40 CFR Part 60 Subpart III

| Engine Number | HP | USE | Fuel |
|----------------------|-----------|-----------------------|-------------|
| RE-1 | 140 | Water Processing Unit | Diesel |
| RE-2 | 140 | Water Processing Unit | Diesel |
| RE-3 | 154 | Water Processing Unit | Diesel |
| RE-3 | 154 | Water Processing Unit | Diesel |

| EU | CO | | NO _x | | PM ₁₀ | | SO ₂ | | VOC | |
|------|-------|------|-----------------|------|------------------|------|-----------------|------|-------|------|
| | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| RE-1 | 0.94 | 4.10 | 0.93 | 4.06 | 0.07 | 0.30 | 0.29 | 1.26 | 0.35 | 1.52 |
| RE-2 | 0.94 | 4.10 | 0.93 | 4.06 | 0.07 | 0.30 | 0.29 | 1.26 | 0.35 | 1.52 |
| RE-3 | 1.03 | 4.51 | 1.02 | 4.46 | 0.07 | 0.33 | 0.32 | 1.48 | 0.38 | 1.67 |
| RE-4 | 1.03 | 4.51 | 1.02 | 4.46 | 0.07 | 0.33 | 0.32 | 1.48 | 0.38 | 1.67 |

a. The above engines are subject to 40 CFR Part 60, Subpart IIII, and shall comply with all applicable requirements: [40 CFR §§ 60.4200 – 4219]

1. § 60.4200: Am I subject to this subpart?
2. § 60.4201: What emissions standards must I meet for non-emergency engines if I am a stationary CI engine manufacturer?
3. § 60.4202: What emissions standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?
4. § 60.4203: How long must my engines meet the emissions standards if I am a stationary CI internal combustion engine manufacturer?
5. § 60.4204: What emissions standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?
6. § 60.4205: What emissions standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?
7. § 60.4206: How long must my engines meet the emissions standards if I am an owner or operator of a stationary CI internal combustion engine?
8. § 60.4207: What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?
9. § 60.4208: What is the deadline for importing or installing stationary CI ICE produced in the previous model year?
10. § 60.4209: What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?
11. § 60.4210: What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?
12. § 60.4211: What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?
13. § 60.4212: What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?
14. § 60.4213: What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?
15. § 60.4214: What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?
16. § 60.4215: What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?
17. § 60.4216: What requirements must I meet for engines used in Alaska?

- 18. § 60.4217: What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?
- 19. § 60.4218: What parts of the General Provisions apply to me?

EUG 39: Cone Roof Tanks MACT CC Group 1 Storage Vessels

| EU | Point ID | Current Service | Capacity (bbls) | Construction Date |
|--------|----------|-----------------|-----------------|-------------------|
| TKD-14 | 162212 | MEK / Toluene | 2,715 | Before 1964 |
| TKD-15 | | Mixed Solvent | 2,715 | Before 1964 |

- a. Upon the next emptying and degassing of each of the above tanks, not to exceed January 30, 2026, emissions controls as required by MACT CC shall be implemented.

[40 CFR Part § 63.660]

INSIGNIFICANT ACTIVITIES

1. Space heaters, boilers, process heaters, and emergency flares less than or equal to 5 MMBTU/hr heat input (commercial natural gas).
 - a. A list shall be maintained on-site.
2. Cold degreasing operations utilize solvents that are denser than air, have a low vapor pressure and produce negligible emissions.
 - a. For each designated piece of equipment the facility shall maintain on file a record, such as an MSDS, showing the name of the solvent used and a record of the solvent density.
3. Non-commercial water washing operations (less than 2,250 barrels/year) and drum crushing operations of empty barrels less than or equal to 55 gallons with less than three percent by volume of residual material.
 - a. The facility shall maintain a record of the annual total number of barrels washed.
 - b. The facility shall develop and implement a standard operating procedure to ensure the residual material in drums < 55 gallons is less than 3 percent by volume of residual material.
4. Hazardous waste and hazardous materials drum staging areas.
5. Hydrocarbon contaminated soil aeration pads utilized for soils excavated at the facility only.
6. Exhaust systems for chemical, paint, and/or solvent storage rooms or cabinets, including hazardous waste satellite (accumulation) areas.
7. Hand wiping and spraying of solvents from containers with less than 1 liter capacity used for spot cleaning and/or degreasing in ozone attainment areas

8. Additions or upgrades of instrumentation or control systems that result in emissions increases less than the pollutant quantities specified in 252:100-8-3(e)(1).
9. Emissions from fuel storage/dispensing equipment operated solely for facility owned vehicles if fuel throughput is not more than 2,175 gallons/day, averaged over a 30-day period.
 - a. Maintain a record of the monthly facility owned vehicle dispensed fuel amount.
10. Emissions from the operation of groundwater remediation wells including but not limited to emissions from venting, pumping, and collecting activities subject to limits for HAPS (§112(b) of CAAA90).
 - a. A list of all equipment shall be maintained on-site.
11. Emissions from storage tanks constructed with a capacity less than 39,894 gallons which store VOC with a vapor pressure less than 1.5 psia at maximum storage temperature.
 - a. The facility shall maintain a record on-site.

SPECIFIC CONDITION 3. The Permit Shield is identified in the Standard Conditions, Section VI. Permittee waives the extensive listing required by VI(B). [OAC 252:100-8-6(d)(2)]

SPECIFIC CONDITION 4. The drain rate of the LERU Caustic Scrubber system to the sewer shall not exceed 14 barrels per day and shall not exceed 75 gallons in any two-hour period. The facility complies with this requirement using equipment designed to limit draining. [Consent Order 98-294]

SPECIFIC CONDITION 5. The owner/operator shall comply with all applicable requirements of the NESHAP: Industrial, Commercial, and Institutional Boilers and Process Heaters, Subpart DDDDD, no later than the date specified in the finalized subpart. [40 CFR Part 63 §§63.7480 to 63.7575]

- a. §63.7480 What is the purpose of this subpart?
- b. §63.7485 Am I subject to this subpart?
- c. §63.7490 What is the affected source of this subpart?
- d. §63.7491 Are any boilers or process heaters not subject to this subpart?
- e. §63.7495 When do I have to comply with this subpart?
- f. §63.7499 What are the subcategories of boilers and process heaters?
- g. §63.7500 What emission limitations, work practice standards, and operating limits must I meet?
- h. §63.7501 [Reserved]
- i. §63.7505 What are my general requirements for complying with this subpart?
- j. §63.7510 What are my initial compliance requirements and by what date must I conduct them?

- k. §63.7515 When must I conduct subsequent performance tests, fuel analyses, or tune-ups?
- l. §63.7520 What stack tests and procedures must I use?
- m. §63.7521 What fuel analyses, fuel specification, and procedures must I use?
- n. §63.7522 Can I use emissions averaging to comply with this subpart?
- o. §63.7525 What are my monitoring, installation, operation, and maintenance requirements?
- p. §63.7530 How do I demonstrate initial compliance with the emission limitations, fuel specifications and work practice standards?
- q. §63.7533 Can I use efficiency credits earned from implementation of energy conservation measures to comply with this subpart?
- r. §63.7535 Is there a minimum amount of monitoring data I must obtain?
- s. §63.7540 How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards?
- t. §63.7541 How do I demonstrate continuous compliance under the emissions averaging provision?
- u. §63.7545 What notifications must I submit and when?
- v. §63.7550 What reports must I submit and when?
- w. §63.7555 What records must I keep?
- x. §63.7560 In what form and how long must I keep my records?
- y. §63.7565 What parts of the General Provisions apply to me?
- z. §63.7570 Who implements and enforces this subpart?
- aa. §63.7575 What definitions apply to this subpart?

SPECIFIC CONDITION 6. No later than 30 days after each anniversary date of December 31, the permittee shall submit to Air Quality Division of DEQ, with a copy to the US EPA, Region 6, certification of compliance with the terms and conditions of this permit.

[OAC 252:100-8-6(c)(5)(A), (C) & (D)]

SPECIFIC CONDITION 7. The refinery fuel gas shall be treated and monitored to the sulfur specifications of NSPS Subpart J. [Permit No. 2010-599-C (M-2) and 40 CFR § 60.104(a)(1)]

SPECIFIC CONDITION 8. Upon issuance of this permit, Permit No. 2018-0594-TVR2 (M-3) will be cancelled. [OAC 252:100-8-6]

**MAJOR SOURCE AIR QUALITY PERMIT
STANDARD CONDITIONS
(June 21, 2016)**

SECTION I. DUTY TO COMPLY

A. This is a permit to operate / construct this specific facility in accordance with the federal Clean Air Act (42 U.S.C. 7401, et al.) and under the authority of the Oklahoma Clean Air Act and the rules promulgated there under. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

B. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ). The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed.

[40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

D. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. [OAC 252:100-8-6(a)(7)(B)]

SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS

A. Any exceedance resulting from an emergency and/or posing an imminent and substantial danger to public health, safety, or the environment shall be reported in accordance with Section XIV (Emergencies). [OAC 252:100-8-6(a)(3)(C)(iii)(I) & (II)]

B. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements. [OAC 252:100-8-6(a)(3)(C)(iv)]

C. Every written report submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F. [OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

[OAC 252:100-8-6 (a)(3)(B)(ii), OAC 252:100-8-6(c)(1), and OAC 252:100-8-6(c)(2)(B)]

B. Records of required monitoring shall include:

- (1) the date, place and time of sampling or measurement;
- (2) the date or dates analyses were performed;
- (3) the company or entity which performed the analyses;
- (4) the analytical techniques or methods used;
- (5) the results of such analyses; and
- (6) the operating conditions existing at the time of sampling or measurement.

[OAC 252:100-8-6(a)(3)(B)(i)]

C. No later than 30 days after each six (6) month period, after the date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to AQD a report of the results of any required monitoring. All instances of deviations from permit requirements since the previous report shall be clearly identified in the report. Submission of these periodic reports will satisfy any reporting requirement of Paragraph E below that is duplicative of the periodic reports, if so noted on the submitted report.

[OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions.

[OAC 252:100-8-6(a)(3)(C)(iii)]

E. In addition to any monitoring, recordkeeping or reporting requirement specified in this permit, monitoring and reporting may be required under the provisions of OAC 252:100-43, Testing, Monitoring, and Recordkeeping, or as required by any provision of the Federal Clean Air Act or Oklahoma Clean Air Act.

[OAC 252:100-43]

F. Any Annual Certification of Compliance, Semi Annual Monitoring and Deviation Report, Excess Emission Report, and Annual Emission Inventory submitted in accordance with this permit shall be certified by a responsible official. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f), OAC 252:100-8-6(a)(3)(C)(iv), OAC 252:100-8-6(c)(1), OAC 252:100-9-7(e), and OAC 252:100-5-2.1(f)]

G. Any owner or operator subject to the provisions of New Source Performance Standards (“NSPS”) under 40 CFR Part 60 or National Emission Standards for Hazardous Air Pollutants (“NESHAPs”) under 40 CFR Parts 61 and 63 shall maintain a file of all measurements and other information required by the applicable general provisions and subpart(s). These records shall be maintained in a permanent file suitable for inspection, shall be retained for a period of at least five years as required by Paragraph A of this Section, and shall include records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 C.F.R. §§60.7 and 63.10, 40 CFR Parts 61, Subpart A, and OAC 252:100, Appendix Q]

H. The permittee of a facility that is operating subject to a schedule of compliance shall submit to the DEQ a progress report at least semi-annually. The progress reports shall contain dates for achieving the activities, milestones or compliance required in the schedule of compliance and the dates when such activities, milestones or compliance was achieved. The progress reports shall also contain an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. [OAC 252:100-8-6(c)(4)]

I. All testing must be conducted under the direction of qualified personnel by methods approved by the Division Director. All tests shall be made and the results calculated in accordance with standard test procedures. The use of alternative test procedures must be approved by EPA. When a portable analyzer is used to measure emissions it shall be setup, calibrated, and operated in accordance with the manufacturer’s instructions and in accordance with a protocol meeting the requirements of the “AQD Portable Analyzer Guidance” document or an equivalent method approved by Air Quality.

[OAC 252:100-8-6(a)(3)(A)(iv), and OAC 252:100-43]

J. The reporting of total particulate matter emissions as required in Part 7 of OAC 252:100-8 (Permits for Part 70 Sources), OAC 252:100-19 (Control of Emission of Particulate Matter), and OAC 252:100-5 (Emission Inventory), shall be conducted in accordance with applicable testing or calculation procedures, modified to include back-half condensables, for the concentration of particulate matter less than 10 microns in diameter (PM₁₀). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

K. The permittee shall submit to the AQD a copy of all reports submitted to the EPA as required by 40 C.F.R. Part 60, 61, and 63, for all equipment constructed or operated under this permit subject to such standards. [OAC 252:100-8-6(c)(1) and OAC 252:100, Appendix Q]

SECTION IV. COMPLIANCE CERTIFICATIONS

A. No later than 30 days after each anniversary date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to the AQD, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit and of any other applicable requirements which have become effective since the issuance of this permit.

[OAC 252:100-8-6(c)(5)(A), and (D)]

B. The compliance certification shall describe the operating permit term or condition that is the basis of the certification; the current compliance status; whether compliance was continuous or intermittent; the methods used for determining compliance, currently and over the reporting period. The compliance certification shall also include such other facts as the permitting authority may require to determine the compliance status of the source.

[OAC 252:100-8-6(c)(5)(C)(i)-(v)]

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

D. Any facility reporting noncompliance shall submit a schedule of compliance for emissions units or stationary sources that are not in compliance with all applicable requirements. This schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the emissions unit or stationary source is in noncompliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the emissions unit or stationary source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based, except that a compliance plan shall not be required for any noncompliance condition which is corrected within 24 hours of discovery.

[OAC 252:100-8-5(e)(8)(B) and OAC 252:100-8-6(c)(3)]

SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification.

[OAC 252:100-8-6(c)(6)]

SECTION VI. PERMIT SHIELD

A. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC 252:100-8) shall be deemed compliance with the applicable requirements identified and included in this permit. [OAC 252:100-8-6(d)(1)]

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit. [OAC 252:100-8-6(d)(2)]

SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.

[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

SECTION VIII. TERM OF PERMIT

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance. [OAC 252:100-8-6(a)(2)(A)]

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration. [OAC 252:100-8-7.1(d)(1)]

C. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-8-1.4(b)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-8-1.4(a)]

D. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation. [OAC 252:100-8-4(b)(5)]

SECTION IX. SEVERABILITY

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

[OAC 252:100-8-6 (a)(6)]

SECTION X. PROPERTY RIGHTS

- A. This permit does not convey any property rights of any sort, or any exclusive privilege.
[OAC 252:100-8-6(a)(7)(D)]
- B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued.
[OAC 252:100-8-6(c)(6)]

SECTION XI. DUTY TO PROVIDE INFORMATION

- A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing, terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.
[OAC 252:100-8-6(a)(7)(E)]
- B. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 27A O.S. § 2-5-105(18). Confidential information shall be clearly labeled as such and shall be separable from the main body of the document such as in an attachment.
[OAC 252:100-8-6(a)(7)(E)]
- C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer.
[Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

SECTION XII. REOPENING, MODIFICATION & REVOCATION

- A. The permit may be modified, revoked, reopened and reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition.
[OAC 252:100-8-6(a)(7)(C) and OAC 252:100-8-7.2(b)]
- B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances: [OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]
- (1) Additional requirements under the Clean Air Act become applicable to a major source category three or more years prior to the expiration date of this permit. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.
 - (2) The DEQ or the EPA determines that this permit contains a material mistake or that the permit must be revised or revoked to assure compliance with the applicable requirements.

- (3) The DEQ or the EPA determines that inaccurate information was used in establishing the emission standards, limitations, or other conditions of this permit. The DEQ may revoke and not reissue this permit if it determines that the permittee has submitted false or misleading information to the DEQ.
- (4) DEQ determines that the permit should be amended under the discretionary reopening provisions of OAC 252:100-8-7.3(b).

C. The permit may be reopened for cause by EPA, pursuant to the provisions of OAC 100-8-7.3(d). [OAC 100-8-7.3(d)]

D. The permittee shall notify AQD before making changes other than those described in Section XVIII (Operational Flexibility), those qualifying for administrative permit amendments, or those defined as an Insignificant Activity (Section XVI) or Trivial Activity (Section XVII). The notification should include any changes which may alter the status of a “grandfathered source,” as defined under AQD rules. Such changes may require a permit modification.

[OAC 252:100-8-7.2(b) and OAC 252:100-5-1.1]

E. Activities that will result in air emissions that exceed the trivial/insignificant levels and that are not specifically approved by this permit are prohibited. [OAC 252:100-8-6(c)(6)]

SECTION XIII. INSPECTION & ENTRY

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(17) for confidential information submitted to or obtained by the DEQ under this section):

- (1) enter upon the permittee's premises during reasonable/normal working hours where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- (2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- (3) inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- (4) as authorized by the Oklahoma Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit.

[OAC 252:100-8-6(c)(2)]

SECTION XIV. EMERGENCIES

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.

[OAC 252:100-8-6 (a)(3)(C)(iii)(I) and (IV)]

B. Any exceedance that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to AQD as soon as is practicable; but under no circumstance shall notification be more than 24 hours after the exceedance. [OAC 252:100-8-6(a)(3)(C)(iii)(II)]

C. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. [OAC 252:100-8-2]

D. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that: [OAC 252:100-8-6 (e)(2)]

- (1) an emergency occurred and the permittee can identify the cause or causes of the emergency;
- (2) the permitted facility was at the time being properly operated;
- (3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

E. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [OAC 252:100-8-6(e)(3)]

F. Every written report or document submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.

[OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION XV. RISK MANAGEMENT PLAN

The permittee, if subject to the provision of Section 112(r) of the Clean Air Act, shall develop and register with the appropriate agency a risk management plan by June 20, 1999, or the applicable effective date. [OAC 252:100-8-6(a)(4)]

SECTION XVI. INSIGNIFICANT ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate individual emissions units that are either on the list in Appendix I to OAC Title 252, Chapter 100, or whose actual calendar year emissions do not exceed any of the limits below. Any activity to which a State or Federal applicable requirement applies is not insignificant even if it meets the criteria below or is included on the insignificant activities list.

- (1) 5 tons per year of any one criteria pollutant.
- (2) 2 tons per year for any one hazardous air pollutant (HAP) or 5 tons per year for an aggregate of two or more HAP's, or 20 percent of any threshold less than 10 tons per year for single HAP that the EPA may establish by rule.

[OAC 252:100-8-2 and OAC 252:100, Appendix I]

SECTION XVII. TRIVIAL ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate any individual or combination of air emissions units that are considered inconsequential and are on the list in Appendix J. Any activity to which a State or Federal applicable requirement applies is not trivial even if included on the trivial activities list.

[OAC 252:100-8-2 and OAC 252:100, Appendix J]

SECTION XVIII. OPERATIONAL FLEXIBILITY

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating.

[OAC 252:100-8-6(a)(10) and (f)(1)]

B. The permittee may make changes within the facility that:

- (1) result in no net emissions increases,
- (2) are not modifications under any provision of Title I of the federal Clean Air Act, and
- (3) do not cause any hourly or annual permitted emission rate of any existing emissions unit to be exceeded;

provided that the facility provides the EPA and the DEQ with written notification as required below in advance of the proposed changes, which shall be a minimum of seven (7) days, or twenty four (24) hours for emergencies as defined in OAC 252:100-8-6 (e). The permittee, the DEQ, and the EPA shall attach each such notice to their copy of the permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield provided by this permit does not apply to any change made pursuant to this paragraph. [OAC 252:100-8-6(f)(2)]

SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS

A. The following applicable requirements and state-only requirements apply to the facility unless elsewhere covered by a more restrictive requirement:

- (1) Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning Subchapter.

[OAC 252:100-13]

- (2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU. [OAC 252:100-19]
- (3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for:
[OAC 252:100-25]
- (a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
- (b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
- (c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or
- (d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.
- (4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]
- (5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]
- (6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system. [OAC 252:100-37-15(b)]
- (7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

SECTION XX. STRATOSPHERIC OZONE PROTECTION

A. The permittee shall comply with the following standards for production and consumption of ozone-depleting substances: [40 CFR 82, Subpart A]

- (1) Persons producing, importing, or placing an order for production or importation of certain class I and class II substances, HCFC-22, or HCFC-141b shall be subject to the requirements of §82.4;
- (2) Producers, importers, exporters, purchasers, and persons who transform or destroy certain class I and class II substances, HCFC-22, or HCFC-141b are subject to the recordkeeping requirements at §82.13; and

- (3) Class I substances (listed at Appendix A to Subpart A) include certain CFCs, Halons, HBFCs, carbon tetrachloride, trichloroethane (methyl chloroform), and bromomethane (Methyl Bromide). Class II substances (listed at Appendix B to Subpart A) include HCFCs.

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant. [40 CFR 82, Subpart B]

C. The permittee shall comply with the following standards for recycling and emissions reduction except as provided for MVACs in Subpart B: [40 CFR 82, Subpart F]

- (1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;
- (2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158;
- (3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161;
- (4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;
- (5) Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.158; and
- (6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

SECTION XXI. TITLE V APPROVAL LANGUAGE

A. DEQ wishes to reduce the time and work associated with permit review and, wherever it is not inconsistent with Federal requirements, to provide for incorporation of requirements established through construction permitting into the Source’s Title V permit without causing redundant review. Requirements from construction permits may be incorporated into the Title V permit through the administrative amendment process set forth in OAC 252:100-8-7.2(a) only if the following procedures are followed:

- (1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA

objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.

- (2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).
- (3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).
- (4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R. § 70.8(a) and (c).
- (5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.
- (6) The DEQ complies with 40 C.F.R. § 70.8(d).
- (7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).
- (8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.
- (9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).
- (10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

B. To the extent that these conditions are not followed, the Title V permit must go through the Title V review process.

SECTION XXII. CREDIBLE EVIDENCE

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any provision of the Oklahoma implementation plan, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. [OAC 252:100-43-6]



PART 70 PERMIT

AIR QUALITY DIVISION
STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
707 N. ROBINSON, SUITE 4100
P.O. BOX 1677
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit No. 2018-0594-TVR2 (M-4)

HollyFrontier Tulsa Refining – Tulsa LLC,

having complied with the requirements of the law, is hereby granted permission to operate the Tulsa Refinery West, at 1700 S. Union, Tulsa, Tulsa County, Oklahoma, subject to the following Standard Conditions dated June 21, 2016, and Specific Conditions, both attached.

This permit shall expire on March 18, 2024, except as authorized under Section VIII of the Standard Conditions.

Division Director
Air Quality Division

Date

Jennifer Sanchez, Environmental Manager
HollyFrontier Tulsa Refining – Tulsa LLC
1700 S. Union
Tulsa, OK 74107

Re: Permit No. 2018-0594-TVR2 (M-4)
Tulsa Refinery West (FAC ID 1477)

Dear Ms. Sanchez:

Enclosed is the modified permit authorizing operating of the referenced facility. Please note that this permit is issued subject to the standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted (hardcopy or electronically) by April 1st of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at (405) 702-4100.

Thank you for your cooperation in this matter. If we may be of further service, please contact me at david.schutz@deq.ok.gov or (405) 702-4198.

Sincerely,

David S. Schutz, P.E.
New Source Permits Section
Air Quality Division