PERMIT-TO-INSTALL APPLICATION
OHIO RIVER CLEAN FUELS FACILITY
VILLAGE OF WELLSVILLE, COLUMBIANA AND JEFFERSON COUNTIES, OHIO

SUBMITTED TO:

OHIO ENVIRONMENTAL PROTECTION AGENCY

SUBMITTED BY:

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CEC PROJECT 061-933.0002

December 18, 2007

MODULE 7

1.0 PROCESS DESCRIPTION

Liquids produced in Module 6 – Fischer-Tropsch and Product Upgrade will be stored in above-ground storage tanks or pressure vessels prior to being shipped offsite. The tank farm will have the capacity to store approximately 15 days of production (about 32 million gallons). Figure 17 is a block flow diagram of this process (see Attachment 7A).

The tank farm will include twelve (three-million gallon) aboveground storage tanks. Eight fixed-roof tanks (24 million gallon total capacity) will be used to store middle distillates (low vapor pressure fuels: F-T diesel and products with similar characteristics such as F-T jet). Three internal floating-roof tanks will be used to store F-T naphtha and one internal floating-roof tank will be used to store off-specification product. The total internal floating-roof capacity will be 12 million gallons. While the off-specification product tank may contain a mixture of F-T naphtha with lower vapor pressure products like F-T diesel or F-T jet, as a worst-case approximation, this application assumes all four internal floating-roof tanks will contain F-T naphtha.

Liquefied petroleum gas (LPG) will also be stored at the tank farm. Ten nominal 30,000-gallon ASME Section 8, Division 1 pressure vessels (LPG bullets) are proposed.

Depending on market conditions, the quantity of each product manufactured will vary. For permitting purposes, two production scenarios have been evaluated: 100% production of F-T diesel and a 50/50 split between F-T diesel and F-T naphtha. Synthetic manufacture of these liquid products results in materials that have non-detectable levels of aromatic hydrocarbons such as benzene and xylene that are typically found in crude-based products. Consequently, F-T fuels are considered to be biodegradable.

2.0 AIR EMISSIONS INVENTORY

Volatile Organic Compounds (VOC) will be the only air emissions associated with the tank farm. VOC emissions from storage tanks are a result of a variety of losses. These losses vary depending on the type of container, stored media, and climate change, and are discussed below for each tank type.

Emission estimates have been developed using the TANKS Version 4.0.9d model provided by U.S. EPA. Model outputs are provided in Attachment 7B.

2.1 Fixed-Roof Tanks

The two significant types of emissions from fixed-roof tanks are working and breathing losses. Working losses reflect the displacement of the product-saturated air from the headspace above the stored liquid caused by changes in tank volume. Breathing losses reflect the loss of saturated air caused by diurnal expansion and contraction of the tank caused by heating and cooling.

Modeling for F-T diesel storage was performed according to the turnover assumptions shown below:

Case A: $$\frac{\text{50,000 bpd production (766.5 MMgal/yr)}}{\text{24 MMgal capacity}} = \text{32 turnovers per tank per year}$$

Case B: $$\frac{\text{25,000 bpd production (383.25 MMgal/yr)}}{\text{24 MMgal capacity}} = \text{16 turnovers per tank per year}$$

A single 3-million gallon fixed-roof storage tank was modeled. The results were scaled up to account for the proposed eight 3-million gallon F-T diesel storage tanks. Estimated annual VOC emissions from working and breathing losses from the eight F-T diesel storage tanks are summarized in Table 2.1.

Table 2.1 Summary of Fixed-Roof VOC Emissions

	Working Losses		Breathing Losses		Total Losses	
Case	Lbs	tons	lbs	tons	lbs	tons
A	10,621	5.3	2,264	1.1	12,885	6.4
B	5,311	2.7	2,264	1.1	7,575	3.8

Maximum potential emissions from the eight F-T diesel tanks are represented by Case A (6.4 tpy). As discussed in Section 2.4, actual emissions will be less, but will depend on the production mix, which may vary depending on market demand. Actual emissions from the F-T

diesel tanks are assumed to equal the Case B production scenario. Requested allowables are equal to the maximum potential as represented by Case A (0.8 tpy VOC per tank).

2.2 Internal Floating-Roof Tanks

Total emissions from floating-roof tanks are the sum of rim seal loss, withdrawal (working) loss, deck fitting loss, and deck seam loss. VOC losses from internal floating-roof tanks are affected by the type of fittings, seals, and other design details. For purposes of this emissions inventory, design details have been selected for the TANKS model runs that are consistent with applicable regulatory requirements (i.e., 40 CFR 60, Subpart Kb and 40 CFR 63, Subpart WW as discussed in Section 3.2). Specifically, the best available control technology (BACT) analysis presented in Section 4 specifies liquid-mounted primary seals with secondary rim-mounted seals. The design also includes gasketed deck fittings and welded deck seams. Additional details can be found in the TANKS model output provided in Attachment 7B.

Modeling for F-T naphtha was performed according to the Case B scenario where 50% of production is F-T diesel and 50% is F-T naphtha. The number of tank turnovers would be:

$$\frac{25{,}000\ \text{bpd production}\ (383.25\ \text{MMgal/yr})}{12\ \text{MMgal capacity}} = 32\ \text{turnovers per tank per year}$$

A single three-million gallon internal floating-roof storage tank was modeled. The modeled results were scaled up to account for the proposed three, three-million gallon F-T naphtha storage tanks and the one, three-million gallon off-spec tank (assumed to be F-T naphtha to represent worst-case emissions). Estimated annual VOC emissions from the four internal floating-roof storage tanks are summarized in Table 2.2. Emissions of n-hexane, a hazardous air pollutant (HAP) have also been estimated. Estimates of n-hexane emissions are based on the TANKS model results. TANKS was run using a product mixture consisting of 22.35% n-hexane (as indicated by the Material Safety Data Sheet included in Attachment 7C). TANKS model results included in Attachment 7B indicate both the n-hexane and total VOC emission estimates indicated in Table 2.2.

Table 2.2 Summary of Internal Floating-Roof VOC Emissions

Components	Rim Seal Loss		Withdrawal Loss		Deck Fitting Loss		Deck Seam Loss		Total Emissions	
	Lbs	tons	lbs	tons	lbs	tons	lbs	tons	lbs	tons
n-Hexane	84.5	0.04	17.08	0.01	886.0	0.44	0	0	987.6	0.5
Balance	524.1	0.26	63.72	0.03	5,495.2	2.75	0	0	6,083.0	3.0
Total: F-T Naphtha	608.6	0.3	80.8	0.04	6,381.2	3.2	0	0	7,070.6	3.5

2.3 LPG Pressure Vessels

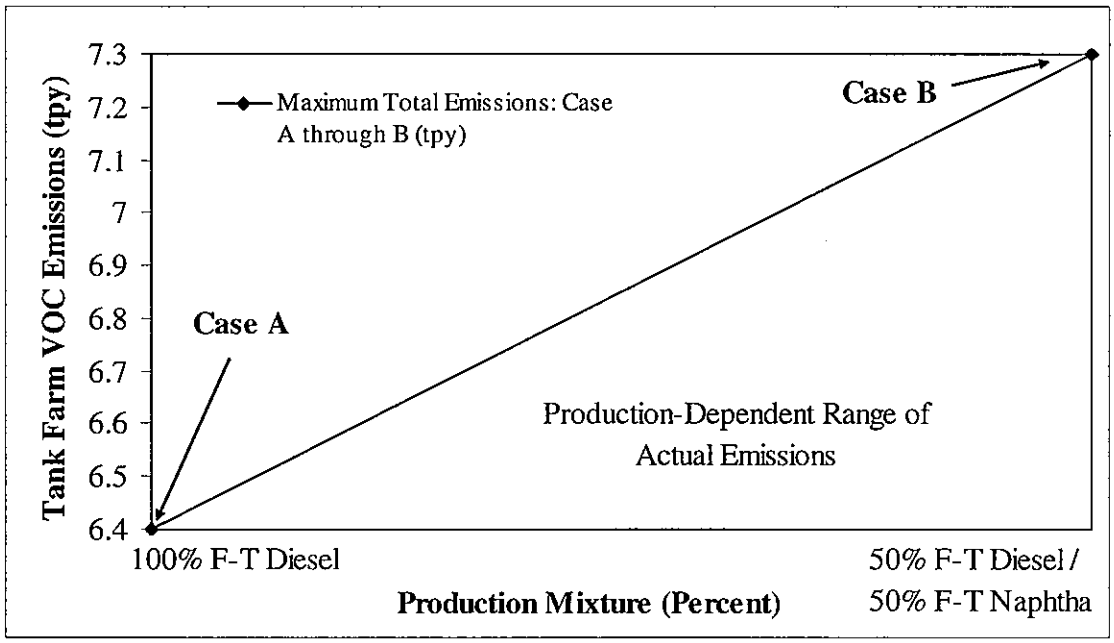
The LPG bullets will be high-pressure storage vessels that can be operated such that virtually no working or breathing losses occur. According to AP-42 Section 7.1.1.6 – Pressure Tanks, there are no appropriate correlations available to estimate vapor losses from pressure tanks. For the purposes of this application, emissions from the LPG storage vessels are considered non-existent.

2.4 Potential vs. Actual Emissions

Potential F-T naphtha emissions are based on the use of fixed-roof tanks which are representative of maximum uncontrolled emissions for storage of this liquid. Potential emissions from storage of 25,000 bpd of F-T naphtha in four fixed-roof tanks would produce 1,131 tons of volatile organic compounds (VOC) emissions annually (see TANKS model output for fixed-roof tank in Attachment 7B). However, OAC Chapter 3745-21-09(L)(1) prohibits the use of fixed-roof tanks for F-T naphtha (as discussed in Section 3.3). Therefore, both internal and external floating-roof tanks were evaluated for storage of the F-T naphtha (see Section 4 - BACT Analysis). Internal floating-roof tanks were determined to be BACT. Control efficiencies for floating-roof tanks referenced in the BACT analysis were derived from the TANKS modeling emissions output as illustrated below:

$$1-\left(\frac{3.5\ \text{tpy (internal floating-roof)}}{1{,}131\ \text{tpy (fixed-roof)}}\right)\times 100 = 99.7\% \qquad 1-\left(\frac{22.5\ \text{tpy (external floating-roof)}}{1{,}131\ \text{tpy (fixed-roof)}}\right)\times 100 = 98.0\%$$

As mentioned in Sections 2.1 and 2.2, modeling assumptions were based on two cases. Case A presumes 100% F-T diesel production, while Case B reflects 50% F-T diesel and 50% F-T naphtha production. In both cases, the total throughput is 50,000 bpd of product. The graph below illustrates the production-dependent range of emissions associated with the tank farm. Note that the combined VOC emissions associated with producing 25,000 bpd of F-T naphtha and 25,000 bpd of F-T diesel will be slightly greater than the 100% F-T diesel case (based on 50,000 bpd production). Actual emissions will fall along the line connecting Case A to Case B. Since ORCF does not anticipate producing more than 25,000 bpd F-T naphtha, for permitting purposes, Case B has been selected as the maximum emissions scenario for the F-T naphtha tanks. Case A is used to represent the requested allowable limits for the F-T diesel tanks, although estimated actual emissions reflect Case B.



Tank Farm Range of VOC Emissions

3.0 SOURCE-SPECIFIC APPLICABLE REGULATIONS

This section presents information concerning applicable state and federal regulations as well as specific exemptions, as appropriate. State regulatory references are to the Ohio Administrative Code (OAC), unless otherwise noted. Source-specific regulations are discussed relative to each permit application module. Facility-wide applicable regulations are addressed in Section 5.1 of the Application Introduction.

Because many of the regulations applicable to volatile organic liquid storage are based on the "maximum true vapor pressure" of the stored liquid, Table 3.0 is provided to summarize the characteristics of liquids to be stored in the tank farm. According to OAC 3745-21-01, maximum true vapor pressure is the equilibrium partial pressure exerted by the organics at the highest calendar-month average temperature as reported by the National Weather Service for liquids stored at ambient temperature. Material Safety Data Sheets for these materials are provided in Attachment 7C.

Table 3.0 Summary of Product Maximum True Vapor Pressure

Product	Highest Calendar-Month Average Temperature (°F)	Maximum True Vapor Pressure (TVP)	
		pounds per square inch absolute (psia)	kilopascals (kPa)
F-T Diesel	72	0.44	3.03
F-T Naphtha		4.5	31.0

3.1 State Regulations

3.1.1 Storage of Volatile Photochemically Reactive Materials (3745-21-07(D))

OAC 3745-21-07(D) applies to the storage of photochemically reactive materials. The F-T naphtha stored in the tank farm meets the OAC 3745-21-01(C)(5) definition of a photochemically reactive material and is therefore subject to 3745-21-07(D). Because the storage tanks exceed the sixty-five thousand gallon capacity limit set by Subpart D, they will be subject to emission control requirements. Emission control options include 1) a floating pontoon or double-deck type cover with closure seals (if the material has a vapor pressure ≤12.5 psia), or 2) a vapor recovery system, or 3) other equipment as approved by the director. Because F-T naphtha has a maximum TVP of 4.5 psia, ORCF had elected to install internal floating-roof tanks. Because these tanks will exceed 500,000-gallon capacities, they will be equipped with permanent submerged fill pipes in accordance with Subpart D(2).

3.1.2 Storage of Petroleum Liquids in Fixed Roof Tanks (3745-21-09, Subpart L)

OAC Chapter 3745-21-09(L)(1) prohibits the use of fixed-roof tanks for storage of petroleum liquids with a TVP which is greater than 1.52 psia unless the tank is equipped with specific measures to reduce the emissions of VOC into the ambient air. The F-T diesel fuel produced by ORCF has a TVP of less than 1.52 psia and therefore is not required to meet the control requirements.

Because the F-T naphtha has a maximum TVP of 4.5 psia, in accordance OAC 3745-21-09(L), the F-T naphtha storage tanks will be required to meet the following:

- Vapor control equipment consisting of either:
  - Internal floating roof, or
  - Alternative equivalent control for VOC emissions, as approved by the director
- If equipped with an internal floating roof, the automatic bleeder vents are to be closed at all times except when the roof is floated off or landed on the roof leg supports, and the rim vents, if provided, are to be set to open when the roof is being floated off the roof leg supports or is at the manufacturer's recommended setting.
- All openings, except stub drains, are to be equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling.
- Other means for reducing the emission of VOC into the ambient air as may be required by the director.

3.1.3 Permit to Install New Sources (3745-31)

Each regulated tank included in the tank farm has the potential to generate VOC emissions. These emission units are part of a major stationary source. Because the major stationary source is located within an attainment area for all criteria pollutants, according to 3745-31-12(A), each emissions unit is subject to an evaluation of best available control technology (BACT). The BACT analysis for these F-T naphtha storage tanks is provided in Section 4. In accordance with 3745-31-05(A)(3), sources are also required to employ best available technology (BAT). Because all sources and pollutants are addressed in the BACT analysis, BAT is assumed to have been achieved for affected emission units.

3.1.5 Permit to Install Exemptions (3745-31-03)

Permit-to-Install exemptions are applicable to the LPG storage vessels. OAC 3745-31-03(A)(1)(l)(ii) grants a permanent exemption to pressurized storage of propane, butane, isobutane, and liquid petroleum gases. This is consistent with the USEPA's AP-42, Section 7.1.1.6 statement that "No appropriate correlations are available to estimate vapor losses from pressure tanks." The LPG bullets proposed for ORCF will therefore not be sources subject to the Permit-to-Install application process.

Subpart (l)(vi) grants a permanent exemption for organic liquid storage tanks with capacities greater than 39,894 gallons if the maximum true vapor pressure is less than 3.5 kPa (0.508 psia). However, the eight three-million gallon F-T diesel storage tanks will not qualify for this exemption because even though the maximum TVP of F-T diesel fuel will be less than 0.508 psia the exemption is overruled by OAC 3745-31(A)(1) when any requirement of an NSPS applies.

3.2 Federal Regulations

3.2.1 Standards of Performance for Volatile Organic Liquid Storage Vessels (40 CFR 60, Subpart Kb)

This Subpart (40 CFR 60.112b(a)) will apply to the F-T diesel and F-T naphtha tanks at ORCF because they have capacities greater than 151 cubic meters. Because the F-T diesel will have a maximum TVP of approximately 3.03 kPa which is below the 3.5 kPa exemption limit of 40 CFR 60.110b(b), only the requirement to keep readily accessible records showing the dimension and capacity of each storage vessel will apply.

F-T naphtha has a maximum TVP of approximately 31 kPa which is between the applicable range of 5.2 to 76.6 kPa, therefore, internal floating roofs will be installed in accordance with 40 CFR 60.112b(a)(1). Applicable testing, reporting, recordkeeping, and monitoring requirements will be incorporated into the operating conditions for these tanks.

3.2.2 National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline) (40 CFR 63, Subpart EEEE)

This Subpart will apply to the F-T naphtha tanks at ORCF because F-T naphtha contains 5% or greater of n-hexane, a listed HAP and the ORCF facility will be a major source of HAP emissions. According to Subpart EEEE, Table 4, item (1)(a), ORCF can comply with Subpart EEEE by meeting the requirements of 40 CFR Part 63, Subpart WW (control level 2). Subpart WW states that the facility must operate and maintain an internal floating-roof tank in accordance with 63.1063 (a) through (e).

3.2.3 National Emission Standards for Storage Vessels (Tanks) – Control Level 2 (40 CFR 63, Subpart WW)

Subpart WW applies to facilities that are subject to a requirement that references this subpart. For ORCF that referencing subpart is Subpart EEEE, as discussed above.

Subpart WW establishes storage vessel control requirements of floating roof tanks. Requirements are established for design (§63.1063(a)), operations (§63.1063(b)), inspection frequency (§63.1063(c)), inspection procedures (§63.1063(d)), and repair requirements (§63.1063(e)). Relative to tank design, the following requirements of §63.1063(a), will apply to the four ORCF F-T naphtha tanks:

- Rim seals shall be either liquid-mounted, mechanical shoe, or two seals mounted one above the other (the lower of which may be vapor-mounted).
- Deck fittings shall be equipped as follows:
    - Each opening except those for automatic bleeder vents (vacuum breaker vents) and rim space vents shall have its lower edge below the surface of the stored liquid.
    - Each opening except those for automatic bleeder vents (vacuum breaker vents), rim space vents, leg sleeves, and deck drains shall be equipped with a deck cover. The deck cover shall be equipped with a gasket between the cover and the deck.
    - Each automatic bleeder vent (vacuum breaker vent) and rim space vent shall be equipped with a gasketed lid, pallet, flapper, or other closure device.
    - Each opening for a fixed roof support column may be equipped with a flexible fabric sleeve seal instead of a deck cover.
    - Each opening for a sample well or deck drain (that empties into the stored liquid) may be equipped with a slit fabric seal or similar device that covers at least 90 percent of the opening, instead of a deck cover.
    - Each cover on access hatches and gauge float wells shall be designed to be bolted or fastened when closed.
    - Each opening for an unslotted guidepole shall be equipped with a pole wiper, and each unslotted guidepole shall be equipped with a gasketed cap on the top of the guidepole.
    - Each opening for a slotted guidepole shall be equipped with one of the control device configurations specified below.
        - A pole wiper and a pole float. The wiper or seal of the pole float shall be at or above the height of the pole wiper, or
        - A pole wiper and a pole sleeve.

4.0 BACT ANALYSIS

The facility will have eight 3-million gallon tanks for F-T diesel, three 3-million gallon tanks for F-T naphtha, and one 3-million gallon tank for off-spec products. All of these tanks will generate VOC emissions through working, breathing, seal, or fitting losses. In accordance with Ohio regulations, fixed-roof tanks will be used to store F-T diesel because of its low vapor pressure.

F-T naphtha is a photochemically reactive organic compound. Storage of F-T naphtha and off-spec products will be subject to Federal NSPS and NESHAP requirements as discussed in Section 3.2. This BACT analysis addresses storage of F-T naphtha in aboveground storage tanks.

4.1 Available Control Technologies – Volatile Organic Compounds (VOC)

VOC emissions from tanks are a function of the vapor pressure of the stored liquid and the tank design. Liquids with very low vapor pressures (e.g., F-T diesel) are stored in fixed-roof tanks because potential emissions are very low. Liquids with elevated vapor pressures and thus higher potential emissions (e.g., F-T naphtha) are stored in tanks with floating roofs to reduce the VOC emissions. A review of the past 10 years of RBLC determinations located the following control technologies associated with BACT or other case-by-case determinations:

- Fixed Roof Tank
- Internal Floating Roof Tank
- External Floating Roof
- Submerged Fill
- Vapor Recovery System
- Compliance with NSPS 40 CFR 60 Subpart Kb
- Vapor recovery system in combination with a thermal oxidizer or flare

4.2 Technically Infeasible Options – Volatile Organic Compounds (VOC)

All of the above-listed technologies are feasible for control of VOC emissions from the tank farm. Use of fixed-roof tanks would not be permitted, however, for storage of naphtha in three-million gallon tanks in the state of Ohio.

4.3 Technology Ranking – Volatile Organic Compounds (VOC)

Based on a review of the RBLC database, AP-42, and through the application of the USEPA TANKS 4.0.9d modeling program, technologies for control of VOC emissions from the F-T naphtha storage tanks are ranked as follows from most to least effective:

Table 4.3 Technology Ranking

Technology	Estimated Control Efficiency (%)	Basis
Internal Floating Roof [1]	>99[2]	USEPA TANKS 4.0.9d Model
External Floating Roof [1]	98[2]	USEPA TANKS 4.0.9d Model
NSPS Subpart Kb	>95	40 CFR 60.112b
Vapor Recovery Unit	<90	AP-42 § 5.2.2.1.1
Vapor Collection System & Thermal Oxidizer	89	AP-42 § 7.1.2.1

Notes:

1) Design requirements for internal and external floating roof tanks were selected to maximize respective control efficiencies per AP-42 Section 7.1.

2) Control efficiency is based on comparison with baseline fixed-roof tank emissions (see Section 2.4). Tank technologies are assumed to incorporate submerged fill.

4.4 Evaluate Most Effective Controls – Volatile Organic Compounds (VOC)

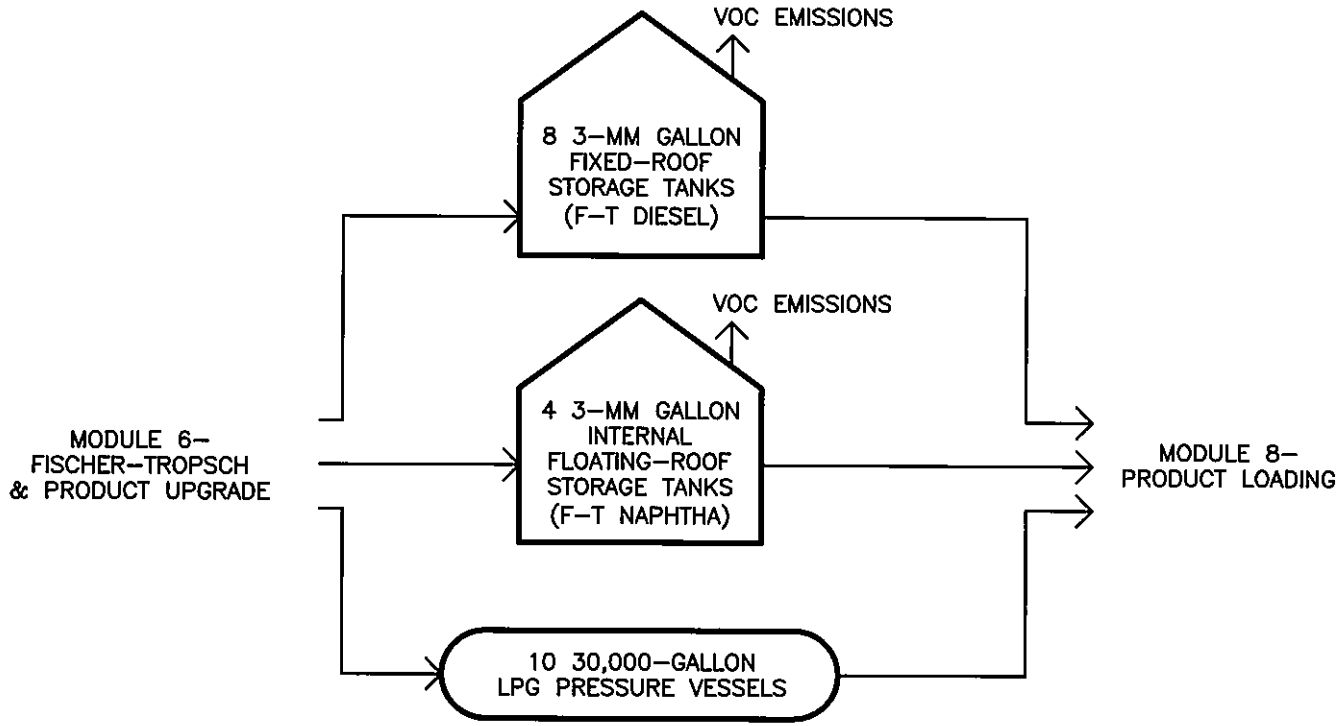
The most effective control technology for VOC emissions from storage tanks is use of internal floating-roof design consistent with 40 CFR 63.1062 and 40 CFR 60.112b.

4.5 Proposed BACT Limits and Control Options – Volatile Organic Compounds (VOC)

The proposed BACT for the F-T naphtha storage tanks is Internal Floating Roof Tanks designed in accordance with the requirements of 40 CFR 63.1062 and 40 CFR 60.112b. The proposed VOC BACT limit for each individual F-T naphtha tank is:

- 0.88 tpy on a 12-month rolling average

ATTACHMENT 7A
MODULE 7
FIGURES



NOTE:
THE LPG PRESSURE VESSELS ARE EXCLUDED FROM THE OEPA PERMIT TO INSTALL REQUIREMENTS BECAUSE THEY WILL NOT BE SOURCES OF VOC EMISSIONS. THEY ARE INCLUDED HERE FOR COMPLETENESS. SEE MODULE 7, SECTION 3.0, SOURCE-SPECIFIC APPLICABLE REGULATIONS.

7A-1

SUBMITTAL & REVISION RECORD

NO	DATE	DESCRIPTION
A	09/17/07	DRAFT SUBMISSION, AS: 061-933-MODEL-7-TANK FARM.dwg
B	12/17/07	AIR PERMIT APPLICATION

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OHIO RIVER CLEAN FUELS, LLC
PROPOSED COAL TO LIQUID FUEL PLANT
COLUMBIANA AND JEFFERSON COUNTY
WELLSVILLE, OHIO

MODULE 7
TANK FARM

APPROVED:				PROJECT NO: 061-933.0002	FIGURE NO: 17
DRAWN BY: CJD/LKC	CHKD BY: DJL	DWG SCALE: N.T.S.		LAST EDIT DATE: 11/27/07	

ATTACHMENT 7B
MODULE 7
SUPPORTING CALCULATIONS

U.S. EPA TANKS 4.0.9d

F-T DIESEL – VERTICAL FIXED ROOF TANK
- CASE A -

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

Identification

User Identification:	F-T Diesel Storage Tanks
City:	Youngstown
State:	Ohio
Company:	Baard Energy
Type of Tank:	Vertical Fixed Roof Tank
Description:	One of 8 identical 3-millon gallon F-T Diesel storage tanks

Tank Dimensions

Shell Height (ft):	40.00
Diameter (ft):	115.00
Liquid Height (ft) :	40.00
Avg. Liquid Height (ft):	20.00
Volume (gallons):	3,000,000.00
Turnovers:	31.94
Net Throughput(gal/yr):	95,812,500.00
Is Tank Heated (y/n):	N

Paint Characteristics

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

Roof Characteristics

Type:	Cone
Height (ft)	3.59
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

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

Meterological Data used in Emissions Calculations: Youngstown, Ohio (Avg Atmospheric Pressure = 14.12 psia)

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

F-T Diesel Storage Tanks - Vertical Fixed Roof Tank
Youngstown, Ohio

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Distillate fuel oil no. 2	All	49.83	45.07	54.60	48.30	0.0045	0.0038	0.0054	130.0000			188.00	Option 1: VP40 = .0031 VP50 = .0045

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

F-T Diesel Storage Tanks - Vertical Fixed Roof Tank
Youngstown, Ohio

Annual Emission Calcaulations

Standing Losses (lb):	283.0645
Vapor Space Volume (cu ft):	220,167.4599
Vapor Density (lb/cu ft):	0.0001
Vapor Space Expansion Factor:	0.0333
Vented Vapor Saturation Factor:	0.9950
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	220,167.4599
Tank Diameter (ft):	115.0000
Vapor Space Outage (ft):	21.1967
Tank Shell Height (ft):	40.0000
Average Liquid Height (ft):	20.0000
Roof Outage (ft):	1.1967
Roof Outage (Cone Roof)	
Roof Outage (ft):	1.1967
Roof Height (ft):	3.5900
Roof Slope (ft/ft):	0.0600
Shell Radius (ft):	57.5000
Vapor Density	
Vapor Density (lb/cu ft):	0.0001
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0045
Daily Avg. Liquid Surface Temp. (deg. R):	509.5048
Daily Average Ambient Temp. (deg. F):	48.2792
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	507.9692
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,149.9980
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0333
Daily Vapor Temperature Range (deg. R):	19.0520
Daily Vapor Pressure Range (psia):	0.0016
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0045
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0038
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0054
Daily Avg. Liquid Surface Temp. (deg R):	509.5048
Daily Min. Liquid Surface Temp. (deg R):	504.7418
Daily Max. Liquid Surface Temp. (deg R):	514.2678
Daily Ambient Temp. Range (deg. R):	18.8583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9950
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0045
Vapor Space Outage (ft):	21.1967
Working Losses (lb):	1,327.6729
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0045
Annual Net Throughput (gal/yr.):	95,812,500.0000
Annual Turnovers:	31.9400
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	3,000,000.0000
Maximum Liquid Height (ft):	40.0000
Tank Diameter (ft):	115.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	1,610.7375

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

Emissions Report for: Annual

F-T Diesel Storage Tanks - Vertical Fixed Roof Tank
Youngstown, Ohio

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Distillate fuel oil no. 2	1,327.67	283.06	1,610.74

U.S. EPA TANKS 4.0.9d

F-T DIESEL – VERTICAL FIXED ROOF TANK
- CASE B -

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

Identification

User Identification:	F-T Diesel Storage Tanks
City:	Youngstown
State:	Ohio
Company:	Baard Energy
Type of Tank:	Vertical Fixed Roof Tank
Description:	One of 8 identical 3-millon gallon F-T Diesel storage tanks

Tank Dimensions

Shell Height (ft):	40.00
Diameter (ft):	115.00
Liquid Height (ft) :	40.00
Avg. Liquid Height (ft):	20.00
Volume (gallons):	3,000,000.00
Turnovers:	15.97
Net Throughput(gal/yr):	47,906,250.00
Is Tank Heated (y/n):	N

Paint Characteristics

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

Roof Characteristics

Type:	Cone
Height (ft)	3.59
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

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

Meterological Data used in Emissions Calculations: Youngstown, Ohio (Avg Atmospheric Pressure = 14.12 psia)

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

F-T Diesel Storage Tanks - Vertical Fixed Roof Tank
Youngstown, Ohio

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Distillate fuel oil no. 2	All	49.83	45.07	54.60	48.30	0.0045	0.0038	0.0054	130.0000			188.00	Option 1: VP40 = .0031 VP50 = .0045

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

F-T Diesel Storage Tanks - Vertical Fixed Roof Tank
Youngstown, Ohio

Annual Emission Calcaulations	
Standing Losses (lb):	283.0645
Vapor Space Volume (cu ft):	220,167.4599
Vapor Density (lb/cu ft):	0.0001
Vapor Space Expansion Factor:	0.0333
Vented Vapor Saturation Factor:	0.9950
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	220,167.4599
Tank Diameter (ft):	115.0000
Vapor Space Outage (ft):	21.1967
Tank Shell Height (ft):	40.0000
Average Liquid Height (ft):	20.0000
Roof Outage (ft):	1.1967
Roof Outage (Cone Roof)	
Roof Outage (ft):	1.1967
Roof Height (ft):	3.5900
Roof Slope (ft/ft):	0.0600
Shell Radius (ft):	57.5000
Vapor Density	
Vapor Density (lb/cu ft):	0.0001
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0045
Daily Avg. Liquid Surface Temp. (deg. R):	509.5048
Daily Average Ambient Temp. (deg. F):	48.2792
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	507.9692
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,149.9980
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0333
Daily Vapor Temperature Range (deg. R):	19.0520
Daily Vapor Pressure Range (psia):	0.0016
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0045
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0038
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0054
Daily Avg. Liquid Surface Temp. (deg R):	509.5048
Daily Min. Liquid Surface Temp. (deg R):	504.7418
Daily Max. Liquid Surface Temp. (deg R):	514.2678
Daily Ambient Temp. Range (deg. R):	18.8583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9950
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0045
Vapor Space Outage (ft):	21.1967
Working Losses (lb):	663.8365
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0045
Annual Net Throughput (gal/yr.):	47,906,250.0000
Annual Turnovers:	15.9700
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	3,000,000.0000
Maximum Liquid Height (ft):	40.0000
Tank Diameter (ft):	115.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	946.9010

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

Emissions Report for: Annual

F-T Diesel Storage Tanks - Vertical Fixed Roof Tank
Youngstown, Ohio

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Distillate fuel oil no. 2	663.84	283.06	946.90

U.S. EPA TANKS 4.0.9d

F-T NAPHTHA – INTERNAL FLOATING ROOF TANK

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

Identification

User Identification:	F-T Naphtha StorageTanks
City:	Youngstown
State:	Ohio
Company:	Ohio River Clean Fuels
Type of Tank:	Internal Floating Roof Tank
Description:	One of 4 identical 3-million gallon F-T Naphtha storage tanks

Tank Dimensions

Diameter (ft):	115.00
Volume (gallons):	3,000,000.00
Turnovers:	31.94
Self Supp. Roof? (y/n):	Y
No. of Columns:	0.00
Eff. Col. Diam. (ft):	0.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Liquid-mounted
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	39
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Youngstown, Ohio (Avg Atmospheric Pressure = 14.12 psia)

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

F-T Naphtha StorageTanks - Internal Floating Roof Tank
Youngstown, Ohio

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
F-T Naphtha	All	49.83	45.07	54.60	48.30	2.9917	N/A	N/A	74.2000			100.00	Option 1: VP40 = 2.5 VP50 = 3
Hexane (-n)						1.4594	N/A	N/A	86.1700	0.2112	0.1389	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Unidentified Components						3.4892	N/A	N/A	72.5745	0.7888	0.8611	104.49	

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

F-T Naphtha StorageTanks - Internal Floating Roof Tank
Youngstown, Ohio

Annual Emission Calcaulations	
Rim Seal Losses (lb):	152.1648
Seal Factor A (lb-mole/ft-yr):	0.3000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.6000
Value of Vapor Pressure Function:	0.0594
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.9917
Tank Diameter (ft):	115.0000
Vapor Molecular Weight (lb/lb-mole):	74.2000
Product Factor:	1.0000
Withdrawal Losses (lb):	20.1969
Number of Columns:	0.0000
Effective Column Diameter (ft):	0.0000
Annual Net Throughput (gal/yr.):	95,812,500.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	0.7198
Tank Diameter (ft):	115.0000
Deck Fitting Losses (lb):	1,595.3043
Value of Vapor Pressure Function:	0.0594
Vapor Molecular Weight (lb/lb-mole):	74.2000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	361.7000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	115.0000
Vapor Molecular Weight (lb/lb-mole):	74.2000
Product Factor:	1.0000
Total Losses (lb):	1,767.6659

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	7.0569
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	12.3496
Roof Leg or Hanger Well/Adjustable	39	7.90	0.00	0.00	1,358.8976
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1	43.00	0.00	0.00	189.6546
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	27.3456

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

Emissions Report for: Annual

F-T Naphtha StorageTanks - Internal Floating Roof Tank
Youngstown, Ohio

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
F-T Naphtha	152.16	20.20	1,595.30	0.00	1,767.67
Hexane (-n)	21.13	4.27	221.51	0.00	246.90
Unidentified Components	131.04	15.93	1,373.79	0.00	1,520.76

U.S. EPA TANKS 4.0.9d

F-T NAPHTHA – EXTERNAL FLOATING ROOF TANK

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

Identification

User Identification:	F-T Naphtha Storage Tanks EFR
City:	Youngstown
State:	Ohio
Company:	Ohio River Clean Fuels
Type of Tank:	External Floating Roof Tank
Description:	One of 4 identical 3-million gallon F-T Naphtha storage tanks

Tank Dimensions

Diameter (ft):	115.00
Volume (gallons):	3,000,000.00
Turnovers:	31.94

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good

Roof Characteristics

Type:	Double Deck
Fitting Category	Detail

Tank Construction and Rim-Seal System

Construction:	Welded
Primary Seal:	Liquid-mounted
Secondary Seal	Rim-mounted

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Drain (3-in. Diameter)/Open	1
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	34
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Youngstown, Ohio (Avg Atmospheric Pressure = 14.12 psia)

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

F-T Naphtha Storage Tanks EFR - External Floating Roof Tank
Youngstown, Ohio

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
F-T Naphtha	All	49.83	45.07	54.60	48.30	2.9917	N/A	N/A	74.2000			100.00	Option 1: VP40 = 2.5 VP50 = 3
Hexane (-n)						1.4594	N/A	N/A	86.1700	0.2112	0.1389	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Unidentified Components						3.4892	N/A	N/A	72.5745	0.7888	0.8611	104.49	

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

F-T Naphtha Storage Tanks EFR - External Floating Roof Tank
Youngstown, Ohio

Annual Emission Calcaulations	
Rim Seal Losses (lb):	754.6329
Seal Factor A (lb-mole/ft-yr):	0.3000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.6000
Average Wind Speed (mph):	9.7417
Seal-related Wind Speed Exponent:	0.3000
Value of Vapor Pressure Function:	0.0594
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.9917
Tank Diameter (ft):	115.0000
Vapor Molecular Weight (lb/lb-mole):	74.2000
Product Factor:	1.0000
Withdrawal Losses (lb):	20.1969
Annual Net Throughput (gal/yr.):	95,812,500.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	0.7198
Tank Diameter (ft):	115.0000
Roof Fitting Losses (lb):	10,451.6101
Value of Vapor Pressure Function:	0.0594
Vapor Molecular Weight (lb/lb-mole):	74.2000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	2,369.6717
Average Wind Speed (mph):	9.7417
Total Losses (lb):	11,226.4399

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	7.0569
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	258.5336
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	59.5106
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1	31.00	150.00	1.40	9,859.9476
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	2.6408
Roof Drain (3-in. Diameter)/Open	1	1.50	0.21	1.70	30.8294
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	34	0.82	0.53	0.14	226.9521
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0.71	0.10	1.00	6.1392

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

Emissions Report for: Annual

F-T Naphtha Storage Tanks EFR - External Floating Roof Tank
Youngstown, Ohio

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
F-T Naphtha	754.63	20.20	10,451.61	0.00	11,226.44
Hexane (-n)	104.78	4.27	1,451.22	0.00	1,560.26
Unidentified Components	649.85	15.93	9,000.39	0.00	9,666.18

U.S. EPA TANKS 4.0.9d

F-T NAPHTHA – VERTICAL FIXED ROOF TANK

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

Identification

User Identification:	F-T Naphtha Storage Tanks
City:	Youngstown
State:	Ohio
Company:	Ohio River Clean Fuels
Type of Tank:	Vertical Fixed Roof Tank
Description:	One of 4 identical 3-million gallon F-T Naphtha storage tanks

Tank Dimensions

Shell Height (ft):	40.00
Diameter (ft):	115.00
Liquid Height (ft) :	40.00
Avg. Liquid Height (ft):	20.00
Volume (gallons):	3,000,000.00
Turnovers:	31.94
Net Throughput(gal/yr):	95,812,500.00
Is Tank Heated (y/n):	N

Paint Characteristics

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

Roof Characteristics

Type:	Cone
Height (ft)	3.59
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

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

Meterological Data used in Emissions Calculations: Youngstown, Ohio (Avg Atmospheric Pressure = 14.12 psia)

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

F-T Naphtha Storage Tanks - Vertical Fixed Roof Tank
Youngstown, Ohio

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
F-T Naphtha	All	49.83	45.07	54.60	48.30	2.9917	2.7536	3.2759	74.2000			100.00	Option 1: VP40 = 2.5 VP50 = 3
Hexane (-n)						1.4594	1.2797	1.6596	86.1700	0.2112	0.1389	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Unidentified Components						3.4892	3.0088	3.4243	72.5745	0.7888	0.8611	104.49	

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

F-T Naphtha Storage Tanks - Vertical Fixed Roof Tank
Youngstown, Ohio

Annual Emission Calcaulations

Standing Losses (lb):	59,047.6907
Vapor Space Volume (cu ft):	220,167.4599
Vapor Density (lb/cu ft):	0.0406
Vapor Space Expansion Factor:	0.0789
Vented Vapor Saturation Factor:	0.2293
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	220,167.4599
Tank Diameter (ft):	115.0000
Vapor Space Outage (ft):	21.1967
Tank Shell Height (ft):	40.0000
Average Liquid Height (ft):	20.0000
Roof Outage (ft):	1.1967
Roof Outage (Cone Roof)	
Roof Outage (ft):	1.1967
Roof Height (ft):	3.5900
Roof Slope (ft/ft):	0.0600
Shell Radius (ft):	57.5000
Vapor Density	
Vapor Density (lb/cu ft):	0.0406
Vapor Molecular Weight (lb/lb-mole):	74.2000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.9917
Daily Avg. Liquid Surface Temp. (deg. R):	509.5048
Daily Average Ambient Temp. (deg. F):	48.2792
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	507.9692
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,149.9980
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0789
Daily Vapor Temperature Range (deg. R):	19.0520
Daily Vapor Pressure Range (psia):	0.5223
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.9917
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	2.7536
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	3.2759
Daily Avg. Liquid Surface Temp. (deg R):	509.5048
Daily Min. Liquid Surface Temp. (deg R):	504.7418
Daily Max. Liquid Surface Temp. (deg R):	514.2678
Daily Ambient Temp. Range (deg. R):	18.8583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.2293
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	2.9917
Vapor Space Outage (ft):	21.1967
Working Losses (lb):	506,408.2084
Vapor Molecular Weight (lb/lb-mole):	74.2000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.9917
Annual Net Throughput (gal/yr.):	95,812,500.0000
Annual Turnovers:	31.9400
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	3,000,000.0000
Maximum Liquid Height (ft):	40.0000
Tank Diameter (ft):	115.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	565,455.8991

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

Emissions Report for: Annual

F-T Naphtha Storage Tanks - Vertical Fixed Roof Tank
Youngstown, Ohio

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
F-T Naphtha	506,408.21	59,047.69	565,455.90
Hexane (-n)	70,315.28	8,198.83	78,514.11
Unidentified Components	436,092.93	50,848.86	486,941.79

ATTACHMENT 7C
MODULE 7
DOCUMENTATION

LIST OF REFERENCES

- U.S. EPA, TANKS Version 4.0.9d, October 2005.
- U.S. EPA, RACT/BACT/LAER Clearinghouse (RBLC); website: http://cfpub.epa.gov/RBLC
- U.S. EPA, AP-42 Section 5.2 – *Transportation and Marketing of Petroleum Liquids*, January 1995
  Section 5.2.2.1.1 – *Loading Losses.*
- U.S. EPA, AP-42 Section 7.1 – *Organic Liquid Storage Tanks*, November 2006
  Section 7.1.1.6 – *Pressure Tanks.*
  Section 7.1.2.1 – *Fixed Rook Tanks.*

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **FC-2 Synthetic Paraffinic Naphtha**
Synonyms: Fuel Cell Fuel, Hydroprocessed FT oil, ethylene cracker feed
Product Code: not applicable
MSDS Code: not applicable
Chemical Family: Hydrocarbon

Responsible Party: Syntroleum® Corporation
4322 South 49th West Ave.
Tulsa, OK 74107

For product information contact Syntroleum® Corporation:
8am – 4pm, U.S. Central Time, Mon – Fri: 918-764-4358

EMERGENCY INFORMATION

24-Hour Emergency Telephone Number:

For Chemical Emergencies:
Spill, Leak, Fire or Accident
Call CHEMTREC
North America: (800) 424-9300
Others: (703) 527-3887 (collect)

Health Hazards: Aspiration hazard if swallowed. Can enter lungs and cause damage. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Wash thoroughly after handling.

Physical Hazards: OSHA flammable liquid. Vapor may cause a flash fire. Keep away from heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment).

Physical Form: Liquid
Appearance: Colorless
Odor: Odorless to mild paraffin

NFPA HAZARD CLASS:
0 = no special hazards
4 = maximum hazard class

1	Health
4	Flammability
0	Reactivity

2 COMPOSITION / INFORMATION ON INGREDIENTS

#	Component	CAS No.	Approx. Wt%
1	Naphtha, gasoline-range, C_{4-9} -alkane rich	437986-17-9	>99
2	n-Hexane	110-54-3	<30

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS:

Eye Contact: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin Contact: May cause skin irritation. No harmful effects from skin absorption are expected; however avoid frequent or prolonged contact.

Inhalation (Breathing): Expected to have a low degree of toxicity by inhalation.

Ingestion (Swallowing): No harmful effects reported from ingestion. ASPIRATION HAZARD – This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage.

Signs & Symptoms: Effects of overexposure may include irritation of the nose, throat and digestive tract, nausea, vomiting, transient excitation followed by signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination, and fatigue), pulmonary edema (accumulation of fluids in the lungs) and pneumonitis (inflammation of the lungs).

Aggravated Medical Conditions: Conditions aggravated by exposure may include respiratory (asthma-like), male reproductive, and peripheral nerve disorders.

Exposure to high concentrations of this material may increase the sensitivity of the heart to certain drugs. Persons with pre-existing heart disorders may be more susceptible to this effect (see Section 4 – 'Note to Physician').

Developmental: No data.

Cancer: No data.

Target Organs: Overexposure to a component may cause injury to the peripheral nervous system (see Section 11). There is limited evidence from animal studies that overexposure may cause injury to the male reproductive system.

Other Comments: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as Solvent or Painters' Syndrome). Intentional misuse by deliberately concentrating and inhaling this material may be harmful or fatal.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. For direct contact, hold eyelids apart and flush affected eye(s) with clean water for at least 15 minutes. If symptoms persist, seek medical attention.

Skin: First aid is not normally required. If irritation or redness develops, remove contaminated shoes, clothing, and constrictive jewelry and flush affected area(s) with mild soap and water. Wash contaminated clothing prior to reuse. If symptoms persist, seek medical attention.

Inhalation (Breathing): First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure into fresh air and seek immediate medical attention.

Ingestion (Swallowing): Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

Note to Physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of this material (e.g. in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias

5. FIRE FIGHTING MEASURES

Flammable Properties: Flash Point (PMCC): <73°F (<23°C)
OSHA Flammability Class: Flammable Class I Liquid
LEL (vol%): no data UEL (vol%): no data
Autoignition Temperature: estimated at ~500°F (~260°C)

Combustion Products: Carbon dioxide, carbon monoxide, water vapor.

Extinguishing Media: Dry chemical, carbon dioxide, or alcohol or polymer foam is recommended. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Special Fire Fighting Procedures & Precautions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

Unusual Fire & Explosion Hazards: This material is flammable and can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). May create vapor/air explosion hazard indoors, outdoors, or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Extremely flammable. Keep all sources of ignition and hot surfaces away from spill/release. The use of explosion-proof equipment is recommended. Stay upwind and away from spill/release. Notify persons downwind of spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8). Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material (e.g., sand or vermiculite). Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. **If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notifies the National Response Center (phone number 800-424-8802).**

7 HANDLING STORAGE

Handling: Open container slowly to relieve any pressure. Bond and ground all equipment when transferring from one vessel to another. Can accumulate static charge by flow or agitation. Can be ignited by static discharge. The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29 CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Section 8). Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames. Use good personal hygiene practice.

"Empty" containers can retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and cause injury bunged, and promptly shipped to the supplier or a drum conditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA Regulations, ANSI Z49.1 and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post area "No Smoking or Open Flame". Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Substance Name	CAS No.	Agency	Limits	Notes
Naphtha, gasoline-range, C_{4-9} - alkane rich and methyl-branched alkane rich	437986-17-9	OSHA	None established	yes
n-Hexane	110-54-3	ACGIH OSHA NIOSH REL NIOSH IDHL	50 ppm 8-hr TWA (skin) 500 ppm 8-hr PEL 50 ppm 10-hr day/40-hr week 1,100 ppm	yes

Note: Country, state, local, or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Personal Protective Equipment (PPE) and Protective Measures

Respiratory Protection: A NIOSH certified air-purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air-supplied respirator if there is potential for uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory protection program that meets regulatory requirements (OSHA, ANSI, etc) must be followed whenever workplace conditions warrant a respirator's use.

Protective Clothing: Not required based on the hazards of the material. However, it is considered good practice to wear gloves when handling chemicals (see glove manufacturer literature for information on permeability to paraffinic solvents). Depending on conditions of use, an apron and/or arm covers may be necessary.

Eye/Face Protection: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield and safety glasses or goggles may be necessary.

Additional Protective Measures: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

9. PHYSICAL & CHEMICAL PROPERTIES:

Note: Unless otherwise indicated, values are determined at 68°F (20°C) and atmospheric pressure (760 mm Hg). Data is typical, individual samples may vary.

Flash Point (PMCC): <73°F (<23°C)
Autoignition Temperature: estimated ~500°F (~260°C)
Appearance: Colorless
Physical State: Liquid
Odor: Odorless to mild paraffin
Vapor Pressure: ~ 13 psia
Vapor Density (air = 1): >1
Viscosity at 40°C: 0.4 cP
Approx. Boiling Range: 68-390°F (20-200°C)
Freezing Point: <-75°F (<-60°C)
Solubility in water: Slightly soluble
pH: not applicable
Density: ~ 0.69 g/ml

10. STABILITY & REACTIVITY

Chemical Stability: Stable under normal conditions of storage and handling. Flammable liquid and vapor. Vapor can cause a flash fire.

Conditions to Avoid: Avoid all possible sources of ignition (see Sections 5 and 7).

Incompatible Materials: Avoid contact with strong oxidizing agents.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

n-Hexane (CAS# 110-54-3)

Target Organ(s): Excess exposure to n-hexane can result in peripheral neuropathies. The initial symptoms are symmetrical sensory numbness and paresthesias of distal portions of the extremities. Motor weakness is typically observed in muscles of the toes and fingers but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure. The neurotoxic properties of n-hexane are potentiated by exposure to methyl ethyl ketone and methyl isobutyl ketone. Prolonged exposure to high concentrations of n-hexane (>1,000 ppm) has resulted in decreased sperm count and degenerative changes in the testes of rats but not those of mice.

12. DISPOSAL CONSIDERATIONS

This material, if discarded as produced, would be a RCRA "characteristic" hazardous waste due to the characteristic of ignitability (D001). If the material is spilled to soil or water, characteristic testing of the contaminated materials is recommended. Further, this material, once it becomes a waste, is subject to the land disposal restrictions in 40 CFR 268.40 and may require treatment prior to disposal to meet specific standards. Consult state and local regulations to determine whether they are more stringent than the federal requirements.

Container contents should be completely used and containers should be emptied prior to discard. Container rinse material could be considered a RCRA hazardous waste depending on the cleaning agent used and must be disposed of with care and in full compliance with federal, state and local regulations.

13. TRANSPORT INFORMATION

	USA DOT
Shipping Name:	Flammable liquids N.O.S. (paraffins and isoparaffins)
Hazard Class & Div.:	3 (Flammable Liquid)
ID Number:	UN1993
Packing Group:	I
Label(s):	Flammable
Placard(s):	Flammable
Notes:	1

Notes:
1. Static Accumulator (50 picosiemens or less).

14. REGULATORY INFORMATION

This material is listed on the following country inventory lists: None known

TSCA – exempt under 40CFR 720.30 and 40CFR 720.36.

This material contains the following list of chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372: **n-Hexane (CAS# 110-54-3)**

This material contains the following list of chemicals subject to the reporting requirements of California Proposition 65: none known

NTP, IARC, or OSHA has not identified this material as a carcinogen.

EPA (CERCLA) reportable quantity: RQ#1 **n-Hexane (CAS# 110-54-3); 5,000 lbs**

For details on your regulatory requirements you should contact the appropriate agency in your state or country.

15. DOCUMENTARY INFORMATION

Current Issue Date: 26 Jan 2005 Previous Issue Date: 21 Nov 2004

16. DISCLAIMER OF EXPRESSED & IMPLIED WARRANTIES

The information in this document is believed to be correct as of the date issued. HOWEVER, NO WARRANTY OF MERCHANT LIABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. This information and product are furnished on the condition that the person receiving them shall make his/her own determination as to the suitability of the product for his/her particular purpose and on the condition that he/she assume the risk of his/her use thereof.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **S-2 Synthetic Diesel Fuel**
Synonyms: Synthetic Diesel Fuel—Summer Grade, Synthetic Diesel Fuel—Winter Grade, Synthetic Diesel Fuel—Arctic Grade, GTL Diesel Fuel, FT Diesel Fuel, Syntroleum SD-2 Synthetic Distillate.
Product Code: not applicable
MSDS Code: not applicable
Chemical Family: Hydrocarbon

Responsible Party: Syntroleum® Corporation
4322 South 49th West Ave.
Tulsa, OK 74107

For product information contact Syntroleum® Corporation:
8am – 4pm, U.S. Central Time, Mon – Fri: 918-764-4358

EMERGENCY INFORMATION

24-Hour Emergency Telephone Number:

For Chemical Emergencies:
Spill, Leak, Fire or Accident
Call CHEMTREC
North America: (800) 424-9300
Others: (703) 527-3887 (collect)

Health Hazards: Aspiration hazard if swallowed. Can enter lungs and cause damage. Avoid contact with eyes. Do not taste or swallow. Wash thoroughly after handling.

Physical Hazards: OSHA combustible liquid. Keep away from heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment).

Physical Form: Liquid
Appearance: Colorless *(may contain a dye)*
Odor: Odorless to mild paraffin

NFPA HAZARD CLASS:
0 = no special hazards
4 = maximum hazard class

1	Health
2	Flammability
0	Reactivity

2. COMPOSITION/INFORMATION ON INGREDIENTS

#	Component	CAS No.	Approx. Wt%
1	Fuel, diesel, C_{8-28}-alkane rich and Methyl-branched alkane rich.	437986-25-9	100

Note 1: May contain up to 0.5 wt% performance additive(s). Refer to product data sheet.

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS:

Eye Contact: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin Contact: Not known to be a skin irritant. No harmful effects from skin absorption are expected.

Inhalation (Breathing): Expected to have a low degree of toxicity by inhalation.

Ingestion (Swallowing): This may be harmful if ingested. ASPIRATION HAZARD – This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage.

Signs & Symptoms: Effects of overexposure may include irritation of the nose, throat and digestive tract, nausea, vomiting, transient excitation followed by signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination, and fatigue), pulmonary edema (accumulation of fluids in the lungs) and pneumonitis (inflammation of the lungs).

Aggravated Medical Conditions: Conditions aggravated by exposure may include skin or respiratory (asthma-like) disorders.

Developmental: No data.

Cancer: No specific data on this substance.

DELAYED OR OTHER HEALTH EFFECTS:

Cancer: Prolonged or repeated exposure to exhaust gasses produced from engines burning this material may cause cancer.
Whole diesel engine exhaust has been classified as a Group 2A carcinogen (probably carcinogenic to humans) by the International Agency for Research on Cancer (IARC). Diesel exhaust particulate has been classified as reasonably anticipated to be a human carcinogen in the National Toxicology Program's Ninth Report on Carcinogens. The National Institute of Occupational Safety and Health (NIOSH) has recommended that whole diesel exhaust be regarded as potentially causing cancer. Diesel engine exhaust is known to the State of California to cause cancer. Contains naphthalene, which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC). See Section 11 for additional information. Risk depends on duration and level of exposure.

Target Organs: No data.

Other Comments: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as Solvent or Painters' Syndrome). Intentional misuse by deliberately concentrating and inhaling this material may be harmful or fatal.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: First aid is not normally required. However, it is good practice to wash any chemical from the skin. If Skin Irritation developes, wash with soap and water, and seek medical attention.

Inhalation (Breathing): First aid is not normally required. If breathing difficulties develop, move victim away from the source of exposure and into fresh air. Seek immediate medical attention.

Ingestion (Swallowing): Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

5. FIRE FIGHTING MEASURES

Flammable Properties: Flash Point (PMCC): 125-140°F (52-60°C)
OSHA Flammability Class: Combustible Liquid Class II
LEL (vol%): ~0.6 UEL (vol%): ~4.7
Autoignition Temperature: 257°C (494°F)

Combustion Products: Carbon dioxide, carbon monoxide, water vapor.

Extinguishing Media: Dry chemical, carbon dioxide, or alcohol or polymer foam is recommended. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Special Fire Fighting Procedures & Precautions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk.

Unusual Fire & Explosion Hazards: This material is combustible and can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). Heated liquid can release vapors that may readily form flammable mixtures at or above its flash point. If container is not properly cooled, it can rupture in the heat of a fire.

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Flammable. Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof equipment is recommended. Stay upwind and away from spill/release. Notify persons downwind of spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8). Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material (e.g., sand or vermiculite). Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. **If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).**

7. HANDLING/STORAGE

Handling: Open container slowly to relieve any pressure. Bond and ground all equipment when transferring from one vessel to another. Can accumulate static charge by flow or agitation. Can be ignited by static discharge. The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Do not enter confined spaces such as tanks or pits without following proper entry procedures such 29 CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Section 8). Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames. Use good personal hygiene practice.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and cause injury bunged, and promptly shipped to the supplier or a drum conditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA Regulations, ANSI Z49.1 and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post area "No Smoking or Open Flame". Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Substance Name	CAS No.	Agency	Limits	Notes
Fuel, diesel, C_{8-28}-alkane rich and Methyl-branched alkane rich.	437986-25-9	OSHA	PEL TWA 5 mg/m^3	
		ACGIH	TLV TWA 5 mg/m^3	
		ACGIH	STEL 10 mg/m^3	

Note: Country, state, local, or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Personal Protective Equipment (PPE) and Protective Measures

Respiratory Protection: A NIOSH certified air-purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air-supplied respirator if there is potential for uncontrolled release, exposure levels are not known or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Protective Clothing: Not required based on the hazards of the material. However, it is considered good practice to wear gloves when handling chemicals.

Eye/Face Protection: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Additional Protective Measures: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).
A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

9. PHYSICAL & CHEMICAL PROPERTIES

Note: Unless otherwise indicated, values are determined at 68°F (20°C) and atmospheric pressure (760 mm Hg). Data is typical, individual samples may vary.

Flash Point (PMCC): 125-140°F (51.5-60°C)
Autoignition Temperature: no data
Appearance: Colorless *(may contain a dye)*
Physical State: Liquid
Odor: Odorless to mild paraffin
Vapor Pressure: <2 psi @ 20°C
Vapor Density (air = 1): >1
Viscosity at 40°C: 1.9-4.1 cP
Approx. Boiling Range: 320-720°F (160-382°C)
Freezing Point: ≤32°F (≤0°C)
Solubility in water: Insoluble
pH: not applicable
Density: 0.77 g/ml@ 15°C

10. STABILITY & REACTIVITY

Chemical Stability: Stable under normal conditions of storage and handling. Combustible liquid. Vapor from heated liquid can cause a flash fire.

Conditions to Avoid: Avoid all possible sources of ignition (see Sections 5 and 7).

Incompatible Materials: Avoid contact with strong oxidizing agents.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

No definitive information available on carcinogenicity, mutagenicity, target organs or developmental toxicity. Diesel engine exhaust has been classified as a Group 2a Carcinogen (probably carcinogenic to humans) by IARC. See information in Section 3.

12. DISPOSAL CONSIDERATIONS

This material, if discarded as produced, would be a RCRA "characteristic" hazardous waste due to the characteristic of ignitability (D001). If the material is spilled to soil or water, characteristic testing of the contaminated materials is recommended. Further, this material, once it becomes a waste, is subject to the land disposal restrictions in 40 CFR 268.40 and may require treatment prior to disposal to meet specific standards. Consult state and local regulations to determine whether they are more stringent than the federal requirements.

Container contents should be completely used and containers should be emptied prior to discard. Container rinse material could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum reconditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities.

13. TRANSPORT INFORMATION

	USA DOT
Shipping Name:	Flammable Liquid, n.o.s. (Paraffins and isoparaffins)
Hazard Class & Div.:	3 (Flammable Liquid)
ID Number:	UN1993
Packing Group:	III
Label(s):	Not applicable
Placard(s):	Flammable
Notes:	1

1. Static Accumulator (50 picosiemens or less) unless performance additive has been added to mitigate static accumulation – consult appropriate product data sheet.

14. REGULATORY INFORMATION

This material is listed on the following country inventory lists: no data

This material contains the following list of chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372: none known

This material contains the following list of chemicals subject to the reporting requirements of California Proposition 65: none known

NTP, IARC, or OSHA has not identified this material as a carcinogen. Diesel exhaust has been listed as a potential carcinogen.

EPA (CERCLA) reportable quantity: none known

For details on your regulatory requirements you should contact the appropriate agency in your state or country.

15. DOCUMENTARY INFORMATION

Current Issue Date: 12 Nov 2004 Previous Issue Date: 30 Aug 2003

16. DISCLAIMER OF EXPRESSED & IMPLIED WARRANTIES

The information in this document is believed to be correct as of the date issued. The product is the subject of continued further experimentation and testing. HOWEVER, NO WARRANTY OF MERCHANT LIABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. This information and product are furnished on the condition that the person receiving them shall make his/her own determination as to the suitability of the product for his/her particular purpose and on the condition that he/she assume the risk of his/her use thereof.

ATTACHMENT 7D
MODULE 7
OEPA APPLICATION FORMS

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): F-T DIESEL STORAGE TANK 1

2. List all equipment that are part of this air contaminant source: 3-MMGAL FIXED-ROOF STORAGE TANK

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

   When did/will you begin to install or modify the air contaminant source? (month/year) SECOND QUARTER 2008

   When did/will you begin to operate the air contaminant source? (month/year) THIRD QUARTER 2011 **OR** after issuance of PTI _____

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

   - If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
   - If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
   - Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
   - If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
   - Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE) (formerly particulate matter, PM)	0	0	0	0	0
PM_{10} (PM < 10 microns in diameter)	0	0	0	0	0
Sulfur dioxide (SO_2)	0	0	0	0	0
Nitrogen oxides (NO_x)	0	0	0	0	0
Carbon monoxide (CO)	0	0	0	0	0
Organic compounds (OC)	0.2	0.1	0.48	0.2	0.8
Volatile organic compounds (VOC)	0.2	0.1	0.48	0.2	0.8
Total HAPs	0	0	0	0	0
Highest single HAP: n-hexane	0	0	0	0	0
Air Toxics (see instructions):	0	0	0	0	0

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

Section II - Specific Air Contaminant Source Information

5. **Does this air contaminant source employ emissions control equipment?**

☐ **Yes** - fill out the applicable information below.
☒ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

☐ **Cyclone/Multiclone**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Cyclone ☐ Multiclone ☐ Rotoclone ☐ Other _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Fabric Filter/Baghouse**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
☐ Lime injection or fabric coating agent used: Type: _____ Feed rate: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Wet Scrubber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Spray chamber ☐ Packed bed ☐ Impingement ☐ Venturi ☐ Other _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
pH range for scrubbing liquid: Minimum: _____ Maximum: _____
Scrubbing liquid flow rate (gal/min): _____
Is scrubber liquid recirculated? ☐ Yes ☐ No
Water supply pressure (psig): _____ NOTE: This item for spray chambers only.
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Electrostatic Precipitator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Plate-wire ☐ Flat-plate ☐ Tubular ☐ Wet ☐ Other _____
Number of operating fields: _____

Section II - Specific Air Contaminant Source Information

☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Concentrator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design regeneration cycle time (minutes): _____
Minimum desorption air stream temperature (°F): _____
Rotational rate (revolutions/hour): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Catalytic Incinerator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum inlet gas temperature (°F): _____
Combustion chamber residence time (seconds): _____
Minimum temperature difference (°F) across catalyst during air contaminant source operation: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Thermal Incinerator/Thermal Oxidizer**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum operating temperature (°F) and location: _____ (See line by line instructions.)
Combustion chamber residence time (seconds): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Flare**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ Enclosed ☐ Elevated (open)
Ignition device: ☐ Electric arc ☐ Pilot flame
Flame presence sensor: ☐ Yes ☐ No
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

Section II - Specific Air Contaminant Source Information

☐ **Condenser**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____

Type: ☐ Indirect contact ☐ Direct contact
Maximum exhaust gas temperature (°F) during air contaminant source operation: _____
Coolant type: _____
Design coolant temperature (°F): Minimum _____ Maximum _____
Design coolant flow rate (gpm): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Carbon Absorber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ On-site regenerative ☐ Disposable
Maximum design outlet organic compound concentration (ppmv): _____
Carbon replacement frequency or regeneration cycle time (specify units): _____
Maximum temperature of the carbon bed, after regeneration (including any cooling cycle): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Dry Scrubber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Reagent(s) used: Type: _____ Injection rate(s): _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Paint booth filter**

Type: ☐ Paper ☐ Fiberglass ☐ Water curtain ☐ Other _____
Design control efficiency (%):_____ Basis for efficiency: _____

☐ **Other**, describe

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

Section II - Specific Air Contaminant Source Information

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

   Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

   - Particulate Matter (PM10): 10 tons per year
   - Sulfur Dioxide (SO2): 25 tons per year
   - Nitrogen Oxides (NOx): 25 tons per year
   - Carbon Monoxide (CO): 100 tons per year
   - Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

   Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
F-T Diesel Tank 1	B	Round 10-inch ID	40	Ambient	Varies (passive)	600

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.
B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.
C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column

of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
NA					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions of the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

Company ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
F-T Diesel Tank 1	40	115	115

8. Request for Federally Enforceable Limits

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

☐ yes
☒ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	Type of Monitor	Applicable performance specification (40 CFR 60, Appendix B)	Pollutant(s) Monitored
NA			

10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.
☒ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

FOR OHIO EPA USE FACILITY ID _____
EU ID _____ PTI# _____

EMISSIONS ACTIVITY CATEGORY FORM
STORAGE TANK
(F-T DIESEL FIXED-ROOF TANK 1)

This form is to be completed for each storage tank for which a permit is required. State/Federal regulations which may apply to storage tanks are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)

   ☒ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. T001) _____

2. Type of tank: ☒ Fixed roof tank ☐ Variable vapor space tank ☐ Pressure tank
   ☐ External floating roof tank ☐ Internal floating roof tank

3. Location of tank: ☐ Indoors ☒ Outdoors ☐ Underground

4. a) Tank capacity: 3,000,000 gallons or _____ barrels

   If capacity is provided in barrels, enter the number of gallons per barrel: _____

   b) Working volume, if different from tank capacity: _____gallons or _____ barrels

5. Shape and dimensions:

   ☒ Cylindrical ☐ Spherical ☐ Other, specify _____

   ☐ Horizontal tanks:
   Tank shell length: _____ft.
   Tank shell diameter or width _____ft.

   ☒ Vertical tanks:
   Tank shell height: 40 ft.
   Tank shell diameter or width: 115 ft.

6. Tank shell material: ☐ Steel ☐ Aluminum ☒ Other, specify: TO BE DETERMINED

7. If this tank is located outdoors and above ground, provide the paint color of the tank's shell and roof and indicate the condition of the paint.

   Shell:
   ☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
   ☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify _____

Roof:

☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify
_____Condition of paint: ☒ Good ☐ Poor

8. If this tank is a variable vapor space tank or is interconnected to a variable vapor space tank, complete the following:

a) Capacity of vapor expansion system: _____gallons or _____ barrels

b) Identify all tanks and other vapor sources interconnected to the vapor expansion system:

_____

9. If this tank is subject to the following federal rules, complete the following:

☐ New Source Performance Standards under 40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"

a) Date of initial fill with petroleum liquid

b) Was tank out of service for a period of a year or more? ☐ Yes ☐ No
If yes, identify the date of subsequent refilling with petroleum liquid after the most recent out-of-service period of a year or more. _____

☐ Maximum Achievable Control Technology (MACT) Standards under 40 CFR 63, Subpart G (HON Tanks)

a) This tank is defined as a: ☐ Group 1 storage vessel ☐ Group 2 storage vessel

b) At the storage temperature, maximum true vapor pressure of total HAPs:_____

10. Supplemental data, check all that apply:

☐ Tank was converted from an external floating roof tank or a fixed roof tank to an internal floating roof tank; provide type and date of conversion: _____

☐ Tank is used to store produced crude oil or condensate prior to custody transfer.

☐ Tank is insulated; describe: _____

☐ Tank is heated and indicate temperature (in degrees Fahrenheit): _____

11. Material stored F-T DIESEL Trade Name F-T DIESEL

Density: __lbs/gal or 15-45 °API Producer ORCF

12. Temperature of stored material: Average ~50 °F and Maximum 72 °F

13. Vapor pressure of stored material:

a) Actual vapor pressure: < 0.45 psia (TVP) at average storage temperature (50 °F)

b) Reid vapor pressure, in psia:
Average Varies, assume U.S. EPA default for No. 2 Diesel
Minimum _____
Maximum _____

c) If material stored is a gas or liquified gas, provide the pressure at which it is stored:
_____psi gauge at _____°F

14. The vapor molecular weight: 130 lbs/lb-mole

15. If the material is a liquid other than gasoline, fuel oil, kerosene, crude oil, lubricant or other petroleum liquid, answer the questions below:

Is it a photochemically reactive material? ☐ Yes ☒ No

16. Is the material a hazardous waste? ☐ Yes ☒ No
If yes, identify type (EPA hazardous waste number) _____

17. Type of filling: ☐ Splash ☒ Submerged ☐ Other, specify _____

18. Indicate the year (or 12-month period) for which throughput is provided in items 19 and 20: JAN-DEC

19. The maximum daily throughput of material stored: 262,500 gallons or __ barrels.

20. Maximum annual throughput of material stored: 95,812,500 gallons or __ barrels.

21. Identify the control equipment associated with this tank.

a) Type of vapor control system: NA

b) Date tank was equipped with or vented to vapor control system (NA)

22. Complete the table below for any pressure or vacuum relief vent valve.

Type of Vent Valve	Pressure Setting	Vacuum Setting	If pressure relief is discharged to a vapor control system, identify the vapor control system
Breather Vent	0.03	-0.03	NA

If this is a Fixed Roof, Variable Vapor Space or Pressure Tank, complete items 23 through 27:

23. If the tank is vertical, what type of roof does it have?

☒ Cone roof Height: 3.59 ft ☐ Dome roof Height: _____ ft

24. The average height of the liquid material stored within the tank during the year: 20 ft.

25. The maximum height of the liquid material stored within the tank during the year: 40 ft.

26. The average liquid surface temperature: ~50°F

27. Is this tank bolted or riveted construction? ☐ Yes ☐ No (TBD)

If this tank is an External Floating Roof Tank, complete items 28 through 34:

28. Is the external floating roof domed? ☐ Yes ☐ No

29. Type of floating roof: ☐ Double Deck ☐ Pontoon ☐ Other, specify _____

30. Type of shell construction: ☐ Welded ☐ Riveted or bolted

31. Are all openings in the external floating roof, except automatic bleeder vents, rim space vents, leg sleeves, main roof drain, emergency roof drains and slotted gauging/sampling wells, equipped with both a cover, seal or lid without visible gaps and a projection into the tank below the liquid surface?

☐ Yes ☐ No

If no, explain: _____

32. Is there a slotted gauging/sampling well?

☐ Yes ☐ No

If yes, is it equipped with an object which floats on the liquid surface within the well and which covers at least 90 percent of the area of the well opening?

☐ Yes ☐ No

33. On the blank lines to the left of the various types of roof fittings shown below, indicate the number, if any, of each fitting.

Access hatch (24-inch diameter well)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Vacuum breaker (10-inch diameter well)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Unslotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover ☐ With sleeve
_____ Gasketed sliding cover ☐ With sleeve ☐ With wiper

Slotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover, without float _____ Gasketed sliding cover, without float
_____ Gasketed sliding cover, with float

Gauge-float well (20-inch diameter)
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed
_____ Bolted cover, gasketed

Gauge-hatch/sample well (8-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Roof leg (3-inch diameter)

_____ Adjustable, pontoon area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, center area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, double-deck roofs			
_____ Fixed			

Roof drain (3-inch diameter)
_____ Open
_____ 90% closed

Roof leg (2-1/2-inch diameter)
_____ Adjustable, pontoon area
_____ Adjustable, center area
_____ Adjustable, double-deck roofs
_____ Fixed

Rim vent (6-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

34. The average wind speed at the tank site: _____mph.

If this tank is an <u>Internal</u> Floating Roof Tank, complete items 35 through 41:

35. Type of floating decks:

☐ Contact deck ☐ Noncontact deck

36. Type of roof above floating decks: ☐ Column-supported ☐ Self-supporting

37. If roof is column-supported, identify the type of column construction:

☐ 9-inch by 7-inch built-up columns ☐ Other, specify _____
☐ 8-inch diameter pipe columns

38. Floating deck seam construction:

☐ Welded ☐ Bolted ☐ Other, specify _____

39. If deck seams are bolted, complete a) or b):

a) ☐ Continuous sheet construction; specify width of sheets (e.g., 5 ft, 6 ft, or 7 ft):_____

☐ Panel construction; specify size of panels (e.g., 5 ft x 7.5 ft, or 5 ft x 12 ft):_____

b) Total length of bolted deck seams: _____ft

Total area of floating deck: _____sq ft

40. On the blank lines to the left of the various types of floating deck fittings shown below, indicate the number, if any, of each fitting.

Access hatch (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Automatic gauge float well (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Deck supports (roof legs or hanger well)
_____ Adjustable
_____ Fixed
_____ Stub drains (1-inch diameter; not used on welded contact deck)

Ladder well (usually one)
_____ Sliding cover, gasketed
_____ Sliding cover, ungasketed

Column wells
_____ Pipe column, flexible fabric sleeve seal
_____ Pipe column, gasketed sliding cover
_____ Pipe column, ungasketed sliding cover
_____ Built-up column, gasketed sliding cover
_____ Built-up column, ungasketed sliding cover

Sample pipe or well (usually one)
_____ Slotted pipe, gasketed sliding cover
_____ Slotted pipe, ungasketed sliding cover
_____ Sample well, slit fabric seal (10% open area)

Vacuum breaker (10-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

41. Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling?

☐ Yes ☐ No

If no, explain: _____

If this tank is an <u>Internal or External</u> Floating Roof Tank, complete items 42 through 47:

42. Type of seal between floating roof and tank well:

☐ Single seal (primary seal only)
☐ Single seal with weather shield (primary seal with weather shield)
☐ Dual seals (primary seal with secondary shield mounted above it)

43. Primary seal information:

Manufacturer:
Make or model:
Date installed_____
(month/year)

Type: ☐ Liquid-mounted, liquid-filled
☐ Liquid-mounted, resilient foam-filled
☐ Vapor-mounted, resilient foam-filled
☐ Mechanical shoe (complete item below)
☐ Flexible wiper
☐ Other, specify _____

If the primary seal is a mechanical shoe, complete the following:

Vertical length of shoe _____ inches
Vertical length of shoe above stored liquid surface _____ inches

44. Secondary seal information:

Manufacturer:
Make or model:
Date installed _____
(month/year)

Type:
- ☐ Rim-mounted, flexible wiper
- ☐ Rim-mounted, resilient foam-filled
- ☐ Shoe-mounted
- ☐ Weather shield
- ☐ Other, specify _____

45. Most recent seal inspection for visible holes, tears or other openings in the seal or fabric:

Seal(s) inspected:
Date of inspection:
Inspected by (person and company):
Condition of seal(s)
- ☐ Good condition
- ☐ Needed repair or replacement, specify type and date of corrective action

46. Most recent seal gap measurements:

	Primary Seal	Secondary Seal
Date of measurement	_____	_____
By: (person)	_____	_____
(company)	_____	_____
Width of maximum gap	_____ inch	_____ inch
Total area of gaps	_____ sq in	_____ sq in
	_____ sq in/ft tank diameter	_____ sq in/ft tank diameter

47. Condition of the interior side of the tank shell:

☐ Little or no rust ☐ Dense rust ☐ Gunite-lining

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): F-T DIESEL STORAGE TANK 2

2. List all equipment that are part of this air contaminant source: 3-MMGAL FIXED-ROOF STORAGE TANK

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

   When did/will you begin to install or modify the air contaminant source? (month/year) SECOND QUARTER 2008

   When did/will you begin to operate the air contaminant source? (month/year) THIRD QUARTER 2011 **OR** after issuance of PTI _____

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

   - If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
   - If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
   - Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
   - If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
   - Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE) (formerly particulate matter, PM)	0	0	0	0	0
PM_{10} (PM < 10 microns in diameter)	0	0	0	0	0
Sulfur dioxide (SO_2)	0	0	0	0	0
Nitrogen oxides (NO_x)	0	0	0	0	0
Carbon monoxide (CO)	0	0	0	0	0
Organic compounds (OC)	0.2	0.1	0.48	0.2	0.8
Volatile organic compounds (VOC)	0.2	0.1	0.48	0.2	0.8
Total HAPs	0	0	0	0	0
Highest single HAP: n-hexane	0	0	0	0	0
Air Toxics (see instructions):	0	0	0	0	0

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

Section II - Specific Air Contaminant Source Information

5. **Does this air contaminant source employ emissions control equipment?**

☐ **Yes** - fill out the applicable information below.
☒ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

☐ **Cyclone/Multiclone**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Cyclone ☐ Multiclone ☐ Rotoclone ☐ Other _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Fabric Filter/Baghouse**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
☐ Lime injection or fabric coating agent used: Type: _____ Feed rate: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Wet Scrubber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Spray chamber ☐ Packed bed ☐ Impingement ☐ Venturi ☐ Other _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
pH range for scrubbing liquid: Minimum: _____ Maximum: _____
Scrubbing liquid flow rate (gal/min): _____
Is scrubber liquid recirculated? ☐ Yes ☐ No
Water supply pressure (psig): _____ NOTE: This item for spray chambers only.
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Electrostatic Precipitator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Plate-wire ☐ Flat-plate ☐ Tubular ☐ Wet ☐ Other _____
Number of operating fields: _____

☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Concentrator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design regeneration cycle time (minutes): _____
Minimum desorption air stream temperature (°F): _____
Rotational rate (revolutions/hour): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Catalytic Incinerator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum inlet gas temperature (°F): _____
Combustion chamber residence time (seconds): _____
Minimum temperature difference (°F) across catalyst during air contaminant source operation: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Thermal Incinerator/Thermal Oxidizer**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum operating temperature (°F) and location: _____ (See line by line instructions.)
Combustion chamber residence time (seconds): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Flare**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ Enclosed ☐ Elevated (open)
Ignition device: ☐ Electric arc ☐ Pilot flame
Flame presence sensor: ☐ Yes ☐ No
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

Section II - Specific Air Contaminant Source Information

☐ **Condenser**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____

Type: ☐ Indirect contact ☐ Direct contact
Maximum exhaust gas temperature (°F) during air contaminant source operation: _____
Coolant type: _____
Design coolant temperature (°F): Minimum _____ Maximum _____
Design coolant flow rate (gpm): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Carbon Absorber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ On-site regenerative ☐ Disposable
Maximum design outlet organic compound concentration (ppmv): _____
Carbon replacement frequency or regeneration cycle time (specify units): _____
Maximum temperature of the carbon bed, after regeneration (including any cooling cycle): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Dry Scrubber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Reagent(s) used: Type: _____ Injection rate(s): _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Paint booth filter**

Type: ☐ Paper ☐ Fiberglass ☐ Water curtain ☐ Other _____
Design control efficiency (%):_____ Basis for efficiency: _____

☐ **Other**, describe

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

Section II - Specific Air Contaminant Source Information

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

   Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

   - Particulate Matter (PM10): 10 tons per year
   - Sulfur Dioxide (SO2): 25 tons per year
   - Nitrogen Oxides (NOx): 25 tons per year
   - Carbon Monoxide (CO): 100 tons per year
   - Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

   Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
F-T Diesel Tank 2	B	Round 10-inch ID	40	Ambient	Varies (passive)	600

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.
B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.
C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column

of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
NA					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions of the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

Company ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
F-T Diesel Tank 2	40	115	115

8. Request for Federally Enforceable Limits

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

☐ yes
☒ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	Type of Monitor	Applicable performance specification (40 CFR 60, Appendix B)	Pollutant(s) Monitored
NA			

10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.
☒ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

FOR OHIO EPA USE FACILITY ID_____
EU ID _____ PTI# _____

EMISSIONS ACTIVITY CATEGORY FORM
STORAGE TANK
(F-T DIESEL FIXED-ROOF TANK 2)

This form is to be completed for each storage tank for which a permit is required. State/Federal regulations which may apply to storage tanks are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)

   ☒ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. T001) _____

2. Type of tank: ☒ Fixed roof tank ☐ Variable vapor space tank ☐ Pressure tank
   ☐ External floating roof tank ☐ Internal floating roof tank

3. Location of tank: ☐ Indoors ☒ Outdoors ☐ Underground

4. a) Tank capacity: 3,000,000 gallons or _____ barrels

   If capacity is provided in barrels, enter the number of gallons per barrel: _____

   b) Working volume, if different from tank capacity: _____gallons or _____ barrels

5. Shape and dimensions:

   ☒ Cylindrical ☐ Spherical ☐ Other, specify _____

   ☐ Horizontal tanks:
   Tank shell length: _____ft.
   Tank shell diameter or width _____ft.

   ☒ Vertical tanks:
   Tank shell height: 40 ft.
   Tank shell diameter or width: 115 ft.

6. Tank shell material: ☐ Steel ☐ Aluminum ☒ Other, specify: TO BE DETERMINED

7. If this tank is located outdoors and above ground, provide the paint color of the tank's shell and roof and indicate the condition of the paint.

   Shell:
   ☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
   ☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify _____

Roof:

☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify
_____ Condition of paint: ☒ Good ☐ Poor

8. If this tank is a variable vapor space tank or is interconnected to a variable vapor space tank, complete the following:

a) Capacity of vapor expansion system: _____ gallons or _____ barrels

b) Identify all tanks and other vapor sources interconnected to the vapor expansion system:

_____

9. If this tank is subject to the following federal rules, complete the following:

☐ New Source Performance Standards under 40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"

a) Date of initial fill with petroleum liquid

b) Was tank out of service for a period of a year or more? ☐ Yes ☐ No
If yes, identify the date of subsequent refilling with petroleum liquid after the most recent out-of-service period of a year or more. _____

☐ Maximum Achievable Control Technology (MACT) Standards under 40 CFR 63, Subpart G (HON Tanks)

a) This tank is defined as a: ☐ Group 1 storage vessel ☐ Group 2 storage vessel

b) At the storage temperature, maximum true vapor pressure of total HAPs: _____

10. Supplemental data, check all that apply:

☐ Tank was converted from an external floating roof tank or a fixed roof tank to an internal floating roof tank; provide type and date of conversion: _____

☐ Tank is used to store produced crude oil or condensate prior to custody transfer.

☐ Tank is insulated; describe: _____

☐ Tank is heated and indicate temperature (in degrees Fahrenheit): _____

11. Material stored F-T DIESEL Trade Name F-T DIESEL

Density: __lbs/gal or 15-45 °API Producer ORCF

12. Temperature of stored material: Average ~50 °F and Maximum 72 °F

13. Vapor pressure of stored material:

a) Actual vapor pressure: < 0.45 psia (TVP) at average storage temperature (50 °F)

b) Reid vapor pressure, in psia:
Average Varies, assume U.S. EPA default for No. 2 Diesel
Minimum _____
Maximum _____

c) If material stored is a gas or liquified gas, provide the pressure at which it is stored:
_____psi gauge at _____°F

14. The vapor molecular weight: 130 lbs/lb-mole

15. If the material is a liquid other than gasoline, fuel oil, kerosene, crude oil, lubricant or other petroleum liquid, answer the questions below:

Is it a photochemically reactive material? ☐ Yes ☒ No

16. Is the material a hazardous waste? ☐ Yes ☒ No
If yes, identify type (EPA hazardous waste number) _____

17. Type of filling: ☐ Splash ☒ Submerged ☐ Other, specify _____

18. Indicate the year (or 12-month period) for which throughput is provided in items 19 and 20: JAN-DEC

19. The maximum daily throughput of material stored: 262,500 gallons or __ barrels.

20. Maximum annual throughput of material stored: 95,812,500 gallons or __ barrels.

21. Identify the control equipment associated with this tank.

a) Type of vapor control system: NA

b) Date tank was equipped with or vented to vapor control system (NA)

22. Complete the table below for any pressure or vacuum relief vent valve.

Type of Vent Valve	Pressure Setting	Vacuum Setting	If pressure relief is discharged to a vapor control system, identify the vapor control system
Breather Vent	0.03	-0.03	NA

If this is a Fixed Roof, Variable Vapor Space or Pressure Tank, complete items 23 through 27:

23. If the tank is vertical, what type of roof does it have?

☒ Cone roof Height: 3.59 ft ☐ Dome roof Height: _____ ft

24. The average height of the liquid material stored within the tank during the year: 20 ft.

25. The maximum height of the liquid material stored within the tank during the year: 40 ft.

26. The average liquid surface temperature: ~50°F

27. Is this tank bolted or riveted construction? ☐ Yes ☐ No (TBD)

If this tank is an External Floating Roof Tank, complete items 28 through 34:

28. Is the external floating roof domed? ☐ Yes ☐ No

29. Type of floating roof: ☐ Double Deck ☐ Pontoon ☐ Other, specify _____

30. Type of shell construction: ☐ Welded ☐ Riveted or bolted

31. Are all openings in the external floating roof, except automatic bleeder vents, rim space vents, leg sleeves, main roof drain, emergency roof drains and slotted gauging/sampling wells, equipped with both a cover, seal or lid without visible gaps and a projection into the tank below the liquid surface?

☐ Yes ☐ No

If no, explain: _____

32. Is there a slotted gauging/sampling well?

☐ Yes ☐ No

If yes, is it equipped with an object which floats on the liquid surface within the well and which covers at least 90 percent of the area of the well opening?

☐ Yes ☐ No

33. On the blank lines to the left of the various types of roof fittings shown below, indicate the number, if any, of each fitting.

Access hatch (24-inch diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed

Vacuum breaker (10-inch diameter well)
_____Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Unslotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover ☐ With sleeve
_____ Gasketed sliding cover ☐ With sleeve ☐ With wiper

Slotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover, without float _____ Gasketed sliding cover, without float
_____ Gasketed sliding cover, with float

Gauge-float well (20-inch diameter)
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed
_____ Bolted cover, gasketed

Gauge-hatch/sample well (8-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Roof leg (3-inch diameter)

_____ Adjustable, pontoon area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, center area	☐ Gasketed	☐ Ungasketed	☐ Sock

_____ Adjustable, double-deck roofs
_____ Fixed

Roof drain (3-inch diameter)
_____ Open
_____ 90% closed

Roof leg (2-1/2-inch diameter)
_____ Adjustable, pontoon area
_____ Adjustable, center area
_____ Adjustable, double-deck roofs
_____ Fixed

Rim vent (6-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

34. The average wind speed at the tank site: _____mph.

If this tank is an <u>Internal</u> Floating Roof Tank, complete items 35 through 41:

35. Type of floating decks:

☐ Contact deck ☐ Noncontact deck

36. Type of roof above floating decks: ☐ Column-supported ☐ Self-supporting

37. If roof is column-supported, identify the type of column construction:

☐ 9-inch by 7-inch built-up columns ☐ Other, specify _____
☐ 8-inch diameter pipe columns

38. Floating deck seam construction:

☐ Welded ☐ Bolted ☐ Other, specify _____

39. If deck seams are bolted, complete a) or b):

a) ☐ Continuous sheet construction; specify width of sheets (e.g., 5 ft, 6 ft, or 7 ft):_____

☐ Panel construction; specify size of panels (e.g., 5 ft x 7.5 ft, or 5 ft x 12 ft):_____

b) Total length of bolted deck seams: _____ft

Total area of floating deck: _____sq ft

40. On the blank lines to the left of the various types of floating deck fittings shown below, indicate the number, if any, of each fitting.

Access hatch (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Automatic gauge float well (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Deck supports (roof legs or hanger well)
_____ Adjustable
_____ Fixed
_____ Stub drains (1-inch diameter; not used on welded contact deck)

Ladder well (usually one)
_____ Sliding cover, gasketed
_____ Sliding cover, ungasketed

Column wells
_____ Pipe column, flexible fabric sleeve seal
_____ Pipe column, gasketed sliding cover
_____ Pipe column, ungasketed sliding cover
_____ Built-up column, gasketed sliding cover
_____ Built-up column, ungasketed sliding cover

Sample pipe or well (usually one)
_____ Slotted pipe, gasketed sliding cover
_____ Slotted pipe, ungasketed sliding cover
_____ Sample well, slit fabric seal (10% open area)

Vacuum breaker (10-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

41. Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling?

☐ Yes ☐ No

If no, explain: _____

If this tank is an <u>Internal or External</u> Floating Roof Tank, complete items 42 through 47:

42. Type of seal between floating roof and tank well:

☐ Single seal (primary seal only)
☐ Single seal with weather shield (primary seal with weather shield)
☐ Dual seals (primary seal with secondary shield mounted above it)

43. Primary seal information:

Manufacturer:
Make or model:
Date installed_____
(month/year)

Type: ☐ Liquid-mounted, liquid-filled
☐ Liquid-mounted, resilient foam-filled
☐ Vapor-mounted, resilient foam-filled
☐ Mechanical shoe (complete item below)
☐ Flexible wiper
☐ Other, specify _____

If the primary seal is a mechanical shoe, complete the following:

Vertical length of shoe _____ inches
Vertical length of shoe above stored liquid surface _____ inches

44. Secondary seal information:

Manufacturer:
Make or model:
Date installed _____
(month/year)

Type:
- ☐ Rim-mounted, flexible wiper
- ☐ Rim-mounted, resilient foam-filled
- ☐ Shoe-mounted
- ☐ Weather shield
- ☐ Other, specify _____

45. Most recent seal inspection for visible holes, tears or other openings in the seal or fabric:

Seal(s) inspected:
Date of inspection:
Inspected by (person and company):
Condition of seal(s)
- ☐ Good condition
- ☐ Needed repair or replacement, specify type and date of corrective action

46. Most recent seal gap measurements:

	Primary Seal	Secondary Seal
Date of measurement	_____	_____
By: (person)	_____	_____
(company)	_____	_____
Width of maximum gap	_____ inch	_____ inch
Total area of gaps	_____ sq in	_____ sq in
	_____ sq in/ft tank diameter	_____ sq in/ft tank diameter

47. Condition of the interior side of the tank shell:

☐ Little or no rust ☐ Dense rust ☐ Gunite-lining

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): F-T DIESEL STORAGE TANK 3

2. List all equipment that are part of this air contaminant source: 3-MMGAL FIXED-ROOF STORAGE TANK

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

   When did/will you begin to install or modify the air contaminant source? (month/year) SECOND QUARTER 2008

   When did/will you begin to operate the air contaminant source? (month/year) THIRD QUARTER 2011 **OR** after issuance of PTI _____

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

   - If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
   - If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
   - Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
   - If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
   - Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE) (formerly particulate matter, PM)	0	0	0	0	0
PM_{10} (PM < 10 microns in diameter)	0	0	0	0	0
Sulfur dioxide (SO_2)	0	0	0	0	0
Nitrogen oxides (NO_x)	0	0	0	0	0
Carbon monoxide (CO)	0	0	0	0	0
Organic compounds (OC)	0.2	0.1	0.48	0.2	0.8
Volatile organic compounds (VOC)	0.2	0.1	0.48	0.2	0.8
Total HAPs	0	0	0	0	0
Highest single HAP: n-hexane	0	0	0	0	0
Air Toxics (see instructions):	0	0	0	0	0

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

Section II - Specific Air Contaminant Source Information

5. **Does this air contaminant source employ emissions control equipment?**

☐ **Yes** - fill out the applicable information below.
☒ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

☐ **Cyclone/Multiclone**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Cyclone ☐ Multiclone ☐ Rotoclone ☐ Other _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Fabric Filter/Baghouse**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
☐ Lime injection or fabric coating agent used: Type: _____ Feed rate: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Wet Scrubber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Spray chamber ☐ Packed bed ☐ Impingement ☐ Venturi ☐ Other _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
pH range for scrubbing liquid: Minimum: _____ Maximum: _____
Scrubbing liquid flow rate (gal/min): _____
Is scrubber liquid recirculated? ☐ Yes ☐ No
Water supply pressure (psig): _____ NOTE: This item for spray chambers only.
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Electrostatic Precipitator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Plate-wire ☐ Flat-plate ☐ Tubular ☐ Wet ☐ Other _____
Number of operating fields: _____

Section II - Specific Air Contaminant Source Information

☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Concentrator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design regeneration cycle time (minutes): _____
Minimum desorption air stream temperature (°F): _____
Rotational rate (revolutions/hour): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Catalytic Incinerator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum inlet gas temperature (°F): _____
Combustion chamber residence time (seconds): _____
Minimum temperature difference (°F) across catalyst during air contaminant source operation: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Thermal Incinerator/Thermal Oxidizer**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum operating temperature (°F) and location: _____ (See line by line instructions.)
Combustion chamber residence time (seconds): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Flare**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ Enclosed ☐ Elevated (open)
Ignition device: ☐ Electric arc ☐ Pilot flame
Flame presence sensor: ☐ Yes ☐ No
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

Section II - Specific Air Contaminant Source Information

☐ **Condenser**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____

Type: ☐ Indirect contact ☐ Direct contact
Maximum exhaust gas temperature (°F) during air contaminant source operation: _____
Coolant type: _____
Design coolant temperature (°F): Minimum _____ Maximum _____
Design coolant flow rate (gpm): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Carbon Absorber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ On-site regenerative ☐ Disposable
Maximum design outlet organic compound concentration (ppmv): _____
Carbon replacement frequency or regeneration cycle time (specify units): _____
Maximum temperature of the carbon bed, after regeneration (including any cooling cycle): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Dry Scrubber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Reagent(s) used: Type: _____ Injection rate(s): _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Paint booth filter**

Type: ☐ Paper ☐ Fiberglass ☐ Water curtain ☐ Other _____
Design control efficiency (%):_____ Basis for efficiency: _____

☐ **Other**, describe

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

Section II - Specific Air Contaminant Source Information

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

   Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

   - Particulate Matter (PM10): 10 tons per year
   - Sulfur Dioxide (SO2): 25 tons per year
   - Nitrogen Oxides (NOx): 25 tons per year
   - Carbon Monoxide (CO): 100 tons per year
   - Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

   Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
F-T Diesel Tank 3	B	Round 10-inch ID	40	Ambient	Varies (passive)	600

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.
B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.
C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column

of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
NA					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions of the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

Company ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
F-T Diesel Tank 3	40	115	115

8. Request for Federally Enforceable Limits

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

☐ yes
☒ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	Type of Monitor	Applicable performance specification (40 CFR 60, Appendix B)	Pollutant(s) Monitored
NA			

10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.
☒ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

FOR OHIO EPA USE
FACILITY ID_____

EU ID _____ PTI# _____

EMISSIONS ACTIVITY CATEGORY FORM
STORAGE TANK
(F-T DIESEL FIXED-ROOF TANK 3)

This form is to be completed for each storage tank for which a permit is required. State/Federal regulations which may apply to storage tanks are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)

   ☒ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. T001) _____

2. Type of tank: ☒ Fixed roof tank ☐ Variable vapor space tank ☐ Pressure tank
   ☐ External floating roof tank ☐ Internal floating roof tank

3. Location of tank: ☐ Indoors ☒ Outdoors ☐ Underground

4. a) Tank capacity: 3,000,000 gallons or _____ barrels

   If capacity is provided in barrels, enter the number of gallons per barrel: _____

   b) Working volume, if different from tank capacity: _____gallons or _____ barrels

5. Shape and dimensions:

   ☒ Cylindrical ☐ Spherical ☐ Other, specify _____

   ☐ Horizontal tanks:
   Tank shell length: _____ft.
   Tank shell diameter or width _____ft.

   ☒ Vertical tanks:
   Tank shell height: 40 ft.
   Tank shell diameter or width: 115 ft.

6. Tank shell material: ☐ Steel ☐ Aluminum ☒ Other, specify: TO BE DETERMINED

7. If this tank is located outdoors and above ground, provide the paint color of the tank's shell and roof and indicate the condition of the paint.

   Shell:
   ☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
   ☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify _____

Roof:

☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify
_____Condition of paint: ☒ Good ☐ Poor

8. If this tank is a variable vapor space tank or is interconnected to a variable vapor space tank, complete the following:

a) Capacity of vapor expansion system: _____gallons or _____ barrels

b) Identify all tanks and other vapor sources interconnected to the vapor expansion system:

_____

9. If this tank is subject to the following federal rules, complete the following:

☐ New Source Performance Standards under 40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"

a) Date of initial fill with petroleum liquid

b) Was tank out of service for a period of a year or more? ☐ Yes ☐ No
If yes, identify the date of subsequent refilling with petroleum liquid after the most recent out-of-service period of a year or more. _____

☐ Maximum Achievable Control Technology (MACT) Standards under 40 CFR 63, Subpart G (HON Tanks)

a) This tank is defined as a: ☐ Group 1 storage vessel ☐ Group 2 storage vessel

b) At the storage temperature, maximum true vapor pressure of total HAPs:_____

10. Supplemental data, check all that apply:

☐ Tank was converted from an external floating roof tank or a fixed roof tank to an internal floating roof tank; provide type and date of conversion: _____

☐ Tank is used to store produced crude oil or condensate prior to custody transfer.

☐ Tank is insulated; describe: _____

☐ Tank is heated and indicate temperature (in degrees Fahrenheit): _____

11. Material stored F-T DIESEL Trade Name F-T DIESEL

Density: __lbs/gal or 15-45 °API Producer ORCF

12. Temperature of stored material: Average ~50 °F and Maximum 72 °F

13. Vapor pressure of stored material:

a) Actual vapor pressure: < 0.45 psia (TVP) at average storage temperature (50 °F)

b) Reid vapor pressure, in psia:
Average Varies, assume U.S. EPA default for No. 2 Diesel
Minimum _____
Maximum _____

c) If material stored is a gas or liquified gas, provide the pressure at which it is stored:
_____psi gauge at _____°F

14. The vapor molecular weight: 130 lbs/lb-mole

15. If the material is a liquid other than gasoline, fuel oil, kerosene, crude oil, lubricant or other petroleum liquid, answer the questions below:

Is it a photochemically reactive material? ☐ Yes ☒ No

16. Is the material a hazardous waste? ☐ Yes ☒ No
If yes, identify type (EPA hazardous waste number) _____

17. Type of filling: ☐ Splash ☒ Submerged ☐ Other, specify _____

18. Indicate the year (or 12-month period) for which throughput is provided in items 19 and 20: JAN-DEC

19. The maximum daily throughput of material stored: 262,500 gallons or __ barrels.

20. Maximum annual throughput of material stored: 95,812,500 gallons or __ barrels.

21. Identify the control equipment associated with this tank.

a) Type of vapor control system: NA

b) Date tank was equipped with or vented to vapor control system (NA)

22. Complete the table below for any pressure or vacuum relief vent valve.

Type of Vent Valve	Pressure Setting	Vacuum Setting	If pressure relief is discharged to a vapor control system, identify the vapor control system
Breather Vent	0.03	-0.03	NA

If this is a Fixed Roof, Variable Vapor Space or Pressure Tank, complete items 23 through 27:

23. If the tank is vertical, what type of roof does it have?

☒ Cone roof Height: 3.59 ft ☐ Dome roof Height: _____ft

24. The average height of the liquid material stored within the tank during the year: 20 ft.

25. The maximum height of the liquid material stored within the tank during the year: 40 ft.

26. The average liquid surface temperature: ~50°F

27. Is this tank bolted or riveted construction? ☐ Yes ☐ No (TBD)

If this tank is an External Floating Roof Tank, complete items 28 through 34:

28. Is the external floating roof domed? ☐ Yes ☐ No

29. Type of floating roof: ☐ Double Deck ☐ Pontoon ☐ Other, specify _____

30. Type of shell construction: ☐ Welded ☐ Riveted or bolted

31. Are all openings in the external floating roof, except automatic bleeder vents, rim space vents, leg sleeves, main roof drain, emergency roof drains and slotted gauging/sampling wells, equipped with both a cover, seal or lid without visible gaps and a projection into the tank below the liquid surface?

☐ Yes ☐ No

If no, explain: _____

32. Is there a slotted gauging/sampling well?

☐ Yes ☐ No

If yes, is it equipped with an object which floats on the liquid surface within the well and which covers at least 90 percent of the area of the well opening?

☐ Yes ☐ No

33. On the blank lines to the left of the various types of roof fittings shown below, indicate the number, if any, of each fitting.

Access hatch (24-inch diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed

Vacuum breaker (10-inch diameter well)
_____Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Unslotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover ☐ With sleeve
_____ Gasketed sliding cover ☐ With sleeve ☐ With wiper

Slotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover, without float _____ Gasketed sliding cover, without float
_____ Gasketed sliding cover, with float

Gauge-float well (20-inch diameter)
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed
_____ Bolted cover, gasketed

Gauge-hatch/sample well (8-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Roof leg (3-inch diameter)

_____ Adjustable, pontoon area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, center area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, double-deck roofs			
_____ Fixed			

Roof drain (3-inch diameter)
_____ Open
_____ 90% closed

Roof leg (2-1/2-inch diameter)
_____ Adjustable, pontoon area
_____ Adjustable, center area
_____ Adjustable, double-deck roofs
_____ Fixed

Rim vent (6-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

34. The average wind speed at the tank site: _____mph.

If this tank is an <u>Internal</u> Floating Roof Tank, complete items 35 through 41:

35. Type of floating decks:

☐ Contact deck ☐ Noncontact deck

36. Type of roof above floating decks: ☐ Column-supported ☐ Self-supporting

37. If roof is column-supported, identify the type of column construction:

☐ 9-inch by 7-inch built-up columns ☐ Other, specify _____
☐ 8-inch diameter pipe columns

38. Floating deck seam construction:

☐ Welded ☐ Bolted ☐ Other, specify _____

39. If deck seams are bolted, complete a) or b):

a) ☐ Continuous sheet construction; specify width of sheets (e.g., 5 ft, 6 ft, or 7 ft):_____

☐ Panel construction; specify size of panels (e.g., 5 ft x 7.5 ft, or 5 ft x 12 ft):_____

b) Total length of bolted deck seams: _____ft

Total area of floating deck: _____sq ft

40. On the blank lines to the left of the various types of floating deck fittings shown below, indicate the number, if any, of each fitting.

Access hatch (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Automatic gauge float well (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Deck supports (roof legs or hanger well)
_____ Adjustable
_____ Fixed
_____ Stub drains (1-inch diameter; not used on welded contact deck)

Ladder well (usually one)
_____ Sliding cover, gasketed
_____ Sliding cover, ungasketed

Column wells
_____ Pipe column, flexible fabric sleeve seal
_____ Pipe column, gasketed sliding cover
_____ Pipe column, ungasketed sliding cover
_____ Built-up column, gasketed sliding cover
_____ Built-up column, ungasketed sliding cover

Sample pipe or well (usually one)
_____ Slotted pipe, gasketed sliding cover
_____ Slotted pipe, ungasketed sliding cover
_____ Sample well, slit fabric seal (10% open area)

Vacuum breaker (10-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

41. Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling?

☐ Yes ☐ No

If no, explain: _____

If this tank is an <u>Internal or External</u> Floating Roof Tank, complete items 42 through 47:

42. Type of seal between floating roof and tank well:

☐ Single seal (primary seal only)
☐ Single seal with weather shield (primary seal with weather shield)
☐ Dual seals (primary seal with secondary shield mounted above it)

43. Primary seal information:

Manufacturer:
Make or model:
Date installed_____
(month/year)

Type: ☐ Liquid-mounted, liquid-filled
☐ Liquid-mounted, resilient foam-filled
☐ Vapor-mounted, resilient foam-filled
☐ Mechanical shoe (complete item below)
☐ Flexible wiper
☐ Other, specify _____

If the primary seal is a mechanical shoe, complete the following:

Vertical length of shoe _____ inches
Vertical length of shoe above stored liquid surface _____ inches

44. Secondary seal information:

Manufacturer:
Make or model:
Date installed _____
(month/year)

Type:
- ☐ Rim-mounted, flexible wiper
- ☐ Rim-mounted, resilient foam-filled
- ☐ Shoe-mounted
- ☐ Weather shield
- ☐ Other, specify _____

45. Most recent seal inspection for visible holes, tears or other openings in the seal or fabric:

Seal(s) inspected:
Date of inspection:
Inspected by (person and company):
Condition of seal(s)
- ☐ Good condition
- ☐ Needed repair or replacement, specify type and date of corrective action

46. Most recent seal gap measurements:

	Primary Seal	Secondary Seal
Date of measurement	_____	_____
By: (person)	_____	_____
(company)	_____	_____
Width of maximum gap	_____ inch	_____ inch
Total area of gaps	_____ sq in	_____ sq in
	_____ sq in/ft tank diameter	_____ sq in/ft tank diameter

47. Condition of the interior side of the tank shell:

☐ Little or no rust ☐ Dense rust ☐ Gunite-lining

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): F-T DIESEL STORAGE TANK 4

2. List all equipment that are part of this air contaminant source: 3-MMGAL FIXED-ROOF STORAGE TANK

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

   When did/will you begin to install or modify the air contaminant source? (month/year) SECOND QUARTER 2008

   When did/will you begin to operate the air contaminant source? (month/year) THIRD QUARTER 2011 **OR** after issuance of PTI _____

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

   - If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
   - If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
   - Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
   - If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
   - Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE) (formerly particulate matter, PM)	0	0	0	0	0
PM_{10} (PM < 10 microns in diameter)	0	0	0	0	0
Sulfur dioxide (SO_2)	0	0	0	0	0
Nitrogen oxides (NO_x)	0	0	0	0	0
Carbon monoxide (CO)	0	0	0	0	0
Organic compounds (OC)	0.2	0.1	0.48	0.2	0.8
Volatile organic compounds (VOC)	0.2	0.1	0.48	0.2	0.8
Total HAPs	0	0	0	0	0
Highest single HAP: n-hexane	0	0	0	0	0
Air Toxics (see instructions):	0	0	0	0	0

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

Section II - Specific Air Contaminant Source Information

5. **Does this air contaminant source employ emissions control equipment?**

☐ **Yes** - fill out the applicable information below.
☒ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

☐ **Cyclone/Multiclone**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Cyclone ☐ Multiclone ☐ Rotoclone ☐ Other _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Fabric Filter/Baghouse**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
☐ Lime injection or fabric coating agent used: Type: _____ Feed rate: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Wet Scrubber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Spray chamber ☐ Packed bed ☐ Impingement ☐ Venturi ☐ Other _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
pH range for scrubbing liquid: Minimum: _____ Maximum: _____
Scrubbing liquid flow rate (gal/min): _____
Is scrubber liquid recirculated? ☐ Yes ☐ No
Water supply pressure (psig): _____ NOTE: This item for spray chambers only.
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Electrostatic Precipitator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Plate-wire ☐ Flat-plate ☐ Tubular ☐ Wet ☐ Other _____
Number of operating fields: _____

☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Concentrator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design regeneration cycle time (minutes): _____
Minimum desorption air stream temperature (°F): _____
Rotational rate (revolutions/hour): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Catalytic Incinerator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum inlet gas temperature (°F): _____
Combustion chamber residence time (seconds): _____
Minimum temperature difference (°F) across catalyst during air contaminant source operation: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Thermal Incinerator/Thermal Oxidizer**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum operating temperature (°F) and location: _____ (See line by line instructions.)
Combustion chamber residence time (seconds): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Flare**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ Enclosed ☐ Elevated (open)
Ignition device: ☐ Electric arc ☐ Pilot flame
Flame presence sensor: ☐ Yes ☐ No
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

Section II - Specific Air Contaminant Source Information

☐ **Condenser**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____

Type: ☐ Indirect contact ☐ Direct contact
Maximum exhaust gas temperature (°F) during air contaminant source operation: _____
Coolant type: _____
Design coolant temperature (°F): Minimum _____ Maximum _____
Design coolant flow rate (gpm): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Carbon Absorber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ On-site regenerative ☐ Disposable
Maximum design outlet organic compound concentration (ppmv): _____
Carbon replacement frequency or regeneration cycle time (specify units): _____
Maximum temperature of the carbon bed, after regeneration (including any cooling cycle): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Dry Scrubber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Reagent(s) used: Type: _____ Injection rate(s): _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Paint booth filter**

Type: ☐ Paper ☐ Fiberglass ☐ Water curtain ☐ Other _____
Design control efficiency (%):_____ Basis for efficiency: _____

☐ **Other**, describe

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

Section II - Specific Air Contaminant Source Information

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

   Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

   - Particulate Matter (PM10): 10 tons per year
   - Sulfur Dioxide (SO2): 25 tons per year
   - Nitrogen Oxides (NOx): 25 tons per year
   - Carbon Monoxide (CO): 100 tons per year
   - Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

   Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
F-T Diesel Tank 4	B	Round 10-inch ID	40	Ambient	Varies (passive)	600

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.
B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.
C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column

of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
NA					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions of the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

Company ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
F-T Diesel Tank 4	40	115	115

8. Request for Federally Enforceable Limits

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

☐ yes
☒ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	Type of Monitor	Applicable performance specification (40 CFR 60, Appendix B)	Pollutant(s) Monitored
NA			

10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.
☒ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

FOR OHIO EPA USE FACILITY ID_____
EU ID _____ PTI# _____

EMISSIONS ACTIVITY CATEGORY FORM
STORAGE TANK
(F-T DIESEL FIXED-ROOF TANK 4)

This form is to be completed for each storage tank for which a permit is required. State/Federal regulations which may apply to storage tanks are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)

   ☒ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. T001) _____

2. Type of tank: ☒ Fixed roof tank ☐ Variable vapor space tank ☐ Pressure tank
   ☐ External floating roof tank ☐ Internal floating roof tank

3. Location of tank: ☐ Indoors ☒ Outdoors ☐ Underground

4. a) Tank capacity: 3,000,000 gallons or _____ barrels

   If capacity is provided in barrels, enter the number of gallons per barrel: _____

   b) Working volume, if different from tank capacity: _____gallons or _____ barrels

5. Shape and dimensions:

   ☒ Cylindrical ☐ Spherical ☐ Other, specify _____

   ☐ Horizontal tanks:
   Tank shell length: _____ft.
   Tank shell diameter or width _____ft.

   ☒ Vertical tanks:
   Tank shell height: 40 ft.
   Tank shell diameter or width: 115 ft.

6. Tank shell material: ☐ Steel ☐ Aluminum ☒ Other, specify: TO BE DETERMINED

7. If this tank is located outdoors and above ground, provide the paint color of the tank's shell and roof and indicate the condition of the paint.

   Shell:
   ☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
   ☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify _____

Roof:

☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify
_____Condition of paint: ☒ Good ☐ Poor

8. If this tank is a variable vapor space tank or is interconnected to a variable vapor space tank, complete the following:

a) Capacity of vapor expansion system: _____gallons or _____ barrels

b) Identify all tanks and other vapor sources interconnected to the vapor expansion system:

_____

9. If this tank is subject to the following federal rules, complete the following:

☐ New Source Performance Standards under 40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"

a) Date of initial fill with petroleum liquid

b) Was tank out of service for a period of a year or more? ☐ Yes ☐ No
If yes, identify the date of subsequent refilling with petroleum liquid after the most recent out-of-service period of a year or more. _____

☐ Maximum Achievable Control Technology (MACT) Standards under 40 CFR 63, Subpart G (HON Tanks)

a) This tank is defined as a: ☐ Group 1 storage vessel ☐ Group 2 storage vessel

b) At the storage temperature, maximum true vapor pressure of total HAPs:_____

10. Supplemental data, check all that apply:

☐ Tank was converted from an external floating roof tank or a fixed roof tank to an internal floating roof tank; provide type and date of conversion: _____

☐ Tank is used to store produced crude oil or condensate prior to custody transfer.

☐ Tank is insulated; describe: _____

☐ Tank is heated and indicate temperature (in degrees Fahrenheit): _____

11. Material stored F-T DIESEL Trade Name F-T DIESEL

Density: __lbs/gal or 15-45 °API Producer ORCF

12. Temperature of stored material: Average ~50 °F and Maximum 72 °F

13. Vapor pressure of stored material:

a) Actual vapor pressure: < 0.45 psia (TVP) at average storage temperature (50 °F)

b) Reid vapor pressure, in psia:
Average Varies, assume U.S. EPA default for No. 2 Diesel
Minimum _____
Maximum _____

c) If material stored is a gas or liquified gas, provide the pressure at which it is stored:
_____psi gauge at _____°F

14. The vapor molecular weight: 130 lbs/lb-mole

15. If the material is a liquid other than gasoline, fuel oil, kerosene, crude oil, lubricant or other petroleum liquid, answer the questions below:

Is it a photochemically reactive material? ☐ Yes ☒ No

16. Is the material a hazardous waste? ☐ Yes ☒ No
If yes, identify type (EPA hazardous waste number) _____

17. Type of filling: ☐ Splash ☒ Submerged ☐ Other, specify _____

18. Indicate the year (or 12-month period) for which throughput is provided in items 19 and 20: JAN-DEC

19. The maximum daily throughput of material stored: 262,500 gallons or __ barrels.

20. Maximum annual throughput of material stored: 95,812,500 gallons or __ barrels.

21. Identify the control equipment associated with this tank.

a) Type of vapor control system: NA

b) Date tank was equipped with or vented to vapor control system (NA)

22. Complete the table below for any pressure or vacuum relief vent valve.

Type of Vent Valve	Pressure Setting	Vacuum Setting	If pressure relief is discharged to a vapor control system, identify the vapor control system
Breather Vent	0.03	-0.03	NA

If this is a Fixed Roof, Variable Vapor Space or Pressure Tank, complete items 23 through 27:

23. If the tank is vertical, what type of roof does it have?

☒ Cone roof Height: 3.59 ft ☐ Dome roof Height: _____ ft

24. The average height of the liquid material stored within the tank during the year: 20 ft.

25. The maximum height of the liquid material stored within the tank during the year: 40 ft.

26. The average liquid surface temperature: ~50°F

27. Is this tank bolted or riveted construction? ☐ Yes ☐ No (TBD)

If this tank is an External Floating Roof Tank, complete items 28 through 34:

28. Is the external floating roof domed? ☐ Yes ☐ No

29. Type of floating roof: ☐ Double Deck ☐ Pontoon ☐ Other, specify _____

30. Type of shell construction: ☐ Welded ☐ Riveted or bolted

31. Are all openings in the external floating roof, except automatic bleeder vents, rim space vents, leg sleeves, main roof drain, emergency roof drains and slotted gauging/sampling wells, equipped with both a cover, seal or lid without visible gaps and a projection into the tank below the liquid surface?

☐ Yes ☐ No

If no, explain: _____

32. Is there a slotted gauging/sampling well?

☐ Yes ☐ No

If yes, is it equipped with an object which floats on the liquid surface within the well and which covers at least 90 percent of the area of the well opening?

☐ Yes ☐ No

33. On the blank lines to the left of the various types of roof fittings shown below, indicate the number, if any, of each fitting.

Access hatch (24-inch diameter well)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Vacuum breaker (10-inch diameter well)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Unslotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover ☐ With sleeve
_____ Gasketed sliding cover ☐ With sleeve ☐ With wiper

Slotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover, without float _____ Gasketed sliding cover, without float
_____ Gasketed sliding cover, with float

Gauge-float well (20-inch diameter)
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed
_____ Bolted cover, gasketed

Gauge-hatch/sample well (8-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Roof leg (3-inch diameter)

_____ Adjustable, pontoon area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, center area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, double-deck roofs			
_____ Fixed			

Roof drain (3-inch diameter)
_____ Open
_____ 90% closed

Roof leg (2-1/2-inch diameter)
_____ Adjustable, pontoon area
_____ Adjustable, center area
_____ Adjustable, double-deck roofs
_____ Fixed

Rim vent (6-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

34. The average wind speed at the tank site: _____mph.

If this tank is an <u>Internal</u> Floating Roof Tank, complete items 35 through 41:

35. Type of floating decks:

☐ Contact deck ☐ Noncontact deck

36. Type of roof above floating decks: ☐ Column-supported ☐ Self-supporting

37. If roof is column-supported, identify the type of column construction:

☐ 9-inch by 7-inch built-up columns ☐ Other, specify _____
☐ 8-inch diameter pipe columns

38. Floating deck seam construction:

☐ Welded ☐ Bolted ☐ Other, specify _____

39. If deck seams are bolted, complete a) or b):

a) ☐ Continuous sheet construction; specify width of sheets (e.g., 5 ft, 6 ft, or 7 ft):_____

☐ Panel construction; specify size of panels (e.g., 5 ft x 7.5 ft, or 5 ft x 12 ft):_____

b) Total length of bolted deck seams: _____ft

Total area of floating deck: _____sq ft

40. On the blank lines to the left of the various types of floating deck fittings shown below, indicate the number, if any, of each fitting.

Access hatch (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Automatic gauge float well (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Deck supports (roof legs or hanger well)
_____ Adjustable
_____ Fixed
_____ Stub drains (1-inch diameter; not used on welded contact deck)

Ladder well (usually one)
_____ Sliding cover, gasketed
_____ Sliding cover, ungasketed

Column wells
_____ Pipe column, flexible fabric sleeve seal
_____ Pipe column, gasketed sliding cover
_____ Pipe column, ungasketed sliding cover
_____ Built-up column, gasketed sliding cover
_____ Built-up column, ungasketed sliding cover

Sample pipe or well (usually one)
_____ Slotted pipe, gasketed sliding cover
_____ Slotted pipe, ungasketed sliding cover
_____ Sample well, slit fabric seal (10% open area)

Vacuum breaker (10-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

41. Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling?

☐ Yes ☐ No

If no, explain: _____

If this tank is an <u>Internal or External</u> Floating Roof Tank, complete items 42 through 47:

42. Type of seal between floating roof and tank well:

☐ Single seal (primary seal only)
☐ Single seal with weather shield (primary seal with weather shield)
☐ Dual seals (primary seal with secondary shield mounted above it)

43. Primary seal information:

Manufacturer:
Make or model:
Date installed_____
(month/year)

Type: ☐ Liquid-mounted, liquid-filled
☐ Liquid-mounted, resilient foam-filled
☐ Vapor-mounted, resilient foam-filled
☐ Mechanical shoe (complete item below)
☐ Flexible wiper
☐ Other, specify _____

If the primary seal is a mechanical shoe, complete the following:

Vertical length of shoe _____ inches
Vertical length of shoe above stored liquid surface _____ inches

44. Secondary seal information:

Manufacturer:
Make or model:
Date installed _____
(month/year)

Type:
- ☐ Rim-mounted, flexible wiper
- ☐ Rim-mounted, resilient foam-filled
- ☐ Shoe-mounted
- ☐ Weather shield
- ☐ Other, specify _____

45. Most recent seal inspection for visible holes, tears or other openings in the seal or fabric:

Seal(s) inspected:
Date of inspection:
Inspected by (person and company):
Condition of seal(s)
- ☐ Good condition
- ☐ Needed repair or replacement, specify type and date of corrective action

46. Most recent seal gap measurements:

	Primary Seal	Secondary Seal
Date of measurement	_____	_____
By: (person)	_____	_____
(company)	_____	_____
Width of maximum gap	_____ inch	_____ inch
Total area of gaps	_____ sq in	_____ sq in
	_____ sq in/ft tank diameter	_____ sq in/ft tank diameter

47. Condition of the interior side of the tank shell:

☐ Little or no rust ☐ Dense rust ☐ Gunite-lining

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): F-T DIESEL STORAGE TANK 5

2. List all equipment that are part of this air contaminant source: 3-MMGAL FIXED-ROOF STORAGE TANK

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

   When did/will you begin to install or modify the air contaminant source? (month/year) SECOND QUARTER 2008

   When did/will you begin to operate the air contaminant source? (month/year) THIRD QUARTER 2011 **OR** after issuance of PTI _____

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

   - If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
   - If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
   - Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
   - If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
   - Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE) (formerly particulate matter, PM)	0	0	0	0	0
PM_{10} (PM < 10 microns in diameter)	0	0	0	0	0
Sulfur dioxide (SO_2)	0	0	0	0	0
Nitrogen oxides (NO_x)	0	0	0	0	0
Carbon monoxide (CO)	0	0	0	0	0
Organic compounds (OC)	0.2	0.1	0.48	0.2	0.8
Volatile organic compounds (VOC)	0.2	0.1	0.48	0.2	0.8
Total HAPs	0	0	0	0	0
Highest single HAP: n-hexane	0	0	0	0	0
Air Toxics (see instructions):	0	0	0	0	0

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

Section II - Specific Air Contaminant Source Information

5. **Does this air contaminant source employ emissions control equipment?**

☐ **Yes** - fill out the applicable information below.
☒ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

☐ **Cyclone/Multiclone**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Cyclone ☐ Multiclone ☐ Rotoclone ☐ Other _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Fabric Filter/Baghouse**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
☐ Lime injection or fabric coating agent used: Type: _____ Feed rate: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Wet Scrubber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Spray chamber ☐ Packed bed ☐ Impingement ☐ Venturi ☐ Other _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
pH range for scrubbing liquid: Minimum: _____ Maximum: _____
Scrubbing liquid flow rate (gal/min): _____
Is scrubber liquid recirculated? ☐ Yes ☐ No
Water supply pressure (psig): _____ NOTE: This item for spray chambers only.
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Electrostatic Precipitator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Plate-wire ☐ Flat-plate ☐ Tubular ☐ Wet ☐ Other _____
Number of operating fields: _____

☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Concentrator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design regeneration cycle time (minutes): _____
Minimum desorption air stream temperature (°F): _____
Rotational rate (revolutions/hour): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Catalytic Incinerator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum inlet gas temperature (°F): _____
Combustion chamber residence time (seconds): _____
Minimum temperature difference (°F) across catalyst during air contaminant source operation: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Thermal Incinerator/Thermal Oxidizer**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum operating temperature (°F) and location: _____ (See line by line instructions.)
Combustion chamber residence time (seconds): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Flare**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ Enclosed ☐ Elevated (open)
Ignition device: ☐ Electric arc ☐ Pilot flame
Flame presence sensor: ☐ Yes ☐ No
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

Section II - Specific Air Contaminant Source Information

☐ **Condenser**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____

Type: ☐ Indirect contact ☐ Direct contact
Maximum exhaust gas temperature (°F) during air contaminant source operation: _____
Coolant type: _____
Design coolant temperature (°F): Minimum _____ Maximum _____
Design coolant flow rate (gpm): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Carbon Absorber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ On-site regenerative ☐ Disposable
Maximum design outlet organic compound concentration (ppmv): _____
Carbon replacement frequency or regeneration cycle time (specify units): _____
Maximum temperature of the carbon bed, after regeneration (including any cooling cycle): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Dry Scrubber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Reagent(s) used: Type: _____ Injection rate(s): _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Paint booth filter**

Type: ☐ Paper ☐ Fiberglass ☐ Water curtain ☐ Other _____
Design control efficiency (%):_____ Basis for efficiency: _____

☐ **Other,** describe

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

Section II - Specific Air Contaminant Source Information

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

   Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

   - Particulate Matter (PM10): 10 tons per year
   - Sulfur Dioxide (SO2): 25 tons per year
   - Nitrogen Oxides (NOx): 25 tons per year
   - Carbon Monoxide (CO): 100 tons per year
   - Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

   Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
F-T Diesel Tank 5	B	Round 10-inch ID	40	Ambient	Varies (passive)	600

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.
B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.
C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column

of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
NA					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions of the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

Company ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
F-T Diesel Tank 5	40	115	115

8. Request for Federally Enforceable Limits

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

☐ yes
☒ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	**Type of Monitor**	**Applicable performance specification (40 CFR 60, Appendix B)**	**Pollutant(s) Monitored**
NA			

10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.
☒ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

FOR OHIO EPA USE
FACILITY ID_____

EU ID_____ PTI#_____

EMISSIONS ACTIVITY CATEGORY FORM
STORAGE TANK
(F-T DIESEL FIXED-ROOF TANK 5)

This form is to be completed for each storage tank for which a permit is required. State/Federal regulations which may apply to storage tanks are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)

   ☒ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. T001) _____

2. Type of tank: ☒ Fixed roof tank ☐ Variable vapor space tank ☐ Pressure tank
   ☐ External floating roof tank ☐ Internal floating roof tank

3. Location of tank: ☐ Indoors ☒ Outdoors ☐ Underground

4. a) Tank capacity: 3,000,000 gallons or _____ barrels

   If capacity is provided in barrels, enter the number of gallons per barrel: _____

   b) Working volume, if different from tank capacity: _____gallons or _____barrels

5. Shape and dimensions:

   ☒ Cylindrical ☐ Spherical ☐ Other, specify _____

   ☐ Horizontal tanks:
   Tank shell length: _____ft.
   Tank shell diameter or width _____ft.

   ☒ Vertical tanks:
   Tank shell height: 40 ft.
   Tank shell diameter or width: 115 ft.

6. Tank shell material: ☐ Steel ☐ Aluminum ☒ Other, specify: TO BE DETERMINED

7. If this tank is located outdoors and above ground, provide the paint color of the tank's shell and roof and indicate the condition of the paint.

   Shell:
   ☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
   ☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify _____

Roof:

☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify
_____Condition of paint: ☒ Good ☐ Poor

8. If this tank is a variable vapor space tank or is interconnected to a variable vapor space tank, complete the following:

a) Capacity of vapor expansion system: _____gallons or _____ barrels

b) Identify all tanks and other vapor sources interconnected to the vapor expansion system:

_____

9. If this tank is subject to the following federal rules, complete the following:

☐ New Source Performance Standards under 40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"

a) Date of initial fill with petroleum liquid

b) Was tank out of service for a period of a year or more? ☐ Yes ☐ No
If yes, identify the date of subsequent refilling with petroleum liquid after the most recent out-of-service period of a year or more. _____

☐ Maximum Achievable Control Technology (MACT) Standards under 40 CFR 63, Subpart G (HON Tanks)

a) This tank is defined as a: ☐ Group 1 storage vessel ☐ Group 2 storage vessel

b) At the storage temperature, maximum true vapor pressure of total HAPs:_____

10. Supplemental data, check all that apply:

☐ Tank was converted from an external floating roof tank or a fixed roof tank to an internal floating roof tank; provide type and date of conversion: _____

☐ Tank is used to store produced crude oil or condensate prior to custody transfer.

☐ Tank is insulated; describe: _____

☐ Tank is heated and indicate temperature (in degrees Fahrenheit): _____

11. Material stored F-T DIESEL Trade Name F-T DIESEL

Density: __lbs/gal or 15-45 °API Producer ORCF

12. Temperature of stored material: Average ~50 °F and Maximum 72 °F

13. Vapor pressure of stored material:

a) Actual vapor pressure: < 0.45 psia (TVP) at average storage temperature (50 °F)

b) Reid vapor pressure, in psia:
Average Varies, assume U.S. EPA default for No. 2 Diesel
Minimum _____
Maximum _____

c) If material stored is a gas or liquified gas, provide the pressure at which it is stored:
_____psi gauge at _____°F

14. The vapor molecular weight: 130 lbs/lb-mole

15. If the material is a liquid other than gasoline, fuel oil, kerosene, crude oil, lubricant or other petroleum liquid, answer the questions below:

Is it a photochemically reactive material? ☐ Yes ☒ No

16. Is the material a hazardous waste? ☐ Yes ☒ No
If yes, identify type (EPA hazardous waste number) _____

17. Type of filling: ☐ Splash ☒ Submerged ☐ Other, specify _____

18. Indicate the year (or 12-month period) for which throughput is provided in items 19 and 20: JAN-DEC

19. The maximum daily throughput of material stored: 262,500 gallons or __ barrels.

20. Maximum annual throughput of material stored: 95,812,500 gallons or __ barrels.

21. Identify the control equipment associated with this tank.

a) Type of vapor control system: NA

b) Date tank was equipped with or vented to vapor control system (NA)

22. Complete the table below for any pressure or vacuum relief vent valve.

Type of Vent Valve	Pressure Setting	Vacuum Setting	If pressure relief is discharged to a vapor control system, identify the vapor control system
Breather Vent	0.03	-0.03	NA

If this is a Fixed Roof, Variable Vapor Space or Pressure Tank, complete items 23 through 27:

23. If the tank is vertical, what type of roof does it have?

☒ Cone roof Height: 3.59 ft ☐ Dome roof Height: _____ ft

24. The average height of the liquid material stored within the tank during the year: 20 ft.

25. The maximum height of the liquid material stored within the tank during the year: 40 ft.

26. The average liquid surface temperature: ~50°F

27. Is this tank bolted or riveted construction? ☐ Yes ☐ No (TBD)

If this tank is an External Floating Roof Tank, complete items 28 through 34:

28. Is the external floating roof domed? ☐ Yes ☐ No

29. Type of floating roof: ☐ Double Deck ☐ Pontoon ☐ Other, specify _____

30. Type of shell construction: ☐ Welded ☐ Riveted or bolted

31. Are all openings in the external floating roof, except automatic bleeder vents, rim space vents, leg sleeves, main roof drain, emergency roof drains and slotted gauging/sampling wells, equipped with both a cover, seal or lid without visible gaps and a projection into the tank below the liquid surface?

☐ Yes ☐ No

If no, explain: _____

32. Is there a slotted gauging/sampling well?

☐ Yes ☐ No

If yes, is it equipped with an object which floats on the liquid surface within the well and which covers at least 90 percent of the area of the well opening?

☐ Yes ☐ No

33. On the blank lines to the left of the various types of roof fittings shown below, indicate the number, if any, of each fitting.

Access hatch (24-inch diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed

Vacuum breaker (10-inch diameter well)
_____Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Unslotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover ☐ With sleeve
_____ Gasketed sliding cover ☐ With sleeve ☐ With wiper

Slotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover, without float _____ Gasketed sliding cover, without float
_____ Gasketed sliding cover, with float

Gauge-float well (20-inch diameter)
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed
_____ Bolted cover, gasketed

Gauge-hatch/sample well (8-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Roof leg (3-inch diameter)

_____ Adjustable, pontoon area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, center area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, double-deck roofs			
_____ Fixed			

Roof drain (3-inch diameter)
_____ Open
_____ 90% closed

Roof leg (2-1/2-inch diameter)
_____ Adjustable, pontoon area
_____ Adjustable, center area
_____ Adjustable, double-deck roofs
_____ Fixed

Rim vent (6-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

34. The average wind speed at the tank site: _____mph.

If this tank is an <u>Internal</u> Floating Roof Tank, complete items 35 through 41:

35. Type of floating decks:

☐ Contact deck ☐ Noncontact deck

36. Type of roof above floating decks: ☐ Column-supported ☐ Self-supporting

37. If roof is column-supported, identify the type of column construction:

☐ 9-inch by 7-inch built-up columns ☐ Other, specify _____
☐ 8-inch diameter pipe columns

38. Floating deck seam construction:

☐ Welded ☐ Bolted ☐ Other, specify _____

39. If deck seams are bolted, complete a) or b):

a) ☐ Continuous sheet construction; specify width of sheets (e.g., 5 ft, 6 ft, or 7 ft):_____

☐ Panel construction; specify size of panels (e.g., 5 ft x 7.5 ft, or 5 ft x 12 ft):_____

b) Total length of bolted deck seams: _____ft

Total area of floating deck: _____sq ft

40. On the blank lines to the left of the various types of floating deck fittings shown below, indicate the number, if any, of each fitting.

Access hatch (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Automatic gauge float well (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Deck supports (roof legs or hanger well)
_____ Adjustable
_____ Fixed
_____ Stub drains (1-inch diameter; not used on welded contact deck)

Ladder well (usually one)
_____ Sliding cover, gasketed
_____ Sliding cover, ungasketed

Column wells
_____ Pipe column, flexible fabric sleeve seal
_____ Pipe column, gasketed sliding cover
_____ Pipe column, ungasketed sliding cover
_____ Built-up column, gasketed sliding cover
_____ Built-up column, ungasketed sliding cover

Sample pipe or well (usually one)
_____ Slotted pipe, gasketed sliding cover
_____ Slotted pipe, ungasketed sliding cover
_____ Sample well, slit fabric seal (10% open area)

Vacuum breaker (10-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

41. Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling?

☐ Yes ☐ No

If no, explain: _____

If this tank is an <u>Internal or External</u> Floating Roof Tank, complete items 42 through 47:

42. Type of seal between floating roof and tank well:

☐ Single seal (primary seal only)
☐ Single seal with weather shield (primary seal with weather shield)
☐ Dual seals (primary seal with secondary shield mounted above it)

43. Primary seal information:

Manufacturer:
Make or model:
Date installed_____
(month/year)

Type: ☐ Liquid-mounted, liquid-filled
☐ Liquid-mounted, resilient foam-filled
☐ Vapor-mounted, resilient foam-filled
☐ Mechanical shoe (complete item below)
☐ Flexible wiper
☐ Other, specify _____

If the primary seal is a mechanical shoe, complete the following:

Vertical length of shoe _____ inches
Vertical length of shoe above stored liquid surface _____ inches

44. Secondary seal information:

Manufacturer:
Make or model:
Date installed _____
(month/year)

Type:
- ☐ Rim-mounted, flexible wiper
- ☐ Rim-mounted, resilient foam-filled
- ☐ Shoe-mounted
- ☐ Weather shield
- ☐ Other, specify _____

45. Most recent seal inspection for visible holes, tears or other openings in the seal or fabric:

Seal(s) inspected:
Date of inspection:
Inspected by (person and company):
Condition of seal(s)
- ☐ Good condition
- ☐ Needed repair or replacement, specify type and date of corrective action

46. Most recent seal gap measurements:

	Primary Seal	Secondary Seal
Date of measurement	_____	_____
By: (person)	_____	_____
(company)	_____	_____
Width of maximum gap	_____ inch	_____ inch
Total area of gaps	_____ sq in	_____ sq in
	_____ sq in/ft tank diameter	_____ sq in/ft tank diameter

47. Condition of the interior side of the tank shell:

☐ Little or no rust ☐ Dense rust ☐ Gunite-lining

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): F-T DIESEL STORAGE TANK 6

2. List all equipment that are part of this air contaminant source: 3-MMGAL FIXED-ROOF STORAGE TANK

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

   When did/will you begin to install or modify the air contaminant source? (month/year) SECOND QUARTER 2008

   When did/will you begin to operate the air contaminant source? (month/year) THIRD QUARTER 2011 **OR** after issuance of PTI _____

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

   - If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
   - If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
   - Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
   - If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
   - Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE) (formerly particulate matter, PM)	0	0	0	0	0
PM_{10} (PM < 10 microns in diameter)	0	0	0	0	0
Sulfur dioxide (SO_2)	0	0	0	0	0
Nitrogen oxides (NO_x)	0	0	0	0	0
Carbon monoxide (CO)	0	0	0	0	0
Organic compounds (OC)	0.2	0.1	0.48	0.2	0.8
Volatile organic compounds (VOC)	0.2	0.1	0.48	0.2	0.8
Total HAPs	0	0	0	0	0
Highest single HAP: n-hexane	0	0	0	0	0
Air Toxics (see instructions):	0	0	0	0	0

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

Section II - Specific Air Contaminant Source Information

5. **Does this air contaminant source employ emissions control equipment?**

☐ **Yes** - fill out the applicable information below.
☒ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

☐ **Cyclone/Multiclone**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Cyclone ☐ Multiclone ☐ Rotoclone ☐ Other _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Fabric Filter/Baghouse**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
☐ Lime injection or fabric coating agent used: Type: _____ Feed rate: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Wet Scrubber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Spray chamber ☐ Packed bed ☐ Impingement ☐ Venturi ☐ Other _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
pH range for scrubbing liquid: Minimum: _____ Maximum: _____
Scrubbing liquid flow rate (gal/min): _____
Is scrubber liquid recirculated? ☐ Yes ☐ No
Water supply pressure (psig): _____ NOTE: This item for spray chambers only.
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Electrostatic Precipitator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Plate-wire ☐ Flat-plate ☐ Tubular ☐ Wet ☐ Other _____
Number of operating fields: _____

☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Concentrator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design regeneration cycle time (minutes): _____
Minimum desorption air stream temperature (°F): _____
Rotational rate (revolutions/hour): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Catalytic Incinerator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum inlet gas temperature (°F): _____
Combustion chamber residence time (seconds): _____
Minimum temperature difference (°F) across catalyst during air contaminant source operation: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Thermal Incinerator/Thermal Oxidizer**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum operating temperature (°F) and location: _____ (See line by line instructions.)
Combustion chamber residence time (seconds): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Flare**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ Enclosed ☐ Elevated (open)
Ignition device: ☐ Electric arc ☐ Pilot flame
Flame presence sensor: ☐ Yes ☐ No
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

Section II - Specific Air Contaminant Source Information

☐ **Condenser**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____

Type: ☐ Indirect contact ☐ Direct contact
Maximum exhaust gas temperature (°F) during air contaminant source operation: _____
Coolant type: _____
Design coolant temperature (°F): Minimum _____ Maximum _____
Design coolant flow rate (gpm): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Carbon Absorber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ On-site regenerative ☐ Disposable
Maximum design outlet organic compound concentration (ppmv): _____
Carbon replacement frequency or regeneration cycle time (specify units): _____
Maximum temperature of the carbon bed, after regeneration (including any cooling cycle): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Dry Scrubber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Reagent(s) used: Type: _____ Injection rate(s): _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Paint booth filter**

Type: ☐ Paper ☐ Fiberglass ☐ Water curtain ☐ Other _____
Design control efficiency (%):_____ Basis for efficiency: _____

☐ **Other**, describe

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

Section II - Specific Air Contaminant Source Information

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

   Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

   - Particulate Matter (PM10): 10 tons per year
   - Sulfur Dioxide (SO2): 25 tons per year
   - Nitrogen Oxides (NOx): 25 tons per year
   - Carbon Monoxide (CO): 100 tons per year
   - Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

   Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
F-T Diesel Tank 6	B	Round 10-inch ID	40	Ambient	Varies (passive)	600

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.
B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.
C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column

of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
NA					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions of the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

Company ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
F-T Diesel Tank 6	40	115	115

8. Request for Federally Enforceable Limits

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

☐ yes
☒ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	Type of Monitor	Applicable performance specification (40 CFR 60, Appendix B)	Pollutant(s) Monitored
NA			

10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.
☒ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

FOR OHIO EPA USE FACILITY ID_____
EU ID _____ PTI#

EMISSIONS ACTIVITY CATEGORY FORM
STORAGE TANK
(F-T DIESEL FIXED-ROOF TANK 6)

This form is to be completed for each storage tank for which a permit is required. State/Federal regulations which may apply to storage tanks are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)

   ☒ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. T001) _____

2. Type of tank: ☒ Fixed roof tank ☐ Variable vapor space tank ☐ Pressure tank
   ☐ External floating roof tank ☐ Internal floating roof tank

3. Location of tank: ☐ Indoors ☒ Outdoors ☐ Underground

4. a) Tank capacity: 3,000,000 gallons or _____ barrels

   If capacity is provided in barrels, enter the number of gallons per barrel: _____

   b) Working volume, if different from tank capacity: _____gallons or _____ barrels

5. Shape and dimensions:

   ☒ Cylindrical ☐ Spherical ☐ Other, specify _____

   ☐ Horizontal tanks:
   Tank shell length: _____ft.
   Tank shell diameter or width _____ft.

   ☒ Vertical tanks:
   Tank shell height: 40 ft.
   Tank shell diameter or width: 115 ft.

6. Tank shell material: ☐ Steel ☐ Aluminum ☒ Other, specify: TO BE DETERMINED

7. If this tank is located outdoors and above ground, provide the paint color of the tank's shell and roof and indicate the condition of the paint.

   Shell:
   ☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
   ☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify _____

Roof:

☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify
_____Condition of paint: ☒ Good ☐ Poor

8. If this tank is a variable vapor space tank or is interconnected to a variable vapor space tank, complete the following:

a) Capacity of vapor expansion system: _____gallons or _____ barrels

b) Identify all tanks and other vapor sources interconnected to the vapor expansion system:

_____

9. If this tank is subject to the following federal rules, complete the following:

☐ New Source Performance Standards under 40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"

a) Date of initial fill with petroleum liquid

b) Was tank out of service for a period of a year or more? ☐ Yes ☐ No
If yes, identify the date of subsequent refilling with petroleum liquid after the most recent out-of-service period of a year or more. _____

☐ Maximum Achievable Control Technology (MACT) Standards under 40 CFR 63, Subpart G (HON Tanks)

a) This tank is defined as a: ☐ Group 1 storage vessel ☐ Group 2 storage vessel

b) At the storage temperature, maximum true vapor pressure of total HAPs:_____

10. Supplemental data, check all that apply:

☐ Tank was converted from an external floating roof tank or a fixed roof tank to an internal floating roof tank; provide type and date of conversion: _____

☐ Tank is used to store produced crude oil or condensate prior to custody transfer.

☐ Tank is insulated; describe: _____

☐ Tank is heated and indicate temperature (in degrees Fahrenheit): _____

11. Material stored F-T DIESEL Trade Name F-T DIESEL

Density: __lbs/gal or 15-45 °API Producer ORCF

12. Temperature of stored material: Average ~50 °F and Maximum 72 °F

13. Vapor pressure of stored material:

a) Actual vapor pressure: < 0.45 psia (TVP) at average storage temperature (50 °F)

b) Reid vapor pressure, in psia:
Average Varies, assume U.S. EPA default for No. 2 Diesel
Minimum _____
Maximum _____

c) If material stored is a gas or liquified gas, provide the pressure at which it is stored:
_____psi gauge at _____ °F

14. The vapor molecular weight: 130 lbs/lb-mole

15. If the material is a liquid other than gasoline, fuel oil, kerosene, crude oil, lubricant or other petroleum liquid, answer the questions below:

Is it a photochemically reactive material? ☐ Yes ☒ No

16. Is the material a hazardous waste? ☐ Yes ☒ No
If yes, identify type (EPA hazardous waste number) _____

17. Type of filling: ☐ Splash ☒ Submerged ☐ Other, specify _____

18. Indicate the year (or 12-month period) for which throughput is provided in items 19 and 20: JAN-DEC

19. The maximum daily throughput of material stored: 262,500 gallons or __ barrels.

20. Maximum annual throughput of material stored: 95,812,500 gallons or __ barrels.

21. Identify the control equipment associated with this tank.

a) Type of vapor control system: NA

b) Date tank was equipped with or vented to vapor control system (NA)

22. Complete the table below for any pressure or vacuum relief vent valve.

Type of Vent Valve	Pressure Setting	Vacuum Setting	If pressure relief is discharged to a vapor control system, identify the vapor control system
Breather Vent	0.03	-0.03	NA

If this is a Fixed Roof, Variable Vapor Space or Pressure Tank, complete items 23 through 27:

23. If the tank is vertical, what type of roof does it have?

☒ Cone roof Height: 3.59 ft ☐ Dome roof Height: _____ ft

24. The average height of the liquid material stored within the tank during the year: 20 ft.

25. The maximum height of the liquid material stored within the tank during the year: 40 ft.

26. The average liquid surface temperature: ~50°F

27. Is this tank bolted or riveted construction? ☐ Yes ☐ No (TBD)

If this tank is an External Floating Roof Tank, complete items 28 through 34:

28. Is the external floating roof domed? ☐ Yes ☐ No

29. Type of floating roof: ☐ Double Deck ☐ Pontoon ☐ Other, specify _____

30. Type of shell construction: ☐ Welded ☐ Riveted or bolted

31. Are all openings in the external floating roof, except automatic bleeder vents, rim space vents, leg sleeves, main roof drain, emergency roof drains and slotted gauging/sampling wells, equipped with both a cover, seal or lid without visible gaps and a projection into the tank below the liquid surface?

☐ Yes ☐ No

If no, explain: _____

32. Is there a slotted gauging/sampling well?

☐ Yes ☐ No

If yes, is it equipped with an object which floats on the liquid surface within the well and which covers at least 90 percent of the area of the well opening?

☐ Yes ☐ No

33. On the blank lines to the left of the various types of roof fittings shown below, indicate the number, if any, of each fitting.

Access hatch (24-inch diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed

Vacuum breaker (10-inch diameter well)
_____Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Unslotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover ☐ With sleeve
_____ Gasketed sliding cover ☐ With sleeve ☐ With wiper

Slotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover, without float _____ Gasketed sliding cover, without float
_____ Gasketed sliding cover, with float

Gauge-float well (20-inch diameter)
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed
_____ Bolted cover, gasketed

Gauge-hatch/sample well (8-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Roof leg (3-inch diameter)

_____ Adjustable, pontoon area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, center area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, double-deck roofs			
_____ Fixed			

Roof drain (3-inch diameter)
_____ Open
_____ 90% closed

Roof leg (2-1/2-inch diameter)
_____ Adjustable, pontoon area
_____ Adjustable, center area
_____ Adjustable, double-deck roofs
_____ Fixed

Rim vent (6-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

34. The average wind speed at the tank site: _____mph.

If this tank is an <u>Internal</u> Floating Roof Tank, complete items 35 through 41:

35. Type of floating decks:

☐ Contact deck ☐ Noncontact deck

36. Type of roof above floating decks: ☐ Column-supported ☐ Self-supporting

37. If roof is column-supported, identify the type of column construction:

☐ 9-inch by 7-inch built-up columns ☐ Other, specify _____
☐ 8-inch diameter pipe columns

38. Floating deck seam construction:

☐ Welded ☐ Bolted ☐ Other, specify _____

39. If deck seams are bolted, complete a) or b):

a) ☐ Continuous sheet construction; specify width of sheets (e.g., 5 ft, 6 ft, or 7 ft):_____

☐ Panel construction; specify size of panels (e.g., 5 ft x 7.5 ft, or 5 ft x 12 ft):_____

b) Total length of bolted deck seams: _____ft

Total area of floating deck: _____sq ft

40. On the blank lines to the left of the various types of floating deck fittings shown below, indicate the number, if any, of each fitting.

Access hatch (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Automatic gauge float well (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Deck supports (roof legs or hanger well)
_____ Adjustable
_____ Fixed
_____ Stub drains (1-inch diameter; not used on welded contact deck)

Ladder well (usually one)
_____ Sliding cover, gasketed
_____ Sliding cover, ungasketed

Column wells
_____ Pipe column, flexible fabric sleeve seal
_____ Pipe column, gasketed sliding cover
_____ Pipe column, ungasketed sliding cover
_____ Built-up column, gasketed sliding cover
_____ Built-up column, ungasketed sliding cover

Sample pipe or well (usually one)
_____ Slotted pipe, gasketed sliding cover
_____ Slotted pipe, ungasketed sliding cover
_____ Sample well, slit fabric seal (10% open area)

Vacuum breaker (10-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

41. Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling?

☐ Yes ☐ No

If no, explain: _____

If this tank is an <u>Internal or External</u> Floating Roof Tank, complete items 42 through 47:

42. Type of seal between floating roof and tank well:

☐ Single seal (primary seal only)
☐ Single seal with weather shield (primary seal with weather shield)
☐ Dual seals (primary seal with secondary shield mounted above it)

43. Primary seal information:

Manufacturer:
Make or model:
Date installed_____
(month/year)

Type: ☐ Liquid-mounted, liquid-filled
☐ Liquid-mounted, resilient foam-filled
☐ Vapor-mounted, resilient foam-filled
☐ Mechanical shoe (complete item below)
☐ Flexible wiper
☐ Other, specify _____

If the primary seal is a mechanical shoe, complete the following:

Vertical length of shoe _____ inches
Vertical length of shoe above stored liquid surface _____ inches

44. Secondary seal information:

Manufacturer:
Make or model:
Date installed _____
(month/year)

Type:
- ☐ Rim-mounted, flexible wiper
- ☐ Rim-mounted, resilient foam-filled
- ☐ Shoe-mounted
- ☐ Weather shield
- ☐ Other, specify _____

45. Most recent seal inspection for visible holes, tears or other openings in the seal or fabric:

Seal(s) inspected:
Date of inspection:
Inspected by (person and company):
Condition of seal(s)
- ☐ Good condition
- ☐ Needed repair or replacement, specify type and date of corrective action

46. Most recent seal gap measurements:

	Primary Seal	Secondary Seal
Date of measurement	_____	_____
By: (person)	_____	_____
(company)	_____	_____
Width of maximum gap	_____ inch	_____ inch
Total area of gaps	_____ sq in	_____ sq in
	_____ sq in/ft tank diameter	_____ sq in/ft tank diameter

47. Condition of the interior side of the tank shell:

☐ Little or no rust ☐ Dense rust ☐ Gunite-lining

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): F-T DIESEL STORAGE TANK 7

2. List all equipment that are part of this air contaminant source: 3-MMGAL FIXED-ROOF STORAGE TANK

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

   When did/will you begin to install or modify the air contaminant source? (month/year) SECOND QUARTER 2008

   When did/will you begin to operate the air contaminant source? (month/year) THIRD QUARTER 2011 **OR** after issuance of PTI _____

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

   - If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
   - If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
   - Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
   - If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
   - Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE) (formerly particulate matter, PM)	0	0	0	0	0
PM_{10} (PM < 10 microns in diameter)	0	0	0	0	0
Sulfur dioxide (SO_2)	0	0	0	0	0
Nitrogen oxides (NO_x)	0	0	0	0	0
Carbon monoxide (CO)	0	0	0	0	0
Organic compounds (OC)	0.2	0.1	0.48	0.2	0.8
Volatile organic compounds (VOC)	0.2	0.1	0.48	0.2	0.8
Total HAPs	0	0	0	0	0
Highest single HAP: n-hexane	0	0	0	0	0
Air Toxics (see instructions):	0	0	0	0	0

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

Section II - Specific Air Contaminant Source Information

5. **Does this air contaminant source employ emissions control equipment?**

☐ **Yes** - fill out the applicable information below.
☒ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

☐ **Cyclone/Multiclone**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Cyclone ☐ Multiclone ☐ Rotoclone ☐ Other _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Fabric Filter/Baghouse**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
☐ Lime injection or fabric coating agent used: Type: _____ Feed rate: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Wet Scrubber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Spray chamber ☐ Packed bed ☐ Impingement ☐ Venturi ☐ Other _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
pH range for scrubbing liquid: Minimum: _____ Maximum: _____
Scrubbing liquid flow rate (gal/min): _____
Is scrubber liquid recirculated? ☐ Yes ☐ No
Water supply pressure (psig): _____ NOTE: This item for spray chambers only.
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Electrostatic Precipitator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Plate-wire ☐ Flat-plate ☐ Tubular ☐ Wet ☐ Other _____
Number of operating fields: _____

☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Concentrator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design regeneration cycle time (minutes): _____
Minimum desorption air stream temperature (°F): _____
Rotational rate (revolutions/hour): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Catalytic Incinerator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum inlet gas temperature (°F): _____
Combustion chamber residence time (seconds): _____
Minimum temperature difference (°F) across catalyst during air contaminant source operation: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Thermal Incinerator/Thermal Oxidizer**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum operating temperature (°F) and location: _____ (See line by line instructions.)
Combustion chamber residence time (seconds): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Flare**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ Enclosed ☐ Elevated (open)
Ignition device: ☐ Electric arc ☐ Pilot flame
Flame presence sensor: ☐ Yes ☐ No
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

Section II - Specific Air Contaminant Source Information

☐ **Condenser**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____

Type: ☐ Indirect contact ☐ Direct contact
Maximum exhaust gas temperature (°F) during air contaminant source operation: _____
Coolant type: _____
Design coolant temperature (°F): Minimum _____ Maximum _____
Design coolant flow rate (gpm): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Carbon Absorber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ On-site regenerative ☐ Disposable
Maximum design outlet organic compound concentration (ppmv): _____
Carbon replacement frequency or regeneration cycle time (specify units): _____
Maximum temperature of the carbon bed, after regeneration (including any cooling cycle): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Dry Scrubber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Reagent(s) used: Type: _____ Injection rate(s): _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Paint booth filter**

Type: ☐ Paper ☐ Fiberglass ☐ Water curtain ☐ Other _____
Design control efficiency (%):_____ Basis for efficiency: _____

☐ **Other,** describe

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

Section II - Specific Air Contaminant Source Information

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

   Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

   - Particulate Matter (PM10): 10 tons per year
   - Sulfur Dioxide (SO2): 25 tons per year
   - Nitrogen Oxides (NOx): 25 tons per year
   - Carbon Monoxide (CO): 100 tons per year
   - Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

   Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
F-T Diesel Tank 7	B	Round 10-inch ID	40	Ambient	Varies (passive)	600

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.
B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.
C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column

of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
NA					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions of the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

Company ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
F-T Diesel Tank 7	40	115	115

8. Request for Federally Enforceable Limits

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

☐ yes
☒ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	**Type of Monitor**	**Applicable performance specification (40 CFR 60, Appendix B)**	**Pollutant(s) Monitored**
NA			

10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.
☒ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

FOR OHIO EPA USE
FACILITY ID_____

EU ID PTI#

EMISSIONS ACTIVITY CATEGORY FORM
STORAGE TANK
(F-T DIESEL FIXED-ROOF TANK 7)

This form is to be completed for each storage tank for which a permit is required. State/Federal regulations which may apply to storage tanks are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)

   ☒ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. T001) _____

2. Type of tank: ☒ Fixed roof tank ☐ Variable vapor space tank ☐ Pressure tank
   ☐ External floating roof tank ☐ Internal floating roof tank

3. Location of tank: ☐ Indoors ☒ Outdoors ☐ Underground

4. a) Tank capacity: 3,000,000 gallons or _____ barrels

   If capacity is provided in barrels, enter the number of gallons per barrel: _____

   b) Working volume, if different from tank capacity: _____gallons or _____ barrels

5. Shape and dimensions:

   ☒ Cylindrical ☐ Spherical ☐ Other, specify _____

   ☐ Horizontal tanks:
   Tank shell length: _____ft.
   Tank shell diameter or width _____ft.

   ☒ Vertical tanks:
   Tank shell height: 40 ft.
   Tank shell diameter or width: 115 ft.

6. Tank shell material: ☐ Steel ☐ Aluminum ☒ Other, specify: TO BE DETERMINED

7. If this tank is located outdoors and above ground, provide the paint color of the tank's shell and roof and indicate the condition of the paint.

   Shell:
   ☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
   ☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify _____

Roof:

☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify
_____Condition of paint: ☒ Good ☐ Poor

8. If this tank is a variable vapor space tank or is interconnected to a variable vapor space tank, complete the following:

a) Capacity of vapor expansion system: _____gallons or _____ barrels

b) Identify all tanks and other vapor sources interconnected to the vapor expansion system:

_____

9. If this tank is subject to the following federal rules, complete the following:

☐ New Source Performance Standards under 40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"

a) Date of initial fill with petroleum liquid

b) Was tank out of service for a period of a year or more? ☐ Yes ☐ No
If yes, identify the date of subsequent refilling with petroleum liquid after the most recent out-of-service period of a year or more. _____

☐ Maximum Achievable Control Technology (MACT) Standards under 40 CFR 63, Subpart G (HON Tanks)

a) This tank is defined as a: ☐ Group 1 storage vessel ☐ Group 2 storage vessel

b) At the storage temperature, maximum true vapor pressure of total HAPs:_____

10. Supplemental data, check all that apply:

☐ Tank was converted from an external floating roof tank or a fixed roof tank to an internal floating roof tank; provide type and date of conversion: _____

☐ Tank is used to store produced crude oil or condensate prior to custody transfer.

☐ Tank is insulated; describe: _____

☐ Tank is heated and indicate temperature (in degrees Fahrenheit): _____

11. Material stored F-T DIESEL Trade Name F-T DIESEL

Density: __lbs/gal or 15-45 °API Producer ORCF

12. Temperature of stored material: Average ~50 °F and Maximum 72 °F

13. Vapor pressure of stored material:

a) Actual vapor pressure: < 0.45 psia (TVP) at average storage temperature (50 °F)

b) Reid vapor pressure, in psia:
Average Varies, assume U.S. EPA default for No. 2 Diesel
Minimum _____
Maximum _____

c) If material stored is a gas or liquified gas, provide the pressure at which it is stored:
_____psi gauge at _____°F

14. The vapor molecular weight: 130 lbs/lb-mole

15. If the material is a liquid other than gasoline, fuel oil, kerosene, crude oil, lubricant or other petroleum liquid, answer the questions below:

Is it a photochemically reactive material? ☐ Yes ☒ No

16. Is the material a hazardous waste? ☐ Yes ☒ No
If yes, identify type (EPA hazardous waste number) _____

17. Type of filling: ☐ Splash ☒ Submerged ☐ Other, specify _____

18. Indicate the year (or 12-month period) for which throughput is provided in items 19 and 20: JAN-DEC

19. The maximum daily throughput of material stored: 262,500 gallons or __ barrels.

20. Maximum annual throughput of material stored: 95,812,500 gallons or __ barrels.

21. Identify the control equipment associated with this tank.

a) Type of vapor control system: NA

b) Date tank was equipped with or vented to vapor control system (NA)

22. Complete the table below for any pressure or vacuum relief vent valve.

Type of Vent Valve	Pressure Setting	Vacuum Setting	If pressure relief is discharged to a vapor control system, identify the vapor control system
Breather Vent	0.03	-0.03	NA

If this is a Fixed Roof, Variable Vapor Space or Pressure Tank, complete items 23 through 27:

23. If the tank is vertical, what type of roof does it have?

☒ Cone roof Height: 3.59 ft ☐ Dome roof Height: _____ft

24. The average height of the liquid material stored within the tank during the year: 20 ft.

25. The maximum height of the liquid material stored within the tank during the year: 40 ft.

26. The average liquid surface temperature: ~50°F

27. Is this tank bolted or riveted construction? ☐ Yes ☐ No (TBD)

If this tank is an External Floating Roof Tank, complete items 28 through 34:

28. Is the external floating roof domed? ☐ Yes ☐ No

29. Type of floating roof: ☐ Double Deck ☐ Pontoon ☐ Other, specify _____

30. Type of shell construction: ☐ Welded ☐ Riveted or bolted

31. Are all openings in the external floating roof, except automatic bleeder vents, rim space vents, leg sleeves, main roof drain, emergency roof drains and slotted gauging/sampling wells, equipped with both a cover, seal or lid without visible gaps and a projection into the tank below the liquid surface?

☐ Yes ☐ No

If no, explain: _____

32. Is there a slotted gauging/sampling well?

☐ Yes ☐ No

If yes, is it equipped with an object which floats on the liquid surface within the well and which covers at least 90 percent of the area of the well opening?

☐ Yes ☐ No

33. On the blank lines to the left of the various types of roof fittings shown below, indicate the number, if any, of each fitting.

Access hatch (24-inch diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed

Vacuum breaker (10-inch diameter well)
_____Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Unslotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover ☐ With sleeve
_____ Gasketed sliding cover ☐ With sleeve ☐ With wiper

Slotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover, without float _____ Gasketed sliding cover, without float
_____ Gasketed sliding cover, with float

Gauge-float well (20-inch diameter)
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed
_____ Bolted cover, gasketed

Gauge-hatch/sample well (8-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Roof leg (3-inch diameter)

_____ Adjustable, pontoon area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, center area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, double-deck roofs			
_____ Fixed			

Roof drain (3-inch diameter)
_____ Open
_____ 90% closed

Roof leg (2-1/2-inch diameter)
_____ Adjustable, pontoon area
_____ Adjustable, center area
_____ Adjustable, double-deck roofs
_____ Fixed

Rim vent (6-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

34. The average wind speed at the tank site: _____mph.

If this tank is an <u>Internal</u> Floating Roof Tank, complete items 35 through 41:

35. Type of floating decks:

☐ Contact deck ☐ Noncontact deck

36. Type of roof above floating decks: ☐ Column-supported ☐ Self-supporting

37. If roof is column-supported, identify the type of column construction:

☐ 9-inch by 7-inch built-up columns ☐ Other, specify _____
☐ 8-inch diameter pipe columns

38. Floating deck seam construction:

☐ Welded ☐ Bolted ☐ Other, specify _____

39. If deck seams are bolted, complete a) or b):

a) ☐ Continuous sheet construction; specify width of sheets (e.g., 5 ft, 6 ft, or 7 ft):_____

☐ Panel construction; specify size of panels (e.g., 5 ft x 7.5 ft, or 5 ft x 12 ft):_____

b) Total length of bolted deck seams: _____ft

Total area of floating deck: _____sq ft

40. On the blank lines to the left of the various types of floating deck fittings shown below, indicate the number, if any, of each fitting.

Access hatch (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Automatic gauge float well (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Deck supports (roof legs or hanger well)
_____ Adjustable
_____ Fixed
_____ Stub drains (1-inch diameter; not used on welded contact deck)

Ladder well (usually one)
_____ Sliding cover, gasketed
_____ Sliding cover, ungasketed

Column wells
_____ Pipe column, flexible fabric sleeve seal
_____ Pipe column, gasketed sliding cover
_____ Pipe column, ungasketed sliding cover
_____ Built-up column, gasketed sliding cover
_____ Built-up column, ungasketed sliding cover

Sample pipe or well (usually one)
_____ Slotted pipe, gasketed sliding cover
_____ Slotted pipe, ungasketed sliding cover
_____ Sample well, slit fabric seal (10% open area)

Vacuum breaker (10-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

41. Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling?

☐ Yes ☐ No

If no, explain: _____

If this tank is an <u>Internal or External</u> Floating Roof Tank, complete items 42 through 47:

42. Type of seal between floating roof and tank well:

☐ Single seal (primary seal only)
☐ Single seal with weather shield (primary seal with weather shield)
☐ Dual seals (primary seal with secondary shield mounted above it)

43. Primary seal information:

Manufacturer:
Make or model:
Date installed_____
(month/year)

Type:
☐ Liquid-mounted, liquid-filled
☐ Liquid-mounted, resilient foam-filled
☐ Vapor-mounted, resilient foam-filled
☐ Mechanical shoe (complete item below)
☐ Flexible wiper
☐ Other, specify _____

If the primary seal is a mechanical shoe, complete the following:

Vertical length of shoe _____ inches
Vertical length of shoe above stored liquid surface _____ inches

44. Secondary seal information:

Manufacturer:
Make or model:
Date installed _____
(month/year)

Type: ☐ Rim-mounted, flexible wiper
☐ Rim-mounted, resilient foam-filled
☐ Shoe-mounted
☐ Weather shield
☐ Other, specify _____

45. Most recent seal inspection for visible holes, tears or other openings in the seal or fabric:

Seal(s) inspected:
Date of inspection:
Inspected by (person and company):
Condition of seal(s) ☐ Good condition
☐ Needed repair or replacement, specify type and date of corrective action

46. Most recent seal gap measurements:

	Primary Seal	Secondary Seal
Date of measurement	_____	_____
By: (person)	_____	_____
(company)	_____	_____
Width of maximum gap	_____ inch	_____ inch
Total area of gaps	_____ sq in	_____ sq in
	_____ sq in/ft tank diameter	_____ sq in/ft tank diameter

47. Condition of the interior side of the tank shell:

☐ Little or no rust ☐ Dense rust ☐ Gunite-lining

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): F-T DIESEL STORAGE TANK 8

2. List all equipment that are part of this air contaminant source: 3-MMGAL FIXED-ROOF STORAGE TANK

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

   When did/will you begin to install or modify the air contaminant source? (month/year) SECOND QUARTER 2008

   When did/will you begin to operate the air contaminant source? (month/year) THIRD QUARTER 2011 **OR** after issuance of PTI _____

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

   - If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
   - If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
   - Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
   - If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
   - Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE) (formerly particulate matter, PM)	0	0	0	0	0
PM_{10} (PM < 10 microns in diameter)	0	0	0	0	0
Sulfur dioxide (SO_2)	0	0	0	0	0
Nitrogen oxides (NO_x)	0	0	0	0	0
Carbon monoxide (CO)	0	0	0	0	0
Organic compounds (OC)	0.2	0.1	0.48	0.2	0.8
Volatile organic compounds (VOC)	0.2	0.1	0.48	0.2	0.8
Total HAPs	0	0	0	0	0
Highest single HAP: n-hexane	0	0	0	0	0
Air Toxics (see instructions):	0	0	0	0	0

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

Section II - Specific Air Contaminant Source Information

5. **Does this air contaminant source employ emissions control equipment?**

☐ **Yes** - fill out the applicable information below.
☒ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

☐ **Cyclone/Multiclone**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Cyclone ☐ Multiclone ☐ Rotoclone ☐ Other _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Fabric Filter/Baghouse**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
☐ Lime injection or fabric coating agent used: Type: _____ Feed rate: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Wet Scrubber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Spray chamber ☐ Packed bed ☐ Impingement ☐ Venturi ☐ Other _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
pH range for scrubbing liquid: Minimum: _____ Maximum: _____
Scrubbing liquid flow rate (gal/min): _____
Is scrubber liquid recirculated? ☐ Yes ☐ No
Water supply pressure (psig): _____ NOTE: This item for spray chambers only.
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Electrostatic Precipitator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Plate-wire ☐ Flat-plate ☐ Tubular ☐ Wet ☐ Other _____
Number of operating fields: _____

Section II - Specific Air Contaminant Source Information

☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Concentrator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design regeneration cycle time (minutes): _____
Minimum desorption air stream temperature (°F): _____
Rotational rate (revolutions/hour): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Catalytic Incinerator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum inlet gas temperature (°F): _____
Combustion chamber residence time (seconds): _____
Minimum temperature difference (°F) across catalyst during air contaminant source operation: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Thermal Incinerator/Thermal Oxidizer**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum operating temperature (°F) and location: _____ (See line by line instructions.)
Combustion chamber residence time (seconds): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Flare**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ Enclosed ☐ Elevated (open)
Ignition device: ☐ Electric arc ☐ Pilot flame
Flame presence sensor: ☐ Yes ☐ No
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

Section II - Specific Air Contaminant Source Information

☐ **Condenser**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____

Type: ☐ Indirect contact ☐ Direct contact
Maximum exhaust gas temperature (°F) during air contaminant source operation: _____
Coolant type: _____
Design coolant temperature (°F): Minimum _____ Maximum _____
Design coolant flow rate (gpm): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Carbon Absorber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ On-site regenerative ☐ Disposable
Maximum design outlet organic compound concentration (ppmv): _____
Carbon replacement frequency or regeneration cycle time (specify units): _____
Maximum temperature of the carbon bed, after regeneration (including any cooling cycle): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Dry Scrubber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Reagent(s) used: Type: _____ Injection rate(s): _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Paint booth filter**

Type: ☐ Paper ☐ Fiberglass ☐ Water curtain ☐ Other _____
Design control efficiency (%):_____ Basis for efficiency: _____

☐ **Other**, describe

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

Section II - Specific Air Contaminant Source Information

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

   Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

   - Particulate Matter (PM10): 10 tons per year
   - Sulfur Dioxide (SO2): 25 tons per year
   - Nitrogen Oxides (NOx): 25 tons per year
   - Carbon Monoxide (CO): 100 tons per year
   - Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

   Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
F-T Diesel Tank 8	B	Round 10-inch ID	40	Ambient	Varies (passive)	600

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.
B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.
C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column

of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
NA					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions of the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

Company ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
F-T Diesel Tank 8	40	115	115

8. Request for Federally Enforceable Limits

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

Section II - Specific Air Contaminant Source Information

☐ yes
☒ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	Type of Monitor	Applicable performance specification (40 CFR 60, Appendix B)	Pollutant(s) Monitored
NA			

10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.
☒ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

FOR OHIO EPA USE
FACILITY ID_____

EU ID _____ PTI# _____

EMISSIONS ACTIVITY CATEGORY FORM
STORAGE TANK
(F-T DIESEL FIXED-ROOF TANK 8)

This form is to be completed for each storage tank for which a permit is required. State/Federal regulations which may apply to storage tanks are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)

   ☒ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. T001) _____

2. Type of tank: ☒ Fixed roof tank ☐ Variable vapor space tank ☐ Pressure tank
   ☐ External floating roof tank ☐ Internal floating roof tank

3. Location of tank: ☐ Indoors ☒ Outdoors ☐ Underground

4. a) Tank capacity: 3,000,000 gallons or _____ barrels

   If capacity is provided in barrels, enter the number of gallons per barrel: _____

   b) Working volume, if different from tank capacity: _____gallons or _____ barrels

5. Shape and dimensions:

   ☒ Cylindrical ☐ Spherical ☐ Other, specify _____

   ☐ Horizontal tanks:
   Tank shell length: _____ft.
   Tank shell diameter or width _____ft.

   ☒ Vertical tanks:
   Tank shell height: 40 ft.
   Tank shell diameter or width: 115 ft.

6. Tank shell material: ☐ Steel ☐ Aluminum ☒ Other, specify: TO BE DETERMINED

7. If this tank is located outdoors and above ground, provide the paint color of the tank's shell and roof and indicate the condition of the paint.

   Shell:
   ☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
   ☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify _____

Roof:

☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify
_____Condition of paint: ☒ Good ☐ Poor

8. If this tank is a variable vapor space tank or is interconnected to a variable vapor space tank, complete the following:

a) Capacity of vapor expansion system: _____gallons or _____ barrels

b) Identify all tanks and other vapor sources interconnected to the vapor expansion system:

_____

9. If this tank is subject to the following federal rules, complete the following:

☐ New Source Performance Standards under 40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"

a) Date of initial fill with petroleum liquid

b) Was tank out of service for a period of a year or more? ☐ Yes ☐ No
If yes, identify the date of subsequent refilling with petroleum liquid after the most recent out-of-service period of a year or more. _____

☐ Maximum Achievable Control Technology (MACT) Standards under 40 CFR 63, Subpart G (HON Tanks)

a) This tank is defined as a: ☐ Group 1 storage vessel ☐ Group 2 storage vessel

b) At the storage temperature, maximum true vapor pressure of total HAPs:_____

10. Supplemental data, check all that apply:

☐ Tank was converted from an external floating roof tank or a fixed roof tank to an internal floating roof tank; provide type and date of conversion: _____

☐ Tank is used to store produced crude oil or condensate prior to custody transfer.

☐ Tank is insulated; describe: _____

☐ Tank is heated and indicate temperature (in degrees Fahrenheit): _____

11. Material stored F-T DIESEL Trade Name F-T DIESEL

Density: __lbs/gal or 15-45 °API Producer ORCF

12. Temperature of stored material: Average ~50 °F and Maximum 72 °F

13. Vapor pressure of stored material:

a) Actual vapor pressure: < 0.45 psia (TVP) at average storage temperature (50 °F)

b) Reid vapor pressure, in psia:
Average Varies, assume U.S. EPA default for No. 2 Diesel
Minimum _____
Maximum _____

c) If material stored is a gas or liquified gas, provide the pressure at which it is stored:
_____psi gauge at _____°F

14. The vapor molecular weight: 130 lbs/lb-mole

15. If the material is a liquid other than gasoline, fuel oil, kerosene, crude oil, lubricant or other petroleum liquid, answer the questions below:

Is it a photochemically reactive material? ☐ Yes ☒ No

16. Is the material a hazardous waste? ☐ Yes ☒ No
If yes, identify type (EPA hazardous waste number) _____

17. Type of filling: ☐ Splash ☒ Submerged ☐ Other, specify _____

18. Indicate the year (or 12-month period) for which throughput is provided in items 19 and 20: JAN-DEC

19. The maximum daily throughput of material stored: 262,500 gallons or __ barrels.

20. Maximum annual throughput of material stored: 95,812,500 gallons or __ barrels.

21. Identify the control equipment associated with this tank.

a) Type of vapor control system: NA

b) Date tank was equipped with or vented to vapor control system (NA)

22. Complete the table below for any pressure or vacuum relief vent valve.

Type of Vent Valve	Pressure Setting	Vacuum Setting	If pressure relief is discharged to a vapor control system, identify the vapor control system
Breather Vent	0.03	-0.03	NA

If this is a Fixed Roof, Variable Vapor Space or Pressure Tank, complete items 23 through 27:

23. If the tank is vertical, what type of roof does it have?

☒ Cone roof Height: 3.59 ft ☐ Dome roof Height: _____ ft

24. The average height of the liquid material stored within the tank during the year: 20 ft.

25. The maximum height of the liquid material stored within the tank during the year: 40 ft.

26. The average liquid surface temperature: ~50°F

27. Is this tank bolted or riveted construction? ☐ Yes ☐ No (TBD)

If this tank is an External Floating Roof Tank, complete items 28 through 34:

28. Is the external floating roof domed? ☐ Yes ☐ No

29. Type of floating roof: ☐ Double Deck ☐ Pontoon ☐ Other, specify _____

30. Type of shell construction: ☐ Welded ☐ Riveted or bolted

31. Are all openings in the external floating roof, except automatic bleeder vents, rim space vents, leg sleeves, main roof drain, emergency roof drains and slotted gauging/sampling wells, equipped with both a cover, seal or lid without visible gaps and a projection into the tank below the liquid surface?

☐ Yes ☐ No

If no, explain: _____

32. Is there a slotted gauging/sampling well?

☐ Yes ☐ No

If yes, is it equipped with an object which floats on the liquid surface within the well and which covers at least 90 percent of the area of the well opening?

☐ Yes ☐ No

33. On the blank lines to the left of the various types of roof fittings shown below, indicate the number, if any, of each fitting.

Access hatch (24-inch diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed

Vacuum breaker (10-inch diameter well)
_____Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Unslotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover ☐ With sleeve
_____ Gasketed sliding cover ☐ With sleeve ☐ With wiper

Slotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover, without float _____ Gasketed sliding cover, without float
_____ Gasketed sliding cover, with float

Gauge-float well (20-inch diameter)
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed
_____ Bolted cover, gasketed

Gauge-hatch/sample well (8-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Roof leg (3-inch diameter)

_____ Adjustable, pontoon area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, center area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, double-deck roofs			
_____ Fixed			

Roof drain (3-inch diameter)
_____ Open
_____ 90% closed

Roof leg (2-1/2-inch diameter)
_____ Adjustable, pontoon area
_____ Adjustable, center area
_____ Adjustable, double-deck roofs
_____ Fixed

Rim vent (6-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

34. The average wind speed at the tank site: _____mph.

If this tank is an <u>Internal</u> Floating Roof Tank, complete items 35 through 41:

35. Type of floating decks:

☐ Contact deck ☐ Noncontact deck

36. Type of roof above floating decks: ☐ Column-supported ☐ Self-supporting

37. If roof is column-supported, identify the type of column construction:

☐ 9-inch by 7-inch built-up columns ☐ Other, specify _____
☐ 8-inch diameter pipe columns

38. Floating deck seam construction:

☐ Welded ☐ Bolted ☐ Other, specify _____

39. If deck seams are bolted, complete a) or b):

a) ☐ Continuous sheet construction; specify width of sheets (e.g., 5 ft, 6 ft, or 7 ft):_____

☐ Panel construction; specify size of panels (e.g., 5 ft x 7.5 ft, or 5 ft x 12 ft):_____

b) Total length of bolted deck seams: _____ft

Total area of floating deck: _____sq ft

40. On the blank lines to the left of the various types of floating deck fittings shown below, indicate the number, if any, of each fitting.

Access hatch (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Automatic gauge float well (usually one)
_____ Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Deck supports (roof legs or hanger well)
_____ Adjustable
_____ Fixed
_____ Stub drains (1-inch diameter; not used on welded contact deck)

Ladder well (usually one)
_____ Sliding cover, gasketed
_____ Sliding cover, ungasketed

Column wells
_____ Pipe column, flexible fabric sleeve seal
_____ Pipe column, gasketed sliding cover
_____ Pipe column, ungasketed sliding cover
_____ Built-up column, gasketed sliding cover
_____ Built-up column, ungasketed sliding cover

Sample pipe or well (usually one)
_____ Slotted pipe, gasketed sliding cover
_____ Slotted pipe, ungasketed sliding cover
_____ Sample well, slit fabric seal (10% open area)

Vacuum breaker (10-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

41. Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling?

☐ Yes ☐ No

If no, explain: _____

If this tank is an <u>Internal or External</u> Floating Roof Tank, complete items 42 through 47:

42. Type of seal between floating roof and tank well:

☐ Single seal (primary seal only)
☐ Single seal with weather shield (primary seal with weather shield)
☐ Dual seals (primary seal with secondary shield mounted above it)

43. Primary seal information:

Manufacturer:
Make or model:
Date installed_____
(month/year)

Type: ☐ Liquid-mounted, liquid-filled
☐ Liquid-mounted, resilient foam-filled
☐ Vapor-mounted, resilient foam-filled
☐ Mechanical shoe (complete item below)
☐ Flexible wiper
☐ Other, specify _____

If the primary seal is a mechanical shoe, complete the following:

Vertical length of shoe _____ inches
Vertical length of shoe above stored liquid surface _____ inches

44. Secondary seal information:

Manufacturer:
Make or model:
Date installed _____
(month/year)

Type:
- ☐ Rim-mounted, flexible wiper
- ☐ Rim-mounted, resilient foam-filled
- ☐ Shoe-mounted
- ☐ Weather shield
- ☐ Other, specify _____

45. Most recent seal inspection for visible holes, tears or other openings in the seal or fabric:

Seal(s) inspected:
Date of inspection:
Inspected by (person and company):
Condition of seal(s)
- ☐ Good condition
- ☐ Needed repair or replacement, specify type and date of corrective action

46. Most recent seal gap measurements:

	Primary Seal	Secondary Seal
Date of measurement	_____	_____
By: (person)	_____	_____
(company)	_____	_____
Width of maximum gap	_____ inch	_____ inch
Total area of gaps	_____ sq in	_____ sq in
	_____ sq in/ft tank diameter	_____ sq in/ft tank diameter

47. Condition of the interior side of the tank shell:

☐ Little or no rust ☐ Dense rust ☐ Gunite-lining

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): F-T NAPHTHA STORAGE TANK 1

2. List all equipment that are part of this air contaminant source: 3-MMGAL INTERNAL FLOATING-ROOF STORAGE TANK

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

   When did/will you begin to install or modify the air contaminant source? (month/year) SECOND QUARTER 2008

   When did/will you begin to operate the air contaminant source? (month/year) THIRD QUARTER 2011 **OR** after issuance of PTI _____

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

   - If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
   - If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
   - Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
   - If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
   - Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE) (formerly particulate matter, PM)	0	0	0	0	0
PM_{10} (PM < 10 microns in diameter)	0	0	0	0	0
Sulfur dioxide (SO_2)	0	0	0	0	0
Nitrogen oxides (NO_x)	0	0	0	0	0
Carbon monoxide (CO)	0	0	0	0	0
Organic compounds (OC)	64.5	0.2	0.88	0.2	0.88
Volatile organic compounds (VOC)	64.5	0.2	0.88	0.2	0.88
Total HAPs	9	0.28	0.13	0.28	0.13
Highest single HAP: n-hexane	9	0.28	0.13	0.28	0.13
Air Toxics (see instructions):	9	0.28	0.13	0.28	0.13

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

Section II - Specific Air Contaminant Source Information

5. **Does this air contaminant source employ emissions control equipment?**

☒ **Yes** - fill out the applicable information below.

☐ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

☐ **Cyclone/Multiclone**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Cyclone ☐ Multiclone ☐ Rotoclone ☐ Other _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Fabric Filter/Baghouse**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
☐ Lime injection or fabric coating agent used: Type: _____ Feed rate: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Wet Scrubber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Spray chamber ☐ Packed bed ☐ Impingement ☐ Venturi ☐ Other _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
pH range for scrubbing liquid: Minimum: _____ Maximum: _____
Scrubbing liquid flow rate (gal/min): _____
Is scrubber liquid recirculated? ☐ Yes ☐ No
Water supply pressure (psig): _____ NOTE: This item for spray chambers only.
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Electrostatic Precipitator**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____

Section II - Specific Air Contaminant Source Information

Type: ☐ Plate-wire ☐ Flat-plate ☐ Tubular ☐ Wet ☐ Other _____
Number of operating fields: _____

☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Concentrator**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design regeneration cycle time (minutes): _____
Minimum desorption air stream temperature (°F): _____
Rotational rate (revolutions/hour): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Catalytic Incinerator**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum inlet gas temperature (°F): _____
Combustion chamber residence time (seconds): _____
Minimum temperature difference (°F) across catalyst during air contaminant source operation: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Thermal Incinerator/Thermal Oxidizer**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum operating temperature (°F) and location: _____ (See line by line instructions.)
Combustion chamber residence time (seconds): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Flare**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ Enclosed ☐ Elevated (open)
Ignition device: ☐ Electric arc ☐ Pilot flame
Flame presence sensor: ☐ Yes ☐ No
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

Section II - Specific Air Contaminant Source Information

☐ **Condenser**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____

Type: ☐ Indirect contact ☐ Direct contact
Maximum exhaust gas temperature (°F) during air contaminant source operation: _____
Coolant type: _____
Design coolant temperature (°F): Minimum _____ Maximum _____
Design coolant flow rate (gpm): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Carbon Absorber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ On-site regenerative ☐ Disposable
Maximum design outlet organic compound concentration (ppmv): _____
Carbon replacement frequency or regeneration cycle time (specify units): _____
Maximum temperature of the carbon bed, after regeneration (including any cooling cycle): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Dry Scrubber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Reagent(s) used: Type: _____ Injection rate(s): _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Paint booth filter**
Type: ☐ Paper ☐ Fiberglass ☐ Water curtain ☐ Other _____
Design control efficiency (%):_____ Basis for efficiency: _____

☒ **Other**, describe INTERNAL FLOATING ROOF TANK
Manufacturer: NOT YET SELECTED Year installed: 2008
What do you call this control equipment: INTERNAL FLOATING ROOF TANK
Pollutant(s) controlled: ☐ PE ☒ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): >99 Basis for efficiency: ENGINEERING DESIGN
Design control efficiency (%): >99 Basis for efficiency: U.S. EPA TANKS 4.0.9D ESTIMATE
☒ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

   Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

   - Particulate Matter (PM10): 10 tons per year
   - Sulfur Dioxide (SO2): 25 tons per year
   - Nitrogen Oxides (NOx): 25 tons per year
   - Carbon Monoxide (CO): 100 tons per year
   - Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

   Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
F-T Naphtha Tank 1	B	Round 10-inch ID	40	Ambient	Passive Vent	600

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.
B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.
C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Section II - Specific Air Contaminant Source Information

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
NA					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions of the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

Company ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
F-T Naphtha Tank 1	40	115	115

8. Request for Federally Enforceable Limits

Section II - Specific Air Contaminant Source Information

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

☐ yes
☒ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	Type of Monitor	Applicable performance specification (40 CFR 60, Appendix B)	Pollutant(s) Monitored
NA			

10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.
☒ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

FOR OHIO EPA USE
FACILITY ID_____

EU ID PTI#

EMISSIONS ACTIVITY CATEGORY FORM
STORAGE TANK
(F-T NAPHTHA INTERNAL FLOATING-ROOF TANK 1)

This form is to be completed for each storage tank for which a permit is required. State/Federal regulations which may apply to storage tanks are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)

   ☒ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. T001) _____

2. Type of tank: ☐ Fixed roof tank ☐ Variable vapor space tank ☐ Pressure tank
   ☐ External floating roof tank ☒ Internal floating roof tank

3. Location of tank: ☐ Indoors ☒ Outdoors ☐ Underground

4. a) Tank capacity: 3,000,000 gallons or _____ barrels

   If capacity is provided in barrels, enter the number of gallons per barrel: _____

   b) Working volume, if different from tank capacity: _____gallons or _____ barrels

5. Shape and dimensions:

   ☒ Cylindrical ☐ Spherical ☐ Other, specify _____

   ☐ Horizontal tanks:
   Tank shell length: _____ft.
   Tank shell diameter or width _____ft.

   ☒ Vertical tanks:
   Tank shell height: 40 ft.
   Tank shell diameter or width: 115 ft.

6. Tank shell material: ☐ Steel ☐ Aluminum ☒ Other, specify: TO BE DETERMINED

7. If this tank is located outdoors and above ground, provide the paint color of the tank's shell and roof and indicate the condition of the paint.

   Shell:
   ☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
   ☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify _____

Roof:

☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify
_____Condition of paint: ☒ Good ☐ Poor

8. If this tank is a variable vapor space tank or is interconnected to a variable vapor space tank, complete the following:

a) Capacity of vapor expansion system: _____gallons or _____ barrels

b) Identify all tanks and other vapor sources interconnected to the vapor expansion system:

_____

9. If this tank is subject to the following federal rules, complete the following:

☐ New Source Performance Standards under 40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"

a) Date of initial fill with petroleum liquid

b) Was tank out of service for a period of a year or more? ☐ Yes ☐ No
If yes, identify the date of subsequent refilling with petroleum liquid after the most recent out-of-service period of a year or more. _____

☐ Maximum Achievable Control Technology (MACT) Standards under 40 CFR 63, Subpart G (HON Tanks)

a) This tank is defined as a: ☐ Group 1 storage vessel ☐ Group 2 storage vessel

b) At the storage temperature, maximum true vapor pressure of total HAPs:_____

10. Supplemental data, check all that apply:

☐ Tank was converted from an external floating roof tank or a fixed roof tank to an internal floating roof tank; provide type and date of conversion: _____

☐ Tank is used to store produced crude oil or condensate prior to custody transfer.

☐ Tank is insulated; describe: _____

☐ Tank is heated and indicate temperature (in degrees Fahrenheit): _____

11. Material stored F-T NAPHTHA Trade Name SYNTHETIC PARAFFINIC NAPHTHA

Density: __lbs/gal or 65-70 °API Producer ORCF

12. Temperature of stored material: Average ~50 °F and Maximum 72 °F

13. Vapor pressure of stored material:

a) Actual vapor pressure: ≤4.5 psia (TVP) at maximum storage temperature (72 °F)

b) Reid vapor pressure, in psia:
Average <13
Minimum _____
Maximum _____

c) If material stored is a gas or liquified gas, provide the pressure at which it is stored:
_____psi gauge at _____°F

14. The vapor molecular weight: ~74.2 lbs/lb-mole

15. If the material is a liquid other than gasoline, fuel oil, kerosene, crude oil, lubricant or other petroleum liquid, answer the questions below:

Is it a photochemically reactive material? ☐ Yes ☐ No

16. Is the material a hazardous waste? ☐ Yes ☒ No
If yes, identify type (EPA hazardous waste number) _____

17. Type of filling: ☐ Splash ☒ Submerged ☐ Other, specify _____

18. Indicate the year (or 12-month period) for which throughput is provided in items 19 and 20: JAN-DEC

19. The maximum daily throughput of material stored: 262,500 gallons or __ barrels.

20. Maximum annual throughput of material stored: 95,812,500 gallons or __ barrels.

21. Identify the control equipment associated with this tank.

a) Type of vapor control system: INTERNAL FLOATING ROOF TANK DESIGN

b) Date tank was equipped with or vented to vapor control system (month/year) NA

22. Complete the table below for any pressure or vacuum relief vent valve.

Type of Vent Valve	Pressure Setting	Vacuum Setting	If pressure relief is discharged to a vapor control system, identify the vapor control system
To Be Determined	To Be Determined	To Be Determined	

If this is a Fixed Roof, Variable Vapor Space or Pressure Tank, complete items 23 through 27:

23. If the tank is vertical, what type of roof does it have?

☐ Cone roof Height: _____ft ☐ Dome roof Height: _____ft

24. The average height of the liquid material stored within the tank during the year: _____ft.

25. The maximum height of the liquid material stored within the tank during the year: _____ft.

26. The average liquid surface temperature: _____°F

27. Is this tank bolted or riveted construction? ☐ Yes ☐ No

If this tank is an External Floating Roof Tank, complete items 28 through 34:

28. Is the external floating roof domed? ☐ Yes ☐ No

29. Type of floating roof: ☐ Double Deck ☐ Pontoon ☐ Other, specify _____

30. Type of shell construction: ☐ Welded ☐ Riveted or bolted

31. Are all openings in the external floating roof, except automatic bleeder vents, rim space vents, leg sleeves, main roof drain, emergency roof drains and slotted gauging/sampling wells, equipped with both a cover, seal or lid without visible gaps and a projection into the tank below the liquid surface?

☐ Yes ☐ No

If no, explain: _____

32. Is there a slotted gauging/sampling well?

☐ Yes ☐ No

If yes, is it equipped with an object which floats on the liquid surface within the well and which covers at least 90 percent of the area of the well opening?

☐ Yes ☐ No

33. On the blank lines to the left of the various types of roof fittings shown below, indicate the number, if any, of each fitting.

Access hatch (24-inch diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed

Vacuum breaker (10-inch diameter well)
_____Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Unslotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover ☐ With sleeve
_____ Gasketed sliding cover ☐ With sleeve ☐ With wiper

Slotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover, without float _____ Gasketed sliding cover, without float
_____ Gasketed sliding cover, with float

Gauge-float well (20-inch diameter)
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed
_____ Bolted cover, gasketed

Gauge-hatch/sample well (8-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Roof leg (3-inch diameter)

_____ Adjustable, pontoon area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, center area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, double-deck roofs			
_____ Fixed			

Roof drain (3-inch diameter)
_____ Open
_____ 90% closed

Roof leg (2-1/2-inch diameter)
_____ Adjustable, pontoon area
_____ Adjustable, center area
_____ Adjustable, double-deck roofs
_____ Fixed

Rim vent (6-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

34. The average wind speed at the tank site: _____mph.

If this tank is an <u>Internal</u> Floating Roof Tank, complete items 35 through 41:

NOTE: ALL DETAILS IN ITEMS 35 THROUGH 47 ARE STILL TO BE DETERMINED AND ARE SUBJECT TO FINAL DESIGN. SELECTIONS ARE PROVIDED HERE CONSISTENT WITH TANKS MODELING PROVIDED IN ATTACHMENT B.

35. Type of floating decks:

☐ Contact deck ☒ Noncontact deck

36. Type of roof above floating decks: ☐ Column-supported ☒ Self-supporting

37. If roof is column-supported, identify the type of column construction:

☐ 9-inch by 7-inch built-up columns ☐ Other, specify _____
☐ 8-inch diameter pipe columns

38. Floating deck seam construction:

☒ Welded ☐ Bolted ☐ Other, specify _____

39. If deck seams are bolted, complete a) or b):

a) ☐ Continuous sheet construction; specify width of sheets (e.g., 5 ft, 6 ft, or 7 ft):_____

☐ Panel construction; specify size of panels (e.g., 5 ft x 7.5 ft, or 5 ft x 12 ft):_____

b) Total length of bolted deck seams: _____ft

Total area of floating deck: _____sq ft

40. On the blank lines to the left of the various types of floating deck fittings shown below, indicate the number, if any, of each fitting.

Access hatch (usually one)
1 Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Automatic gauge float well (usually one)
1 Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Deck supports (roof legs or hanger well)
39 Adjustable
_____ Fixed
_____ Stub drains (1-inch diameter; not used on welded contact deck)

Ladder well (usually one)
1 Sliding cover, gasketed
_____ Sliding cover, ungasketed

Column wells
_____Pipe column, flexible fabric sleeve seal
1 Pipe column, gasketed sliding cover
_____ Pipe column, ungasketed sliding cover
_____ Built-up column, gasketed sliding cover
_____ Built-up column, ungasketed sliding cover

Sample pipe or well (usually one)
1 Slotted pipe, gasketed sliding cover
_____ Slotted pipe, ungasketed sliding cover
_____ Sample well, slit fabric seal (10% open area)

Vacuum breaker (10-inch diameter)
1 Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

41. Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling?

☒ Yes ☐ No

If no, explain: _____

If this tank is an <u>Internal or External</u> Floating Roof Tank, complete items 42 through 47:

42. Type of seal between floating roof and tank well:

☐ Single seal (primary seal only)
☐ Single seal with weather shield (primary seal with weather shield)
☒ Dual seals (primary seal with secondary shield mounted above it)

43. Primary seal information:

Manufacturer NOT YET DETERMINED
Make or model NOT YET DETERMINED
Date installed _____2008_____
(month/year)

Type:
- [x] Liquid-mounted, liquid-filled
- [ ] Liquid-mounted, resilient foam-filled
- [ ] Vapor-mounted, resilient foam-filled
- [ ] Mechanical shoe (complete item below)
- [ ] Flexible wiper
- [ ] Other, specify _____

If the primary seal is a mechanical shoe, complete the following:

Vertical length of shoe _____ inches
Vertical length of shoe above stored liquid surface _____ inches

44. Secondary seal information:

Manufacturer NOT YET DETERMINED Type:
Make or model NOT YET DETERMINED
Date installed _____2008_____
(month/year)

- [x] Rim-mounted, flexible wiper
- [ ] Rim-mounted, resilient foam-filled
- [ ] Shoe-mounted
- [ ] Weather shield
- [ ] Other, specify _____

45. Most recent seal inspection for visible holes, tears or other openings in the seal or fabric:

Seal(s) inspected: NA
Date of inspection: NA
Inspected by (person and company): NA
Condition of seal(s)
- [ ] Good condition
- [ ] Needed repair or replacement, specify type and date of corrective action

46. Most recent seal gap measurements: NOT APPLICABLE

	Primary Seal	Secondary Seal
Date of measurement		
By: (person)		
(company)		
Width of maximum gap	_____ inch	_____ inch
Total area of gaps	_____ sq in	_____ sq in
	_____ sq in/ft tank diameter	_____ sq in/ft tank diameter

47. Condition of the interior side of the tank shell:

- [x] Little or no rust
- [ ] Dense rust
- [ ] Gunite-lining

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): F-T NAPHTHA STORAGE TANK 2

2. List all equipment that are part of this air contaminant source: 3-MMGAL INTERNAL FLOATING-ROOF STORAGE TANK

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

   When did/will you begin to install or modify the air contaminant source? (month/year) SECOND QUARTER 2008

   When did/will you begin to operate the air contaminant source? (month/year) THIRD QUARTER 2011 **OR** after issuance of PTI _____

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

   - If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
   - If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
   - Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
   - If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
   - Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE) (formerly particulate matter, PM)	0	0	0	0	0
PM_{10} (PM < 10 microns in diameter)	0	0	0	0	0
Sulfur dioxide (SO_2)	0	0	0	0	0
Nitrogen oxides (NO_x)	0	0	0	0	0
Carbon monoxide (CO)	0	0	0	0	0
Organic compounds (OC)	64.5	0.2	0.88	0.2	0.88
Volatile organic compounds (VOC)	64.5	0.2	0.88	0.2	0.88
Total HAPs	9	0.28	0.13	0.28	0.13
Highest single HAP: n-hexane	9	0.28	0.13	0.28	0.13
Air Toxics (see instructions):	9	0.28	0.13	0.28	0.13

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

Section II - Specific Air Contaminant Source Information

5. **Does this air contaminant source employ emissions control equipment?**

☒ **Yes** - fill out the applicable information below.

☐ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

☐ **Cyclone/Multiclone**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Cyclone ☐ Multiclone ☐ Rotoclone ☐ Other _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Fabric Filter/Baghouse**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
☐ Lime injection or fabric coating agent used: Type: _____ Feed rate: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Wet Scrubber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Spray chamber ☐ Packed bed ☐ Impingement ☐ Venturi ☐ Other _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
pH range for scrubbing liquid: Minimum: _____ Maximum: _____
Scrubbing liquid flow rate (gal/min): _____
Is scrubber liquid recirculated? ☐ Yes ☐ No
Water supply pressure (psig): _____ NOTE: This item for spray chambers only.
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Electrostatic Precipitator**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____

Section II - Specific Air Contaminant Source Information

Type: ☐ Plate-wire ☐ Flat-plate ☐ Tubular ☐ Wet ☐ Other _____
Number of operating fields: _____

☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

_____

☐ **Concentrator**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design regeneration cycle time (minutes): _____
Minimum desorption air stream temperature (°F): _____
Rotational rate (revolutions/hour): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

_____

☐ **Catalytic Incinerator**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum inlet gas temperature (°F): _____
Combustion chamber residence time (seconds): _____
Minimum temperature difference (°F) across catalyst during air contaminant source operation: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

_____

☐ **Thermal Incinerator/Thermal Oxidizer**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum operating temperature (°F) and location: _____ (See line by line instructions.)
Combustion chamber residence time (seconds): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

_____

☐ **Flare**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ Enclosed ☐ Elevated (open)
Ignition device: ☐ Electric arc ☐ Pilot flame
Flame presence sensor: ☐ Yes ☐ No
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

Section II - Specific Air Contaminant Source Information

☐ **Condenser**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____

Type: ☐ Indirect contact ☐ Direct contact
Maximum exhaust gas temperature (°F) during air contaminant source operation: _____
Coolant type: _____
Design coolant temperature (°F): Minimum _____ Maximum _____
Design coolant flow rate (gpm): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Carbon Absorber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ On-site regenerative ☐ Disposable
Maximum design outlet organic compound concentration (ppmv): _____
Carbon replacement frequency or regeneration cycle time (specify units): _____
Maximum temperature of the carbon bed, after regeneration (including any cooling cycle): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Dry Scrubber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Reagent(s) used: Type: _____ Injection rate(s): _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Paint booth filter**
Type: ☐ Paper ☐ Fiberglass ☐ Water curtain ☐ Other _____
Design control efficiency (%):_____ Basis for efficiency: _____

☒ **Other**, describe INTERNAL FLOATING ROOF TANK
Manufacturer: NOT YET SELECTED Year installed: 2008
What do you call this control equipment: INTERNAL FLOATING ROOF TANK
Pollutant(s) controlled: ☐ PE ☒ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): >99 Basis for efficiency: ENGINEERING DESIGN
Design control efficiency (%): >99 Basis for efficiency: U.S. EPA TANKS 4.0.9D ESTIMATE
☒ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

   Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

   - Particulate Matter (PM10): 10 tons per year
   - Sulfur Dioxide (SO2): 25 tons per year
   - Nitrogen Oxides (NOx): 25 tons per year
   - Carbon Monoxide (CO): 100 tons per year
   - Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

   Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
F-T Naphtha Tank 2	B	Round 10-inch ID	40	Ambient	Passive Vent	600

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.
B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.
C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Section II - Specific Air Contaminant Source Information

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
NA					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions of the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

Company ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
F-T Naphtha Tank 2	40	115	115

8. Request for Federally Enforceable Limits

Section II - Specific Air Contaminant Source Information

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

☐ yes
☒ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	Type of Monitor	Applicable performance specification (40 CFR 60, Appendix B)	Pollutant(s) Monitored
NA			

10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.
☒ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

FOR OHIO EPA USE
FACILITY ID_____
EU ID PTI#

EMISSIONS ACTIVITY CATEGORY FORM
STORAGE TANK
(F-T NAPHTHA INTERNAL FLOATING-ROOF TANK 2)

This form is to be completed for each storage tank for which a permit is required. State/Federal regulations which may apply to storage tanks are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)

   ☒ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. T001) _____

2. Type of tank: ☐ Fixed roof tank ☐ Variable vapor space tank ☐ Pressure tank
   ☐ External floating roof tank ☒ Internal floating roof tank

3. Location of tank: ☐ Indoors ☒ Outdoors ☐ Underground

4. a) Tank capacity: 3,000,000 gallons or _____ barrels

   If capacity is provided in barrels, enter the number of gallons per barrel: _____

   b) Working volume, if different from tank capacity: _____gallons or _____ barrels

5. Shape and dimensions:

   ☒ Cylindrical ☐ Spherical ☐ Other, specify _____

   ☐ Horizontal tanks:
   Tank shell length: _____ft.
   Tank shell diameter or width _____ft.

   ☒ Vertical tanks:
   Tank shell height: 40 ft.
   Tank shell diameter or width: 115 ft.

6. Tank shell material: ☐ Steel ☐ Aluminum ☒ Other, specify: TO BE DETERMINED

7. If this tank is located outdoors and above ground, provide the paint color of the tank's shell and roof and indicate the condition of the paint.

   Shell:
   ☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
   ☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify _____

Roof:

☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify
_____Condition of paint: ☒ Good ☐ Poor

8. If this tank is a variable vapor space tank or is interconnected to a variable vapor space tank, complete the following:

a) Capacity of vapor expansion system: _____gallons or _____ barrels

b) Identify all tanks and other vapor sources interconnected to the vapor expansion system:

_____

9. If this tank is subject to the following federal rules, complete the following:

☐ New Source Performance Standards under 40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"

a) Date of initial fill with petroleum liquid

b) Was tank out of service for a period of a year or more? ☐ Yes ☐ No
If yes, identify the date of subsequent refilling with petroleum liquid after the most recent out-of-service period of a year or more. _____

☐ Maximum Achievable Control Technology (MACT) Standards under 40 CFR 63, Subpart G (HON Tanks)

a) This tank is defined as a: ☐ Group 1 storage vessel ☐ Group 2 storage vessel

b) At the storage temperature, maximum true vapor pressure of total HAPs:_____

10. Supplemental data, check all that apply:

☐ Tank was converted from an external floating roof tank or a fixed roof tank to an internal floating roof tank; provide type and date of conversion: _____

☐ Tank is used to store produced crude oil or condensate prior to custody transfer.

☐ Tank is insulated; describe: _____

☐ Tank is heated and indicate temperature (in degrees Fahrenheit): _____

11. Material stored F-T NAPHTHA Trade Name SYNTHETIC PARAFFINIC NAPHTHA

Density: __lbs/gal or 65-70 °API Producer ORCF

12. Temperature of stored material: Average ~50 °F and Maximum 72 °F

13. Vapor pressure of stored material:

a) Actual vapor pressure: ≤4.5 psia (TVP) at maximum storage temperature (72 °F)

b) Reid vapor pressure, in psia:
Average <13
Minimum _____
Maximum _____

c) If material stored is a gas or liquified gas, provide the pressure at which it is stored:
_____psi gauge at _____°F

14. The vapor molecular weight: ~74.2 lbs/lb-mole

15. If the material is a liquid other than gasoline, fuel oil, kerosene, crude oil, lubricant or other petroleum liquid, answer the questions below:

Is it a photochemically reactive material? ☐ Yes ☐ No

16. Is the material a hazardous waste? ☐ Yes ☒ No
If yes, identify type (EPA hazardous waste number) _____

17. Type of filling: ☐ Splash ☒ Submerged ☐ Other, specify _____

18. Indicate the year (or 12-month period) for which throughput is provided in items 19 and 20: JAN-DEC

19. The maximum daily throughput of material stored: 262,500 gallons or __ barrels.

20. Maximum annual throughput of material stored: 95,812,500 gallons or __ barrels.

21. Identify the control equipment associated with this tank.

a) Type of vapor control system: INTERNAL FLOATING ROOF TANK DESIGN

b) Date tank was equipped with or vented to vapor control system (month/year) NA

22. Complete the table below for any pressure or vacuum relief vent valve.

Type of Vent Valve	Pressure Setting	Vacuum Setting	If pressure relief is discharged to a vapor control system, identify the vapor control system
To Be Determined	To Be Determined	To Be Determined	

If this is a Fixed Roof, Variable Vapor Space or Pressure Tank, complete items 23 through 27:

23. If the tank is vertical, what type of roof does it have?

☐ Cone roof Height: _____ft ☐ Dome roof Height: _____ft

24. The average height of the liquid material stored within the tank during the year: _____ft.

25. The maximum height of the liquid material stored within the tank during the year: _____ft.

26. The average liquid surface temperature: _____°F

27. Is this tank bolted or riveted construction? ☐ Yes ☐ No

If this tank is an External Floating Roof Tank, complete items 28 through 34:

28. Is the external floating roof domed? ☐ Yes ☐ No

29. Type of floating roof: ☐ Double Deck ☐ Pontoon ☐ Other, specify _____

30. Type of shell construction: ☐ Welded ☐ Riveted or bolted

31. Are all openings in the external floating roof, except automatic bleeder vents, rim space vents, leg sleeves, main roof drain, emergency roof drains and slotted gauging/sampling wells, equipped with both a cover, seal or lid without visible gaps and a projection into the tank below the liquid surface?

☐ Yes ☐ No

If no, explain: _____

32. Is there a slotted gauging/sampling well?

☐ Yes ☐ No

If yes, is it equipped with an object which floats on the liquid surface within the well and which covers at least 90 percent of the area of the well opening?

☐ Yes ☐ No

33. On the blank lines to the left of the various types of roof fittings shown below, indicate the number, if any, of each fitting.

Access hatch (24-inch diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed

Vacuum breaker (10-inch diameter well)
_____Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Unslotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover ☐ With sleeve
_____ Gasketed sliding cover ☐ With sleeve ☐ With wiper

Slotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover, without float _____ Gasketed sliding cover, without float
_____ Gasketed sliding cover, with float

Gauge-float well (20-inch diameter)
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed
_____ Bolted cover, gasketed

Gauge-hatch/sample well (8-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Roof leg (3-inch diameter)

_____ Adjustable, pontoon area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, center area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, double-deck roofs			
_____ Fixed			

Roof drain (3-inch diameter)
_____ Open
_____ 90% closed

Roof leg (2-1/2-inch diameter)
_____ Adjustable, pontoon area
_____ Adjustable, center area
_____ Adjustable, double-deck roofs
_____ Fixed

Rim vent (6-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

34. The average wind speed at the tank site: _____mph.

If this tank is an <u>Internal</u> Floating Roof Tank, complete items 35 through 41:

NOTE: ALL DETAILS IN ITEMS 35 THROUGH 47 ARE STILL TO BE DETERMINED AND ARE SUBJECT TO FINAL DESIGN. SELECTIONS ARE PROVIDED HERE CONSISTENT WITH TANKS MODELING PROVIDED IN ATTACHMENT B.

35. Type of floating decks:

☐ Contact deck ☒ Noncontact deck

36. Type of roof above floating decks: ☐ Column-supported ☒ Self-supporting

37. If roof is column-supported, identify the type of column construction:

☐ 9-inch by 7-inch built-up columns ☐ Other, specify _____
☐ 8-inch diameter pipe columns

38. Floating deck seam construction:

☒ Welded ☐ Bolted ☐ Other, specify _____

39. If deck seams are bolted, complete a) or b):

a) ☐ Continuous sheet construction; specify width of sheets (e.g., 5 ft, 6 ft, or 7 ft):_____

☐ Panel construction; specify size of panels (e.g., 5 ft x 7.5 ft, or 5 ft x 12 ft):_____

b) Total length of bolted deck seams: _____ft

Total area of floating deck: _____sq ft

40. On the blank lines to the left of the various types of floating deck fittings shown below, indicate the number, if any, of each fitting.

Access hatch (usually one)
1 Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Automatic gauge float well (usually one)
1 Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Deck supports (roof legs or hanger well)
39 Adjustable
_____ Fixed
_____ Stub drains (1-inch diameter; not used on welded contact deck)

Ladder well (usually one)
1 Sliding cover, gasketed
_____ Sliding cover, ungasketed

Column wells
_____Pipe column, flexible fabric sleeve seal
1 Pipe column, gasketed sliding cover
_____ Pipe column, ungasketed sliding cover
_____ Built-up column, gasketed sliding cover
_____ Built-up column, ungasketed sliding cover

Sample pipe or well (usually one)
1 Slotted pipe, gasketed sliding cover
_____ Slotted pipe, ungasketed sliding cover
_____ Sample well, slit fabric seal (10% open area)

Vacuum breaker (10-inch diameter)
1 Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

41. Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling?

☒ Yes ☐ No

If no, explain: _____

If this tank is an <u>Internal or External</u> Floating Roof Tank, complete items 42 through 47:

42. Type of seal between floating roof and tank well:

☐ Single seal (primary seal only)
☐ Single seal with weather shield (primary seal with weather shield)
☒ Dual seals (primary seal with secondary shield mounted above it)

43. Primary seal information:

Manufacturer NOT YET DETERMINED
Make or model NOT YET DETERMINED
Date installed _____2008_____
(month/year)

Type:
- [x] Liquid-mounted, liquid-filled
- [ ] Liquid-mounted, resilient foam-filled
- [ ] Vapor-mounted, resilient foam-filled
- [ ] Mechanical shoe (complete item below)
- [ ] Flexible wiper
- [ ] Other, specify _____

If the primary seal is a mechanical shoe, complete the following:

Vertical length of shoe _____ inches
Vertical length of shoe above stored liquid surface _____ inches

44. Secondary seal information:

Manufacturer NOT YET DETERMINED Type:
Make or model NOT YET DETERMINED
Date installed _____2008_____
(month/year)

- [x] Rim-mounted, flexible wiper
- [ ] Rim-mounted, resilient foam-filled
- [ ] Shoe-mounted
- [ ] Weather shield
- [ ] Other, specify _____

45. Most recent seal inspection for visible holes, tears or other openings in the seal or fabric:

Seal(s) inspected: NA
Date of inspection: NA
Inspected by (person and company): NA
Condition of seal(s)
- [ ] Good condition
- [ ] Needed repair or replacement, specify type and date of corrective action

46. Most recent seal gap measurements: NOT APPLICABLE

	Primary Seal	Secondary Seal
Date of measurement		
By: (person)		
(company)		
Width of maximum gap	_____ inch	_____ inch
Total area of gaps	_____ sq in	_____ sq in
	_____ sq in/ft tank diameter	_____ sq in/ft tank diameter

47. Condition of the interior side of the tank shell:

- [x] Little or no rust
- [ ] Dense rust
- [ ] Gunite-lining

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): F-T NAPHTHA STORAGE TANK 3

2. List all equipment that are part of this air contaminant source: 3-MMGAL INTERNAL FLOATING-ROOF STORAGE TANK

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

   When did/will you begin to install or modify the air contaminant source? (month/year) SECOND QUARTER 2008

   When did/will you begin to operate the air contaminant source? (month/year) THIRD QUARTER 2011 **OR** after issuance of PTI _____

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

   - If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
   - If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
   - Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
   - If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
   - Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE) (formerly particulate matter, PM)	0	0	0	0	0
PM_{10} (PM < 10 microns in diameter)	0	0	0	0	0
Sulfur dioxide (SO_2)	0	0	0	0	0
Nitrogen oxides (NO_x)	0	0	0	0	0
Carbon monoxide (CO)	0	0	0	0	0
Organic compounds (OC)	64.5	0.2	0.88	0.2	0.88
Volatile organic compounds (VOC)	64.5	0.2	0.88	0.2	0.88
Total HAPs	9	0.28	0.13	0.28	0.13
Highest single HAP: n-hexane	9	0.28	0.13	0.28	0.13
Air Toxics (see instructions):	9	0.28	0.13	0.28	0.13

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

Section II - Specific Air Contaminant Source Information

5. **Does this air contaminant source employ emissions control equipment?**

☒ **Yes** - fill out the applicable information below.

☐ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

☐ **Cyclone/Multiclone**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Cyclone ☐ Multiclone ☐ Rotoclone ☐ Other _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Fabric Filter/Baghouse**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
☐ Lime injection or fabric coating agent used: Type: _____ Feed rate: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Wet Scrubber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Spray chamber ☐ Packed bed ☐ Impingement ☐ Venturi ☐ Other _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
pH range for scrubbing liquid: Minimum: _____ Maximum: _____
Scrubbing liquid flow rate (gal/min): _____
Is scrubber liquid recirculated? ☐ Yes ☐ No
Water supply pressure (psig): _____ NOTE: This item for spray chambers only.
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Electrostatic Precipitator**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____

Section II - Specific Air Contaminant Source Information

Type: ☐ Plate-wire ☐ Flat-plate ☐ Tubular ☐ Wet ☐ Other _____
Number of operating fields: _____

☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Concentrator**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design regeneration cycle time (minutes): _____
Minimum desorption air stream temperature (°F): _____
Rotational rate (revolutions/hour): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Catalytic Incinerator**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum inlet gas temperature (°F): _____
Combustion chamber residence time (seconds): _____
Minimum temperature difference (°F) across catalyst during air contaminant source operation: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Thermal Incinerator/Thermal Oxidizer**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum operating temperature (°F) and location: _____ (See line by line instructions.)
Combustion chamber residence time (seconds): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Flare**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ Enclosed ☐ Elevated (open)
Ignition device: ☐ Electric arc ☐ Pilot flame
Flame presence sensor: ☐ Yes ☐ No
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

Section II - Specific Air Contaminant Source Information

☐ **Condenser**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____

Type: ☐ Indirect contact ☐ Direct contact
Maximum exhaust gas temperature (°F) during air contaminant source operation: _____
Coolant type: _____
Design coolant temperature (°F): Minimum _____ Maximum _____
Design coolant flow rate (gpm): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Carbon Absorber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ On-site regenerative ☐ Disposable
Maximum design outlet organic compound concentration (ppmv): _____
Carbon replacement frequency or regeneration cycle time (specify units): _____
Maximum temperature of the carbon bed, after regeneration (including any cooling cycle): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Dry Scrubber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Reagent(s) used: Type: _____ Injection rate(s): _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Paint booth filter**
Type: ☐ Paper ☐ Fiberglass ☐ Water curtain ☐ Other _____
Design control efficiency (%):_____ Basis for efficiency: _____

☒ **Other**, describe INTERNAL FLOATING ROOF TANK
Manufacturer: NOT YET SELECTED Year installed: 2008
What do you call this control equipment: INTERNAL FLOATING ROOF TANK
Pollutant(s) controlled: ☐ PE ☒ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): >99 Basis for efficiency: ENGINEERING DESIGN
Design control efficiency (%): >99 Basis for efficiency: U.S. EPA TANKS 4.0.9D ESTIMATE
☒ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

   Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

   - Particulate Matter (PM10): 10 tons per year
   - Sulfur Dioxide (SO2): 25 tons per year
   - Nitrogen Oxides (NOx): 25 tons per year
   - Carbon Monoxide (CO): 100 tons per year
   - Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

   Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
F-T Naphtha Tank 3	B	Round 10-inch ID	40	Ambient	Passive Vent	600

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.
B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.
C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Section II - Specific Air Contaminant Source Information

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
NA					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions of the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

Company ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
F-T Naphtha Tank 3	40	115	115

8. Request for Federally Enforceable Limits

Section II - Specific Air Contaminant Source Information

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

☐ yes
☒ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	Type of Monitor	Applicable performance specification (40 CFR 60, Appendix B)	Pollutant(s) Monitored
NA			

10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.
☒ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

FOR OHIO EPA USE
FACILITY ID _____
EU ID _____ PTI# _____

EMISSIONS ACTIVITY CATEGORY FORM
STORAGE TANK
(F-T NAPHTHA INTERNAL FLOATING-ROOF TANK 3)

This form is to be completed for each storage tank for which a permit is required. State/Federal regulations which may apply to storage tanks are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)

   ☒ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. T001) _____

2. Type of tank: ☐ Fixed roof tank ☐ Variable vapor space tank ☐ Pressure tank
   ☐ External floating roof tank ☒ Internal floating roof tank

3. Location of tank: ☐ Indoors ☒ Outdoors ☐ Underground

4. a) Tank capacity: 3,000,000 gallons or _____ barrels

   If capacity is provided in barrels, enter the number of gallons per barrel: _____

   b) Working volume, if different from tank capacity: _____gallons or _____ barrels

5. Shape and dimensions:

   ☒ Cylindrical ☐ Spherical ☐ Other, specify _____

   ☐ Horizontal tanks:
   Tank shell length: _____ft.
   Tank shell diameter or width _____ft.

   ☒ Vertical tanks:
   Tank shell height: 40 ft.
   Tank shell diameter or width: 115 ft.

6. Tank shell material: ☐ Steel ☐ Aluminum ☒ Other, specify: TO BE DETERMINED

7. If this tank is located outdoors and above ground, provide the paint color of the tank's shell and roof and indicate the condition of the paint.

   Shell:
   ☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
   ☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify _____

Roof:

☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify
_____Condition of paint: ☒ Good ☐ Poor

8. If this tank is a variable vapor space tank or is interconnected to a variable vapor space tank, complete the following:

a) Capacity of vapor expansion system: _____gallons or _____ barrels

b) Identify all tanks and other vapor sources interconnected to the vapor expansion system:

_____

9. If this tank is subject to the following federal rules, complete the following:

☐ New Source Performance Standards under 40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"

a) Date of initial fill with petroleum liquid

b) Was tank out of service for a period of a year or more? ☐ Yes ☐ No
If yes, identify the date of subsequent refilling with petroleum liquid after the most recent out-of-service period of a year or more. _____

☐ Maximum Achievable Control Technology (MACT) Standards under 40 CFR 63, Subpart G (HON Tanks)

a) This tank is defined as a: ☐ Group 1 storage vessel ☐ Group 2 storage vessel

b) At the storage temperature, maximum true vapor pressure of total HAPs:_____

10. Supplemental data, check all that apply:

☐ Tank was converted from an external floating roof tank or a fixed roof tank to an internal floating roof tank; provide type and date of conversion: _____

☐ Tank is used to store produced crude oil or condensate prior to custody transfer.

☐ Tank is insulated; describe: _____

☐ Tank is heated and indicate temperature (in degrees Fahrenheit): _____

11. Material stored F-T NAPHTHA Trade Name SYNTHETIC PARAFFINIC NAPHTHA

Density: __lbs/gal or 65-70 °API Producer ORCF

12. Temperature of stored material: Average ~50 °F and Maximum 72 °F

13. Vapor pressure of stored material:

a) Actual vapor pressure: ≤4.5 psia (TVP) at maximum storage temperature (72 °F)

b) Reid vapor pressure, in psia:
Average <13
Minimum _____
Maximum _____

c) If material stored is a gas or liquified gas, provide the pressure at which it is stored:
_____psi gauge at _____°F

14. The vapor molecular weight: ~74.2 lbs/lb-mole

15. If the material is a liquid other than gasoline, fuel oil, kerosene, crude oil, lubricant or other petroleum liquid, answer the questions below:

Is it a photochemically reactive material? ☐ Yes ☐ No

16. Is the material a hazardous waste? ☐ Yes ☒ No
If yes, identify type (EPA hazardous waste number) _____

17. Type of filling: ☐ Splash ☒ Submerged ☐ Other, specify _____

18. Indicate the year (or 12-month period) for which throughput is provided in items 19 and 20: JAN-DEC

19. The maximum daily throughput of material stored: 262,500 gallons or __ barrels.

20. Maximum annual throughput of material stored: 95,812,500 gallons or __ barrels.

21. Identify the control equipment associated with this tank.

a) Type of vapor control system: INTERNAL FLOATING ROOF TANK DESIGN

b) Date tank was equipped with or vented to vapor control system (month/year) NA

22. Complete the table below for any pressure or vacuum relief vent valve.

Type of Vent Valve	Pressure Setting	Vacuum Setting	If pressure relief is discharged to a vapor control system, identify the vapor control system
To Be Determined	To Be Determined	To Be Determined	

If this is a Fixed Roof, Variable Vapor Space or Pressure Tank, complete items 23 through 27:

23. If the tank is vertical, what type of roof does it have?

☐ Cone roof Height: _____ft ☐ Dome roof Height: _____ft

24. The average height of the liquid material stored within the tank during the year: _____ft.

25. The maximum height of the liquid material stored within the tank during the year: _____ft.

26. The average liquid surface temperature: _____°F

27. Is this tank bolted or riveted construction? ☐ Yes ☐ No

If this tank is an External Floating Roof Tank, complete items 28 through 34:

28. Is the external floating roof domed? ☐ Yes ☐ No

29. Type of floating roof: ☐ Double Deck ☐ Pontoon ☐ Other, specify _____

30. Type of shell construction: ☐ Welded ☐ Riveted or bolted

31. Are all openings in the external floating roof, except automatic bleeder vents, rim space vents, leg sleeves, main roof drain, emergency roof drains and slotted gauging/sampling wells, equipped with both a cover, seal or lid without visible gaps and a projection into the tank below the liquid surface?

☐ Yes ☐ No

If no, explain: _____

32. Is there a slotted gauging/sampling well?

☐ Yes ☐ No

If yes, is it equipped with an object which floats on the liquid surface within the well and which covers at least 90 percent of the area of the well opening?

☐ Yes ☐ No

33. On the blank lines to the left of the various types of roof fittings shown below, indicate the number, if any, of each fitting.

Access hatch (24-inch diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed

Vacuum breaker (10-inch diameter well)
_____Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Unslotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover ☐ With sleeve
_____ Gasketed sliding cover ☐ With sleeve ☐ With wiper

Slotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover, without float _____ Gasketed sliding cover, without float
_____ Gasketed sliding cover, with float

Gauge-float well (20-inch diameter)
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed
_____ Bolted cover, gasketed

Gauge-hatch/sample well (8-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Roof leg (3-inch diameter)

_____ Adjustable, pontoon area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, center area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, double-deck roofs			
_____ Fixed			

Roof drain (3-inch diameter)
_____ Open
_____ 90% closed

Roof leg (2-1/2-inch diameter)
_____ Adjustable, pontoon area
_____ Adjustable, center area
_____ Adjustable, double-deck roofs
_____ Fixed

Rim vent (6-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

34. The average wind speed at the tank site: _____mph.

If this tank is an <u>Internal</u> Floating Roof Tank, complete items 35 through 41:

NOTE: ALL DETAILS IN ITEMS 35 THROUGH 47 ARE STILL TO BE DETERMINED AND ARE SUBJECT TO FINAL DESIGN. SELECTIONS ARE PROVIDED HERE CONSISTENT WITH TANKS MODELING PROVIDED IN ATTACHMENT B.

35. Type of floating decks:

☐ Contact deck ☒ Noncontact deck

36. Type of roof above floating decks: ☐ Column-supported ☒ Self-supporting

37. If roof is column-supported, identify the type of column construction:

☐ 9-inch by 7-inch built-up columns ☐ Other, specify _____
☐ 8-inch diameter pipe columns

38. Floating deck seam construction:

☒ Welded ☐ Bolted ☐ Other, specify _____

39. If deck seams are bolted, complete a) or b):

a) ☐ Continuous sheet construction; specify width of sheets (e.g., 5 ft, 6 ft, or 7 ft):_____

☐ Panel construction; specify size of panels (e.g., 5 ft x 7.5 ft, or 5 ft x 12 ft):_____

b) Total length of bolted deck seams: _____ft

Total area of floating deck: _____sq ft

40. On the blank lines to the left of the various types of floating deck fittings shown below, indicate the number, if any, of each fitting.

Access hatch (usually one)
1 Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Automatic gauge float well (usually one)
1 Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Deck supports (roof legs or hanger well)
39 Adjustable
_____ Fixed
_____ Stub drains (1-inch diameter; not used on welded contact deck)

Ladder well (usually one)
1 Sliding cover, gasketed
_____ Sliding cover, ungasketed

Column wells
_____Pipe column, flexible fabric sleeve seal
1 Pipe column, gasketed sliding cover
_____ Pipe column, ungasketed sliding cover
_____ Built-up column, gasketed sliding cover
_____ Built-up column, ungasketed sliding cover

Sample pipe or well (usually one)
1 Slotted pipe, gasketed sliding cover
_____ Slotted pipe, ungasketed sliding cover
_____ Sample well, slit fabric seal (10% open area)

Vacuum breaker (10-inch diameter)
1 Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

41. Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling?

☒ Yes ☐ No

If no, explain: _____

If this tank is an <u>Internal or External</u> Floating Roof Tank, complete items 42 through 47:

42. Type of seal between floating roof and tank well:

☐ Single seal (primary seal only)
☐ Single seal with weather shield (primary seal with weather shield)
☒ Dual seals (primary seal with secondary shield mounted above it)

43. Primary seal information:

Manufacturer NOT YET DETERMINED
Make or model NOT YET DETERMINED
Date installed _____2008_____
(month/year)

Type:
- [x] Liquid-mounted, liquid-filled
- [ ] Liquid-mounted, resilient foam-filled
- [ ] Vapor-mounted, resilient foam-filled
- [ ] Mechanical shoe (complete item below)
- [ ] Flexible wiper
- [ ] Other, specify _____

If the primary seal is a mechanical shoe, complete the following:

Vertical length of shoe _____ inches
Vertical length of shoe above stored liquid surface _____ inches

44. Secondary seal information:

Manufacturer NOT YET DETERMINED Type:
Make or model NOT YET DETERMINED
Date installed _____2008_____
(month/year)

- [x] Rim-mounted, flexible wiper
- [ ] Rim-mounted, resilient foam-filled
- [ ] Shoe-mounted
- [ ] Weather shield
- [ ] Other, specify _____

45. Most recent seal inspection for visible holes, tears or other openings in the seal or fabric:

Seal(s) inspected: NA
Date of inspection: NA
Inspected by (person and company): NA
Condition of seal(s)
- [ ] Good condition
- [ ] Needed repair or replacement, specify type and date of corrective action

46. Most recent seal gap measurements: NOT APPLICABLE

	Primary Seal	Secondary Seal
Date of measurement	_____	_____
By: (person)	_____	_____
(company)	_____	_____
Width of maximum gap	_____ inch	_____ inch
Total area of gaps	_____ sq in	_____ sq in
	_____ sq in/ft tank diameter	_____ sq in/ft tank diameter

47. Condition of the interior side of the tank shell:

- [x] Little or no rust
- [ ] Dense rust
- [ ] Gunite-lining

Section II - Specific Air Contaminant Source Information

NOTE: One copy of this section should be filled out for each air contaminant source covered by this PTI application. See the line by line PTI instructions for additional information.

1. Company identification (name for air contaminant source for which you are applying): OFF-SPEC PRODUCT STORAGE TANK

2. List all equipment that are part of this air contaminant source: 3-MMGAL INTERNAL FLOATING-ROOF STORAGE TANK

3. Air Contaminant Source Installation or Modification Schedule (must be completed regardless of date of installation or modification):

   When did/will you begin to install or modify the air contaminant source? (month/year) SECOND QUARTER 2008

   When did/will you begin to operate the air contaminant source? (month/year) THIRD QUARTER 2011 **OR** after issuance of PTI _____

4. Emissions Information: The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your Ohio EPA permit representative.

   - If total potential emissions of HAPs or any Air Toxic is greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if "Emissions before controls (max), lb/hr" multiplied by 24 hours/day is greater than 10 lb/day, fill in the table for that pollutant.
   - If you have no add-on control equipment, "Emissions before controls= will be the same as "Actual emissions"
   - Annual emissions should be based on operating 8760 hr/yr unless you are requesting operating restrictions to limit emissions in line # 8 or have described inherent limitations below.
   - If you use units other than lb/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, ton/12-months).
   - Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max) (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE) (formerly particulate matter, PM)	0	0	0	0	0
PM_{10} (PM < 10 microns in diameter)	0	0	0	0	0
Sulfur dioxide (SO_2)	0	0	0	0	0
Nitrogen oxides (NO_x)	0	0	0	0	0
Carbon monoxide (CO)	0	0	0	0	0
Organic compounds (OC)	64.5	0.2	0.88	0.2	0.88
Volatile organic compounds (VOC)	64.5	0.2	0.88	0.2	0.88
Total HAPs	9	0.28	0.13	0.28	0.13
Highest single HAP: n-hexane	9	0.28	0.13	0.28	0.13
Air Toxics (see instructions):	9	0.28	0.13	0.28	0.13

Section II - Specific Air Contaminant Source Information

Provide your calculations as an attachment and explain how all process variables and emission factors were selected. Note the emissions factor(s) employed and document the origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

5. **Does this air contaminant source employ emissions control equipment?**

☒ **Yes** - fill out the applicable information below.

☐ **No** - proceed to item # 6.

Note: Pollutant abbreviations used below: Particulates = PE; Organic compounds = OC; Sulfur dioxide = SO_2; Nitrogen oxides = NOx; Carbon monoxide = CO

☐ **Cyclone/Multiclone**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Cyclone ☐ Multiclone ☐ Rotoclone ☐ Other _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Fabric Filter/Baghouse**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
Pressure type: ☐ Negative pressure ☐ Positive pressure
Fabric cleaning mechanism: ☐ Reverse air ☐ Pulse jet ☐ Shaker ☐ Other _____
☐ Lime injection or fabric coating agent used: Type: _____ Feed rate: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Wet Scrubber**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): _____ Basis for efficiency: _____
Design control efficiency (%): _____ Basis for efficiency: _____
Type: ☐ Spray chamber ☐ Packed bed ☐ Impingement ☐ Venturi ☐ Other _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
pH range for scrubbing liquid: Minimum: _____ Maximum: _____
Scrubbing liquid flow rate (gal/min): _____
Is scrubber liquid recirculated? ☐ Yes ☐ No
Water supply pressure (psig): _____ NOTE: This item for spray chambers only.
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:
_____

☐ **Electrostatic Precipitator**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____

Section II - Specific Air Contaminant Source Information

Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ Plate-wire ☐ Flat-plate ☐ Tubular ☐ Wet ☐ Other _____
Number of operating fields: _____

☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Concentrator**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design regeneration cycle time (minutes): _____
Minimum desorption air stream temperature (°F): _____
Rotational rate (revolutions/hour): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Catalytic Incinerator**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum inlet gas temperature (°F): _____
Combustion chamber residence time (seconds): _____
Minimum temperature difference (°F) across catalyst during air contaminant source operation: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Thermal Incinerator/Thermal Oxidizer**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Minimum operating temperature (°F) and location: _____ (See line by line instructions.)
Combustion chamber residence time (seconds): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Flare**

Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ Enclosed ☐ Elevated (open)
Ignition device: ☐ Electric arc ☐ Pilot flame
Flame presence sensor: ☐ Yes ☐ No
☐ This is the only control equipment on this air contaminant source

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If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Condenser**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____

Type: ☐ Indirect contact ☐ Direct contact
Maximum exhaust gas temperature (°F) during air contaminant source operation: _____
Coolant type: _____
Design coolant temperature (°F): Minimum _____ Maximum _____
Design coolant flow rate (gpm): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Carbon Absorber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Type: ☐ On-site regenerative ☐ Disposable
Maximum design outlet organic compound concentration (ppmv): _____
Carbon replacement frequency or regeneration cycle time (specify units): _____
Maximum temperature of the carbon bed, after regeneration (including any cooling cycle): _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Dry Scrubber**
Manufacturer: _____ Year installed: _____
What do you call this control equipment: _____
Pollutant(s) controlled: ☐ PE ☐ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%):_____ Basis for efficiency: _____
Design control efficiency (%):_____ Basis for efficiency: _____
Reagent(s) used: Type: _____ Injection rate(s): _____
Operating pressure drop range (inches of water): Minimum: _____ Maximum: _____
☐ This is the only control equipment on this air contaminant source
If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

☐ **Paint booth filter**
Type: ☐ Paper ☐ Fiberglass ☐ Water curtain ☐ Other _____
Design control efficiency (%):_____ Basis for efficiency: _____

☒ **Other**, describe INTERNAL FLOATING ROOF TANK
Manufacturer: NOT YET SELECTED Year installed: 2008
What do you call this control equipment: INTERNAL FLOATING ROOF TANK
Pollutant(s) controlled: ☐ PE ☒ OC ☐ SO_2 ☐ NOx ☐ CO ☐ Other _____
Estimated capture efficiency (%): >99 Basis for efficiency: ENGINEERING DESIGN
Design control efficiency (%): >99 Basis for efficiency: U.S. EPA TANKS 4.0.9D ESTIMATE
☒ This is the only control equipment on this air contaminant source

If no, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel
List any other air contaminant sources that are also vented to this control equipment:

6. Attach a Process or Activity Flow Diagram to this application for each air contaminant source included in the application. The diagram should indicate their relationships to one another. See the line by line PTI instructions for additional information.

7. Emissions egress point(s) information: PTIs which allow total emissions in excess of the thresholds listed below will be subject to an air quality modeling analysis. This analysis is to assure that the impact from the requested project will not exceed Ohio=s Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for air toxics. Permit requests that would have unacceptable impacts can not be approved as proposed. See the line by line PTI instructions for additional information.

   Complete the tables below if the requested allowable annual emission rate for this PTI exceeds any of the following:

   - Particulate Matter (PM10): 10 tons per year
   - Sulfur Dioxide (SO2): 25 tons per year
   - Nitrogen Oxides (NOx): 25 tons per year
   - Carbon Monoxide (CO): 100 tons per year
   - Air Toxic: 1 ton per year. An air toxic is any air pollutant for which the American Council of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV).

   Complete Table 7-A below for each stack emissions egress point. An egress point is a point at which emissions from an air contaminant source are released into the ambient (outside) air. List each individual egress point on a separate line.

Table 7-A, Stack Egress Point Information

Company Name or ID for the Egress Point (examples: Stack A; Boiler Stack; etc.)	Type Code*	Stack Egress Point Shape and Dimensions (in)(examples: round 10 inch ID; rectangular 14 X 16 inches; etc.)	Stack Egress Point Height from the Ground (ft)	Stack Temp. at Max. Capacity (F)	Stack Flow Rate at Max. Capacity (ACFM)	Minimum Distance to the Property Line (ft)
Off Spec Product Storage Tank	B	Round 10-inch ID	40	Ambient	Passive Vent	600

*Type codes for stack egress points:

A. vertical stack (unobstructed): There are no obstructions to upward flow in or on the stack such as a rain cap.
B. vertical stack (obstructed): There are obstructions to the upward flow, such as a rain cap, which prevents or inhibits the air flow in a vertical direction.

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C. non-vertical stack: The stack directs the air flow in a direction which is not directly upward.

Complete Table 7-B below for each fugitive emissions egress point. List each individual egress point on a separate line. Refer to the description of the fugitive egress point type codes below the table for use in completing the type code column of the table. For air contaminant sources like roadways and storage piles, only the first 5 columns need to be completed. For an air contaminant source with multiple fugitive emissions egress points, include only the primary egress points.

Table 7-B, Fugitive Egress Point Information

Company ID for the Egress Point (examples; Garage Door B, Building C; Roof Monitor; etc.)	Type Code*	Egress Point Description (examples: garage door, 12 X 30 feet, west wall; outside gravel storage piles; etc.)	Fugitive Egress Point Height from the Ground (ft)	Minimum Distance to the Property Line (ft)	Exit Gas Temp. (F)
NA					

*Type codes for fugitive egress point:

D. door or window
E. other opening in the building without a duct
F. no stack and no building enclosing the air contaminant source (e.g., roadways)

Complete Table 7-C below for each Stack Egress Point identified in Table 7-A above. In each case, use the dimensions of the largest nearby building, building segment or structure. List each individual egress point on a separate line. Use the same Company Name or ID for the Egress Point in Table 7-C that was used in Table 7-A. See the line by line PTI instructions for additional information.

Table 7-C, Egress Point Additional Information (Add rows as necessary)

Company ID or Name for the Egress Point	Building Height (ft)	Building Width (ft)	Building Length (ft)
Off-Spec Product Storage Tank	40	115	115

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8. Request for Federally Enforceable Limits

As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

☐ yes
☒ no
☐ not sure - please contact me if this affects me

If yes, why are you requesting federally enforceable limits? Check all that apply.

a. ☐ to avoid being a major source (see OAC rule 3745-77-01)
b. ☐ to avoid being a major MACT source (see OAC rule 3745-31-01)
c. ☐ to avoid being a major modification (see OAC rule 3745-31-01)
d. ☐ to avoid being a major stationary source (see OAC rule 3745-31-01)
e. ☐ to avoid an air dispersion modeling requirement (see Engineering Guide # 69)
f. ☐ to avoid another requirement. Describe: _____

If you checked a., b. or d., please attach a facility-wide potential to emit (PTE) analysis (for each pollutant) and synthetic minor strategy to this application. (See line by line instructions for definition of PTE.) If you checked c., please attach a net emission change analysis to this application.

9. If this air contaminant source utilizes any continuous emissions monitoring equipment for indicating or demonstrating compliance, complete the following table. This does not include continuous parametric monitoring systems.

Company ID for Egress Point	Type of Monitor	Applicable performance specification (40 CFR 60, Appendix B)	Pollutant(s) Monitored
NA			

10. Do you wish to permit this air contaminant source as a portable source, allowing relocation within the state in accordance with OAC rule 3745-31-03 or OAC rule 3745-31-05?

☐ yes - Note: notification requirements in rules cited above must be followed.
☒ no

11. The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the PTI instructions.

FOR OHIO EPA USE
FACILITY ID _____
EU ID _____ PTI# _____

EMISSIONS ACTIVITY CATEGORY FORM
STORAGE TANK
(OFF-SPEC PRODUCT INTERNAL FLOATING-ROOF TANK)

This form is to be completed for each storage tank for which a permit is required. State/Federal regulations which may apply to storage tanks are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)

   ☒ New Permit ☐ Renewal or Modification of Air Permit Number(s) (e.g. T001) _____

2. Type of tank: ☐ Fixed roof tank ☐ Variable vapor space tank ☐ Pressure tank
   ☐ External floating roof tank ☒ Internal floating roof tank

3. Location of tank: ☐ Indoors ☒ Outdoors ☐ Underground

4. a) Tank capacity: 3,000,000 gallons or _____ barrels

   If capacity is provided in barrels, enter the number of gallons per barrel: _____

   b) Working volume, if different from tank capacity: _____gallons or _____ barrels

5. Shape and dimensions:

   ☒ Cylindrical ☐ Spherical ☐ Other, specify _____

   ☐ Horizontal tanks:
   Tank shell length: _____ft.
   Tank shell diameter or width _____ft.

   ☒ Vertical tanks:
   Tank shell height: 40 ft.
   Tank shell diameter or width: 115 ft.

6. Tank shell material: ☐ Steel ☐ Aluminum ☒ Other, specify: TO BE DETERMINED

7. If this tank is located outdoors and above ground, provide the paint color of the tank's shell and roof and indicate the condition of the paint.

   Shell:
   ☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
   ☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify _____

Roof:

☐ Aluminum (specular) ☐ Gray (dark) ☒ White ☐ Red (primer)
☐ Aluminum (diffuse) ☐ Gray (light) ☐ Other, specify
_____Condition of paint: ☒ Good ☐ Poor

8. If this tank is a variable vapor space tank or is interconnected to a variable vapor space tank, complete the following:

a) Capacity of vapor expansion system: _____gallons or _____ barrels

b) Identify all tanks and other vapor sources interconnected to the vapor expansion system:

_____

9. If this tank is subject to the following federal rules, complete the following:

☐ New Source Performance Standards under 40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"

a) Date of initial fill with petroleum liquid

b) Was tank out of service for a period of a year or more? ☐ Yes ☐ No
If yes, identify the date of subsequent refilling with petroleum liquid after the most recent out-of-service period of a year or more. _____

☐ Maximum Achievable Control Technology (MACT) Standards under 40 CFR 63, Subpart G (HON Tanks)

a) This tank is defined as a: ☐ Group 1 storage vessel ☐ Group 2 storage vessel

b) At the storage temperature, maximum true vapor pressure of total HAPs:_____

10. Supplemental data, check all that apply:

☐ Tank was converted from an external floating roof tank or a fixed roof tank to an internal floating roof tank; provide type and date of conversion: _____

☐ Tank is used to store produced crude oil or condensate prior to custody transfer.

☐ Tank is insulated; describe: _____

☐ Tank is heated and indicate temperature (in degrees Fahrenheit): _____

11. Material stored OFF-SPEC PRODUCT (ASSUMED TO BE F-T NAPHTHA)
Trade Name SYNTHETIC PARAFFINIC NAPHTHA

Density: __lbs/gal or 65-70 °API Producer ORCF

12. Temperature of stored material: Average ~50 °F and Maximum 72 °F

13. Vapor pressure of stored material:

a) Actual vapor pressure: ≤4.5 psia (TVP) at maximum storage temperature (72 °F)

b) Reid vapor pressure, in psia:
Average <13
Minimum _____
Maximum _____

c) If material stored is a gas or liquified gas, provide the pressure at which it is stored:
_____psi gauge at _____°F

14. The vapor molecular weight: ~74.2 lbs/lb-mole

15. If the material is a liquid other than gasoline, fuel oil, kerosene, crude oil, lubricant or other petroleum liquid, answer the questions below:

Is it a photochemically reactive material? ☐ Yes ☐ No

16. Is the material a hazardous waste? ☐ Yes ☒ No
If yes, identify type (EPA hazardous waste number) _____

17. Type of filling: ☐ Splash ☒ Submerged ☐ Other, specify _____

18. Indicate the year (or 12-month period) for which throughput is provided in items 19 and 20: JAN-DEC

19. The maximum daily throughput of material stored: 262,500 gallons or __ barrels.

20. Maximum annual throughput of material stored: 95,812,500 gallons or __ barrels.

21. Identify the control equipment associated with this tank.

a) Type of vapor control system: INTERNAL FLOATING ROOF TANK DESIGN

b) Date tank was equipped with or vented to vapor control system (month/year) NA

22. Complete the table below for any pressure or vacuum relief vent valve.

Type of Vent Valve	Pressure Setting	Vacuum Setting	If pressure relief is discharged to a vapor control system, identify the vapor control system
To Be Determined	To Be Determined	To Be Determined	

If this is a Fixed Roof, Variable Vapor Space or Pressure Tank, complete items 23 through 27:

23. If the tank is vertical, what type of roof does it have?

☐ Cone roof Height: _____ft ☐ Dome roof Height: _____ft

24. The average height of the liquid material stored within the tank during the year: _____ft.

25. The maximum height of the liquid material stored within the tank during the year: _____ft.

26. The average liquid surface temperature: _____°F

27. Is this tank bolted or riveted construction? ☐ Yes ☐ No

If this tank is an External Floating Roof Tank, complete items 28 through 34:

28. Is the external floating roof domed? ☐ Yes ☐ No

29. Type of floating roof: ☐ Double Deck ☐ Pontoon ☐ Other, specify _____

30. Type of shell construction: ☐ Welded ☐ Riveted or bolted

31. Are all openings in the external floating roof, except automatic bleeder vents, rim space vents, leg sleeves, main roof drain, emergency roof drains and slotted gauging/sampling wells, equipped with both a cover, seal or lid without visible gaps and a projection into the tank below the liquid surface?

☐ Yes ☐ No

If no, explain: _____

32. Is there a slotted gauging/sampling well?

☐ Yes ☐ No

If yes, is it equipped with an object which floats on the liquid surface within the well and which covers at least 90 percent of the area of the well opening?

☐ Yes ☐ No

33. On the blank lines to the left of the various types of roof fittings shown below, indicate the number, if any, of each fitting.

Access hatch (24-inch diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed

Vacuum breaker (10-inch diameter well)
_____Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Unslotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover ☐ With sleeve
_____ Gasketed sliding cover ☐ With sleeve ☐ With wiper

Slotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
_____ Ungasketed sliding cover, without float _____ Gasketed sliding cover, without float
_____ Gasketed sliding cover, with float

Gauge-float well (20-inch diameter)
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed
_____ Bolted cover, gasketed

Gauge-hatch/sample well (8-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

Roof leg (3-inch diameter)

_____ Adjustable, pontoon area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, center area	☐ Gasketed	☐ Ungasketed	☐ Sock
_____ Adjustable, double-deck roofs			
_____ Fixed			

Roof drain (3-inch diameter)
_____ Open
_____ 90% closed

Roof leg (2-1/2-inch diameter)
_____ Adjustable, pontoon area
_____ Adjustable, center area
_____ Adjustable, double-deck roofs
_____ Fixed

Rim vent (6-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

34. The average wind speed at the tank site: _____mph.

If this tank is an <u>Internal</u> Floating Roof Tank, complete items 35 through 41:

NOTE: ALL DETAILS IN ITEMS 35 THROUGH 47 ARE STILL TO BE DETERMINED AND ARE SUBJECT TO FINAL DESIGN. SELECTIONS ARE PROVIDED HERE CONSISTENT WITH TANKS MODELING PROVIDED IN ATTACHMENT B.

35. Type of floating decks:

☐ Contact deck ☒ Noncontact deck

36. Type of roof above floating decks: ☐ Column-supported ☒ Self-supporting

37. If roof is column-supported, identify the type of column construction:

☐ 9-inch by 7-inch built-up columns ☐ Other, specify _____
☐ 8-inch diameter pipe columns

38. Floating deck seam construction:

☒ Welded ☐ Bolted ☐ Other, specify _____

39. If deck seams are bolted, complete a) or b):

a) ☐ Continuous sheet construction; specify width of sheets (e.g., 5 ft, 6 ft, or 7 ft):_____

☐ Panel construction; specify size of panels (e.g., 5 ft x 7.5 ft, or 5 ft x 12 ft):_____

b) Total length of bolted deck seams: _____ft

Total area of floating deck: _____sq ft

40. On the blank lines to the left of the various types of floating deck fittings shown below, indicate the number, if any, of each fitting.

Access hatch (usually one)
1 Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Automatic gauge float well (usually one)
1 Bolted cover, gasketed
_____ Unbolted cover, ungasketed
_____ Unbolted cover, gasketed

Deck supports (roof legs or hanger well)
39 Adjustable
_____ Fixed
_____ Stub drains (1-inch diameter; not used on welded contact deck)

Ladder well (usually one)
1 Sliding cover, gasketed
_____ Sliding cover, ungasketed

Column wells
_____Pipe column, flexible fabric sleeve seal
1 Pipe column, gasketed sliding cover
_____ Pipe column, ungasketed sliding cover
_____ Built-up column, gasketed sliding cover
_____ Built-up column, ungasketed sliding cover

Sample pipe or well (usually one)
1 Slotted pipe, gasketed sliding cover
_____ Slotted pipe, ungasketed sliding cover
_____ Sample well, slit fabric seal (10% open area)

Vacuum breaker (10-inch diameter)
1 Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

41. Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling?

☒ Yes ☐ No

If no, explain: _____

If this tank is an <u>Internal or External</u> Floating Roof Tank, complete items 42 through 47:

42. Type of seal between floating roof and tank well:

☐ Single seal (primary seal only)
☐ Single seal with weather shield (primary seal with weather shield)
☒ Dual seals (primary seal with secondary shield mounted above it)

43. Primary seal information:

Manufacturer NOT YET DETERMINED
Make or model NOT YET DETERMINED
Date installed _____2008_____
(month/year)

Type:
- [x] Liquid-mounted, liquid-filled
- [ ] Liquid-mounted, resilient foam-filled
- [ ] Vapor-mounted, resilient foam-filled
- [ ] Mechanical shoe (complete item below)
- [ ] Flexible wiper
- [ ] Other, specify _____

If the primary seal is a mechanical shoe, complete the following:

Vertical length of shoe _____ inches
Vertical length of shoe above stored liquid surface _____ inches

44. Secondary seal information:

Manufacturer NOT YET DETERMINED Type:
Make or model NOT YET DETERMINED
Date installed _____2008_____
(month/year)

- [x] Rim-mounted, flexible wiper
- [ ] Rim-mounted, resilient foam-filled
- [ ] Shoe-mounted
- [ ] Weather shield
- [ ] Other, specify _____

45. Most recent seal inspection for visible holes, tears or other openings in the seal or fabric:

Seal(s) inspected: NA
Date of inspection: NA
Inspected by (person and company): NA
Condition of seal(s)
- [ ] Good condition
- [ ] Needed repair or replacement, specify type and date of corrective action

46. Most recent seal gap measurements: NOT APPLICABLE

	Primary Seal	Secondary Seal
Date of measurement		
By: (person)		
(company)		
Width of maximum gap	_____ inch	_____ inch
Total area of gaps	_____ sq in	_____ sq in
	_____ sq in/ft tank diameter	_____ sq in/ft tank diameter

47. Condition of the interior side of the tank shell:

- [x] Little or no rust
- [ ] Dense rust
- [ ] Gunite-lining