



Louisville Metro Air Pollution Control District  
850 Barret Avenue  
Louisville, Kentucky 40204-1745



**XX Month 2016**

## **FEDOOP Statement of Basis**

**Company:** Thornton Oil Corporation

**Plant Location:** 7800 Cane Run Road, Louisville, Kentucky 40258

**Date Application Received:** 05/02/2013

**Date of Public Notice:** 12/29/2015

**District Engineer:** Shannon Hosey

**Permit No:** O-0220-16-F

**Plant ID:** 0220

**SIC Code:** 5171

**NAICS:** 42271

### **Introduction:**

This permit will be issued pursuant to District Regulation 2.17- *Federally Enforceable District Origin Operating Permits*. Its purpose is to limit the plant wide potential emission rates from this source to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), 1 hr and 8 hr ozone (O<sub>3</sub>), and particulate matter less than 10 microns (PM<sub>10</sub>); is a non-attainment area for the 1997 standard for particulate matter less than 2.5 microns (PM<sub>2.5</sub>) and is a unclassifiable area for the 2012 standard for particulate matter less than 2.5 microns (PM<sub>2.5</sub>); and partial non-attainment area for sulfur dioxide (SO<sub>2</sub>).

### **Application Type/Permit Activity:**

Initial Issuance

Permit Revision

Administrative

Minor

Significant

Permit Renewal

### **Compliance Summary:**

Compliance certification signed

Compliance schedule included

Source is out of compliance

Source is operating in compliance

**I. Source Information**

1. **Product Description:** Thornton Transportation Inc. is engaged in wholesale distribution of petroleum products from bulk liquid storage facilities.
2. **Process Description:** Shipments are transported to the terminal via trucks, barge and pipeline. Fuels received by each system are routed to the desired storage tank(s) through a fixed arrangement of pipes and valves. Fuels are withdrawn from the various tanks as desired and routed either to a loading rack, or transfer pipeline.
3. **Site Determination:** There are no other facilities that are contiguous or adjacent and under common control.
4. **Emission Unit Summary:**

Emission Unit	Equipment Description
U1	Gasoline Storage Tanks
U2	Truck Loading Rack with Control Unit

5. **Fugitive Sources:** The facility uses a carbon adsorption/absorption vapor recovery unit (VRU) for the truck loading rack under Emission Unit U2. In addition, Emission Unit U2 can bring in a temporary, portable carbon adsorption system for the vacuum truck and frac tank that are also temporarily brought onsite. The remaining emission points are fugitive sources
6. **Permit Revisions:**

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	0066-97-F	04/22/1997	03/16/1997	Initial	Entire Permit	Initial Permit Issuance
R1	0066-97-F(R1)	04/04/2000	03/05/2000	Minor	General Conditions Pages 2-4	Incorporate revisions to General Conditions #4, #11, #12, and #13; New General Conditions #13 and #14
R2	0066-97-F(R2)	03/23/2001	11/19/2000	Admin	Entire Permit	Ownership and Name Change
R3	0066-97-F(R3)	12/16/2002	11/10/2002	Renewal	Entire Permit	Permit Renewal
NA	O-0220-16-F		12/29/2015	Renewal	Entire Permit	Permit Renewal, incorporate construction permits 114-05-C, 115-05-C, 116-05-C and 34613-12-C

**7. Construction Permit History:**

Permit No.	Issue Date	Description
114-05-C	03/15/2005	One (1) portable, horizontal, fixed-roof storage tank (aka frac tank) for temporary storage of gasoline product obtained from the terminal pipeline. Make: Rain-For-Rent; capacity; 21,000 gallons.
115-05-C	03/15/2005	One (1) vacuum truck (capacity 2520 gallons) for the transferring of gasoline from the frac tank.
116-05-C	03/15/2005	Two (2) carbon adsorption systems for collection VOC emissions. The systems are in parallel as follows: the first system controls a frac tank and the other controls the vacuum truck.
34613-12-C	6/29/2012	One (1) Carbon Adsorption/Absorption Vapor Recovery Unit (Manufacturer: Jordan Technologies, Inc., Model: JT-8580-1000-1AC1000DRY) used to control the emissions from the truck loading rack.

**8. Emission Summary:**

Pollutant	Company's Actual Emissions (tpy) Semi-Annual Report 2014	Pollutant that triggered Major Source Status (based on PTE)
CO	-	No
NO <sub>x</sub>	-	No
VOC	17.8	Yes
Total HAPs	0.424	Yes
Single HAP	0.141	Yes
Greenhouse Gas	-	-

**9. Applicable Requirements:**

PSD       40 CFR 60       SIP       40 CFR 63  
 NSR       40 CFR 61       District-Origin       Other

**10. Future MACT Requirements:** The source has no future MACT requirements.

**11. Referenced Federal Regulations in Permit:**

40 CFR Part 60 Subpart A	General Provisions
40 CFR Part 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984
40 CFR Part 63 Subpart A	General Provisions
40 CFR Part 63 Subpart BBBBBB	National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities

**Non-Applicability Determinations:**

40 CFR Part 60, Subpart XX – *Standards of Performances for Bulk Gasoline Terminals* does not apply to this facility since it commenced operations before December 17, 1980, as stated in 40 SCR 60.500(b).

40 CFR Part 60 Subpart K – *Standards of Performance for Storage Vessels for Petroleum Liquids* does not apply to this facility since the tanks were not constructed between June 11, 1973 and May 19, 1978.

40 CFR Part 60 Subpart Ka – *Standards of Performance for Storage Vessels for Petroleum Liquids* does not apply to this facility since the tanks were not constructed between May 18, 1978 and July 23, 1984.

40 CFR Part 63 Subpart R – *National Emission Standard for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)* does not apply since the facility is not a major source.

**II. Regulatory Analysis**

- 1. Acid Rain Requirements:** Thornton Transportation, Inc. is not subject to the Acid Rain Program.
- 2. Stratospheric Ozone Protection Requirements:** Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. Thornton Transportation, Inc. does not manufacture, sell, or distribute any of the chemicals listed in Title VI of the CAAA. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

- 3. **Prevention of Accidental Releases 112(r):** Thornton Transportation, Inc. does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, *Chemical Accident Prevention Provisions*, in a quantity in excess of the corresponding specified threshold amount.
- 4. **Basis of Regulation Applicability**

Regulation	Basis for Applicability
1.05	Regulation 1.05 requires the owner or operator to maintain and operate the affected facility in a manner consistent with good air pollution control practice for minimizing emissions.
2.17	Federally Enforceable District Origin Operating Permits
6.13	Regulation 6.13 applies to each storage vessel for volatile organic compounds that was in being or had a construction permit issued by the District before September 01, 1976.
6.21	Regulation 6.21 applies to each affected facility which was in being or had a construction permit issued by the District before June 13, 1979.
7.12	Regulation 7.12 applies to each storage vessel for volatile organic compounds that commences construction or modification on or after April 19, 1972
5.00, 5.01, 5.20, 5.21, 5.22, and 5.23 (STAR)	Regulations 5.00, 5.01, 5.20, 5.21, 5.22 and 5.23 (STAR Program) establish the requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards.
40 CFR Part 60 Subpart A	Regulation 40 CFR 60 Subpart A establishes the applicable standards for affected facilities.
40 CFR Part 63 Subpart A	Regulation 40 CFR 63 Subpart A establishes the applicable standards for affected facilities.
40 CFR Part 60 Subpart Kb	Regulation 40 CFR Part 60 Subpart Kb applies to each storage vessel with a storage capacity greater than or equal to 75 cubic meters (m <sup>3</sup> ) that is used to store volatile organic liquids for which construction, reconstruction, or modification commenced after July 23, 1984.
40 CFR 63 Subpart BBBBBB	Subpart BBBBBB establishes national emission limitations and management practices for hazardous air pollutants (HAP) emitted from area source gasoline distribution bulk terminals, bulk plants, and pipeline facilities. This subpart also establishes requirements to demonstrate compliance with the emission limitations and management practices.

a. **Plant-wide**

- i. Thornton Transportation, Inc. is a potential major source for the pollutant VOC, Single HAP and Total HAP. Regulation 2.17 – *Federally Enforceable District Origin Operating Permits* establishes requirements to limit the plant wide potential emission rates to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements.
- ii. Regulation 2.17, section 5.2, requires monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the district upon request.
- iii. Regulation 2.17, section 7.2, requires stationary sources for which a FEDOOP is issued to submit an Annual Compliance Certification by April 15, of the following calendar year. In addition, as required by Regulation 2.17, section 5.2, the source shall submit an Annual Compliance Report to show compliance with the permit, by March 1 of the following calendar year. Compliance reports and compliance certifications shall be signed by a responsible official and shall include a certification statement per Regulation 2.17, section 3.5.
- iv. 40 CFR Part 63 Subpart BBBB BB establishes national emission limitations, management practices, and requirements to demonstrate compliance for hazardous air pollutants (HAP) emitted from gasoline distribution bulk terminals. Subpart BBBB BB is applicable to gasoline storage tanks, gasoline loading racks, vapor collection-equipped gasoline cargo tanks, and equipment components in gasoline service. Due to the specifications of the truck loading rack at Thornton Oil Corporation, Subpart BBBB BB references the conditions from 40 CFR 60 Subpart XX to establish requirements and demonstrate compliance. Under 40 CFR 63.11087(f) of Subpart BBBB BB, the storage tanks that are subject to and comply with 40 CFR part 60, Subpart Kb will be deemed in compliance with the requirements of 40 CFR 63, Subpart BBBB BB. An initial notification was received by the District on July 13, 2015. The Notification of Compliance Status for 40 CFR Part 63, Subpart BBBB BB was received on September 4, 2015.
- v. District Regulation 1.05 requires the owner or operator to maintain and operate the affected facility in a manner consistent with good air pollution control practice for minimizing emissions. The owner or operator shall monitor and maintain records from the 1.05

compliance plan, which outlines various inspections and preventative maintenance procedures.

- vi. Regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23 (STAR Program) establishes requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards.
- vii. The following cancer risks were calculated for benzene from the controlled loading of gasoline. The resulting risks are each less than the EA (environmentally acceptable) goal of 1.0 and the cumulative risk is below the goal of 7.5 in a million.<sup>1</sup> (Regulation 2.17, section 5.2)

TAC (Category 1 and 2)	Averaging Period	De Minimis (lb/hr)	De Minimis (lb/avg. period)	Risk (Rc) (per million)
Benzene	annual	0.24	216.00	0.296
Naphthalene	annual	0.016	13.92	de minimis
Toluene	annual	2,700	2,400,000	de minimis
1,2,4-trimethylbenzene	24-hour	11.00	26.40	de minimis
Xylene	annual	54.00	48,000	de minimis
Cumulative				0.296

**b. Emission Unit U1 – Gasoline Storage Tanks**

**i. Equipment:**

EU	Emission Point	Description Make/Model	Applicable Regulation	Control Device
U1	E1	Gasoline Storage Tank #1, Graver Tank Co., equipped with internal floating roof, (1,324,260 Gallons)	STAR* 5.14, 6.13 and 40 CFR 63 Subpart BBBBBB	N/A
	E2	Gasoline Storage Tank #2, Graver Tank Co., equipped with internal floating roof, (2,399,250 Gallons)	STAR* 5.14, 6.13 and 40 CFR 63 Subpart BBBBBB	
	E3	Gasoline/Ethanol Storage Tank #3, Graver Tank Co., equipped with internal floating roof, (650,460 Gallons)	STAR* 5.14, 6.13 and 40 CFR 63 Subpart BBBBBB	
	E4	Gasoline Storage Tank #4, Graver Tank Co., equipped with internal floating roof, (650,160 Gallons)	STAR* 5.14, 6.13 and 40 CFR 63 Subpart BBBBBB	

<sup>1</sup> The District received an updated environmental acceptability (EA) demonstration on May 02, 2013 that provided TAC emissions for the company.

EU	Emission Point	Description Make/Model	Applicable Regulation	Control Device
	E5	Gasoline Storage Tank #5, Graver Tank Co., equipped with internal floating roof, (884,310 Gallons)	STAR* 5.14, 7.12 and 40 CFR 63 Subpart BBBB	
	E10	Gasoline Storage Tank #7, Chicago Bridge & Iron Co. (3,412,080 Gallons)	STAR* 5.14, 7.12 and 40 CFR 60 Subpart Kb	
	E6	Gasoline Detergent Additive Storage Tank #6, (10,000 Gallons) Equipped with a Reserve Tank #6A (550 Gallon) Southern Tank & Manufacturing Co.	5.14 and 7.12	
	E9	Underground Fiberglass Storage Tank, (10,000 Gallons) (containment of spills and storm water runoff from the loading rack area)	STAR* 5.14 and 7.12	

ii. **Standards/Operating Limits**

1) **VOC**

- (a) Regulation 6.13, sections 3 and 4 establish the requirements to install, maintain, and operate the applicable storage tanks.
- (b) Regulation 7.12, sections 3 and 4 establish the requirements to install, maintain, and operate the applicable storage tanks.
- (c) Regulation 40 CFR Part 60, Subpart Kb, section 112b establishes the requirements to install, maintain, and operate the applicable storage tanks.

2) **HAP**

- (a) The applicable storage tanks are subject to 40 CFR 63 Subpart BBBB.
- (b) Regulation 2.17, section 5.1 allows the source to set a synthetic limit below the major source threshold.

iii. **Monitoring and Recordkeeping**

1) **VOC**

Regulation 40 CFR Part 60, Subpart Kb, sections 113b, 115b, and 116b require sufficient monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit.

2) **HAP**

The source is required to comply with applicable monitoring and record keeping requirements of 40 CFR Part 63, Subpart BBBBBB.

iv. **Reporting**

1) **VOC**

Regulation 40 CFR Part 60, Subpart Kb, sections 115b and 116b require sufficient reporting to assure ongoing compliance with the terms and conditions of the permit.

2) **HAP**

The source is required to comply with applicable reporting requirements of 40 CFR Part 63, Subpart BBBBBB.

c. **Emission Unit U2 – Truck Loading Rack**

i. **Equipment:**

<b>EU</b>	<b>Emission Point</b>	<b>Description Make/Model</b>	<b>Applicable Regulation</b>	<b>Control Device</b>
U2	E11	One (1) truck loading rack for loading gasoline, fuel oil and kerosene into tank trucks that utilize bottom fill	STAR*, 5.14, 6.21 and 40 CFR 63 Subpart BBBBBB	C1 (VRU)

ii. **Standards/Operating Limits**

1) **VOC**

Regulation 6.21, section 3 establishes requirements to operate the loading rack.

2) **HAP**

The loading rack is subject to 40 CFR 63 Subpart BBBBBB.

iii. **Monitoring and Record Keeping**1) **VOC**

Regulation 6.21, section 3 requires sufficient monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit.

2) **HAP**

The source is required to comply with applicable monitoring and record keeping requirements of 40 CFR Part 63, Subpart BBBBBB.

iv. **Reporting**1) **VOC**

Regulation 2.17, section 5.2 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit.

2) **HAP**

The source is required to comply with applicable reporting requirements of 40 CFR Part 63, Subpart BBBBBB.

v. **Testing**1) **VOC**

This pollutant does not have any testing requirements.

2) **HAP**

The source is required to comply with applicable testing requirements of 40 CFR Part 63, Subpart BBBBBB.

**III. Other Requirements**

1. **Temporary Sources:** The source did not request to operate any temporary facilities.

- 2. **Short Term Activities:** The source did not report any short term activities.
- 3. **Emissions Trading:** N/A
- 4. **Alternative Operating Scenarios:** The owner or operator is authorized to rent and bring onsite one (1) vacuum truck, one (1) portable, horizontal, fixed-roof storage (FRAC) tank, and two (2) carbon adsorption systems for temporary use. The equipment will be brought on-site during extended time periods of downtime/malfunction of the existing vapor recovery unit (VRU) and emergency power failures at the terminal. Gasoline is obtained from the terminal pipeline and stored in the one (1) portable FRAC tank. Gasoline is transferred from the FRAC tank and into the tanker truck via one (1) vacuum truck. The product in the tanker truck then gets delivered to the designated gasoline stations. VOC emissions/vapors are collected through the two (2) carbon adsorption systems—one operates and collects emissions from the FRAC tank and the other operates and collects emissions from the vacuum truck. The facility shall continue to calculate emissions from this equipment to ensure compliance is maintained.
- 5. **Compliance History:**

Incident #	Date	Regulations Violated	Result
02861	03/04/2002	Regulation 2.03, Section 01 Failure to Obtain Construction Permit	Agreement \$500
03327	06/14/2005	Regulation 2.17, Section 03 Failure to Comply with FEDOOP Permit	Agreement \$500

6. **Insignificant Activities**

Equipment	Quantity	Regulation Basis
Portable, horizontal, fixed-roof storage tank (frac tank) for temporary storage of gasoline product obtained from the terminal pipeline. This is brought in during times when the Vapor Recovery Unit (VRU) or the electric power goes down. Make: Rain-For-Rent, Capacity: 21,000 gallons	1	Regulation 1.02, sec. 1.38.1.1
Vacuum truck for the transferring of gasoline from the frac tank to the tank trucks. This is brought in during times when the (VRU) or the electric power goes down.	1	Regulation 1.02, sec. 1.38.1.1
Carbon adsorption systems running in parallel as follows: the first controls the frac tank and the other controls the vacuum tank. This is brought in during times when the Vapor Recovery Unit (VRU) or the electric power goes down. Make: US Filter (or equivalent)	2	Regulation 1.02, sec. 1.38.1.1

- 1) Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements.
- 2) Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements.
- 3) The owner or operator shall annually submit an updated list of insignificant activities that occurred during the preceding year, with the compliance certification due April 15<sup>th</sup>.
- 4) Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
- 5) The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) as the annual emissions for each piece of equipment.
- 6) The District has determined that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.