



1/16/2014

Melissa Farrington  
The Andersons, Inc.  
P.O. Box 119  
Maumee, OH 43537

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0448031076  
Permit Number: P0115562  
Permit Type: Initial Installation  
County: Lucas

Certified Mail

Yes	TOXIC REVIEW
Yes	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
Yes	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install and Operate (PTIO) for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, Toledo Blade. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall  
Permit Review/Development Section  
Ohio EPA, DAPC  
50 West Town Street Suite 700  
PO Box 1049  
Columbus, Ohio 43216-1049

and Toledo Department of Environmental Services  
348 South Erie Street  
Toledo, OH 43604

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Toledo Department of Environmental Services at (419)936-3015.

Sincerely,

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 Via E-Mail Notification  
TDES; Michigan; Indiana; Canada

PUBLIC NOTICE  
1/16/2014 Issuance of Draft Air Pollution Permit-To-Install and Operate

The Andersons, Inc.  
421 Illinois Ave,  
Maumee, OH 43537  
Lucas County

FACILITY DESC.: Support Activities for Rail Transportation

PERMIT #: P0115562

PERMIT TYPE: Initial Installation

PERMIT DESC: Installation of a railcar cleaning and repair facility

The Director of the Ohio Environmental Protection Agency issued the draft permit above. The permit and complete instructions for requesting information or submitting comments may be obtained at: <http://epa.ohio.gov/dapc/permitsonline.aspx> by entering the permit # or: Brad Faggionato, Toledo Department of Environmental Services, 348 South Erie Street, Toledo, OH 43604. Ph: (419)936-3015





## Permit Strategy Write-Up

1. Check all that apply:

Synthetic Minor Determination

Netting Determination

2. Source Description:

This permit is for a railcar tank car cleaning and repair facility. This emissions unit will handle railcars comprising of tank, hopper, and box cars. The permittee proposes to clean tank cars that previously contained various organic materials and do welding on railcars as needed for railcar repairs.

3. Facility Emissions and Attainment Status:

This facility is currently a synthetic minor source of VOC emissions and a minor source for all other pollutants. After issuance of this permit, this facility will become a synthetic minor source of VOC and HAP emissions. This facility is located in Lucas County, which is currently designated attainment for all NAAQS standards.

4. Source Emissions:

### **F001 – Railcar repair welding**

The permittee estimated emissions from flux cored arc welding (FCAW) and shielded metal arc welding (SMAW) operations using AP-42, 5<sup>th</sup> Edition, Section 12.19, Table 12.19-1 dated 1/95.

The permittee used the worst-case emission factor from Table 12.19-1 which is a 14Mn-4Cr electrode type for SMAW (81.6 lb PM<sub>10</sub>/1,000 lbs electrode consumed). The permittee has indicated maximum electrode consumption is 25 lbs/hr and has requested allowable emissions based on an electrode consumption of 50,000 lbs/yr which is 3 times the actual amount of electrode consumed in 2012.

#### Hourly Emissions

PM<sub>10</sub> = 25 lbs/hr(81.6 lb PM<sub>10</sub>/1,000 lbs) = 2.04 lbs/hr

#### Unrestricted Emissions

PM<sub>10</sub> = 2.04 lbs/hr(8760 hrs/yr)(ton/2000 lbs) = 8.9 tons/yr

#### Restricted Emissions at 50,000 tons/yr electrode consumption (as requested in PTIO application)

PM<sub>10</sub> = 50,000 lbs/yr(81.6 lb PM<sub>10</sub>/1,000 lbs)(ton/2,000 lbs) = 2.04 tons/yr



### P003 – Railcar Cleaning Operation

The permittee provided a list identified as Table C-2 in the permit application that specifies the various types of railcars expected to be cleaned, along with the expected materials contained in the railcars. Table C-2 identifies 26 categories of materials that will be unloaded.

The permittee has indicated that a maximum of 4 railcars can be simultaneously vented, and the Emission Activity Category form specifies that a maximum of 10 railcars can be processed per hour. The permittee has requested to be restricted to processing 1578 railcars/yr. The permittee requested allowable emissions from railcar cleaning of 11.06 tons per year VOC, and has requested that this emissions limitation be made federally enforceable in order to avoid the following requirements: PSD, Title V, and MACT requirements.

Due to the wide variety of materials that may be unloaded at this facility and possibly different railcar capacities, a synthetic minor restriction in the format of an equation will be added to the permit similar to what has been previously approved for use by Ohio EPA for various operations. This restriction will require actual emissions to be calculated monthly and require the following monthly records to be maintained: name and identification of commodity contained in railcar, true vapor pressure of vapors at 25 degrees C, and the vapor molecular weight of commodities.

The emissions from railcar cleaning occur from: degassing or purging the vapors from the railcar prior to cleaning (venting); and solvent cleaning by hand application (cleaning).

#### **Railcar Venting Emissions**

The permittee estimated degassing/purging emissions using Equations 3-7, and 3-9 of *Control of Volatile Organic Compound Emissions from Batch Processes – Alternative Control Techniques Information Document*, EPA-453-93-017 dated February 1994. The reference document indicates that the below equations may be used to estimate the emissions from filled or partially filled vessels that are trickle blanketed. Trickle blanketing is defined in the reference as a constant flow of gas (air in this case) is maintained through the headspace.

$$E_r = (y_i)(V_r)(P_T)(MW) / [(R)(T)] \quad \text{Equation 3-7}$$

where:

$E_r$  = emission rate, lbs/yr

$y_i$  = mole fraction of commodity in vapor phase, calculated in 3-9

$V_r$  = volumetric gas displacement rate (equal to the total rate of gas exiting vessel)

$R$  = ideal gas law constant

$T$  = Temperature of vessel vapor space, absolute

$MW$  = molecular weight of commodity

$$y_i = (x_i)(P_i^*) / (P_T) \quad \text{Equation 3-9}$$

where:

$y_i$  = mole fraction of component i in vapor

$x_i$  = mole fraction of component i in liquid

$P_i^*$  = vapor pressure of component i

$P_T$  = total pressure in the vessel vapor space



The below sample calculation estimates emissions from venting railcars that previously contained crude oil.

$n = PV/RT$   
 $V = 33,500$  gallons/railcar  
 $P = 3.4$  psia. vapor pressure of crude oil  
 $MW = 50$  lbs/lb-mole, molecular weight of crude oil vapors  
 $T = 25$  °C (537 °R), average ambient temperature  
 $R = (10.73 \text{ ft}^3\text{-psia})/(\text{mole}\cdot\text{°R})$ , ideal gas constant

$V = 33,500 \text{ gal}/\text{car}(\text{ft}^3 / 7.48 \text{ gal}) = 4478.6 \text{ ft}^3/\text{railcar}$

$n = (3.4 \text{ psia})(4478.6 \text{ ft}^3) / [(10.73 \text{ ft}^3\text{-psia}/\text{mole}\cdot\text{°R})(537 \text{ °R})] = 2.643$  moles crude oil

VOC emissions from venting railcars that previously contained crude oil  
 $\text{VOC emissions}_{\text{crude oil}} = 2.643 \text{ moles}(50 \text{ lb}/\text{lbmole}) = 132.15$  pounds/railcar  
 $\text{VOC emissions}_{\text{crude oil}} = 132.15 \text{ lbs}/\text{railcar}(45 \text{ railcars}/\text{yr})(\text{ton}/2000 \text{ lbs}) = 2.97$  tons/yr

Table C-2 from the permit application specifies the emissions from venting railcars containing other commodities. The total emissions from venting railcars was calculated by the permittee to be **10.92 tons per year VOC**.

TABLE C-2  
 ACTUAL VOC EMISSIONS FOR DEGASSING OPERATIONS  
 The Andersons Rail Car Cleaning Operations, Maumee, OH

Commodity	Type of Rail Car (Pressure, Tank, Hopper, Box)	To Flare? (No, Yes)	"Representative Compound" in Rail Car Vapor Headspace	True Vapor Pressure of Vapors @ 25°C, P <sub>v</sub> <sup>(1)</sup>		Molecular Weight of Vapors (lb/lb-mole)	Temp. (°K)	Mole Fraction, x <sub>v</sub> <sup>(2)</sup>	Vapor Displacement Loss <sup>(3)</sup> (lb/10 <sup>3</sup> gal)	Purge/ Degass volume per Railcar <sup>(4)</sup> (gal/car)	Purge/ Degass/ Duration (hr/car)	Number of Rail Cars Cleaned/ yr	Short Term Emission Rates (lb/hr)			Annual Emissions (tons/yr)
				(mm Hg)	(psia)								1 car	3 cars	4 cars	
Crude Oil	Tank	No	Crude Oil (RVP 5)	3.4	50	298.15	0.231	3.945	33,500	4	45	33,041	99.123	--	2.974	
Ethanol	Tank	No	Ethanol	59.69	1.15	46.1	298.15	0.078	1,232	33,500	4	200	10,322	--	41.288	4.129
None	Tank	No	None	5.24	0.10	126.24	298.15	0.007	0.296	33,500	4	200	2,481	--	9.925	0.993
Varsol (Stoddard Solvent)	Tank	No	C7-C12 Hydrocarbons	6.75	0.13	144	298.15	0.009	0.435	33,500	4	130	3,646	--	14.584	0.948
Methanol	Tank	No	Methanol	127	2.45	32.04	298.15	0.167	1,823	33,500	4	30	15,264	--	61.054	0.916
Petroleum Naptha	Tank	No	See Table 4					1.550	33,500	4	25	12,981	--	51.925	0.649	
Fuel Oil, Diesel Fuel	Tank	No	Distillate Fuel Oil No.2		0.009	130	298.15	6.12E-04	0.027	33,500	4	160	0.227	--	0.910	0.073
Polypropylene	Tank	No	See Table 3 for "Generic low Vapor Pressure Organic Compound"					0.012	33,500	4	125	0.097	--	0.389	0.024	
Non-hazardous materials	All	No	See Table 3 for "Generic low Vapor Pressure Organic Compound"					0.012	33,500	4	105	0.097	--	0.389	0.020	
Oil, organic	Tank	No	See Table 3 for "Generic low Vapor Pressure Organic Compound"					0.012	33,500	4	83	0.097	--	0.389	0.012	
Vegetable Oil	Tank	No	See Table 3 for "Generic low Vapor Pressure Organic Compound"					0.012	33,500	4	50	0.097	--	0.389	0.010	
Animal Feed	Tank, Hopper	No	See Table 3 for "Generic low Vapor Pressure Organic Compound"					0.012	33,500	4	40	0.097	--	0.389	0.008	
Asphalt	Tank	No	Petroleum Asphalt	1	0.019	200	298.15	1.31E-03	0.090	33,500	4	39	0.750	--	3.001	0.059
Ethanolamine	Pressure	No	Ethanolamine	4.40E-01	8.49E-03	61.08	298.15	5.78E-04	0.012	33,500	4	39	0.101	--	0.403	0.008
Sugar Cane/Com Syrup	Tank	No	See Table 3 for "Generic low Vapor Pressure Organic Compound"					0.012	33,500	4	35	0.097	--	0.389	0.007	
Phenol, Liquid or Solution	Tank	No	Phenol	3.50E-01	6.78E-03	94.11	298.15	4.60E-04	0.015	33,500	4	27	0.124	--	0.494	0.007
Cresylic Acid	Tank	No	Cresylic Acid	0	0	108.14	298.15	0	0	33,500	4	25	0	--	0	0
Alkyls and/or MEA Bulk	Tank	No	2-Methyl-8-ethylaniline	0.08	1.16E-03	135.21	298.15	7.88E-05	0.004	33,500	4	24	0.030	--	0.122	0.001
Hydrochloric Acid	Tank	No	Hydrochloric Acid	4.16E-08	8.03E-10	35.45	298.15	5.46E-11	6.61E-10	33,500	4	17	5.53E-09	--	2.21E-08	1.88E-10
Liquid Fertilizer	Tank	No	See Table 3 for "Generic low Vapor Pressure Organic Compound"					0.012	33,500	4	15	0.097	--	0.389	0.003	
Asphalt, Fuel/Decant Oil	Tank	No	Distillate Fuel Oil No.2	0	0.009	130	298.15	6.12E-04	0.027	33,500	4	160	0.227	--	0.910	0.073
Feed Fat	Tank	No	See Table 3 for "Generic low Vapor Pressure Organic Compound"					0.012	33,500	4	10	0.097	--	0.389	0.002	
Plastic Pellets	Hopper	No	See Table 3 for "Generic low Vapor Pressure Organic Compound"					0.012	33,500	4	7	0.097	--	0.389	0.001	
Silicone, Liquid	Tank	No	Silicon	1.38E-07	2.62E-09	32.12	298.15	1.79E-10	1.96E-09	33,500	4	6	1.64E-08	--	6.55E-08	1.97E-10
Epoxy Resin, Phenyyl	Tank	No	See Table 3 for "Generic low Vapor Pressure Organic Compound"					0.012	33,500	4	1	9.73E-02	--	3.89E-01	1.95E-04	
Total												1578	33.04	99.12	61.05	10.92



### **Railcar Cleaning Emissions**

The permittee estimated solvent cleaning emissions using Equation 2-20 of AP-42, Compilation of Emission Factors, 5<sup>th</sup> Edition, Chapter 7.1 dated 11/06.

$$L_C = 0.042C_S W_l (\text{Area})$$

Where:

$L_C$  = clingage loss from a drain-dry tank, lb

0.042 = conversion factor, gal/bbl

$C_S$  = clingage factor, bbl/1000 ft<sup>2</sup>, Table 7.1-10 AP-42 (0.15bbl/1000 ft<sup>2</sup> worst case)

$W_l$  = density of liquid, lb/gal

Area = surface area of interior of railcar, ft<sup>2</sup>

The permittee indicated that diesel fuel is the preferred cleaning solvent. The permittee has indicated that the surface area of the bottom of the railcar tanks is 3,828.13 ft<sup>2</sup> based on railcar tank dimensions of 9.5 ft diameter x 54 ft length.

Maximum VOC emissions from using diesel fuel as cleaning solvent are estimated to be.

$$\text{VOC}_{\text{cleaningsolvent}} = (0.042 \text{ gal/bbl})(0.15 \text{ bbl/1000 ft}^2)(7.51 \text{ lb/gal})(3,828.13 \text{ ft}^2) = 0.181 \text{ lb/railcar}$$

$$\text{VOC}_{\text{cleaningsolvent}} = 0.181 \text{ lb/railcar}(1,578 \text{ railcars/yr})(\text{ton}/2000 \text{ lb}) = 0.14 \text{ ton/yr VOC}$$

### **Total Emissions from P003 (Venting + Cleaning emissions)**

$$\text{VOC emissions} = 10.92 \text{ tons/yr} + 0.14 \text{ ton/yr} = 11.06 \text{ tons/yr VOC}$$

## 5. Applicable Rules/Regulations

ORC 3704.03(T) BAT requirements for emissions units with emissions  $\geq 10$  tons/yr (*applies to P003*)

Following the SB265 BAT Decision Flowchart dated March 2008, when uncontrolled PTE > 10 tons/yr and rule-based PTE > 10 tons/yr, either BAT requirements under the 2006 BAT rules apply or the permittee needs to request voluntary restrictions to avoid BAT. BAT Limits in the permit are expressed according to the Ohio EPA's 8/30/2013 BAT guidance memo. Allowable VOC emissions are greater than 10 tons per year, while potential emissions from all other pollutants are less than 10 tons per year. Since the permittee has requested federally enforceable restrictions to limit the potential to emit, BAT will be set as equivalent to the VOC emission limitation established under the tons per rolling, 12-month period limitation established under OAC rule 3745-31-05(D).

OAC rule 3745-31-05(A)(3), as effective 11/30/2001 (*applies to F001*)

BAT requirements for emissions units having potential emissions of less than 10 tons/yr. This requirement remains in effect until approval of the 12/01/2006 version of OAC rule 3745-31-05(A)(3) by U.S. EPA as part of Ohio's state implementation plan. Per the Ohio EPA's 8/30/2013 BAT guidance memo, BAT will be expressed as tons VOC per month averaged over a 12-month rolling period.

OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/2006 (*applies to F001*)

This rule has not yet been approved by U.S. EPA as part of Ohio's state implementation plan. After U.S. EPA approves this rule as part of the SIP, then BAT requirements will no longer be in effect for pollutants with potential emissions of less than 10 tons per year.



Since the uncontrolled potential to emit for PM10 emissions at F001 is less than 10 tons/yr, PM10 emissions at F001 will not be subject to BAT requirements upon approval of the 12/01/2006 version of OAC rule 3745-31-05(A)(3) by U.S. EPA as part of Ohio's state implementation plan.

OAC rule 3745-31-05(D) (*applies to P003*)

Synthetic minor limitation on potential to emit to restrict VOC and HAP emissions to less than major source thresholds to avoid PSD, Title V, and MACT. The HAP emission limitation is placed in Section B – Facility Terms, since it applies to the total HAP emissions from the entire facility.

VOC: 11.06 tons per rolling, 12-month period

HAP: 9.9 tons per rolling, 12-month period for any individual HAP  
24.9 tons per rolling, 12-month period for any combination of HAP

OAC rule 3745-17-07(B)(1) Visible emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average. This limitation applies to emissions unit F001 - welding.

OAC rule 3745-17-08(B) Reasonably available control measures for fugitive dust. The permittee has agreed to conduct welding operations indoors to minimize welding emissions.

6. Conclusion:

It is recommended that this permit be issued first as a draft permit due to the permit containing synthetic minor restrictions on potential to emit.

7. Please provide additional notes or comments as necessary:

**Air Toxics Policy**

The hardcopy permit application received on 10/4/2013 (dated 10/3/2013) requested restrictions on potential to emit to limit individual air toxics emissions to less than 1 ton per year to avoid modeling requirements. Although air toxics in the hardcopy application were proposed to be emitted at less than 1 ton per year, the maximum short term emissions rates proposed were very high (greater than 21.5 pounds per hour of benzene, 6.6 lbs/hr toluene, and 15.3 lbs/hr methanol).

The answer to Question #4 contained in Ohio EPA's Engineering Guide #70 states "*The normal toxic impact evaluation is not necessarily sufficient. Highly toxic compounds can be evaluated on a case-by-case basis and limitations established to ensure that public health is protected. It is possible that emissions less than one ton per year of extremely toxic chemicals should be evaluated. Please contact the AQM&P Section for assistance in identifying pollutants of special concern and in evaluating these situations.*"

Per the answer to Question #4 contained in Engineering Guide #70, TES contacted Ohio EPA Central Office to indicate that although Air Toxics emissions were reported to be less than 1 ton/yr, TES was concerned that the short-term emissions rates proposed for benzene was very high. Central Office requested for a copy of modeling results along with how many railcars would be unloaded and duration of railcar unloading. Modeling results were submitted on 11/27/2013. The permittee voluntarily withdrew the request to vent railcars that previously contained pyrolysis gas, since the maximum



modeled concentration of benzene emissions when venting pyrolysis gas was calculated to be greater than TLV/10.

The electronic permit application submitted 12/10/2013 requests lower allowable benzene emissions (0.09 ton/yr) than the initial hardcopy application. At 0.09 ton/yr, the maximum modeled concentration for benzene is greater than TLV/42, but less than TLV/10. All other air toxics are proposed to be emitted at a rate that results in a maximum modeled concentration of less than 80% of TLV/42. Ohio EPA has made a case-by-case determination that P003 may have a MAGLC based on TLV/10 for benzene emissions, rather than the normal TLV/42. This determination was made based on the low annual emissions rate (0.09 ton/yr) and a the permittee agreeing to only venting 45 railcars per year that previously contained crude oil, and 25 railcars per year that previously contained petroleum naphtha.

When the modeled emissions rate is greater than 80%, but less than 100% of the MAGLC, ORC 3704.03(F)(4)(c) requires a daily air toxics emission limitation to be established based on the schedule provided in the permit application. The permit application provides the following schedule to minimize benzene emissions: maximum of 3 railcars that previously contained crude oil or naphtha will be unloaded concurrently; each railcar will be vented for 4 hours; a maximum of 45 railcars previously containing crude oil will be vented per year; and a maximum of 25 railcars previously containing petroleum naphtha will be vented per year.

Allowable benzene emission rate

Worst case benzene emissions are from crude oil venting

Maximum of 3 racks venting crude oil concurrently

1 railcar is vented every 4 hours per rack

$3 \text{ racks}(1 \text{ railcar vented}/(4 \text{ hrs-rack})(24 \text{ hrs/day}) = 18 \text{ crude oil railcars vented /day}$

Benzene emitted per railcar =  $(0.66 \text{ lb benzene/hr})(4 \text{ hrs/railcar}) = 2.64 \text{ lbs/railcar}$

Benzene emitted per day =  $(2.64 \text{ lbs/railcar})(18 \text{ railcars/day}) = 47.52 \text{ lbs/day}$

8. Total Permit Allowable Emissions Summary (for informational purposes only):

<u>Pollutant</u>	<u>Tons Per Year</u>
<u>PM10</u>	<u>2.04</u>
<u>VOC</u>	<u>11.06</u>
<u>Individual HAP</u>	<u>9.9</u>
<u>Combined HAP</u>	<u>24.9</u>



**DRAFT**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
The Andersons, Inc.**

Facility ID:	0448031076
Permit Number:	P0115562
Permit Type:	Initial Installation
Issued:	1/16/2014
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance





**Division of Air Pollution Control  
Permit-to-Install and Operate**

for  
The Andersons, Inc.

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**Draft Permit-to-Install and Operate**

The Andersons, Inc.

**Permit Number:** P0115562

**Facility ID:** 0448031076

**Effective Date:** To be entered upon final issuance

## Authorization

Facility ID: 0448031076  
Application Number(s): A0049014, A0049175  
Permit Number: P0115562  
Permit Description: Installation of a railcar cleaning and repair facility  
Permit Type: Initial Installation  
Permit Fee: \$400.00 *DO NOT send payment at this time, subject to change before final issuance*  
Issue Date: 1/16/2014  
Effective Date: To be entered upon final issuance  
Expiration Date: To be entered upon final issuance  
Permit Evaluation Report (PER) Annual Date: To be entered upon final issuance

This document constitutes issuance to:

The Andersons, Inc.  
421 Illinois Ave  
Maumee, OH 43537

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Toledo Department of Environmental Services  
348 South Erie Street  
Toledo, OH 43604  
(419)936-3015

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and Federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Craig W. Butler  
Interim Director



**Draft Permit-to-Install and Operate**

The Andersons, Inc.

**Permit Number:** P0115562

**Facility ID:** 0448031076

**Effective Date:** To be entered upon final issuance

## Authorization (continued)

Permit Number: P0115562

Permit Description: Installation of a railcar cleaning and repair facility

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

<b>Emissions Unit ID:</b>	<b>F001</b>
Company Equipment ID:	Welding Operations
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

<b>Emissions Unit ID:</b>	<b>P003</b>
Company Equipment ID:	Rail car cleaning stations
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Draft Permit-to-Install and Operate**

The Andersons, Inc.

**Permit Number:** P0115562

**Facility ID:** 0448031076

**Effective Date:** To be entered upon final issuance

## **A. Standard Terms and Conditions**



**1. What does this permit-to-install and operate ("PTIO") allow me to do?**

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

**2. Who is responsible for complying with this permit?**

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

**3. What records must I keep under this permit?**

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

**4. What are my permit fees and when do I pay them?**

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

**5. When does my PTIO expire, and when do I need to submit my renewal application?**

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is



very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

**6. What happens to this permit if my project is delayed or I do not install or modify my source?**

This PTIO expires 18 months after the issue date identified on the “Authorization” page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

**7. What reports must I submit under this permit?**

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

**8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions of this permit will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

**9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.



**10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?**

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Toledo Department of Environmental Services in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

**11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?**

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

**12. What happens if one or more emissions units operated under this permit is/are shut down permanently?**

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.



**13. Can I transfer this permit to a new owner or operator?**

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

**14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?**

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

**15. What happens if a portion of this permit is determined to be invalid?**

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



**Draft Permit-to-Install and Operate**

The Andersons, Inc.

**Permit Number:** P0115562

**Facility ID:** 0448031076

**Effective Date:** To be entered upon final issuance

## **B. Facility-Wide Terms and Conditions**



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) B.2.
2. The facility-wide hazardous air pollutant (HAP) emissions, as identified in Section 112(b) of Title III of the Clean Air Act, including but not limited to any de minimis emissions units as defined in OAC rule 3745-15-05, or any registration status and/or permit exempt/permit-by-rule emissions units pursuant to OAC rule 3745-31-03, shall not exceed 9.9 tons per rolling, 12-month period for any individual HAP and 24.9 tons per rolling, 12-month period for any combination of HAP.
  - a) The permittee shall maintain monthly records of the following information for the entire facility:
    - (1) the individual HAP emissions, in tons;
    - (2) the combined HAP emissions, in tons;
    - (3) the individual HAP emissions, in tons per rolling, 12-month period; and
    - (4) the combined HAP emissions, in tons per rolling, 12-month period.
  - b) HAP Deviation Reporting Requirements
    - (1) The permittee shall submit quarterly deviation (excursion) reports that identify:
      - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

Facility-wide HAP emissions shall not exceed 9.9 tons per rolling, 12-month period of any individual HAP and 24.9 tons per rolling, 12-month period for any combination of HAP;
      - b. the probable cause of each deviation (excursion);
      - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and



- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
  - a. The permittee shall identify in the annual PER any deviations from HAP emissions limitation specified in B.2.
- (3) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the Toledo Division of Environmental Services, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the Responsible Official may be represented as provided through procedures established in Air Services.



**Draft Permit-to-Install and Operate**

The Andersons, Inc.

**Permit Number:** P0115562

**Facility ID:** 0448031076

**Effective Date:** To be entered upon final issuance

## **C. Emissions Unit Terms and Conditions**



**1. F001, Welding**

**Operations, Property and/or Equipment Description:**

Railcar repair welding

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Particulate matter emissions less than or equal to 10 microns in diameter (PM10) shall not exceed 0.74 ton per month averaged over a 12-month rolling period.  see b)(2)a. and b)(2)b.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	see b)(2)c.
c.	OAC rule 3745-17-07(B)(1)	Visible particulate emissions shall not exceed 20 percent opacity as a 3-minute average.
d.	OAC rule 3745-17-08(B)	reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust  see b)(2)d.



(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.
- b. The annual average emission limitation reflects the unrestricted potential to emit for this emissions unit, therefore, it is not necessary to develop monitoring, recordkeeping, and/or reporting requirements to ensure compliance with this emissions limitation.
- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

“The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM10 emissions from this air contaminant source since the uncontrolled potential to emit for PM10 is less than 10 tons per year.
- d. The permittee shall employ reasonably available control measures for the welding operations for the purpose of ensuring compliance with the above-mentioned applicable requirements. The permittee has committed to perform the welding operations indoors to the practical extent possible to ensure compliance.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;



- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (2) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified PTIO prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTIO.

e) Reporting Requirements

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (2) The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in term number d)(2) above:
  - a. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
  - b. any corrective actions taken to minimize or eliminate the visible emissions.
- (3) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard



copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the Toledo Division of Environmental Services, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the Responsible Official may be represented as provided through procedures established in Air Services.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

PM10 emissions shall not exceed 0.74 ton per month averaged over a 12-month rolling period.

Applicable Compliance Method:

The ton per year month limitation was developed by multiplying the maximum annual electrode consumption (25 lbs/hr) by the worst-case emission factor specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 12.19-1 dated 1/95 (81.6 lb PM10/1000 lbs electrode), multiplying by the maximum annual hours of operation (8,760 hours/yr), and dividing by 2,000 pounds per ton.

If required, the permittee shall determine a site-specific PM10 emission factor using Methods 201 and 202 of 40 CFR Part 51, Appendix M.

b. Emission Limitation

Visible emissions of fugitive dust shall not exceed 20 percent opacity as a three-minute average.

Applicable Compliance Method

Compliance with the limitation for visible emissions of fugitive dust shall be determined through visible emissions observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(3).

g) Miscellaneous Requirements

(1) None.



2. P003, Railcar Cleaning Facility

Operations, Property and/or Equipment Description:

Railcar Cleaning Operation

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. b)(2)a., d)(4) through d)(8), e)(3), and f)(1)b.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. b)(1)c., b)(2)b., d)(1), d)(3), e)(1), f)(1)a..

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	Compliance with the requirements of this rule includes compliance with the requirements of OAC rule 3745-31-05(D).
b.	ORC 3704.03(F)(4)(c)	see b)(2)a.
c.	OAC rule 3745-31-05(D) (synthetic minor restrictions to avoid PSD and Title V)	Volatile organic compound (VOC) emissions shall not exceed 11.06 tons per rolling, 12-month period.  see b)(2)b.

(2) Additional Terms and Conditions

a. In order to demonstrate compliance with the "Toxic Air Contaminant Statute", the Director has established, per ORC 3704.03(F)(4)(c), a limit for benzene, which shall not exceed 47.52 pounds per day. This daily allowable emissions rate was calculated by multiplying the approved daily operating schedule submitted in the permit application, by the emission rate modeled (to determine the ground level concentration).



The operating schedule contained in the submitted permit application indicates that a maximum of 3 railcars that contain either crude oil or petroleum naphtha will be vented concurrently, and a maximum of 18 railcars per day that contain either crude oil or petroleum naphtha will be vented per day.

- b. The permittee is restricted to venting a maximum number of railcars of each commodity (N<sub>i</sub>) by the following formula, calculated as a rolling, 12-month summation:

$$E \geq \left[ \sum_{i=1}^n [(VE_i)(N_i)] + \sum_{j=1}^m [(CE_j)(N_j)] \right] / (2,000 \text{ lbs/ton})$$

Where:

E = total VOC emissions per rolling, 12-month period from railcar venting and cleaning = 11.06 tons VOC per rolling, 12-month period

VE<sub>i</sub> = venting emissions from commodity i, pounds/railcar

N<sub>i</sub> = number of railcars of commodity i vented per rolling, 12-month period

i = subscript denoting specific commodity vented

n = total number of commodities vented

$$VE_i = (MW_i \times P_i \times V_i) / (R \times T)$$

MW<sub>i</sub> = molecular weight of commodity i, lb/lb-mole

P<sub>i</sub> = Vapor pressure of commodity i at 25 degrees °C, psia

V<sub>i</sub> = volume of railcar containing commodity i, gallons

R = ideal gas constant, 10.73 ft<sup>3</sup>-psia/(mole-R)

T = annual average temperature of vapors, 537 °R

CE<sub>j</sub> = pounds of VOC emissions from cleaning solvent j per rolling, 12-month period from cleaning all materials employed combined

$$CE_j = (0.042 \text{ gal/bbl})(0.15 \text{ bbl}/1000 \text{ ft}^2)(W_j)A$$

W<sub>j</sub> = density of cleaning solvent j

A = surface area of interior of railcar

N<sub>j</sub> = number of railcars cleaned using cleaning solvent j

j = subscript denoting specific cleaning solvent employed

m = total number of cleaning solvent types employed

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the cumulative number of railcars of each commodity vented and cleaned per month shall not exceed the number calculated by Equation 1 using monthly values for E identified in the following table:

Maximum Allowable



Month(s)	Cumulative Emissions of VOC (E in Equation 1 above) (Tons)
1	1.5
1-2	3.0
1-3	4.5
1-4	6.0
1-5	7.5
1-6	9.0
1-7	10.5
1-8	11.06
1-9	11.06
1-10	11.06
1-11	11.06
1-12	11.06

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual railcar venting restriction shall be based upon a rolling, 12-month summation of the number of railcars vented of each commodity.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) For purposes of demonstrating compliance with the number of railcars restriction in b)(2)b., the permittee shall maintain monthly records of the following information:

- a. Name and identification of each commodity vented;
- b. Number of railcars of each commodity vented;
- c. Vapor molecular weight of each commodity vented;
- d. Vapor pressure of each commodity vented in psia;
- e. Volume of each railcar vented;



- f. Total VOC emissions from venting railcars as calculated in b)(2)b., i.e., the summation of  $VE_i \times N_i$ ;
  - g. Name and identification of each cleaning solvent employed;
  - h. VOC content of each cleaning solvent employed in pounds per gallon;
  - i. Volume of cleaning each solvent employed in gallons;
  - j. Total VOC emissions from all cleaning solvents employed as calculated in b)(2)b., i.e., the summation of  $CE_j \times N_j$ ; and
  - k. Total VOC emissions from venting and cleaning as calculated in b)(2)b, in tons per rolling, 12-month period.
- (2) The permittee shall maintain records of the mass fraction of air toxics (as defined in OAC rule 3745-114-01(A)) contained in each commodity vented from railcars.
- (3) For purposes of calculating the rolling, 12-month HAP emissions from this emissions unit per Section B.2.a), the permittee shall maintain monthly records of the following information:
- a. the name and identification of each commodity vented;
  - b. the mass fraction of each individual HAP contained in each commodity vented;
  - c. the individual HAP emissions from all commodities vented;
  - d. the name and identification of each cleaning material employed;
  - e. the mass fraction of each individual HAP contained in cleaning materials employed;
  - f. the individual HAP emissions from all cleaning materials employed;
  - g. the total individual HAP emissions from all commodities cleaned and all cleaning materials employed, i.e., the sum of c. + f. for each individual HAP; and
  - h. the combined HAP emissions, i.e., the sum of the individual HAP emissions recorded in g.
- (4) The PTIO application for this emissions unit, P003, was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC)



calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
  - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
  - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X = 24" hours per day and "Y = 7" days per week, from that of 8 hours per day and 5 days per week for each air toxic, except for benzene. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$TLV/10 \times 8/X \times 5/Y = 4 TLV/XY = MAGLC$$

Ohio EPA has approved for P003 a MAGLC of TLV/10 for benzene emissions due to the infrequent venting of railcars that previously contained crude oil (maximum of 45 railcars/yr) and petroleum naphtha (maximum of 25 railcars/yr). The remainder of the toxic air contaminants emitted at this emissions unit are subject to a MAGLC of TLV/42.

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants or "worst case" toxic contaminant(s):

Toxic Contaminant: benzene

TLV (mg/m3): 1.60

Maximum Hourly Emission Rate (lbs/hr): 0.66

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 130

MAGLC (ug/m3): 160



The permittee, having demonstrated that emissions of benzene, from emissions unit P003, is estimated to be equal or greater than eighty per cent, but less than 100 per cent of the maximum acceptable ground level concentration (MAGLC), shall not operate the emissions unit(s) at a rate that would exceed the daily emissions rate, process weight rate, and/or restricted hours of operations, as allowed in this permit; and any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (5) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
  - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
  - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute", ORC 3704.03(F), will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute":
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);



- b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
  - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
  - d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (7) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.
- (8) The permittee shall calculate and record the daily benzene emissions from this emissions unit.
- e) Reporting Requirements
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify:
- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:  
  
each monthly record showing that the VOC emissions from venting and cleaning railcars exceeded 11.06 tons per rolling, 12-month period;
  - b. the probable cause of each deviation (excursion);
  - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
  - d. the magnitude and duration of each deviation (excursion).
- If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.
- The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).



- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
  - (3) The permittee shall include in the annual Permit Evaluation Report (PER) any exceedance of the daily limitation on toxic air emissions or any deviation from a restriction on the process or hours of operation, as established by the Director, in order to maintain any toxic air contaminant below its MAGLC. The permittee shall also include in the PER any changes made, during the calendar year, to a parameter or value entered into the dispersion model that was used to maintain compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.
  - (4) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the Toledo Division of Environmental Services, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the Responsible Official may be represented as provided through procedures established in Air Services.
- f) **Testing Requirements**
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
    - a. **Emission Limitation:**

VOC emissions shall not exceed 11.06 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with this emissions limitation shall be determined based on the monitoring and recordkeeping requirements of d)(1).



b. Emission Limitation:

Benzene emissions shall not exceed 47.52 pounds per day.

Applicable Compliance Method:

If required, the daily benzene emissions shall be calculated according to the following equation.

$$E_{\text{benzene}} = \sum_{i=1}^n [(VE_i)(N_i)(X_i)]$$

Where:

$E_{\text{benzene}}$  = daily benzene emissions, pounds per day

$VE_i$  = venting emissions from commodity i, pounds/railcar

$N_i$  = number of railcars of commodity i vented per day

$X_i$  = weight fraction of benzene contained in commodity i

i = subscript denoting specific commodity vented

n = total number of commodities vented

$$VE_i = (MW_i \times P_i \times V_i) / (R \times T)$$

$MW_i$  = molecular weight of commodity i, lb/lb-mole

$P_i$  = Vapor pressure of commodity i at 25 degrees °C, psia

V = volume of railcar containing commodity i, gallons

R = ideal gas constant, 10.73 ft<sup>3</sup>-psia/(mole-R)

T = annual average temperature of vapors, 537 °R

g) Miscellaneous Requirements

(1) None.